

Factors influencing attitudes of secondary school pupils  
to aesthetic aspects of sport and dance

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Patricia Sanderson  
Department of Education

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### Abstract

The development of aesthetic awareness is stated regularly in the physical education (PE) literature as a major objective and yet little research is available concerning its achievement. Appropriate attitude research could provide relevant information. The purpose of this research is to investigate the relative influence of a range of factors on attitudes of secondary school pupils to aesthetic aspects of sport and dance. Independent variables were experience of pupils in PE, arts and sports provided by different types of schools, age, sex, social class, and pupils' and their families' leisure interests related to arts and sports.

A wide-ranging literature review revealed both the dearth of empirical research and the absence of suitable attitude scales. A pilot study was undertaken to develop the latter which involved the use of a Questionnaire and a sample of 368 boys and girls aged between 11 and 16 at four mixed secondary schools in Manchester. The Questionnaire which also included measures of the independent variables, incorporated 138 statements which had been collected from secondary school pupils in response to a specially compiled video-tape of dance and sports. Principal components analysis revealed 7 valid and reliable attitude scales, four concerned with dance and three with sport.

A modified Questionnaire incorporating the 7 Likert-type scales was administered to 1668 pupils aged between 11 and 16 supplied by 19 schools drawn from the five main geographical areas of England. Eleven were comprehensive schools, 5 stressed arts education and 3 emphasised sports experience. Analyses of variance were employed to ascertain the influence of age, sex, social class and school type, and multiple regression analyses for the influences of pupils' and their families' leisure interests in arts and sports.

Results showed no effect of age on attitude. The sex factor was found to be important but the nature of the impact is complex. Social class was seen to be an effective determinant, more favourable attitudes generally being displayed by those from a higher social class, but for ballet this is the case only for girls. Family interests and pupil interests were found to promote positive attitudes, but on all the scales but two, the influence is small. Specialist arts education was not found to produce positive attitudes except for girls in respect of ballet. There was no evidence that extensive sports experience promotes positive attitudes.

The main conclusions are that the PE objective, developing aesthetic awareness is not being achieved and that specific education needs to be undertaken in order to develop positive attitudes to aesthetic aspects of sport and dance.

No portion of the work referred to in the thesis has been submitted in support of an application for another degree or qualification of this or any other university or other institution of learning.

Statement of post-graduate education and research experience

Patricia Sanderson (née Cummings) completed an Advanced Diploma in Education at the University of Hull in 1971, studying educational psychology and comparative education. This was followed in 1973 by a Master of Arts at the University of Leeds which comprised studies in aesthetics, physical education including dance, psychology of skill and research methodology. Since then she has undertaken research in primary and secondary schools, resulting in a number of publications on the physical education curriculum. She also monitored the first 'Dance artists in education' scheme for the Arts Council in 1980, producing both unpublished and published reports. Since 1974 she has lectured in the Department of Education, University of Manchester, where she supervises students undertaking Masters research degrees and dissertations in the areas of aesthetic education and physical education.

### Acknowledgements

The production of this thesis has depended upon the assistance of a number of people.

I express my deep gratitude to the many pupils, teachers and headteachers who agreed to participate in the study. Their co-operation was crucial.

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## Chapter 1 - Outline of the research

### 1.1 The research problem

The development of aesthetic awareness is stated regularly in the physical education (PE) literature as a major objective, not only with reference to dance but also to sport, yet the achievement of this objective has not been established for little research of any relevance has been pursued. Appropriate attitude research could give indications of aesthetic sensitivity among secondary school pupils and also discover whether an education in other arts, particularly a specialist education, or merely extensive sports experience, promotes positive attitudes to aesthetic aspects of sport and dance. Alternatively sex, social class, family and pupil leisure interests in various arts and sports could be major influences.

The purpose of this investigation therefore is to ascertain the relative influence of these factors on attitudes of secondary school pupils. The independent variables are school type, age, sex, social class, pupils' leisure interests in various arts and sports, and their families' interests in the same activities. The dependent variable is attitude to aesthetic aspects of sport and dance.

### 1.2 Review of literature

A wide-ranging review of the literature available on attitude, aesthetic and art education and development, as well as attitude to the aesthetic in sport and dance, revealed the limited amount of specific information available, particularly that of an empirical nature. The absence of appropriate measures of attitude was also made apparent.

### 1.3 Construction of the Questionnaire

The research problem necessitated the surveying of the opinions of a large number of pupils from schools with a wide range of provision in arts and sports. A questionnaire was considered to be the most efficient means of gathering relevant information, for it could include measures of both the dependent and the independent variables. Furthermore, by means of a pilot study, the appropriate measures could be developed.

It was decided that Likert-type scales would be evolved from the statements of pupils and consequently a preliminary task was their collection.

#### 1.3.1 Collection of the statements

Statements made in response to a video-tape compiled by the investigator of various types of sport and dance, were collected from groups of twelve pupils between the ages of eleven and sixteen years at three mixed comprehensive schools and three schools where music, dance or sport is emphasised. The discussion was audio-taped and subsequently analysed. Fourteen sets, each of approximately ten statements, emerged as preliminary indications of possible scales. The 139 statements were then thoroughly mixed to constitute Part III of the Questionnaire.

#### 1.3.2 Initial draft of the Questionnaire

This was sectionalised as follows:

Introduction, seeking information on school, age, sex and social class

Part I, concerned with pupils' school experience and leisure interests

Part II, designed to gather information relating to interests in the same arts and sports of pupils' families

A five point rating scale was employed throughout Parts I and II

Part III, comprised the 139 statements with the addition of a five point rating scale.

Sample items:

- (i) Ballet can look so pure, so beautiful.
- (ii) If you saw a man dancing to really soft music it would look stupid.
- (iii) I can't enjoy any sporting achievement unless I know who is performing.
- (iv) I like long-jumping because it's like walking on air.
- (v) Watching slow-motion replays is boring because you know what is coming next.
- (vi) I enjoy dancing much more when there are beautiful costumes and props.

A copy of the initial draft of the Questionnaire which was used subsequently in the pilot study is available in Appendix I, pp.361-376.

A copy of the 'Guidelines' supplied to teachers for the administration of the Questionnaire is given in Appendix II, pp.377-380.

### 1.3.3 Pilot study

The purpose of the pilot study was (i) to develop the attitude scales, (ii) to test the structure and organisation of the Questionnaire and its efficiency in gathering information on the independent variables, (iii) to try out the 'Guidelines' for teachers and to test the overall administration of the Questionnaire.

The final sample comprised 368 pupils, boys and girls drawn fairly equally from four mixed secondary schools in Manchester with varied

provision in arts and sports. The sample represented a range of social, educational and ethnic backgrounds.

The methods of analysis comprised:

- (a) The scrutiny of the Questionnaire for problems in design and structure, taking into account information from both pupils and teachers. The 'Guidelines' were also refined in a similar way.
- (b) The employment of principal components analysis to develop the attitude scales. Two such factor analyses were conducted, both using the SPSS (Version 8.0, 1979) factor analysis computer program. The first involved the 70 variables concerned predominantly with aspects of dance and the second, the 69 variables concerned largely with aspects of sport. Five factors emerged from the former and four factors from the latter analysis.

The alpha (internal reliability coefficient) calculated for each of the scales resulted in the elimination of one of each of the dance and sports scales. Thus seven scales survived and were given the titles: Aesthetics of sport - atmosphere and competition; Ballet; Dance; Aesthetics of slow motion; Male dancers; Dance performance; Aesthetics of sport - interest and excitement.

Content validity was established at this stage and the scales were included in Part III of the revised Questionnaire.

The final form of the Questionnaire is given in Appendix VIII, pp.396-412. The revised 'Guidelines' for administration are available in Appendix IX, pp.413-416.

#### 1.4 Research design and methods

The dependent variable in this study is the overall attitude of secondary school pupils towards aesthetic aspects of sport and dance.

This overall attitude is gauged from the attitude to specific aspects of sport and dance as measured by each of the scales. The independent variables are school type, age, sex, social class, pupils' leisure interests in various arts and sports, and their families' interests in the same activities.

#### 1.4.1 Hypotheses

The following hypotheses were formulated:

- (i) Attitudes towards aesthetic aspects of sport and dance will vary with age, showing an increasing sophistication with increasing age.
- (ii) There will be real differences in male and female attitudes towards aesthetic aspects of sport and dance, with more positive attitudes displayed by females and more negative attitudes by males.
- (iii) Social class will be a determinant of attitudes towards aesthetic aspects of sport and dance, that is, the higher the social class the more positive the attitudes.
- (iv) Family interests will exert a real influence on attitudes towards aesthetic aspects of sport and dance, that is, interest in the arts and/or sports by family members will promote positive attitudes.
- (v) Voluntary commitment to arts and/or sports activities will be linked with positive attitudes towards aesthetic aspects of sport and dance.
- (vi) Attitudes towards aspects of sport and dance will vary with the nature and level of provision in school.
  - (a) A specialist education in one or more of the arts will promote positive attitudes to aesthetic aspects of sport and dance.

- (b) An education with an emphasis on sport will promote positive attitudes to aesthetic aspects of sport and dance.

#### 1.4.2 Sample

The final sample comprised 1668 secondary school pupils, 735 boys and 933 girls, supplied by 19 schools drawn from the five main geographical areas of England. Five of the schools placed a stress on arts education, 3 emphasised sports experience and the remainder were inner city and suburban mixed comprehensive schools where arts and sports feature as part of a broad curriculum. The sample included a reasonable spread of pupils between the ages of 11 and 16, and a range of social backgrounds was represented.

#### 1.4.3 Measuring instruments

(a) The attitude scales. Attitudes to aesthetic aspects of sport and dance were measured by the seven Likert-type scales. The scores awarded to the categories Strongly Agree, Agree, Uncertain, Disagree, Strongly Disagree were 5, 4, 3, 2, 1 respectively and (reversing the direction) 1, 2, 3, 4 and 5 for statements expressing an unfavourable attitude. An individual's score for any scale is obtained by summing his or her score for all the items on that scale and so the higher the score, the more favourable is the attitude expressed.

##### Scale 1: Aesthetics of sport - atmosphere and competition

Sample items:

- (i) A game without cheering would be as if there is just nothing there.
- (ii) It doesn't matter how a goal is scored as long as it goes in the net.

Scale 2: Ballet

Sample items:

- (i) Ballet is just jumping around in a pair of tights.
- (ii) Ballet is a graceful activity.

Scale 3: Dance

- (i) Dance should entertain the audience.
- (ii) Some kind of expression and communication is very important in dance.

Scale 4: Slow motion replays

- (i) With slow motion I can admire the co-ordination of dancers and sports people.
- (ii) Ski-jumping slowed down shows beauty of motion.

Scale 5: Male dancers

- (i) Male dancers look silly wearing tights.
- (ii) Ballet dancing is associated with women.

Scale 6: Dance performance

- (i) To enjoy watching dance the movements have to be exciting.
- (ii) A dance must be done properly with the right costumes, music and set in order to enjoy it.

Scale 7: Aesthetics of sport - interest and excitement

- (i) I enjoy watching a sportsman fail if he is not from this country.
- (ii) A ski-jump is exciting because you know that the skier might possibly fall.

(b) Family interests. Measures of the pupils' family interests were obtained from ratings asked for in Part II of the Questionnaire. The five-point rating scale used for each item namely Very Often, Often, Uncertain, Sometimes, Never was scored 1, 2, 3, 4, and 5 respectively.

The various arts and sports listed were combined into three broad groups, dance, arts, sports, which when combined with the three modes of involvement, that is practical, visiting and TV watching gave nine measures of family interests. By summing across activity and across content, seven further measures were obtained making a total of sixteen in all. These were named as follows: arts - practical; arts - visiting; arts - viewing; dance - practical; dance - visiting; dance - viewing; sports- practical; sports - visiting; sports - viewing; arts; dance; sport; practical; visiting; viewing; total.

(c) Pupil interests. Measures of the pupils' individual interests outside school were forthcoming from ratings asked for in Part I of the Questionnaire, the list of the various arts and sports interests being precisely the same as for family interests, with the same five point rating scale. The sixteen pupil interest measures were obtained in exactly the same way as that described for family interests.

(d) Social class. Measures of these were obtained from an interpretation of each pupil's identification of the occupation of his or her male and female guardians, according to the Registrar General's classification of social class by occupation.

(e) Measures were also taken of age and sex. Type of school was identified by number.

#### 1.4.4 Methods of analysis

Hypotheses (i) and (ii) concerned with the effects of age and sex on attitude were tested by means of the analysis of variance technique. Initially a three-way analysis was undertaken with age, sex and scales as sources of variation and with the dependent variable, the scores on the attitude scales. As interactions involving scales were apparent this was followed by seven two-way analyses, with each of the seven scale scores as dependent variables.



Hypothesis (iii) relating to the influence of social class was also tested initially by a three-way analysis of variance with sex, social class and scales as sources of variation and the scores on the attitude scales the dependent variable. As interactions involving scales were apparent seven two-way analyses were subsequently undertaken with each of the scale scores as dependent variables.

Hypothesis (iv) linking pupils' families' interests in various arts and sports with positive attitudes was tested by means of three sets of regression analyses, one for the sixteen family interest measures as a team of predictors, one for the team augmented by additional measures of age, sex and social class and a third with age, sex and social class as a battery on their own. Each set of analyses was undertaken in respect of each of the seven attitude scale scores as criterion.

Hypothesis (v) concerned with pupils' leisure interests was tested in exactly the same way as for hypothesis (iv), that is, by three sets of regression analyses.

Hypothesis (vi) Both parts of this hypothesis concerned with the influence on attitude of (a) specialist arts education and (b) an education emphasising sport, were tested by means of analysis of variance.

(a) Seven three way analyses of variance with school type (specialist arts and comprehensive), age group and sex as sources of variation, with the dependent variable the scores on each of the seven attitude scales in turn. (b) The design is exactly the same as that for (a), the sole difference being that the school type now being compared with the comprehensives is that where sport is emphasised.

It is the significance or non-significance of the interaction between school type and age group which is crucial in all the analyses of

variance undertaken. A second-order interaction involving sex indicates whether any advantage attributable to school type applies equally to boys and girls.

#### 1.4.5 Administration

The Questionnaire was administered by PE and Dance teachers in accordance with 'Guidelines' supplied by the investigator.

### 1.5 Results

Hypothesis (i) was rejected as no uniform pattern of attitude scores increasing with age was discerned.

Hypothesis (ii), that sex is an important determinant, with females displaying the more favourable attitude, was also rejected as a general proposition. There are real sex differences from scale to scale but a more favourable attitude of girls was found for only four of the scales with boys displaying the more favourable attitude on two.

Hypothesis (iii), that social class is an effective determinant of attitude, a more favourable attitude being displayed generally by those from a higher social class receives a considerable degree of support from the results but an overall acceptance of the hypothesis was not possible. In respect of one of the scales, Ballet, the results provide support only for girls, while on Scale 3, Dance, little difference in attitudes of the different social classes is evident.

Hypothesis (iv), that family interests in arts and sports promote positive attitudes was accepted as a general proposition with the proviso that on all the scales but two, the influence was shown to be small in magnitude. In all cases the highest correlations were forthcoming from combining the measures with age, sex and social class.

The family interest measures appear as moderately successful predictors in respect of attitudes towards ballet and male dancers.

Hypothesis (v), that pupils' voluntary commitments to arts and sports promote positive attitudes, was generally accepted with the proviso that in all but two of the scales, the influence was modest. As with hypothesis (iv), the highest correlations were forthcoming from combining the measures of pupil interests with the measures of age, sex and social class. The pupil interest measures are moderately successful predictors of attitudes towards ballet and male dancers.

Hypothesis (vi) (a) Very limited support is forthcoming for the hypothesis that a specialist education in the arts will promote positive attitudes to aesthetic aspects of sport and dance, this support being evident only for one of the seven scales, attitude to ballet, and only in respect of girls. (b) No support is forthcoming for the corresponding hypothesis concerning a school emphasis on sport, and accordingly this hypothesis is rejected.

## 1.6 Conclusions

- (i) As attitudes of secondary school pupils do not vary to any significant extent between the ages of eleven and sixteen, there is no evidence that the PE objective, developing aesthetic awareness, is being achieved.
- (ii) Extensive sports experience does not appear to lead to a positive attitude to the aesthetic, indicating that PE undertaken with the specific intention of developing this capacity seems to be necessary.
- (iii) Since a specialist arts education does not, in the main, appear to produce more positive attitudes, the specific nature of the education required is highlighted.

- (iv) The sex factor is an influence on attitudes but the nature of the impact is complex, with the type of dance and sports presentation involved being of relevance.
- (v) The differential effect of the sex variable may be due to the distinct PE experiences of boys and girls, reinforced by cultural differences.
- (vi) As more favourable attitudes were generally expressed by those pupils in higher social classes - with the notable exception of boys' attitude to ballet - consideration needs to be given to the most appropriate means of developing positive attitudes to aesthetic aspects of all types of dance and sport among pupils of both sexes, from all social backgrounds. The proposed National PE Curriculum presents such an opportunity.
- (vii) The influence of family interests in arts and sports, on adolescent attitudes is generally limited and precise.
- (viii) For the most part, pupils' leisure interests in arts and sports exert only a weak influence on attitudes and the pattern of influence is similar to that of family interests. The precise nature of the influence of pupil interests on attitude also seems to be apparent.
- (ix) The attitude scales should be refined further, particularly Scale 3.
- (x) A modified version of the Questionnaire could be employed in future research.
- (xi) Further attitude research should be undertaken. In particular, the impact of the National PE Curriculum should be monitored.
- (xii) Information of relevance to educationalists interested in the aesthetic education and development of adolescents has been revealed by this research.

## Chapter 2 - Statement of the problem

Aesthetic education is generally taken to comprise experience in one or more of the arts, for music, drama, the visual arts, dance and so on, are regarded as being concerned centrally - although not exclusively - with the aesthetic. Yet insofar as the aesthetic is a wider concept than the arts, aesthetic considerations should not be confined to the arts. Aesthetic aspects of various sports for instance have long been noticed and commented upon. The recognition of an aesthetic dimension to sport has led a number of educationalists to suggest that experiences in sport as well as dance, could make substantial contributions to pupils' aesthetic education and development. Consequently the development of aesthetic awareness regularly appears as a major objective in the PE curriculum/<sup>literature</sup> The HMI publication of 1989, for instance, 'Physical education from 5 to 16', lists among the aims, to "develop the ability to appreciate the aesthetic qualities of movement" (p.1, para. 2), while most recently, the interim report of the National PE Curriculum working group states unequivocally that PE "develops artistic and aesthetic understanding within and through movement" (p.5, para. 1.1). Whether the objective is being achieved however is not established since little research of any relevance appears to have been undertaken.

As an attitude is generally regarded as a learned predisposition to respond in a consistently favourable or unfavourable manner to an object, appropriate attitude research could give indications of aesthetic sensitivity. Thus for instance, a significant growth with age in the positive attitudes of adolescent pupils to aesthetic aspects of sport and dance could be regarded as evidence of the success of PE experiences in this regard. Yet published research in this area appears to be minimal, particularly that involving adolescents as

subjects. Indeed, a search of reference works, abstracts and indices reveals that virtually all the work which is available seems to be dependent upon a single attitude scale\* developed more than two decades ago, and which can be criticised on both conceptual and methodological grounds. For example, the scale is based on descriptions and statements selected from the literature and then judged by experts, while the aesthetic is described largely in terms of beauty residing in certain activities such as ballet, figure skating or gymnastics. Moreover, a single scale could be considered an inadequate measure of attitude to such different types of physical activity. A number of scales developed from adolescents' own opinions and a less restricting explanation of the aesthetic might constitute more appropriate measures.

An alternative interpretation of an aesthetic interest is that this is manifested in a primary concern for the object itself, whether this is a dance or a sport, with any practical outcome of secondary interest. The quality of an athlete's or a team's performance is therefore of concern quite apart from the result. Similarly an aesthetic interest in dance focuses on the quality of the movement and the overall appearance of the dance rather than, for instance, a preoccupation with any narrative content, the athleticism of the dancers, the excitement generated in an audience and so on. Measures of attitude which incorporate such an interpretation of the aesthetic do not appear to be available.

The dearth of relevant measuring instruments means that inevitably information on factors which may influence adolescent attitudes to aesthetic aspects of sport and dance is also severely limited. The influence of age for example is rarely reported in the research which

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\*The aesthetic dimension of Kenyon's (1968b; 1968c) Attitude to Physical Activity Inventory.

is available, yet attitudes could vary between eleven and sixteen years with concomitant implications for PE teaching. Sex seems to be an important factor, with apparently girls consistently displaying more positive attitudes than boys, but the limited interpretation of the aesthetic referred to earlier could be giving an equally limited result and so further research is necessary. Social class could also be a significant influence on attitudes for it seems from statistical surveys that those in lower social groups have less interest in the arts than the higher social classes. This may also be the case in relation to aesthetic aspects of sport. Another important consideration is the family. The latter is known to exert considerable influence on children in all matters including attitudes, and it is likely therefore that the extent of family interests in sports, dance and other arts is relevant. Pupils' own leisure interests in these activities may also be of consequence, while in the case of both family and pupil, the nature of the interest in terms of practical participation and watching dance, arts and sports could be a significant factor. So too could school experience in arts or sports.

The prime means of aesthetic education is considered to be education in the arts and furthermore the assumption seems to be that an experience in any one of the arts is adequate in developing a general aesthetic awareness. It follows from this that individuals benefiting from a specialist education in one or more of the arts should demonstrate more positive attitudes to aesthetic aspects of sport and dance. It could be argued that it is implicit in the notion of PE as a means of aesthetic education that the extensive experiences in sport itself provided by some schools develop more positive attitudes to all PE activities, including dance. Research does not seem to be available to support either of these somewhat optimistic assumptions.

An investigation is proposed which aims to discover the relative influence of all these factors on attitudes of secondary school pupils. Such a study will necessarily also entail the development of suitable measures of attitude. Attitude may be conceptualised as the amount of affect for or against an object; therefore scales are the most appropriate measuring instruments. The independent variables are school type, age, sex, social class, pupils' leisure interests in various arts and sports and their families' interests in the same activities. The dependent variable is the overall attitude to aesthetic aspects of sport and dance and this will be gauged from attitudes measured by each of the scales.

The research is intended as a contribution to knowledge concerning the aesthetic education and development of adolescents. It should be particularly relevant to teachers, curriculum planners and other educationalists interested in an aesthetic dimension of PE, for as well as being indicators of aesthetic development, positive attitudes are also necessary for learning to occur.



3.1 Introduction

Literature which is centrally concerned with adolescent attitudes to the aesthetic in sport and dance, is sparse. Yet there is a substantial body of information in related areas which is highly relevant to the problem under investigation. A wide-ranging literature review has therefore proved inevitable. It has been divided into three sections: the first is devoted to an examination of the basic concepts relating to attitude (3.2), this is followed by a survey of pertinent literature concerned with the aesthetic, art, education and development (3.3) and finally the literature review focuses on attitudes to the aesthetic in sport and dance (3.4).

A number of factors were taken into consideration in the organisation and presentation of the literature review. A fairly comprehensive survey of the information on attitude was considered of fundamental importance. This complex area has been examined in terms of definitions and descriptions, attitude organisation, measurement, formation, development and attitude change.

A concern for 'the aesthetic' necessitates an examination of the literature dealing with the concepts of aesthetic and artistic, as well as the nature of aesthetic experience. These are philosophical issues and it is acknowledged that much deeper discussion is warranted than that usually permitted in the literature review of an empirical study. It is considered nevertheless that a survey of the relevant literature in these areas is appropriate for this investigation. The substantial array of information on aesthetic education is also pertinent and a review of this is followed by an examination of the literature on physical education (PE), sport and dance as aesthetic and art

education. Attitude could be regarded as a measure of aesthetic development and so the empirical research in this area also is evaluated.

The paucity of empirical attitude research dealing specifically with aesthetic aspects of sport and dance, including those factors influencing attitudes, is revealed in the literature review of this area. Subsequently, in the absence of substantial empirical research, the general literature available is drawn upon heavily when considering both the possible influences on the development of attitudes (including age, gender, social class, school experience, family interests and pupils' leisure interests) and promoting attitude change to the aesthetic in sport and dance.

### 3.2 Attitude: basic concepts

#### 3.2.1 Definitions and characteristics of attitude

Reviewers of attitude and attitude change research, including McGuire (1985), Chaiken and Stangor (1987), and Tesser and Shaffer (1990) agree that this area currently occupies a central role in social psychology. The importance of attitude research in the field of education is also acknowledged by contributors such as Adams (1981), Keil (1985) and Anderson (1985).

Despite the acknowledged importance of attitude and overall the extensive, varied research undertaken, the area is far from clear. Fox and Biddle (1988b), for instance, remark:

"After 50 years of work by psychologists, agreement on the constituents of attitude has yet to be achieved, and the degree to which they can be influenced, how they might be influenced or whether or not they cause behaviours is far from well-established" (p.107)

A fundamental problem appears to be the absence of a commonly accepted definition of the attitude concept. Fisher (1977) claims that the

latter has more definitions than any other concept in social psychology, a view which is given a measure of support from the compilations of definitions which may be found in, for instance, Allport (1935), Smith et al (1956), Campbell (1963), Shaw and Wright (1967), Greenwald (1968), Lemon (1973), Himmelfarb and Eagly (1974), Fishbein and Ajzen (1975), Ajzen and Fishbein (1980) and Breckler and Wiggins (1989).

This lack of consensus on a definition of the attitude concept contrasts however with the agreement among attitude theorists, researchers and writers on the characteristics of attitudes. An attitude is regarded as a predisposition to respond to the attitude object in a positive or negative manner. Attitudes, along with personality and intelligence, are considered to be hypothetical constructs which cannot be directly observed and therefore must be inferred from some type of behaviour. They are generally regarded as stable and enduring, and learned rather than innate (Shaw and Wright, 1967; Lewis, 1974; MacMillan, 1980; Ajzen, 1984). Yet while Fishbein and Ajzen (1975) would not dispute this description of attitude, they argue that by permitting a wide range of interpretations, disagreements among researchers are necessarily obscured. In their view an explicit definition directly related to measuring procedures is a prior requirement. Dawes and Smith (1985) on the other hand consider that "precise operational definitions - or precise definitions at all - may be the result of prior scientific progress rather than its precursor" (p.509), pointing out that the philosophy of precise definitions of scientific terms was expounded after developments in physics had already been accomplished. Nevertheless, Fishbein and Ajzen (1975) maintain that attitude theory and attitude research should be closely related, and along with McGuire (1985) argue that their separate

development has been a major cause of the confusion surrounding the attitude concept.

The major theoretical positions on attitude organisation which underly various definitions are outlined in the following sub-section.

### 3.2.2 Attitude organisation

The fundamental question appears to be whether attitude should be conceptualised as a multi-dimensional or a unidimensional construct (e.g. Fishbein and Ajzen, 1975).

According to Chaiken and Stangor (1987) the multi-dimensional view may take either a two or three dimensional model. Those who hold a three-dimensional or tripartite view of attitude regard it as a complex construct comprised of an affective (i.e. feeling), cognitive (i.e. knowledge) and conative (i.e. behavioural) component, with each component permitting an individual variation (e.g. Katz and Stotland, 1959). Breckler (1984) points out that texts on social psychology (e.g. Baron and Byrne, 1977) and attitude theory (e.g. Triandis, 1971) typically emphasise the tripartite model.

Ajzen and Fishbein (1980) attribute the first expression of the view that attitude might be a complex construct to Allport (1935), although Breckler (1984) adds that Smith (1947) was the first to formally explicate attitude in terms of the tripartite model. Theorists such as Katz and Stotland (1959) have developed further this attitude model and Rosenberg and Hovland's (1960) schematization has been reproduced in numerous textbooks (e.g. Triandis, 1971; Rajecki, 1982). Rosenberg and Hovland (1960) regard attitude as a predisposition to respond to some class of stimuli with cognitive, affective and behavioural responses,

and furthermore each response class is mediated by a separate component of attitude.

Breckler (1984) maintains that despite the popularity of the tripartite model among many text-book writers, the multicomponent view appears to have had little impact on researchers. He quotes Ostrom (1968) who concludes that the bulk of attitude research focuses primarily on affect. More recently Zanna and Rempel (1988) and Fazio (1989) remark that few researchers ever operationalise attitudes in terms of the tripartite division. Ajzen and Fishbein (1980) claim that despite widespread consensus on the three component view, in practice most investigators make no distinctions among cognition, affect and behavioural intention, a view with which Breckler (1984) appears to concur, adding that in his view to say a researcher is measuring 'attitude' is ambiguous, as which of the components being measured is not specified.

Given the prominence of the tripartite view, it is surprising that few have attempted to validate it (Breckler, 1984). Bagozzi and Burnkrant (1979) review the few attempts made to provide empirical support for the model, namely Woodmansee and Cook (1967), Ostrom (1969), and Kothandapani (1971) and conclude that the results have been "equivocal at best" (p.915). In their view, only the Ostrom (1969) study provides clear support for a multi-component attitude model. The most recent attempt to validate the tripartite conceptualisation appears to be that of Breckler (1984), who argues that prior tests of the model lacked sensitivity because they relied on verbal measures of all three components. He, therefore, employed the use of non-verbal and verbal measures of affect and behaviour, and concluded that affect, behaviour and cognition are distinguishable components of attitude. He recommended that researchers either measure each of the three components or specify which is of particular concern.

Both Bagozzi and Burnkrant (1979) and Zajonc and Markus (1982) have proposed that attitude should be regarded as a two-factor construct, namely affect and cognition. Bagozzi and Burnkrant (1979) reanalysed the Fishbein and Ajzen (1974) data on attitude-behaviour relations and concluded that the single component model should be rejected, but that there was support for the affective-cognitive model. A similar reanalysis was performed by Dillon and Kumar (1985) who reached less clear-cut conclusions. In response Bagozzi and Burnkrant (1985) reported yet another reanalysis and found that the two factor model achieved convergent, discriminative and predictive validity, whereas the one-component model failed to achieve even convergent validity.

Those who support the two factor account of attitude maintain that both cognitive and affective components must be measured. These components work in concert to influence an intention to behave, or overt behaviour itself (Rajecki, 1982).

The major alternative to the three component view treats attitude as a single dimension of affect for or against an object (Bagozzi and Burnkrant, 1979). The predominant exponents of the unitary view appear to be Fishbein and Ajzen (Fishbein and Ajzen, 1972, 1975; Ajzen and Fishbein, 1980). They argue that there is widespread agreement that affect is an essential part of the attitude concept and that, furthermore, all attitude scaling techniques (including the Thurstone, Likert and Guttman scales and the evaluative dimension of the Semantic Differential) are measures of affect. According to this account, alternative approaches to the measurement of attitude merely provide alternative measures of the same thing (Bagozzi and Burnkrant, 1979).

Fishbein and Ajzen (1975) state in a footnote (p.11) that they use the terms 'affect' and 'evaluation' synonymously, and later (Ajzen and Fishbein, 1980) emphasise that they draw clear distinctions between

attitude (i.e. affect or evaluation), beliefs (cognition), intention (conation) and behaviour. In their view attitude is determined by a person's belief about the attitude object and is also related to "the person's intentions to perform a variety of behaviours with respect to that object" (p.14). Of particular concern to Ajzen and Fishbein is the attitude-behaviour relationship and their conception of attitude and its relationship to beliefs, intentions and behaviours, has been developed further into a "theory of reasoned action". This is considered briefly in the sub-division on attitude change.

Tessa and Shaffer (1990) report other recent conceptualisations of attitude, which appear to be developments from both the multi-dimensional and uni-dimensional arguments.

Such alternative conceptualisations include that of Zanna and Rempel (1989) who define attitudes as evaluations based on beliefs, feelings and/or past behaviours. Zanna and Rempel therefore distinguish between evaluation (attitude) and affect (feelings) unlike Fishbein and Ajzen (1975) for instance. According to Chaiken and Stangor (1987), Zanna and Rempel (1986) propose that affect, cognition and behaviour are three classes of information on which evaluative judgement is based and that attitudes should be regarded as separate cognitive entities rather than latent constructs (Breckler, 1984). Tesser and Shaffer (1990) conclude from their review of recent attitude research that a unidimensional definition in which evaluation is central seems to be the most popular at present.

Both Rajecki (1982) and Chaiken and Stangor (1987) consider that a definitive judgement on the issue of attitude organisation should be delayed, pointing out that empirical research is available to support each of the various multidimensional and unitary perspectives. Chaiken and Stangor (1987) also comment that variations in research results may

be due to variations in the sophistication of researchers' structural analyses programmes. Finally they point to Breckler's (1984) research as indicating attitude dimensionality may vary as a function of domain studied and that there may be no final answer to the unidimensional versus multidimensional questions.

### 3.2.3 Attitude measurement

It is apparent from the previous discussion on attitude organisation that the concept of attitude has implications for its measurement. P.L. Gardner (1975) in a critique of British attitude measurement research concludes that "clearly defined concepts and operational procedures are indispensable to the art of measurement" (p.101). Thus Tesser and Shaffer (1990) point out that when the concept of attitude regards affect and evaluation as equivalent (e.g. Fishbein and Ajzen, 1975) then self report indices would be considered adequate measuring instruments. On the other hand if evaluation (attitude) and affect are seen as distinct (e.g. Zanna and Rempel, 1989) then additional measuring techniques would be viewed as desirable. Similarly for upholders of a multidimensional attitude model (e.g. Breckler, 1984; Bagozzi and Burnkrant, 1979), separate measures for each component of attitude are necessary.

However, both Fishbein and Ajzen (1972) and Zimbardo et al (1977) found that links between theory and practice were rarely made and concluded along with McGuire (1969) that experimenters often make their decisions on measuring instruments on the basis of convenience or intuition. Recently Ostrom (1989) claims, explicit attempts have been made to link measurement and theory.

Fishbein and Ajzen (1972) from a review of research published between 1968-70 found more than 500 different measures designed to gauge



attitude. This divergent array has been variously categorised. Keil (1985) distinguishes between the direct, such as attitude scales and the indirect which include projective tests, behavioural indicators and physiological indices. Summers (1977) employs four categories namely self-report techniques, indirect tests and objective tasks, direct observation techniques, and physiological reaction techniques.

Scales are the most widely used means of measuring attitude, or merely the affective component, depending upon the concept held (Keil, 1985; Anderson, 1985). The most highly refined techniques are considered to be Thurstone's method of equal appearing intervals (Thurstone and Chave, 1929), Likert's method of summated ratings (Likert, 1932), Guttman's scalogram (Guttman, 1944, 1947, 1950; Guttman and Suchman, 1947) and Osgood's semantic differential (Osgood et al, 1957; Osgood, 1967). Shaw and Wright (1962) outline additional methods of scale construction including the method of graded dichotomies, scale discrimination technique, unfolding technique, unfolded partial rank order, latent structure analysis, and disguised techniques.

Both Fishbein and Ajzen (1972) and P.L. Gardner (1975) are critical of a great deal of attitude research measurement. The former concluded from their research that often no standard procedure of scale development was followed, while Gardner (1975) found that a number of British attitude research studies displayed serious faults in instrument design, lacking any discernible theoretical construct for instance. Fishbein and Ajzen (1972) also found that when investigators used more than one attitude measure, different results were obtained in 70 per cent of 200 reported studies. Such discrepancies Fishbein and Ajzen (1972) attribute to the fact that when different measuring instruments were employed they were often unrelated to each other. Furthermore they discovered that different measures of attitude were

combined in arbitrary ways, the kinds of combinations used being almost as numerous as the kinds of measures utilized.

#### 3.2.4 Attitude formation and development

The vast majority of theorists agree that attitudes are acquired through experience (McGuire, 1965), that is, the socialisation process involving the family (particularly parents), school, peers, media.

Those holding a multidimensional view of attitude consider that three types of learning are responsible for attitude formation and development. For instance, Greenwald (1968) and McMillan (1980) agree that affect may be formed through classical conditioning, cognitions through cognitive learning and conations through operant conditioning.

Keil (1985) suggests that the principles of imitation and reinforcement can account for the initial acquisition of attitudes; their internalisation may be attributed to the processes of identification (particularly with the mother by the young child), while classical conditioning is believed to be responsible for attitude persistence. Keil (1985) also reveals the dearth of research dealing with the role of cognition in the formation of attitudes, pointing out that cognitive factors are important in determining both the rate and content of attitude information among individuals. Keil (1985) further considers that the complex interaction between cognitive and socialisation factors is worthy of greater attention, and points to research by Williams and Morland (1976) on the development of racial attitudes as an important example of the value of this approach. Jones and Gerard (1967) offer theoretical support for a research focus on both cognitive and experiential factors. They suggest, for instance, that the manner in which parents present information has a crucial effect on the way a child subsequently structures and processes information, hence the

phenomenal influence of parents on the development of children's attitudes.

McGuire (1985) argues for other determinants of attitude which he feels have been neglected by social psychologists. Although offering no direct evidence in support, McGuire (1985) nevertheless considers that the very rejection by researchers of a genetic determinant, thereby indicates that the latter merits attention. He also claims that aging, illness or body chemistry may also affect attitude acquisition, but again no significant research support is offered. Evidence that a single significant experience can be critical in the formation of attitudes is largely anecdotal (e.g. Ullman, 1982; Read, 1983).

Of those socialisation procedures regarded as responsible for attitude formation, the importance of the person's early childhood experience, especially the family home, is generally considered to be the most influential (e.g. Fogelman, 1976; Engstrom, 1979; Jessop, 1982). Fogelman (1976) found, from a sample of 11,000 British sixteen year olds, that young people confirmed the attitudes of their parents, while both Hendry (1983) and Coleman and Hendry (1990) concluded from wide-ranging reviews of relevant literature, that the attitudes of adolescents are largely in agreement with those of their parents. Hargreaves (1972) refers to Miles' (1968) study involving adolescent girls which showed that in relatively trivial matters such as personal appearance, peer influence was preferred to that of parents, but in more important matters, parental influence tended to be accepted. Only a small minority diverge in fundamental ways from parental values. Dimaggio and Useem (1982) argue that parents pass down distinctive cultural preferences to their young and these are reinforced by peer groups.

It is acknowledged however (e.g. Coleman and Hendry, 1990) that as the adolescent becomes independent of the family, the peer group becomes an increasingly important point of reference, a view supported by the research of Hargreaves (1967), Murdock and Phelps (1973) and Willis (1978). Hargreaves (1967) adds that the influence of peers varies with the transient relationship with parents, while Loy and Ingham (1981) suggest that the three primary socialising functions performed by the peer group are teaching the culture, teaching new social roles and teaching social mobility. Hendry (1983) points out that the changing face of the family and the growth of one-parent families often removes adult models, and especially adult male models, from the adolescents' family environment and in such a social context the peer group may become more significant in shaping the teenager's behaviour.

Hendry (1978) suggests that the importance of the family in establishing children's general attitudes has meant that educational research has until recently tended to focus on the home rather than on the school. Barrows (1981) however, claims that school exposure has surprisingly little effect on attitudes to specific issues, although Rutter et al (1983) conclude that there may be a general influence. A partial explanation of the apparently limited impact of school experience is offered by a number of writers who claim that schools expose pupils only to middle class values and attitudes, and the latter are largely irrelevant in the lives of many pupils, particularly those from a working-class background. This view is supported by researchers such as Murdock and Phelps (1973), Birkstead (1976), Willis (1978).

Conway et al (1981) suggest that the mass media may be replacing home and school as the major determinant of attitudes and values. Murdock and Phelps (1973) and Fogelman (1976) conclude from their research that television (TV) is the most common leisure activity among adolescents and high viewing figures reported by both Cowie (1983) and Balding

(1987) appear to confirm this suggestion. On the other hand, McGuire (1985) reports that the actual evidence regarding the influence of the mass media on public attitudes is weak. A similar conclusion is drawn by Menner (1983) in relation to the influence of TV violence. He acknowledges that some people appear to be affected by violence on TV but who and how many remains elusive.

It is evident that the formation and development of attitudes has attracted a good deal of both theoretical and research attention. However it is also clear that the focus, particularly in educational research, has been in certain areas with other factors neglected to a large extent.

### 3.2.5 Attitude change

This study is cross-sectional in design rather than longitudinal, consequently attitude change cannot be measured or commented upon. Nevertheless it is felt that literature in this area contributes to a clarification of the attitude concept. In addition, some speculation about attitude change may be appropriate by way of concluding remarks at the end of this thesis.

According to Himmelfarb and Eagly (1974) the study of attitude change represents one of the best developed areas of social psychology although, they claim, it has never had a general analytical framework. The 1950's and 1960's are generally regarded as the decades when research activity in the area was at its height (e.g. McGuire; 1985). Himmelfarb and Eagly (1974) review the major theoretical frameworks advanced during this time to explain the processes of attitude change, namely cognitive consistency theories (e.g. Festinger's, 1957, cognitive dissonance theory); learning theory approaches (e.g. Bem's, 1965, self-perception theory); Hovland's Yale approach (e.g. Hovland et

al, 1953; Sherif and Hovland, 1961); functional theories (e.g. Katz, 1960).

Fishbein and Ajzen (1975) consider that much of the research on the processes of change can be classified into two major research traditions, one associated with the Yale approach on factors which influence persuasion (Hovland et al, 1953) and the other with Festinger's (1957) theory of cognitive dissonance. Cooper and Croyle (1984) from their review of attitude change literature, identify a third area, namely that of attitude-behaviour consistency.

Both Cooper and Croyle (1984) and Chaiken and Stangor (1987) report that the bulk of attitude change literature is concerned with persuasion research and this in turn is dominated by the cognitive response perspective; there appears to be little work involving emotion or arousal. The communication process is usually broken down into five components (e.g. Ajzen, 1984) namely the source (e.g. communicator credibility), the message (e.g. use of fear appeals), recipient (e.g. intelligence of the audience), destination (e.g. temporal decay of induced change). Thus for instance the influences of age, gender, the mass media, degrees of exposure to the message, the nature of participation have all been studied. The resulting literature is vast (see for example, reviews by McGuire, 1969, 1985; Cooper and Croyle, 1984; Chaiken and Stangor, 1987; Tesser and Shaffer, 1990) although little is reported which has arisen from an educational context, as Hargreaves' (1972) references illustrate. The relevance of much persuasion research is acknowledged nevertheless as the following brief survey reveals.

McGuire (1985) cites both Eagly and Carli (1981) and McGuire (1968) in support of the conclusion that females are more easily influenced than males, although McGuire (1985) also acknowledges that the magnitude of

the gender differences continues to be of trivial practical relevance. The importance of the age variable is also reported by McGuire (1985). He cites a number of studies (e.g. Costanzo and Shaw, 1966; Eron et al, 1983; Harris et al, 1983) in support of the view that age has a monotonic inverted-U relationship to influenceability, with maximum suggestibility occurring at nine years of age, conformity maximising at about twelve years with a decline thereafter.

That a single significant experience (Read, 1983) can have a dramatic reversal effect on attitude, as well as constituting a means of attitude formation, is recognised by Ajzen (1984), but he points out that little is as yet known about this phenomenon. The attitudinal effects of mere exposure (without reward or accompaniment) has been explored by Zajonc (1968), Zajonc et al (1974), Moreland and Zajonc (1976, 1977, 1979) leading Rajewski (1982) to conclude that this is an important and legitimate area for further study. The low impact on attitude change of the mass media is demonstrated by McGuire (1985), although he believes that there may be more media influence than has so far been revealed. He recognises however that empirical support for his arguments is not yet available. The influence of active participation and direct experience with the attitude object is recognised as an important area for research (e.g. Ajzen, 1984) but despite being one of the most heavily investigated receiver variables, support is less impressive than the underlying theory implies (McGuire, 1985). The endurance and stability of attitude change has also been explored. Cialdini et al (1976) suggest a continuum from, at one end, genuine attitude change, to the other, temporary shifts of opinion. Krosnick (1988) concludes that attitudes which people consider to be personally important change less over time than those regarded as unimportant.

Cooper and Croyle (1984) report that research continues to accumulate in the area of cognitive dissonance. They suggest that much of the work has concentrated on revisions and modifications of the theory (e.g. Fazio and Cooper, 1983), an emphasis which is underlined by Fishbein and Ajzen (1975) who consider that most of the research undertaken in the field of cognitive dissonance has been primarily for the purposes of testing the principle. Cooper and Croyle (1984) however point to the practical implications of dissonance theory (e.g. Steele et al, 1981).

Ajzen and Fishbein (1980) suggest that although consistency theories such as Festinger's theory of cognitive dissonance (Festinger, 1957) have contributed to our understanding of attitude organisation and change, they have done little to explain the observed inconsistencies between attitude and behaviour.

Cooper and Croyle (1984) consider that the major focus of theoretical attention currently lies in attitude-behaviour consistency, adding that the frequently-cited study of LaPiere (1934) is an indication of the long-standing interest in this area.

Chaiken and Stangor (1987) point out that one's own behaviour can be an important basis for attitude change and proceed to categorise theoretical explanations for attitude change resulting from behaviour individuals are induced to perform, namely self-perception (Bem, 1972), dissonance reduction (e.g. Festinger, 1957), impression management (e.g. Riess et al, 1981) and ego-enhancement (Steele and Liu, 1983).

Wicker (1969, 1971) suggests that the repeated failure by researchers to demonstrate a strong consistency between attitude and behaviour, has



had little impact on researchers who argue that if other variables are taken into account then better behavioural predictions can be made (e.g. Weisberg, 1965). Wicker (1971), however, claims that few studies are available in which such variables have been operationalised and empirically tested.

Bagozzi and Burnkrant (1979) maintain that general attitude bears no necessary relationship with single behaviours, adding that the failure to find a consistent direct relationship between attitude and behaviour may be due to a failure to measure people's standing on all three components of attitude and employing these as simultaneous predictors of behaviour. This assumes a multi-component concept of attitude.

Ajzen and Fishbein (1977) argue that a person's attitude toward an object influences the overall pattern of his or her responses to the object, but it need not predict any given action. A single behaviour in their view, is determined by the intention to perform the behaviour in question. A person's intention is, in turn, a function of both attitude toward performing the behaviour and perceived social pressure. This view constitutes the 'theory of reasoned action' (Ajzen and Fishbein, 1977, 1980; Fishbein and Ajzen, 1975) and according to Chaiken and Stangor (1987) it remains the most popular single approach for predicting behaviour from attitudes and has generated a great deal of research. Other combination type models include Davidson and Morrison (1983) and Jaccard and Becker (1985). Bagozzi (1981) offers support for Ajzen and Fishbein's (1977) theory of reasoned action but Cooper and Croyle (1984) report studies by Saltzer (1981) and Bentler and Speckhart (1979, 1981) which suggest that further research is needed to resolve inconsistencies within the intention-behaviour literature. According to Tesser and Shaffer (1990), Fishbein and Ajzen's theory continues to attract attention, and the model has

recently been expanded by Ajzen (1985) and Ajzen and Madden (1986) to include perceived behavioural control. The name has been changed to the 'theory of planned behaviour' to register this addition.

Attitude change research appears to be in a buoyant state, particularly in the USA from where most of the literature emanates, although it also seems that much empirical work is lab-orientated and reliant chiefly on the college student as a research subject (Chaiken and Stangor, 1987). The bulk of the work undertaken is within the three main areas of persuasion, cognitive dissonance and attitude-behaviour consistency, with recent interest apparently focusing on Ajzen and Fishbein's (1977) theory of reasoned action. This theory has been explored by some physical educationalists (e.g. Godin and Shephard, 1986; Fox and Biddle, 1988; Gatch and Kendzierski, 1990) but, in general, educational research into attitude seems to be scarce.

#### 3.2.6 Summary and conclusions

This section has illustrated the considerable extent of both theoretical discussion and empirical research which has been undertaken in the area of attitude. However, it has also highlighted the dissociation which frequently occurs between theory and practice thereby reducing the value of much of the work with the absence of a commonly agreed definition identified as a fundamental problem.

The review outlined the major theoretical positions underlying the numerous definitions available, the two most popular being the three dimensional model and the unitary model. The tripartite view whereby attitude is regarded as comprising an affective, a cognitive and a conative component, is the model most frequently found in text-books, although it seems that few researchers ever actually operationalise

attitude in terms of this tripartite division. The major alternative to the three factor model seems to be the unidimensional view of Fishbein and Ajzen (1975) which treats attitude as a single dimension of affect for or against an object. Fishbein and Ajzen (1975) argue further that the principal scaling methods namely Guttman, Thurstone, Likert and semantic differential, are all measures of attitude - as they have defined it. Few researchers it seems, make this link between conceptual definition and measuring instrument. Additional criticisms of attitude research such as faults in instrumental design and the frequent absence of standard procedures for scale development were also referred to in this section, along with alternative methods of attitude measurement.

The literature review revealed that the majority of theorists agree that attitudes are not innate but are acquired through experience. But it is clear however that the various opinions on how attitudes are acquired also depend to some extent on the concept of attitude held. Much of the literature seems to focus on the family as the major influence, with apparently little work available on the impact of either school experience or TV viewing, the high viewing figures among adolescents notwithstanding. These are obviously two areas where further research is warranted. In addition recent changes in family structure suggest that a refocusing of interest is necessary in this area.

A brief overview was presented of the enormous volume of work available on attitude change. Although it was acknowledged that attitude change is not a part of this study, it was argued nevertheless that literature in this area contributes to a fuller understanding of the attitude concept, and moreover, could be relevant to the final discussion of this thesis.

This section has shown that attitude research is extensive but that comparatively little is apparently available of an educational nature. Furthermore, as McMillan (1980) points out, there is a dearth of school based research and perhaps this is where future effort should be concentrated.

### 3.3 Aesthetic, art, education and development

#### 3.3.1 Concepts of aesthetic and artistic

One of the few aspects on which there is general agreement among writers on the philosophy of art and the aesthetic, is that the area is characterised by ambiguity and confusion. Korsmeyer (1977) for instance remarks:

"It is harder to think of a more abused and confusing word in the philosophical English lexicon than 'aesthetic' as any teacher who has elicited classroom opinions on the meaning of the term will no doubt testify" (p.52)

Similarly, Redfern (1986) and Simpson (1985) point out that although the term 'art' is in general use, it is a complex, elusive concept about which there is much disagreement.

Simpson (1982) and Redfern (1986) concur that among educationalists the word 'aesthetic' has become a bland title with little meaning, adding that despite appearing regularly in Department of Education and Science (DES) official documents during the past twenty-five years (e.g. DES, 1977; DES, 1978) it is rarely clarified. Simpson (1982) comments that there is usually just "the vague implication that it has something to do with the arts in education, possibly including physical education, maybe excluding literature, but still being pretty wide-ranging nonetheless" (p.37). Redfern (1986) identifies one source of confusion as the linking of 'aesthetic' with 'creative' in various reports (e.g.

Calouste Gulbenkian Foundation, 1982) and DES documents (e.g. Curriculum 11-16, 1977). She argues that they are distinct concepts involving different categories of understanding. The underlying assumption in the reports could be that all creative work is aesthetic in character which is doubtful to say the least.

According to Redfern (1986), writers such as Carlisle (1969) add to the confusion by their synonymous use of 'art' and 'aesthetic'. Best (1982) considers that several philosophers, such as Goodman (1976) and Urmson (1962) share what he regards as the mistaken assumption that the aesthetic and art are indistinguishable or not sufficiently distinct aspects of the same concepts. Certainly Goodman (1976) uses the terms 'aesthetic symbol' and 'artistic symbol' interchangeably, while Broudy (1972) writes of:

"The aesthetic object, whether natural, e.g. a mountain or forest, or a work of art in any medium..." (p.29)

In a similar vein, the Inner London Education Authority (ILEA) report (1984) on secondary schools refers to the 'aesthetic subjects' namely art, music, drama, dance, which are generally acknowledged to be also arts subjects.

Redfern (1986) asserts that outside philosophy, the aesthetic is traditionally, although in her view mistakenly, associated almost exclusively with beauty, elegance and grace, and also with pleasure. The Assessment of Performance Unit's (APU) discussion document entitled 'Aesthetic Development' (DES, 1982) for instance regards the aesthetic as simply a matter of pleasure or entertainment. Many American writers on sport, such as Lowe (1976, 1977) and Ziff (1974) use 'aesthetic' and 'beauty' as equivalent terms, Ziff (1974) for example concluding that a lack of intention to be beautiful disqualifies sport as potentially aesthetic. Gerber and Morgan (1979) also state that "the aesthetic is concerned with what is beautiful" (p.315).

Frequently, art is also closely linked with 'the beautiful'. Thus Gerber and Morgan (1979) allege that "The question of what is art hinges on the more fundamental problem of what is beauty" (p.315) and Kuntz (1974) remarks that "art events aim to satisfy standards of beauty..." (p.27).

The influential philosopher Wittgenstein (1966) however argues that aesthetic pleasure is more to do with a sense of appropriateness, rightness of fit, than to do with sensuous pleasure at the surface qualities of an object. He says:

"It is remarkable that in real life when aesthetic judgements are made, aesthetic adjectives such as 'beautiful', 'fine' etc. play hardly any role at all.....The words you use are more akin to 'right' and 'correct' (as these words are used in ordinary speech) than to 'beautiful' and 'lovely'" (p.3)

Redfern (1986) emphasises the importance of the concept of form when endeavouring to clarify the meaning of the aesthetic:

"And attempts to impose a certain order on what at first is probably a source of mainly sensuous pleasure would seem to be connected with that capacity traditionally held to be fundamental to the aesthetic mode of awareness, the capacity to delight in form" (p.23)

A similar argument is advanced by Reid (1969b):

"Briefly, we have an aesthetic situation wherever we apprehend and in some sense enjoy meaning immediately embodied in something; in some way unified and integrated: feeling, hearing, touching, imagining. When we apprehend, perceive and imagine things and enjoy them for their own sakes - for their form - the forms seem to be meaningful to us and this is an aesthetic situation" (p.1)

The aesthetic is therefore a concept which is not necessarily limited to the beautiful and furthermore the notion of 'form' seems to be a significant factor.

The question 'what is art?' has preoccupied philosophers for decades and numerous theories have been offered. Osborne (1968) outlines major

trends including theories of expression and communication (e.g. Langer, 1967; Reid, 1960) and art as significant form (Bell, 1914); Redfern (1983) describes the more recent institutional theory of art. Despite the proliferation of theories there is little consensus on what constitutes art, causing Redfern (1986) to remark that it is a 'classic instance' of an "essentially complex and essentially contested" concept (p.33). Kuntz (1974) maintains that it is an open not a closed concept. Best (1986a) in response argues:

"I do not suggest....that 'art' can be rigidly defined, or that a concept cannot change. But to say that a concept has vague and changeable boundaries is not to say that it has no boundaries and thus that we can arbitrarily decide what is art" (p.533).

The explanations offered by Reid (1970a), that art is the presentation of something in form to be enjoyed aesthetically, and by Beardsley (1982) that art is an arrangement intended to give a marked aesthetic experience - but art may also be characterised by additional factors, are helpful in that each is relatively clear and succinct. The close links they make between 'aesthetic' and 'art' however would be challenged by some, a view which will be discussed later in this section.

There is also disagreement over what constitutes 'the arts' or 'arts subjects'. Simpson (1985) points out that in academic circles for instance, 'arts subjects' still means English, History, Philosophy and so on, while Guthrie (1985) observes that the concept of Fine Arts is only recently developed adding that the latter are generally held to be painting, sculpture, architecture, music and poetry, plus sometimes certain other arts such as drama, opera or literature. There is considerable variation among writers on the arts and education, on what constitutes 'the arts'. Ross (1975), for example, considers that the arts relevant to the adolescent include visual art, music, drama,

literature, film and photography; Simpson (1982) lists music, dance, drama, poetry and literature, the visual arts; the Calouste Gulbenkian Foundation report (1982) on 'The Arts in Schools' argues that the latter should comprise music, drama, literature, poetry, dance, sculpture and the graphic arts; Redfern (1986) includes television, radio and cinema among the arts; Abbs (1989b) offers dance, mime, music, visual arts (painting and sculpture), drama, literature. Recent National Curriculum documents (e.g. DES, 1987), by designating art and music as foundation subjects, imply that the latter are distinct arts whereas dance is regarded as part of physical education and drama is a constituent of literature. Among philosophers there are few who consider dance as one of the arts, although there are exceptions notably Langer (1953, 1957); Reid (1969b, 1970a); Redfern (1983, 1986); Best (1974a, 1978); Sparshott (1982, 1983a).

A number of philosophers and writers have endeavoured to distinguish between the concepts of art and aesthetic and also comment upon their relationship. Reid (1970a) distinguishes between the categories of art and aesthetic by the notion of intention, that is, someone intentionally making an artefact for the purposes of aesthetic contemplation. He writes:

"When we are talking about the category of art as distinct from the category of the aesthetic, we must be firm, I think in insisting that in art there is someone who has made (or is making) purposefully an artifact, and that in his purpose there is contained as an essential part the idea of producing an object...in some medium for aesthetic contemplation" (p.10)

In a number of publications, Reid (e.g. 1969a, 1969b, 1970a, 1970b) also argues that the aesthetic is a wider concept than art. Many objects can have positive aesthetic value, a sea-shell for instance or a sunset, a game or other sports, various types of dance, not only



theatre dance. Reid's view of the aesthetic and of art is accepted by many who write in an educational context including the authors of the Calouste Gulbenkian Foundation report (1982), Meakin (1980) and Meakin and Sanderson (1983).

Best (1974b, 1982) also points out what he considers to be a distinguishing and intrinsic feature of an art form, that is, that there is the possibility of a comment on life. Best (1974b) elaborates:

"In any art form, to put it roughly, there is at least the possibility of a close involvement with life situations - for example the arts characteristically concern themselves with contemporary moral, social, political and emotional issues" (p.212)

Wollheim (1968) considers art works to be paradigm or central cases of aesthetic appreciation, while natural phenomena and so on are peripheral to it. For both Reid (1969a, 1970a) and Beardsley (1979) too, art affords aesthetic experience. Reid (1969a) for instance states:

"...when one is talking about the arts seriously, the focus upon the aesthetic aspect of art...is logically necessary if the talk is really to be about art" (p.18)

Strawson (1967) also agrees that the concept of the aesthetic is central to art.

Redfern (1983) however points out that the assumption of the relation of art to aesthetic has been questioned in recent years. She argues that aesthetic considerations alone are not sufficient for art, the latter can also be considered for its moral or psychological aspects for instance. Binkley (1976) goes further in asserting that aesthetic qualities are neither a necessary nor a sufficient condition for art.

Nevertheless the general consensus is that the aesthetic is central to art, although the relationship between the two concepts continues to provoke discussion.

### 3.3.2 Aesthetic experience

The nature of aesthetic experiences and the circumstances in which they may be possible are now examined.

Beardsley (1982) suggests five 'family-related' criteria of an aesthetic experience. There must be an object to which attention is fixed or drawn; there is often a freedom from 'everyday' concerns; there is often a detached feeling, sometimes described as 'disinterestedness' or 'psychical distance'; it involves the active exercising of constructive powers, a feeling of exhilaration in seeing connections as for instance in mathematics or science; almost always a sense of wholeness, a unity of coherence of both the experience and self. Meakin (1980) holds that an aesthetic object does not have to be a work of art, and could be scenery, natural objects, human movement, although works of art are generally held to be paradigms of the aesthetic.

Kerr (1978) distinguishes three senses of aesthetic experience, that is, aesthetic as opposed to unaesthetic; aesthetic as the opposite of non-aesthetic, and aesthetic as contrasted with anaesthetic:

"If we claim that an experience is unaesthetic we are saying that it is rent with disharmony, cacophony, disorder, chaos, disunity, imbalance or some such. If we have an aesthetic (as opposed to unaesthetic) experience when beholding a painting, I perceive in the painting harmony, order, unity, balance and the like.

If though we claim that an experience is nonaesthetic we are suggesting that it was perhaps strictly utilitarian, or at least not an experience in which we attended immediately to the presence of harmony or disharmony, order or disorder, unity or disunity etc.

An instrumental attending (e.g. practical) is not aesthetic, it is a non-aesthetic experience - not unaesthetic - only if we are attending to harmony, order and balance at least in part can it be unaesthetic" (p.10)

Kerr goes on to describe 'anaesthetic' as a situation when one's senses are physiologically or psychologically dulled, thereby limiting all experiences. But, Kerr adds, like the aesthetic/unaesthetic dimensions, the aesthetic/anaesthetic is a matter of degree.

For Greger (1972) aesthetic experience is a kind of knowing, a process of coming to know, when our analytic mode of reasoning should be subjugated and meanings should be permitted to emerge gradually. The aesthetic is therefore a non-analytical response, one marked by patient attention, with a capacity to use the intellect to the full even while its analytical function is forced to play a subsidiary role. This view is similar to that of Reid (1983) who talks of the apprehension of art as 'felt cognition' or 'cognitive feeling', that is, neither an entirely cognitive or a feeling response. Greger (1972) however, also acknowledges the part played by critical analysis in a non-analytical aesthetic response. Collinson (1973) adds that critics provide important background information which can enhance the aesthetic experience, but she stresses a difference between aesthetic commentating or criticism and aesthetic experience. The former involves the use of words, the latter "rapt attention". According to Collinson (1973) one mark of the aesthetic moment is that the work seen or heard arrests and holds us within its orbit, we are at best rapt and entranced. For Reid (1982) subjective experiences are part of aesthetic experience, but he regards it as crucial that the focus of attention is not on subjective feelings, emotions, sensations, but on the object.

Bell (1914) claimed the existence of a special emotion, an aesthetic emotion, a view which now has little support, Meakin (1980) and Redfern (1986) for instance, summarily dismissing such a notion. Redfern (1986) stresses the perception of form as a logical feature of aesthetic

awareness. She argues that it is the capacity of the aesthetically engaged person to bring a particular kind of order to whatever is being attended to, giving something form, adding that this is often aided by its actual structure. This emphasis on form contrasts with the view of Urmson (1962) who permits an aesthetic satisfaction to the connoisseur of wines, and to a gourmet.

Underlying most of the views outlined above is an acceptance of the notion of an 'aesthetic attitude' as fundamental to aesthetic experience. Best (1974b) for instance remarks:

"....it is less conducive to error to regard the aesthetic as a concept rather than a content - as a way of perceiving an object or activity rather than a constituent feature of that object or activity" (p.197)

Simpson (1985) refers to aesthetic attitude as 'disinterestedness', that is "an attitude free from prejudice and fixed ideas" (p.274). He claims that an appropriate object of attention is not only form, but (citing Reid, 1969a) also:

"representation, expression, narrative, social comment, psychological insight, technique, are all subsumed or 'embodied' within a holistic approach which, crucially, remains attention to the object for its own sake" (p.274)

The 'aesthetic attitude' approach is summed up by Korsmeyer (1977):

"Whatever their differences, aesthetic attitude theorists believe that aesthetic objects come into being through the mental activity of an observer, activity variously described as 'disinterested attention', 'psychical distance', 'intransitive attention' ...and the like expressions" (p.48)

Strawson (1967) stresses that an aesthetic interest is not any kind of practical interest, while Urmson (1962) distinguishes aesthetic reactions by comparing them with others such as moral, economic or intellectual. However Urmson (1962) also argues that aesthetic, moral, and economic judgements can be made in parallel. On this view a football team could be watched from both aesthetic and practical points

of view, that is, looking for "attractive football" and, at the same time, wanting the team to win. Reid (1982) considers that attention to an object "for its own sake" is central or 'cardinal' to aesthetic experience. Redfern (1986) points out that the idea of enjoying something for its own sake, for aesthetic experience, is a relatively recent idea, adding that before the eighteenth century, songs, sculpture, plays and dances were valued for their social, moral or religious function. For Reid (1982) aesthetic interest is an attention which is 'disinterested' in anything extraneous or irrelevant, such as the practical, and the focus is on the object itself, the qualities as apprehended which arouse our attention, a focusing on the wholeness, all the parts in relation to one another.

Redfern (1986) bases her arguments on those of Kant (1790) who held that no properties exist outside the human mind, that is, they are not in the object. In the aesthetic mode of looking, powers of imagination and feeling contrast with that of ordinary everyday perception. It is an active, personal response that has a marked affective as well as an intellectual dimension, a view also held by Reid (1983) as indicated earlier in this section. For Redfern (1986) too, aesthetic perception is a way of regarding things, which involves an imaginative apprehension of some object encountered at first hand whose form thus perceived yields a certain satisfaction or dissatisfaction. Accounts which take an 'attitude' approach, according to Redfern (1983), regard aesthetic appraisals as having an inescapably personal aspect with a marked evaluative element. She adds.

"We see an object as lovely (grotesque etc.) rather than recognising loveliness as we recognise, say, redness or roundness" (p.70)

Redfern (1986) goes on to say that aesthetic perception is logically dependent upon ordinary perception but it does not follow that features

a, b or c equal beauty or ugliness. Consequently aesthetic awareness involves the adopting of a particular attitude or standpoint which involves discrimination and judgement. Stolnitz (1960) seems to be making a similar point when he says that the properties on which aesthetic value depend are objective, but value itself is attributed to those works which give us aesthetic satisfaction.

Dickie (1974) is critical of attitude theories, rejecting a particular psychological state and arguing for the ordinary notion of 'paying attention to art' and not being distracted towards non-aesthetic aspects. He argues, furthermore, that there are no different modes of perception such as aesthetic or practical. Dickie could be regarded as an 'objectivist' or 'cognitivist'. According to Redfern (1983) these theorists tend to play down the nature and importance of the response of the experiencing individual. Aesthetic qualities are 'there' to be perceived and any related claims can therefore be held to be true or false, and so aesthetic perception is simply a matter of learning a skill. A notable example of the objectivist school of thought is Sibley (1959) who also considers that aesthetic qualities can be detected only by those with special sensibility. Examples of aesthetic properties are given as: emotional qualities (the serenity of a landscape, the gaiety of music, the sombre colours of a picture), evocative qualities ('moving', 'stimulating', 'depressing') and structural properties ('well or ill-balanced', 'formless').

According to Simpson (1982), Goodman (1976) is 'scathing' in his dismissal of the 'aesthetic attitude'. Goodman (1976, 1988) treats the arts as fundamentally cognitive domains. He argues that art works tend to possess certain properties and so the question 'What is a work of art?' should be replaced by 'When is an object a work of art?'. Both

producing and perceiving art requires the ability to process and manipulate symbols, and to make extremely subtle discriminations. Goodman (1976) maintains that aesthetic symbols, just as scientific ones must be read, and a symbol system can function non-aesthetically or aesthetically depending on how it is 'read' by the perceiver. Winner et al (1986) who base their empirical work concerning aesthetic development on Goodman's theories, add that when a symbol system functions aesthetically, three properties are highlighted namely repleteness, expression and composition, and as Gardner (1982) also argues, concentration should therefore be on identifying those aspects. Winner (1982) argues:

"It is commonly believed that pictures are not read at all; rather they are seen, and seeing entails immediate understanding....as in the case of the written word, some aspects of a picture must be read as well as seen" (p.112)

A similar point of view is held by Foster (1986) who argues for the development of dance literacy, referring to dance as a cultural significant 'language' which can be 'read'.

The adoption of a predominantly 'objectivist' or alternatively, an 'aesthetic attitude' view of aesthetic experience, clearly has implications for approaches to aesthetic education. Goodman (1976) believes that the prominent function of works of art is to contribute to our understanding. Smith (1987) adds that ultimately the question is whether one seeks out works of art mainly for understanding, or a fresh kind of experience, or both.

There are those who combine both the objectivist and attitude approach. Redfern (1983) points out that Beardsley (1970) has an 'attitude' account whereby access is gained to a particular kind of quality in things. Provided the percipient 'switches on' the appropriate kind of attention, what becomes available to him is objectively there. A more general view of the two positions is summed up by Redfern (1983):

"'What are aesthetic qualities?' might, indeed, be regarded as the other side of a coin on which we find 'What is the character of aesthetic experience?' and one side cannot be considered independently of the other, though of course it is possible to give one the greater emphasis." (p.82)

Most of the literature on aesthetic experience deals exclusively with the spectator, indeed Strawson (1967) locates aesthetic enjoyment squarely in the spectator class. Reid (1970b) blurs the distinction between spectatorship and participation when he says that the agent is often attentive to his own performance, but later in the same paper he says there is no time to dwell upon 'aesthetic qualities' during practical participation, adding that "the participant may look back upon his experience contemplatively with perhaps some aesthetic satisfaction" (p.252). The major contributions to the literature on the participant-observer question have focused on physical education, sport and dance, and will therefore be considered under that heading later in this section.

A number of writers suggest different 'levels' of aesthetic experience. According to Sparshott (1983b), Kant (1790) in his 'Critique of Judgement' distinguished three phases of aesthetic pleasure. First there is the merely subjective, sensuous delight in appearances - in colours and sounds, then there is the delight in the appreciation of perfection in form and functionality, and finally there is pure aesthetic judgement, the delighted recognition of beauty as such, in which we abstract from all actual concepts and function and take delight in 'pure form' in the 'purposiveness without purpose' of something which strikes our imagination as being just right as it is. Subsequently, some philosophers (e.g. Scruton, 1974) have argued that only this final stage can be considered an aesthetic response. McAdoo (1987) criticises this view, whereby a high level intellectual response



is elevated to supreme importance. On the other hand McAdoo (1987) is equally scathing of the view which regards aesthetic experience as merely excitement.

Davey (1989) points out that there is a "qualitative distinction between looking and seeing and between listening and hearing" (p.107) adding that the conventions of particular art works need to be understood in order to appreciate beyond the obvious sensual qualities. He goes on to say that mature aesthetic activity is very different from warm, tingling feelings and emotional arousal. He considers that a feeling response is inadequate to appreciate the significance and quality of a work of art as a work of art. In his view it is necessary to attend to the formal properties of the work, noticing relationships among individual elements so that an initial subjective response is modified with objectivity and analysis. The formal properties of a work he regards as the structure, design, elements and materials of construction; fabric, texture, thematic statement, development and evolution.

Berenson (1984) suggests three levels of aesthetic appreciation, namely (a) an initial identification, not at this stage aesthetic attention but nevertheless a necessary if not a sufficient step (b) formal aspects of appreciation, a 'disinterested' attitude, a critical awareness which requires knowledge about the object and (c) embodied subjective meaning, that is personal understanding.

Elliott (1974) distinguishes between the first contact with a work of art when we are still 'outside', when our experience is 'without', and later when we are familiar with the work, from 'inside' or 'within'. He gives as an example:

"In hearing the conclusion of the first movement of La Mer from within, we may enjoy a glorious expansion of spirit, assuming in imagination something of the stature, zest and majesty of a sea-god. From without, some such being seems to tower over us, regal and threatening" (p.153).

Hospers (1946) differentiates between what he regards as 'aesthetic surface' such as colours and shapes, and 'aesthetic form', that is the relationship between one colour, movement or shape and another. Meakin and Sanderson (1983) adopt a similar distinction although they substitute the labels 'aesthetic experience' and 'artistic experience' for Hospers' (1946) 'surface' and 'form', regarding the latter as a development from the former. Thus initially pupils were observed enjoying movement for its own sake, as an end in itself, "aesthetically satisfying movements" (p.76) while others were involved in making a dance which has "an overall structure which unites the various movements into a coherent whole" (p.76) an experience which was regarded by Meakin and Sanderson (1983) as artistic experience.

It can be seen that a range of opinions exist concerning the nature of aesthetic experiences and the circumstances in which they may occur. Arguments seems to fall into two main camps, namely those of the attitude theorists where emphasis is placed on the individual's judgement of an object without regard for any practical or other function it might have, and the objectivists who play down subjective response claiming that aesthetic qualities are there in the object waiting to be 'read'. The notion of 'levels' of aesthetic experience would seem to be relevant to both viewpoints although here, comment appears to have arisen predominantly from aesthetic attitude theorists.

### 3.3.3 Aesthetic education

Simpson (1985) remarks that when the "ambiguous and elusive term" 'aesthetic' is joined with 'education', "the ambiguities are compounded" (p.274), for it is immediately uncertain whether 'aesthetic education' is concerned only with the arts - and if so which arts - or whether a wider view involving the whole curriculum is being promoted.

In an attempt at clarification, Simpson (1985) proceeds to outline four views of aesthetic education which he labels 'peripheral', 'kaleidoscope', 'comprehensive' and 'unitary'. Eisner (1982) offers a similar categorisation.

According to Simpson (1985) the 'peripheral' view subordinates the aesthetic to aspects such as skill, social development and therapy. It should be noted that this view predominated in dance education literature until recently (see for instance Laban, 1958 and Russel, 1965), and is often referred to as the 'instrumental' view of arts education, where the aim is external to the art itself. Redfern (1986) for example claims that music in English primary schools is valued less for its intrinsic worth than as a useful 'adjunct' to daily assemblies, a practice which should change with the implementation of the National Curriculum (DES, 1987) when music will have foundation subject status. Redfern also criticises the report Curriculum 11-16 (DES, 1977) for not considering drama and literature primarily as arts but as the means of acquiring linguistic and social skills.

Simpson (1985) also considers that the Calouste Gulbenkian Foundation (1982) report represents the 'kaleidoscope' view, whereby attempts are made at justifying the place of all the arts in the curriculum by showing how they can contribute to various modes of understanding. Thus the aesthetic is one category along with creative, psychological, recreational, moral and cultural. Simpson rejects this view for not stressing the central role of the arts, namely aesthetic education.

The 'comprehensive' view was exemplified more than a generation ago by Read (1943) who believed that each person has the potential to be an artist and that the aesthetic should dominate the curriculum. On this argument various conventional subjects, such as mathematics, science

and English are subsumed and integrated into all kinds of creative activities grouped under the broad headings of drama, design, dance, poetry and craft. Simpson, while sympathising with Read, dismisses the idea that all subjects should be taught by means of art (or like art) as both impractical and unsubstantiated.

A more acceptable version of Read's view according to Simpson is that there are aesthetic elements in all subjects and that appreciation of such qualities as economy and elegance is desirable. This view is supported by Eisner (1982) who believes that if forms are well made - whether these arise in a mathematical or geographical context for instance - then they all exhibit aesthetic properties. A report of a committee of enquiry into the teaching of mathematics (Cockcroft, 1982) includes a call to include some consideration of the aesthetic dimension of mathematics. Redfern (1986) however considers that the view that aesthetic experience should be fostered throughout the curriculum, which is also suggested by the Calouste Gulbenkian Foundation (1982) report, is too simplistic. Certainly it would require a considerable degree of awareness, knowledge and commitment on the part of individual teachers to be successful.

Redfern also believes that aesthetic education should be specific and this is also the view of Broudy (1982) who argues that aesthetic experience should be developed deliberately through initiation into each of the serious art forms. Simpson (1985) characterises this approach as the 'unitary' view, and adds his own support for systematic instruction, maintaining that the most trivial notion is that which assumes that aesthetic education rubs off on anyone who comes into contact with the arts. Eisner (1982) agrees, adding that each of the fine arts is independent, has a distinct language, structure, syntax, vocabulary and history. Therefore in order to gain the meaning

presented by each art form, students must become literate in that art form. In his view integration dilutes the quality and quantity of each.

Eisner's (1982) emphasis on the individuality of the art forms gains some credence from the empirical work of Winner et al (1986) and from the philosophical arguments concerning distinctive symbolic codes advanced by Goodman (1976) and Gross (1974). Simpson points out that these approaches question the assumption that the various art forms are involved in the same kind of activity along with the accompanying implication that experience in one kind of art form will suffice.

D.H. Hargreaves (1989) on the other hand argues that it is dangerous to exaggerate the distinctiveness of the arts. The arts complement other subjects and must therefore overlap with and interpenetrate the curriculum. With the demands - and limitations - of the National Curriculum (DES, 1987) in mind, Hargreaves goes on to suggest that one of the most important challenges over the next few years is for the arts to demonstrate the contribution they make to other subjects. An attempt at integration was made in America during the 1970's when a substantial project was undertaken, producing vast quantities of written materials (see for instance, Barkan et al, 1970; Madeja, 1978). The approach was similar to one advocated by Renshaw (1976) in this country.

"....the grasp of an aesthetic concept like 'form', 'structure', 'symmetry', 'balance' or 'line' can be approached through the study of mathematics, dance, music, drama, poetry, painting and sculpture. The starting point....could arise from within any of these activities ....but the primary aim would be to examine the meaning and use of particular aesthetic concepts in a number of different contexts." (p.61)

In the American project (known as the CEMREL project after its major sponsor and publisher the Central Midwestern Regional Educational

Laboratory) the major concepts identified as applying to all the arts were motion, texture, space and light. These concepts then formed the basis of curriculum materials developed in accordance with child development principles and grade levels. The programme did not succeed, due, Efland (1987) believes, to its lack of specificity and also to the intolerable demands it made on the teachers who found it too complex and therefore difficult to implement.

Aspects of each of these approaches (that is, 'peripheral', 'kaleidoscope', 'comprehensive' and 'unitary') to the organisation and implementation of the aesthetic education curriculum may be found in various government reports published during the 1970's and 1980's. These reports usually recommend an overall analytical framework for curriculum planning based on the 'areas of knowledge and experience' proposed by certain educational philosophers.

Phenix (1964) suggests six 'areas of knowledge', namely symbolics; empirics; aesthetics; synoetics; ethics; synoptics. Hirst (1966) outlines seven areas, that is, human studies; philosophy; moral judgement and awareness; formal logic and mathematics; physical sciences; aesthetic experience. Smith (1987a), referring to Broudy et al (1964), Phenix (1964) and Hirst (1974), comments that whether they stress aesthetic value, experience, meaning or understanding, the authors assume the arts constitute a separate area of human concern and can be studied as such. They share a common belief that the arts are characterised by distinctive purposes, concepts, procedures and criteria of judgement, at least in major if not all respects.

In recent years therefore, government reports on the curriculum have recommended the inclusion of an aesthetic 'area of experience'. This is usually linked with the creative, underlining perhaps an expectation

that the aesthetic aspect of the curriculum will be interpreted as predominantly practical. The report 'Curriculum 11-16' (DES, 1977) for instance lists aesthetic and creative, along with ethical, linguistic, mathematical, scientific, physical, social, political, spiritual, as categories of experience on which the curriculum should be based. But Redfern (1986) notes that drama and literature are viewed in predominantly instrumental terms by this report, that is as a means of developing linguistic and social skills. The survey 'Primary Education in England' (DES, 1978) uses six areas of understanding and experience in its approach to curriculum analysis, namely language and literacy, mathematics, science, aesthetics including physical education, and social abilities including religious education. Music, art and craft are included under the heading 'aesthetic and physical education'. However as Redfern (1986) points out the survey also states that "Aesthetic education may arise in connection with any area of the curriculum" (para. 5.85). The publication 'A view of the curriculum' (DES, 1980) suggests under Proposition 10, that schools employing an 'areas of experience' framework "could see various ways of providing aesthetic and creative experience through music or art or crafts" (p.10. my underlining) adding that 'No pupils' programmes should be wholly deficient in the arts and applied crafts' (p.17). The curriculum from 5-16 (DES, 1985) states (para.33) that the curriculum of all schools should involve pupils in each of nine areas of learning and experience, namely, aesthetic and creative, human and social, linguistic and literary, mathematical, moral, physical, scientific, spiritual, and technological. The report stresses that they constitute a planning and analytical tool and should not be regarded as discrete elements to be taught separately and in isolation from one another. It continues:

"Nor are they equated with particular subjects (for example, pupils may gain scientific and mathematical experience from art, and aesthetic experience from mathematics), although inevitably individual subjects contribute more to some areas than to others' (p.16, para.33)

and later

"Aesthetic and creative experience may occur in any part of the curriculum, but some subjects contribute particularly to the development of pupils' aesthetic awareness and understanding because they call for personal, imaginative, affective and often practical, responses to sensory experience. Arts, crafts, design, some aspects of technology, music, dance, drama and theatre arts, in particular, promote the development of the imagination and the creative use of media and materials" (p.17, para.36).

The 'areas of experience' approach does not feature in current plans for a National Curriculum (DES, 1987, 1988a). Ten subjects have been designated foundation subjects, namely, English, Mathematics, Science, Technology, History, Geography, a Foreign Language, Art, Music and Physical Education. The first three are to be core subjects and the subject working groups have been assembled in the order of appearance in the above list. Thus members of the working groups for art, music and physical education were the last to be announced in JULY 1990. This has been taken by some arts educators (e.g. Dean, 1990) as an indication of the low priority afforded to the arts in education by the DES. The appearance of only two arts subjects, art and music, is cited as further evidence of the low status of this area of the curriculum. According to a former Minister of State for Education, Angela Rumbold (1989) dance is regarded as "a cross-curricular element infusing PE and music" while drama is viewed as part of English. The status of art and music in relation to other subjects appears to be under further threat a suggestion made by the former Secretary of State for Education, John MacGregor (The Guardian, August 1st 1990) that they - along with PE - could be made optional for pupils in the final two years of secondary schooling, that is, after fourteen years of age. This proposal is similar to that made in the ILEA report (1984) where it is stated that



it is difficult to make a convincing argument that all pupils should be compelled to follow five-year courses in each of the 'aesthetic subjects', namely art, music, drama and dance. The report continues however:

"We recommend that in the 4th and 5th years the creative arts should be grouped together, either as a constrained option from which each pupil must select at least one aesthetic subject, or as a combined/integrated course which contains at least two of these subjects" (p.59)

This view would be regarded by most arts educators as only marginally more acceptable than the latest proposal for the arts in the National Curriculum.

Finally, the decision to disband the Assessment of Performance Unit's (APU) 'Exploratory Group' on the completion of the discussion document 'Aesthetic Development' could be taken as further evidence of the lack of commitment to this area of the curriculum: "After careful consideration, it has been decided that the Unit should not for the time being devote resources to further work in this area" (DES, 1982, Preface).

The low priority given to arts subjects in schools is not a new phenomenon. Ross (1975) concludes from his four-year 'Arts and the Adolescent' curriculum project that:

"Generally, for all practical purposes, arts education remains a matter of only peripheral concern. Neither the arts subjects nor the teachers have ever been taken seriously. Such is the reluctant conclusion of every major report published in the last fifty years, and such is ours" (p.45)

Ross (1975, pp.26-27) proceeds with a resumé of the results and recommendations relevant to arts education, of a number of major reports. The Spens Committee (1938), for instance, recommended that 'a more prominent and established place in the ordinary school curricula ...should be assigned to the aesthetic subjects'; Norwood (1943)

complained that the arts 'have not received the attention in schools which is due to them'; McNair (1944) felt that the arts in secondary schools needed encouragement and that professional artists should be encouraged to enter the teaching profession; the Crowther Report (1959) found evidence that the arts were being squeezed out of the curriculum. Newsom (1963) reported that music tended to disappear from the curriculum of the 'more able' pupils at the end of the third year of secondary schooling, Ross (1975) adding that his researchers found that all arts subjects tend to disappear at that stage from the curriculum of most pupils. The Schools Council (1968) report substantiates Newsom's (1963) concern that young school leavers would come to consider the arts as neither useful nor prestige subjects.

The Calouste Gulbenkian Foundation (1982) report 'The Arts in Schools' considers that apart from 'Curriculum 11-16' (DES, 1977), the various government publications have given scant attention to the arts, and the Calouste Gulbenkian Foundation report Dance Education and Training (1980) asks why the arts remain peripheral to British secondary education, offering as an explanation:

"It reflects especially clearly the strength of the dominant view in our society, that the arts have no significant place in an education concerned predominantly with preparation for work" (p.4)

The DES (1979b) publication 'Aspects of Secondary Education' comments (para.3.16.1) that as far as aesthetic education is concerned, too often there is little evidence of a clear rationale of policies and practice. It adds that for certain groups of people, curricula may be biased towards or away from aesthetic subjects. For instance, craft and aesthetic subjects are more likely to be dropped by the more able during the first three years, than by the less able. A review of HMI reports published between 1983-84 (DES, 1984a) also found that in years

4 and 5 'some of the more able follow a curriculum with no creative or aesthetic component' (p.9). This review also concludes that in the practical and aesthetic elements of the curriculum, pupils' experiences differ widely from school to school and most schools visited were 'not able to provide the full range of dance, drama and music which in a few schools makes a valuable contribution to children's development.' (p.7). Yet another report (DES, 1988b) based on HMI inspections in England between 1982 and 1986 of 185 maintained and voluntary schools shows that the time allocated to creative and practical subjects for pupils in the first three years of secondary schools fell for the most academically able children with a corresponding increase for the less able (Table 4, p.47). This report also drew familiar conclusions:

"Aesthetic experience is concerned with the perception and appreciation of what is pleasing in the environment, both natural and as produced by people and in works of quality in art, music and literature.

Schools' stated policy revealed little awareness of the need consciously to awaken these perceptions among their pupils and there was little emphasis on the factors which contribute to the development of an aesthetic awareness and associated experiences" (para.104).

The report continues:

"For the majority of schools the conscious provision of aesthetic experience in the environment, the curriculum or in the teaching was not a primary concern...many opportunities to exploit aesthetic matters were neglected" (para.109)

D.H. Hargreaves (1989) considers that most schools do not have a coherent policy for the arts. Provision he has found to be notoriously variable, a situation which he attributes to insufficient numbers of specialist teachers in secondary schools, poor primary school teacher preparation and a lack of any clear or widely shared view on why the arts are important.

Given this substantial evidence of the poor state of arts education in schools virtually throughout the history of maintained schooling, the implementing by law of art and music in the school curriculum and to a

lesser extent, dance and drama, appears by comparison to be a considerable advance. Another encouraging development is the emergence of arts curriculum materials from the recently completed National Curriculum Council's (NCC) three year 'Arts in Schools' project (see NCC, 1990 for example).

The implementation of the arts elements of the National Curriculum should also reduce, and eventually remove, gender bias in the provision of arts experience. Dance is a special case, and thus is examined in more detail later in this section, but in more general terms, Sutherland (1987) has remarked:

"Repeatedly we found evidence of differentiated choices of 'girls' subjects and 'boys' subjects" (p.7)

The former are dominated by the arts and humanities. She adds that it is still uncertain whether girls choose certain subjects because of their intrinsic qualities or because of social pressures, which have conditioned girls to think that alternative areas are inappropriate for them. Kelly (1987) is in no doubt that girls choose arts subjects in preference to science, which is seen as a 'male' subject, because it is expected of them.

It seems that to date arts education has received serious consideration only in the specialist arts schools. There are five such schools in England and numbers are very small: The Royal Ballet School, and four music schools, the Yehudi Menuhin School, Chethams School of Music, Manchester, the Purcell School, Harrow, and Wells Cathedral School. The DES (1986) Annual Report for 1985, states under the heading 'Music and ballet schools':

"The aided pupil scheme provides assistance with the fees of talented young musicians and dancers attending five specialist schools. With the fifth intake under the scheme, in September 1985, 466 pupils held aided places" (para.2.42, p.18).

There are other, private, schools which, while not specialist schools, place an emphasis on the arts such as the Arts Educational Schools, Bedales School and Christ's Hospital. The last two of these offer 'assisted places' but the numbers of pupils benefiting in this way are very small indeed. Special schools for the arts are more common in certain other countries. Sanderson (1984) for instance points out that in the USSR there are at least nineteen ballet schools, while Mallinson (1980) claims that a minimum of one hundred music schools and a large number of theatrical technical schools, art schools and circus schools are also available. Unlike any English counterpart, each of these schools caters for a substantial number of pupils, and although precise figures are unavailable, it is apparent from this and other evidence (see Sanderson, 1984, for instance) that the Soviet Union places considerable value on arts education.

The main purpose of all specialist schools is to produce performers of high quality. As Sanderson (1984) has indicated, before an audition for a ballet school can even be considered, a certain standard of performance must have been attained and specific physical attributes complied with. The schools are therefore primarily vocational in character, although an all-round education is also given, with particular attention paid to other arts in addition to the specialism offered. Renshaw (1980) in his description of the Yehudi Menuhin School, comments:

"Although the school is characterised by its distinctive commitment to musical performance, the primary goal is the all-round educated artist rather than the narrow technician" (p.60)

Later, he elaborates further:

"Considerable emphasis, then, is placed on the acquisition of broadly based musical experience and skill, learnt in such a way as to develop the pupils' analytical and reflective powers. The qualities fostered by the music staff include an acute sense of listening, a spontaneity of response to the music, artistic sensibility, an understanding of the heart and not just of the mind, and perhaps most of all, the ability to reach the 'soul' of the music being performed." (p.61)

The Calouste Gulbenkian Foundation (1982) report notes that specialist schools are criticised frequently for being socially divisive, inhibiting the general education of the child and taking away the best teachers from those who need them most. The report concludes however, that specialist education should be retained so that the potential of the artistically talented might be fulfilled, but the urgent necessity for increased arts education for all is also underlined.

The low esteem in which the arts and aesthetic education are held in this country is generally attributed to the overwhelmingly high value which is placed on knowledge of a discursive nature. Reid (1983) who has argued the case for aesthetic education in numerous publications (e.g. Reid, 1969b, 1970a, 1974) points out that the dominant and usual interpretation of 'knowledge' and 'the cognitive' in our culture is 'knowledge that' or propositional knowledge. Reid (1983) argues for three distinct, although related, types of knowledge: in addition to propositional knowledge, he proposes 'knowledge-how' or practical knowledge and acquaintance knowledge which he describes as direct knowledge such as that gained from contact with persons, places and works of art. Reid (1983) argues that conceptually, acquaintance knowledge is distinct from discursive knowledge, but existentially and in mature developed experience the two go together. However, as Abbs (1979) points out, the majority of teachers regard the division between the cognitive and affective as normal and the stark separation of the two realms as somehow inevitable. D.H. Hargreaves (1989) comments on Abbs' (1989a) book 'A is for aesthetic':

"He re-affirms and elaborates the arts as constituting a unique element in the plural epistemology which justifies a school curriculum. The six great arts - music, literature, dance, drama, film, art - are a form of knowing that complements the propositional, empirical and logical forms which have so dominated Western, and thus curriculum, thinking. An education which teaches children concepts but which neglects to develop their capacities to use and create images and symbols is deficient; it fails both to transmit society's cultural heritage and to release and enhance important creative abilities" (p.20)

Greger (1972) makes a similar complaint:

"I believe that everyone can experience aesthetically....but many have had this capacity rendered sterile by an upbringing and education which lays all stress upon analytical reasoning" (p.149)

D.H. Hargreaves (1982) considers that only those abilities, skills and knowledge which can be measured easily, such as by means of a written test, are treated as really valuable in schools. He lists five types of ability and skill, that is the intellectual-cognitive, the aesthetic-artistic, the affective-emotional, the physical-manual, the personal-social, but adds that the stress in education is on the first, that is the intellectual-cognitive, particularly for the older adolescent, and schools fail to exploit the relationship between the different abilities and skills. Gardner (1988) agrees that most educational environments are concerned with the identification, cultivation and rewarding of two forms of intelligence, linguistic and logical-mathematical. He proposes (Gardner, 1984) in a theory of multiple intelligences, that the brain supports at least seven different abilities or intelligences, each of which may develop independently and so individuals may be at various stages in each area. Gardner (1984) therefore regards each of the following as a relatively autonomous individual intellectual competency: linguistic, musical, logical-mathematical, spatial, bodily-kinaesthetic, inter-personal, intra-personal. Using the proposed seven domains as a point of departure, Howard Gardner and David Feldman are directing a project in the USA entitled 'Project Spectrum', its goal being "to develop a means of discovering and fostering the diversity and distinctiveness in young children" (Ramos-Ford et al, 1988, p.6).

Although all writers on the arts and aesthetic education agree that the latter have been and continue to be neglected in our culture, there is often profound disagreement on the most appropriate teaching approaches

which in turn reflects conflicting concepts of the aesthetic. As Smith (1987a) remarks, thinking in the field of art education has swung from one extreme to the other, that is, an interest in art's affective dimensions to its cognitive dimensions. Smith (1987a) calls for a viable synthesis of the two positions.

Abbs (1989b) argues that the emphasis on self-expression, part of the progressive tradition in education, has had a formative influence on the teaching of the arts, and has eclipsed what he views as a broader conception of the arts as symbolic orders. Ross (e.g. 1975, 1984) and Witkin (1974) are among the foremost proponents of self-expression, and in their view the art teacher's job is to make possible 'an adequate feeling response to life and living' (Ross, 1975, p.57). Ross (1975) believes that Robert Witkin's (1974) book 'The intelligence of feeling' reassures teachers that their long-standing concern with feeling is legitimate. He adds:

"It is our view that the prime concern of the arts curriculum should be with the emotional development of the child through creative self-expression - Robert Witkin's 'subjective-reflexive action'." (pp.56-57)

Ross and Witkin reject performances, critical appreciation, exhibition and art history as likely distorting influences on creative work. Tickle (1987) severely criticises Ross (1978, 1980, 1983, 1984, 1985) and Witkin (1974) for purveying what he regards as a mystical, irrational, subjective view of arts experience. Tickle (1987) points out that Best (1985) is critical of an emphasis on personal feeling alone and the neglect or even rejection of the place of reason in arts education. Best (1985) argues that reason should complement feeling, and Tickle (1987) adds that a more structuralist view of creativity recognises that it derives from and therefore depends upon cultural traditions. Simpson (1982) is also critical of both Ross and Witkin for emphasising personal development at the expense of such ideas as



structure, standards, judgements, emphasising instead, self-expression, personal style and feeling.

Smith (1987) considers that Gardner (e.g. 1982) has been influential, at least in the USA, in encouraging art educators to adopt a cognitive perspective. Gardner (1982) in turn has been influenced strongly by Goodman's (1976) theory of symbolic systems. Winner (1982), a colleague of Gardner, argues that children should be taught how to 'read' art symbols in the way they are taught to 'read' language or mathematical symbols, in this case to detect aesthetic as distinct from non-aesthetic qualities. Jan (1989) urges a similar approach to dance education, that is with an emphasis on understanding the symbolic form, maintaining that a cognitive focus would underline its distinctiveness from physical education activities and also raise its status. Redfern (1986) on the other hand believes that on this view, aesthetic education is chiefly a matter of training individuals in a particular kind of skilful perception. It is relevant here to note that both Smith and Smith (1977) and Adshead et al (1982) have produced charts of 'skills and concepts' for, respectively, art and dance, which they argue, will develop aesthetic appreciation. Smith and Smith (1977) for instance suggest that "the proper method for aesthetic education is teaching the basic skills of aesthetic appreciation" (p.124). For Redfern (1986) the response of the individual is important, it is not just a matter of training to see. She argues that to be aesthetically educated an individual has to become progressively concerned with both the aesthetic merits (and demerits) of objects and with the integrity of his or her own judgements. Redfern (1986) considers that aesthetic education consists centrally of a particular kind of imaginative attention, increasing discrimination and critical reflection in response to things. Importantly she also includes in this process objects created by the students themselves. Redfern's (1986) view

could be regarded as a combination of the subjective and objective approaches to aesthetic education. She appears, however, to omit any reference to feeling, or at the very least severely limits its role. Abbs (1989a), while conceiving of the 'aesthetic field' as a dynamic interaction of making, presenting, responding and evaluating, nevertheless regards responses to art as "sensuous, physical, dramatic, bodily, pre-verbal" (p.126). He considers that aesthetic responses are "not logical but intuitive apprehensions working through our senses and our feelings, through our sensibility" (p.60). For this, he is taken to task by Simpson (1989) who holds that:

"Much of our response to art is not merely, if at all, gut feeling, but imaginative, i.e. cognitive, and it would be a relief to find colleagues who recognised this point more strongly" (p.126)

Here, Simpson (1989) seems to be reflecting a growing concern that unless the cognitive is stressed, the arts and therefore arts education will never be taken seriously.

A related issue is the relative importance which should be placed in aesthetic education on the appreciation and the practice of the arts. A further consideration is whether the latter should include both performance and creative work. Both Renshaw (1980) and Sanderson (1984) indicate that specialist arts schools tend to focus on performance and watching, and/or listening, to established works of art. Until very recently, secondary schools in England viewed arts education exclusively in practical terms, with a particular bias towards the creative aspect (see Sanderson, 1981, 1985 for instance). The stress on practical work was officially endorsed. The report Curriculum 11-16 (DES, 1977) for example, states that for this age group the study of art is "essentially, if not wholly, a practical activity" (p.37) and 'Education Observed, 2' (DES, 1984a) links the aesthetic with the practical (para.19) and the creative (para.25). In

'Curriculum 5 to 16' (DES, 1985), however, there is evidence of a change in emphasis:

"There are two interrelated strands in the development of aesthetic awareness and understanding in schools. One manifests itself through pupils creating their own works, whether pictures, models, music, plays, mimes or poems; the other comes from experiencing, interpreting or performing the works of other people such as artists, composers, writers or architects. These two strands are mutually enriching..." (para.37, p.17).

The importance now attached to appreciation is apparent:

"Experience of making, performing, composing and inventing can help pupils to appreciate and to make informed judgements about the work of others..." (para.40, p.18).

During the past decade there has been increasing pressure from writers on the arts and aesthetic education, such as D.H. Hargreaves (1983) for a greater emphasis on appreciation in the teaching of art. D.H. Hargreaves (1989) considers that Taylor's (1986) work destroyed the conviction held by many art teachers (and by Ross, 1975, and Witkin, 1974) that appreciation would have a negative impact on creativity, by demonstrating that the two are mutually enriching. Redfern (1986) has also argued convincingly for the role of appreciation, although she goes further by questioning the notion that practical participation is necessary for aesthetic development. Redfern (1986) supports White (1973) who argues that the compulsory form of aesthetic education should be appreciation, which he describes as the 'contemplative mode'. The voluntary form of aesthetic education, for all pupils to choose or refuse freely, should in his view, be the 'creative mode' of art making. Wilson (1980) in a response to White (1973) stresses the importance of 'getting on the inside' by means of creative involvement, a process which makes a vital link with the contemplative and should therefore be fused with it. He regards both as important dimensions of understanding. They also contribute in his view to aesthetic autonomy, that is giving pupils the opportunity to choose the role and commitment in the adult world of the

arts, "...be these conceived as 'producer', 'critic', 'academic' or 'consumer', and whether in a professional or amateur capacity, or at the level of connoisseur, enthusiast, dilettante or indifferent bystander" (p.37). There is a considerable degree of support in the literature for the importance of the contribution of creative involvement to sensitive appreciation. Collinson (1973) for instance considers that trying to paint, to write, to sculpt, compose, give opportunities for gaining insights into works of art, adding:

"The quality of what is produced may not be very high, but the rewards of this striving are reaped through a sensuous familiarity with the materials, the textures and the qualities fundamental to art objects" (p.214)

The notion of 'knowing from the inside', gaining both 'practical' and 'acquaintance' knowledge has been advanced repeatedly by Reid (e.g. 1969b, 1970a) and is a theme which has been taken up by, among others, Greger (1972), Aspin (1974) and Renshaw (1976). Greger (1972) argues that 'knowing' dance must involve the experiential side of 'coming to know' which can only be achieved through direct engagement in the dance form itself. For Renshaw (1976) acquaintance knowledge is fundamental to aesthetic experience, while Aspin (1974) argues that it is 'doing' that is of prime importance. Indeed, Aspin (1976) goes on to imply that full appreciation of the work of a 'master', whether this is a gymnast, artist, footballer or musician, is unlikely, without knowing how it feels in that medium, in other words, practical experience. The American psychologist Gardner (1982) also believes from the results of his research on aesthetic development, in the importance of 'making and doing', not just watching. He comments that children are not expected to learn to understand computers by having them examine a terminal or computer print-out and draws similar parallels with arts education.

The current opinion therefore seems to be that both the creative and appreciative are inter-related (Simpson, 1985) and that knowledge of

and knowledge about art are of equal importance for a complete arts education (Calouste Gulbenkian Foundation, 1982; Smith, 1987a). Further evidence may be found in most General Certificate of Secondary Education (GCSE) arts syllabuses of the Northern Examining Association (NEA), where those for art and design, drama, dance and music, include performing, creating and appreciating.

Although there is growing unanimity on a three-stranded approach to arts education, controversy persists concerning the type of artefacts to which children should be introduced. According to Sanderson (1984), there are no such doubts in the Soviet Union. An extract from the Moscow News (1981) is quoted in support of this view:

"It is important to expose children to the master-pieces of the classical repertoire such as Swan Lake, Nutcracker, Sleeping Beauty, Giselle. They are an excellent introduction to the world of artistic beauty."  
(Sanderson, 1984, p.49)

Smith (1987a) agrees with this approach, claiming that young people, given the opportunity to cultivate taste for the best (and by this he means for the most part, European classics) do not reject it, but the Calouste Gulbenkian Foundation (1982) report states firmly:

"We do not accept the preeminence of classical models or of 'high art' or 'high culture' in education" (p.21)

'Culture' is generally taken to include the arts, but is regarded as a much wider concept. Willis (1978) found the culture of working class boys to be at odds with the predominantly middle-class values of formal education and Freedman (1988) expresses fundamental disagreement with Smith's (1987b) assumption that white European, upper and middle-class art forms are superior to those of minorities and working classes. Blacking (1990) also argues that white children should be aware of black arts and their historical and cultural tradition, but he warns of the dangers of promoting or reinforcing cultural stereotypes or 'tribal boundaries' regarding black, Asian or working class. Gans (1974)

identifies and describes five 'taste' cultures in American society, each with its own art, literature, music and so forth "which differ mainly in that they express different aesthetic standards" (Gans, 1974. Preface). Gans does not judge one to be better or worse than another, merely different.

Smith (1987b) argues against Gans' (1974) assertion that instead of cultural heritage, people should be given the kind of culture they want, that the study of the past is irrelevant and that it is wrong to acquaint the young with what Smith regards as the finest achievements of cultural heritage. He goes on to say that young people are usually uncertain about their interests and tastes and so need to know something of the range of what is possible to enjoy and admire before they can make intelligent cultural decisions for themselves. Smith (1987b) rejects accusations that his approach to arts education is 'culturally oppressive':

"To place within the reach and grasp of the young that which has the capacity not only to intensify experience but also to enlarge the scope of human awareness is neither snobbish, authoritarian nor maleficently élitist. On the contrary, it is to wish for the large majority what heretofore has been the privilege of the minority" (p.59)

Arguments for and against an 'élitist' view of the arts curricula remain unresolved, although it is apparent that in England's multicultural, complex society of the late twentieth century, compromises will have to be made. The National Curricula for the arts, currently under discussion, should resolve the issue to a large degree.

#### 3.3.4 Physical education, sport and dance as aesthetic and art education

The relationship among sport, dance and physical education is not always clear. For Carlisle (1974) sport and dance are the main vehicles for physical education (PE) because these are the pursuits

which are "bodily-orientated" (p.29). The DES (1989b) publication 'Physical Education from 5 to 16' acknowledges that "team games, athletics, tennis, gymnastics, dance, swimming, outdoor pursuits and other physical activities" (p.1) are regarded by many people as leisure pursuits, but it is stressed, as part of PE:

"...these activities take place in a context of teaching and learning. In physical education general and specific skills are acquired, knowledge and understanding developed, and positive attitudes and personal and social attributes encouraged" (p.1)

As Murdoch (1987) illustrates, a number of writers have attempted to establish a clear distinction between PE and sport but with little success, and Stevens (1985) admits that there is a considerable overlap between the two terms. Downey (1984) however insists that there is no 'sport' in education and although PE makes use of many sports the two concepts are not synonymous. A related issue for Gibbon (1989) is that teachers of PE are educationalists first, concerned with the all-round development of the child and not merely coaches, who in his view focus entirely on the sport, that is, improving performances, a point underlined by Allen (1989) who is adamant that PE activities should not provide training grounds for adult sports.

The relationship between dance and PE is also complex. It is clear from 'Physical Education 5 to 16' (DES, 1989b) that dance is regarded officially as part of PE, but in the same publication it is stated that, "Both dance and drama are collaborative arts..." (p.15). The ambiguous situation in which dance finds itself is illustrated further by Angela Rumbold, formerly a Minister of State for Education, who writes that dance should be regarded as "...a cross-curricular element infusing PE and music in the National Curriculum" (Rumbold, 1989) and by a recently completed HMI survey (DES, 1989c) based on visits to twelve secondary schools in England, and eight LEAs when thirty-four lessons were observed. Among the 'characteristics of good practice'

recorded were "good use of professional dance artists to complement the work undertaken by teachers" (p.2) and one of the issues raised concerning dance in the curriculum was "poor cross-curricular links with other arts departments" (p.3. my underlining). It seems that officially, dance in the curriculum is regarded as a sport, along with games, gymnastics, swimming, athletics and so on and also an art, having links with music, drama, visual arts. On this view, physical education comprises both sport and art within a context of teaching and learning.

Dance is usually found within the responsibilities of PE departments in schools, although latterly changes in this arrangement have emerged. The Calouste Gulbenkian Foundation (1980) found from a sample of 347 secondary schools, with a 70 per cent return of questionnaires, that dance was generally the responsibility of the PE department and the HMI discussion paper 'Dance in secondary schools' (DES, 1983b) reported from a survey of dance in thirty-five LEA's, that in thirty of these, responsibility for the subject in schools fell to the adviser or inspector for PE, and that 90 per cent of dance courses in schools were the responsibility of PE departments. Of the twelve schools surveyed by HMI in 1989 however (DES, 1989c), five placed dance in the PE department, two included the subject in a performance arts faculty and in four, it was within a creative/expressive arts faculty. There was one dance department but within the PE curriculum. Although the sample was small, it illustrates nevertheless the confusion surrounding the nature of dance experience in schools, that is whether it should be regarded primarily in physical or artistic terms.

Overviews of the development of dance in education and its relationship with PE are provided by McIntosh (1976), the Calouste Gulbenkian Foundation (1980), Sanderson (1981) and DES (1983b). The 1909 Syllabus of Physical Training established dance in the school curriculum and so



began an association with PE which has persisted for more than eighty years. Until the post-Second World War period the type of dance recommended was, for the most part, English folk dance and European national dance, mainly because of its contribution to physical fitness, but the cultural input was also recognised. Since 1944, a free, expressive form of dance developed under the influence of Rudolf Laban (see Laban, 1958; Foster, 1975), although today such work is more often judged by artistic criteria rather than in terms of personal development, and other types of dance are also acceptable (see Meakin and Sanderson, 1983; Sanderson, 1985).

Support for the continued association of dance with PE is provided by Meakin (n.d.) who writes:

"...if one of the central concepts of Physical Education is a focus upon formalized skilful physical activity, then the use of the body as a means of artistic expression in Dance would seem to be part of that concept along with aesthetic and purposive sport forms such as Gymnastics and Rugby" (p.3)

Chapman (1977) also argues, along with Morgan (1974), that it is athleticism which dance shares with other activities, although she acknowledges that dance is different in also being an art form. There is, however, a substantial body of opinion, represented by the Calouste Gulbenkian Foundation reports (1980, 1982) and Henderson (1989) which considers that dance should be regarded primarily as a provider of artistic experience.

The philosopher Louis Arnaud Reid (1969b) who has been foremost among those who regard PE and dance as distinct, states unequivocally:

"...it would, I think, be an unfortunate conceptual (or philosophical) mistake to think of dance as a part of - or a sort of - Physical Education" (p.9)

Reid (1970a) argues that dance should be regarded as one of the art forms, but he recognises that not all dance is art, the way not all music, painting or drama is art and that dance can be merely fun or

ritual as with folk dances or those of a religious character. Meakin and Sanderson (1983) are in agreement with this view but add that such dances could be considered part of aesthetic if not art education. Crucially, Reid (1970a) points out, dance can fulfil what he regards as one of the conditions for art, that is, to intentionally create an object for aesthetic contemplation. He considers that the form in dance, like the form in all art is a 'symbol' in a unique sense - an embodiment symbol. Sandle (1972) also concludes that where movement is deliberately structured and performed to emphasise its qualitative nature, such as in dance, then movement becomes explicitly an art form. For Best (1978) dance offers the possibility of a comment on life, an issue which for him, is a distinctive feature of art. Other philosophers including Langer (1953, 1957), Sparshott (1982, 1983a) and Redfern (1983, 1986) also regard dance as one of the arts.

There are also those who argue that sport should be regarded as art although it seems that few philosophers support what is generally regarded as an extreme view. Much of the literature in this area emanates from the USA and has been characterised by Ziff (1974) as vague and confused. Lowe (1977), for instance, demonstrates a limited concept of art which he links exclusively with beauty. He also confuses a number of issues including the sportsman as artist, sport represented in art and sport as art and even considers various pieces of sports equipment to be works of art. Guthrie (1985) points out that two theories are frequently used to show that sport is art, namely the theory of 'art-as-beauty' and the theory that art is a display of skilful techniques, both of which Guthrie (1985) rejects as inadequate partly because the concept of art and the uses of art are much more complex than these theories pre-suppose.

Kuntz (1974) argues that there is 'significance', 'meaning' and 'symbolic import' in some sporting events, making them comparable to artistic events. In a later paper, Kuntz (1979) disagrees with Ziff (1974) that sport is nothing more than 'mechanical efficiency', claiming that on the contrary, 'sport is as complex and many dimensional as life and culture' (p.22). Wertz (1979, 1984, 1985) in a series of articles argues for sport as art, claiming that an artistic medium can be sport just as easily as clay, paint, notes or words. This view, along with that referred to earlier that art is an open and not a closed concept, has drawn responses from Best (1986a, 1986b) where he rejects the notion of art as sport saying that although art does not have rigid boundaries there can be no arbitrary decisions on what can count as art. Best (1974b) also dismisses the 'sport as art' argument on the grounds that the former, unlike the latter, cannot comment or concern itself with moral, political or emotional issues; Boxill (1985) counters with the view that expression of life situations is manifested differently in sports than in traditional art forms. Meakin (1980) however concludes that although sport has something in common with art and sportsmen with artists, the assimilation of the two strains both concepts. Guttman (1986) makes a similar point:

"If the runner's stride...the gymnast's vault...and the goalie's save...are not forms of art, they certainly arouse in us emotions related to those we experience when we listen to one of Bach's cantatas or contemplate a still life by Chardin. Unquestionably, there are physical performances that live in the memory like the lines of a poem. We all have our cherished images...it is nonetheless true that sports are not, despite assertions and even books to the contrary, a form of art. They are demonstrations of possibility but they are not, strictly speaking, interpretations of the human condition or the natural world" (p.177).

Carlisle (1974) on the other hand lists four main feature of great sport which he considers to be of aesthetic importance and where, he argues, clear analogies can be drawn with established art forms. Sport, Carlisle claims, can have expressive elements, possess

intellectual beauty as players seek intellectual solutions to problems, have unity and drama. Drama he regards as a crucial feature of all sport which derives from the essential challenge, tension and climax. A number of writers support this view of sport as drama. Kaelin (1968) for instance sees a sport's contest as drama with highly aesthetic overtones, while for Keenan (1972), the athletic contest is a 'tragic' form of art. Thomas (1979) agrees, arguing that the 'contest' in sport is synonymous with theatrical and literary drama in terms of its uncertainty and demand for resolution; failure in sport has the characteristics of classic tragedy. Weiss (1972) does not deny that there are dramatic aspects of a game, but believes that a game is only 'episodically dramatic'. Curl (1976) rejects what he regards as 'extravagant' claims that sport is the 'true theatre of our day', the latter view being reported by De Ath (1974). Brian Cowgill, then Controller of BBC1, apparently regarded the Olympic Games as "a marvellous piece of instant theatre" (De Ath, 1974, p.51) and that sport on television had, for him, replaced live theatre.

Reid (1970a, 1970b) proposed an aesthetic continuum of physical activities according to the aesthetic intention inherent in each activity. Thus a 'spectrum' is suggested whereby games and dance occupy opposite ends, with 'aesthetic' sports such as gymnastics and ice-dancing occupying middle ground. He points out that anything can be an aesthetic object, that is, an object for aesthetic attention, but only some things in sport have positive aesthetic value and may therefore be regarded as 'aesthetic sports'. Furthermore, in his view, there may be artistic elements in some sports, rather than aesthetic elements, but he adds, that until it can be said, for instance, that the intrinsic and dominating purpose of some gymnastics or figure skating is to produce expressive form embodying meaning aesthetically,

these sports could not be called 'art' without specification, they would still be sports incorporating aesthetic elements.

Best (1974b) disagrees with Reid's proposal for a continuum and argues for a distinction between what he describes as 'purposive' sports on the one hand and 'aesthetic' sports on the other. In the former, for instance games, the internal end or purpose can be specified independently of the manner of achieving it; there is never a complete identification of means and ends for there are many ways of achieving the end within the limits set by the rules. In the latter on the other hand, the internal end cannot be specified independently of the manner of achieving it without reference to aesthetic considerations, as for example in diving or olympic gymnastics. Anything aesthetic in 'purposive' sports is a by-product:

"...far more important for a football or hockey team that a goal is scored than how it is scored" (p.199)

Weiss (1972) agrees that the overriding purpose in a contest is the desire to win, and Postow (1985) sees this as the major dissimilarity between sports and the acknowledged art forms, adding that athletes and sports coaches are not expected to give priority to maximising the aesthetic value of the performance as a whole, whereas performers of music or in the theatre are expected to enhance the aesthetic quality of the performance. Saw (1961) on the other hand considers that star performers in ice-hockey, cricket, football, and sports generally are valued almost as much for their elegance in action as for their run-making and goal-getting ability. The remarks of an 'old, working-class, Manchester City supporter' quoted by Robins (1982) are relevant here:

"Above all you went to see a good game of football. I've seen times when the team's won and I've been sick at the terrible football they've played. I've seen 'em lose and its been such a superb game of football that you didn't care. Alright, it's better your team win, but to see a good game of football is more important to me than to see my team win" (p.148).

It would seem therefore that aesthetic values are important to the sports spectator. Ziff (1974) nevertheless persists that "aesthetic factors have at best an inconsequential, ancillary role to play in sport" (p.44), adding that in sports in general, aggressive not aesthetic aspects 'loom large'. The attitude adopted by the performer or spectator would seem to be a crucial factor. Curl (1976) for instance suggests that the formal, sensory, temporal, intensity, complexity and expressive qualities which may be found in sport provide aesthetic activity for participants and observers alike - should they be disposed to find it. Curl (1976) emphasises that these qualities do not transmute skilful performances into art, yet sport may still provide aesthetic experiences, a point with which Kupfer (1985) seems to agree. Referring to Boxill's (1985) claim that sport is art, Kupfer remarks:

"The main flaw in Boxill's discussion is that she feels compelled to argue that sport is an art form in order to establish it as a rich vein for aesthetic experience. While art forms do indeed provide a strong source of aesthetic experience, sport need not be an art form to do so. In short, Boxill can have everything she and I want for sport as aesthetic without going to the lengths she does to argue that it's art" (p.49)

Simpson (1986) however also makes the point that if the sole criterion of a work of art is that it has the capacity to sustain aesthetic attention then it is difficult to distinguish games from art, adding that some games have the capacity to sustain aesthetic attention as much as some works of art.

That an aesthetic attitude can be taken towards sports is illustrated by Meakin (1980) who claims:

"...whole sequences and patterns of action...can be appraised from an aesthetic point of view and judged aesthetically pleasing or the reverse. In football, for instance, a build-up from defence to attack can be judged from this viewpoint and found aesthetically satisfying as a rich and fluent pattern of play. A series of passes down the three quarter line in rugby, a rally in squash, a move in hockey - these too can be judged as patterns or sequences and found aesthetically delightful. In many games of course, much of the interaction is scrappy and formless. But one of the

thrills of spectatorship, and I suggest it is an aesthetic thrill, is to see a form or pattern emerge - sometimes suddenly unexpectedly - from a phase of play that is chaotic or without shape" (p.48)

This interplay between the spectator and the object is underlined by Reid (1970b) who points out that only some things in sport have aesthetic value; expectations may often be frustrated for there may not be positive but negative values. Best (1974) suggests that slow-motion television (TV) replays result in "heightened aesthetic awareness" (p.209) on the part of the viewer. He attributes this to the fact that the extrinsic purpose of the action becomes less important in such circumstances and there is also more time to appreciate the manner of the performance.

Stolnitz (1973) claims that "skill is a major sector of the aesthetic" (p.7). Elliott (1974), however, argues that skill alone is insufficient, pointing out that certain circus acts are highly skilled but are not necessarily aesthetically pleasing. Reid (1974) concurs, adding that in his view aesthetic quality must be fused into the skill. The technically qualified musician, dancer or sportsman is not necessarily providing aesthetic experience for the audience, as expressiveness is essential. Meakin (1980) also distinguishes mere technical efficiency from the manner of performance, the style, while Cordner (1984) differentiates between grace and efficiency. Cordner (1984) sees grace as an aesthetic quality and compares the efficient and economical movements of Martina Navratilova and Joe Frazier with, respectively, Evonne Cawley and Muhammed Ali. Grace is achieved, it is argued, when elements of co-ordination, efficiency and timing are absorbed into a total harmony, a 'unity of being' in the performance.

Most of the literature on sport, art and the aesthetic is written from a spectator perspective; there are few who comment specifically on the experience of the participant. Reid (1970b) argues that in games and

other sports there is no time for participants to dwell upon 'aesthetic qualities' during the course of their performance, although he admits that afterwards, "the participant may look back upon his experience contemplatively with perhaps some aesthetic satisfaction" (p.252). Best (1974b) seems to be in no doubt that participants in sport can experience aesthetic feelings while actually engaging in their activity:

"A perfect smash in tennis, a well-executed dive, a finely timed stroke in squash, a smoothly accomplished series of movements in gymnastics...for many who engage in sports the feelings derived from such performance are part of the enjoyment of participation in these activities. And 'aesthetic' seems the most appropriate way to categorise such feelings" (p.207)

Redfern (1986) however warns that pleasure in skilfulness or in the sensations of motion, a purely subjective reaction, tends to 'threaten' an aesthetic concern. For her, the latter must have an imaginative dimension and comprise a delight in form.

There have been attempts to justify PE as an aesthetic activity. Anthony (1968) is considered by Kirk (1984) to be among the first to argue for sport as well as dance as a means of aesthetic education, but it is likely that Carlisle's (1969) 'The concept of physical education' would be accepted as the seminal paper in this area. Carlisle (1969) suggests that four different conceptions of PE are evident in the literature, which he labels as the 'Educational', 'Movement', 'Play' and 'Aesthetic' accounts. The last, that is the 'Aesthetic' is the conception of PE which Carlisle (1969) favours, arguing:

"Firstly, the notion of 'art' or 'fine art' is vague...it seems pointless to confine the field of aesthetic activity...to a small group of activities... Secondly... there are good reasons for thinking that no single type of experience, knowledge or effort is definitive of art: Thirdly, the various forms of dance are accepted as art forms and aesthetic criteria are also applied in other activities e.g. ice-skating, diving..." (p.17)



It is clear that in conceiving of PE activities as aesthetic, Carlisle (1969) appears to view them as art forms. This is confirmed later:

"...the activities are distinguishable from all other art forms by the use of the player's body." (p.19)

Carlisle (1969) has been criticised on this and other grounds by Reid (1974). Adams (1969) also feels that Carlisle (1969) did not subject his own arguments in favour of the aesthetic as the unifying factor in PE, to the more stringent examination he applied to the other three accounts subsequently dismissed as inadequate. Arguments in favour of PE as aesthetic education continued, particularly during the 1970's (Aspin, 1974 for instance) causing Carr (1978) to claim that the most popular means of justifying PE was by showing a connection with Hirst's (1974) form of aesthetic understanding.

Meakin (1980) does not regard the aesthetic as a unifying factor and so distances himself from Carlisle (1969). Nevertheless he accepts that PE plays a significant part in aesthetic education, because, he believes, gymnastics and dance cannot be properly characterised without reference to their aesthetic dimensions and there is the possibility of viewing competitive games and athletic events in accordance with aesthetic criteria. He concludes:

"It would seem that physical education has a significant part to play in aesthetic education. This will come as no surprise to those who have reflected on the nature of physical education, but it should serve as an important corrective to the view that physical education is a matter of physical exertion, fitness-training and the teaching of techniques and tactics for winning games" (p.48)

It has been pointed out earlier in this literature review that official reports on PE in recent years (e.g. DES, 1979a, 1989b) stress the aesthetic (usually linked with the creative) as an area of experience relevant to PE. Among the seven aims listed in 'Physical education from 5 to 16' (DES, 1989b) is "to develop the ability to appreciate the aesthetic qualities of movement" (p.1) and other reports, such as ILEA

(1984) also accept "the aesthetic component in PE" (p.61). However, research by both Kane (1974) and the Physical Education Association (PEA) (1987) indicates that 'aesthetic appreciation', described by PEA (1987) as the development of an understanding of aesthetic criteria, values and judgements, is consistently ranked last by secondary school teachers as an objective of PE. The survey undertaken by Kane (1974) on behalf of the Schools Council, involved 575 schools throughout England and Wales. The nine most frequently mentioned objectives in the PE literature were assembled in random order and teachers ranked them from one to nine. Aesthetic appreciation was given the lowest rating by both men and women teachers; the learning of motor skills and physical development were given as prime objectives. The PEA (1987) survey followed the general lines of the Schools Council Enquiry and virtually identical results were reported. The low priority afforded aesthetic education by teachers could also be indicative of their own limited knowledge and understanding in the area. Howarth and Laws (1989) point out that although aesthetic education or aesthetic appreciation appears in almost every statement on the purposes of PE, it is assumed that it just 'happens', 'as though through a process of osmosis'. PE texts do not illustrate how aesthetic education is to be undertaken by means of sport and dance. Howarth and Laws' (1989) own proposals however, defined entirely in terms of personal response, betray their own limited concept of aesthetic development. Redfern (1986) supports the notion of PE as a means of aesthetic education, arguing that as in the arts, pupils should learn to critically reflect on sports, adding that in her view, one does not have to be a good performer in order to appreciate and gain enjoyment from aesthetic aspects of sport. Redfern (1986) also agrees that aesthetic education whatever the context, must be undertaken quite specifically, that is pupils must be taught how to discriminate, to exercise personal judgement. The importance of regarding a performance as something

valuable in itself, is also underlined. It seems, therefore, that PE is acknowledged as a potential means of aesthetic education, but that such education is not being pursued by teachers. Yet, as Guttman (1986) points out, sports may be an important contact with the aesthetic for some pupils and so it is vital that the aesthetic dimension is emphasised.

Information does not appear to be available concerning the degree to which those schools which promote sports participation and interest among their pupils (traditional boarding schools for instance, and those which offer a high level of coaching such as Millfield School) also encourage the adoption of an aesthetic attitude to sports. It is the case, however, that along with the specialist arts schools, the major objective is the achievement of outstanding performance and if the arguments of Reid (1970a, 1970b) and Best (1974b) are accepted, then the extent of an individual's aesthetic education and development could depend to some degree upon the sports activity chosen. It is unlikely however that such schools would encourage such specialism among all pupils particularly those under sixteen years of age, with the exception perhaps of those obviously gifted in particular areas.

### 3.3.5 Aesthetic development: empirical research

According to Reid (1982) aesthetic development is the growth of "the ability to respond relevantly to a work of art as an aesthetic object" (p.15), adding that this ability is cognitive-affective in character. Reid (1982) believes that the study of aesthetic development, like the study of the 'discursively-cognitive' in Piaget or of the moral in Kohlberg, is 'normative' in the sense of having a clear conception of what development is development towards, namely mature aesthetic experience and understanding.

There is little work available on aesthetic development, Feldman (1987) attributing this to the relatively small number of psychologists interested in the area. Hakstian and Cattell (1974) illustrate this point: they discovered that although some work had been done on artistic promise by means of a small number of art judgement tests, no systematic factorial research appeared to be available. They concluded that "Esthetic judgement (E) involving the ability to detect the manifestation of basic principles of good art and design" (p.149) could be a rather complex construct, involving perhaps a combination of primary abilities, and an experiential component.

In the wider field of psychology of art, there is a relative dearth of investigations too. Winner (1982) feels that this is because the arts are considered mysterious and therefore not open to empirical study; besides, most psychologists are relatively unfamiliar with the arts and so are unwilling to investigate them. Certainly publications in this area are meagre; Berlyne (1971, 1974, 1977), Child (1972), Arnheim (1966, 1969, 1974), Kreitler and Kreitler (1971) are the major authors in the field and all are North American. Hogg (1969), O'Hare (1981) and D.J. Hargreaves (1986, 1989) virtually constitute the British contribution, although these edited texts also rely heavily on contributions from America. Much of the work has a poor conceptual basis and a large proportion, particularly work undertaken during the 1960's and 1970's comprises simple preference studies. Winner (1982) also points out that the bulk of research in the psychology of art has focused on the fine arts, therefore excluding dance for instance. Popular forms of art are rarely considered and there is little mention of television, jazz and so on; little empirical work is available on the effect of socio-cultural factors on aesthetic development.

Housen (1983) is critical of psychologists who have tried to measure aesthetic responses in lab-settings, breaking down figures into shapes

and lines, turning landscapes into colour charts, pointing out that none of the latter can be equated with a painting. Morris (1975) objects to Child's (1973) approach whereby children's 'aesthetic preferences and judgements' are assessed by comparing their selections from a series of paired slides, to selections made by authorities. Eysenck (1981) points out that tests commercially produced since the 1930's usually consist of line drawings of a representational or non-representational kind in which the subject is asked to choose between two similar pictures or designs, one of which is regarded as superior to the other, either on *a priori* grounds or on the fact that sets of experts have preferred it. Eysenck (1981) goes on to say that the tests are "universally characterised by the poor aesthetic quality of the drawings used" (p.93). He also criticises the Maitland Graves Design Judgement Test (1948) claiming that it is invalid, citing Eysenck (1970) and Eysenck and Castle (1971) in support, and finds serious faults of a psychometric nature in the Barron-Welsh Art Scale. Eysenck and Castle (1970) found that a factor analysis of the eighty-six items comprising the scale did not produce a single factor but four independent factors. In response to these criticisms, Gotz et al (1979) devised a 'visual aesthetic sensitivity test' (VAST) using items that were drawn by 'experienced artists of international reputation' (p.795).

None of the literature referred to above makes any mention of dance, nor are any studies reported relating to the aesthetic appreciation of sport. Tests in Print III (Mitchell, 1983) lists only the Meier Art Judgement Tests (1940, 1967) and the Barron-Welsh Art Scale (1952), while the Eighth Mental Measurement Year Book includes just the latter. Robinson and Shaver (1973) survey a large number of measures, but only Allport et al (1960) is reported to include any reference to the aesthetic. Aesthetic value is part of their 'Study of Values', but the

limitations are evident from its date of publication (1931) and its development which relied solely on college students. Moloney (1981) attempted comprehensive coverage in her 'Index to assessment techniques in aesthetics'. The index includes a large number of unpublished tests; almost all sources are American and, despite its title, the index focuses on four of the arts, that is, music (114 tests), the visual arts (64), literature (40) and dance (14). Those listed in the dance section date from 1929 and the most recent is given as 1965; virtually all are limited to measuring rhythmical ability.

It is generally acknowledged (e.g. D.J. Hargreaves, 1986; Taunton, 1982; Eisner, 1982) that the most substantial body of psychological research on children's reactions to the arts is that carried out by Howard Gardner, David Perkins and their associates at Harvard University's Project Zero. According to Rush and Lovano-Kerr (1982), Project Zero staff wrote 150 articles during the years 1970-79 in addition to writing or editing nine books. The project was founded in 1967 by the philosopher Nelson Goodman and entitled 'Zero' to reflect research then available in this area (Perkins and Gardner, 1988). The research has focused primarily on the visual arts, although music and literature have also been studied. Needless to say perhaps, dance has not been included, nor has there been any concern with aesthetic development outside the arts. Its theoretical basis has been described by Gardner (1982) as a combination of Goodman's (1976) taxonomy of symbolic systems and process, and the developmental approaches of Piaget (1970) and other cognitive-developmental psychologists. Smith (1988) summarises the orientation of Project Zero:

"The ideas that have controlled most of the Project's activities...are encapsulated in the definition of art as essentially cognitive or, more specifically, in the conception of works of art as characters in a symbol system that can be assessed in terms of their cognitive efficacy" (p.v)

Thus, according to Gardner (1982) the Project sought to examine the development of various symbol-using capacities in art, that is, those steps through which children pass as they master various components of different artistic symbol systems. Factors regarded as central to aesthetic perception are outlined by Gardner (1981), namely, perception beyond the subject matter of the work and attendance to the style presented, the expressiveness or mood embodied, the harmony and the balance of the whole composition. Gardner (1981) suggests that until seven years of age children have little sensitivity to aesthetic characteristics of an object, and for the next two years children still do not attend to features of artistic symbols. Gardner (1981) argues however that a few weeks of appropriate training can transform a 'literal' seven to nine year old child, who focuses exclusively on the representative characteristics into a more aesthetically sensitive individual. He continues:

"Quite possibly the only aspect of growth during this period which relates specifically to the arts entails attitude: a sizeable number of children are already rejecting the arts as something for 'others' or for 'girls' or for 'sissies' - particularly prevalent among males in our [American] society" (p.137)

Between the ages of nine and thirteen, there is a breakdown of literalism and the emergence of aesthetic sensitivity to expressive aspects, and Gardner (1981) argues that this is an excellent time for pedagogical intervention. After this period, adolescents become excessively critical and many reject the arts, but Gardner (1981) argues, this period would be ideal for a course in arts criticism and appreciation. Although Gardner (1981) emphasises that conclusions must be tentative, in view of the meagre amount of research in the area, he proposes that aesthetic development closely parallels that in the cognitive, moral and social domains. He concludes:

"...although individuals will differ from one another, anyone of normal intelligence should achieve - given reasonable interest and motivation - sensitivity to style, expressiveness and composition across a range of art forms" (p.144).

These conclusions and the proposed stages of aesthetic development are drawn from Project Zero's large output of research studies, many of which are outlined in Gardner (1973). Specific papers include Gardner et al (1975), Rosentiel et al (1978) and Carothers and Gardner (1979). The predominant approach adopted appears to involve showing pairs of painting reproductions to children in various age groups and asking questions concerning personal preference and technical competence.

Gardner (1983) makes the further claim, arising from Goodman's (1976) theory of symbol systems, that the development of skills in one system, say music, occurs in a systematic way, but each area exhibits its own characteristic developmental path. Empirical confirmation of this view is supplied by Winner et al (1986) using, it must be stressed, the same philosophical base. The purpose of this study was to chart the developmental course of perceptual skills used in the arts and to investigate whether these skills generalise across art forms and aesthetic properties or are 'art form' specific and/or property specific. The sensitivity of ninety 7-9 and 12 year olds to three aesthetic properties, repleteness (style), expression and composition, was investigated in three art forms, drawing, music and literature. Results showed that ability to perceive these properties in one art form did not predict ability to perceive these properties in another art form; similarly ability to perceive one aesthetic property of an art form did not predict ability to perceive another aesthetic property in the same art form. The authors concluded that aesthetic perception develops property by property and domain by domain, and so should be regarded as a multi-skilled ability. Winner et al (1986) admit that these conclusions assume the validity of their measures of aesthetic sensitivity, which are not standardised tests, but argue in defence:



"...the measures we have devised were developed on the basis of what - in our view - are the most rigorous and well-thought out analyses of the nature of the aesthetic object" (p.158)

D.J. Hargreaves (1986) however is critical of the measures employed, arguing that they could well have been invalid; he is also sceptical of the results suggesting that given the scale and diversity of the study it would have been surprising if any generalities had emerged.

The research as a whole emerging from Harvard Project Zero has received a good deal of critical comment. Eisner (1982) for instance considers that style discrimination is not a necessary condition for having aesthetic experience, for although stylistic differences might be detected, the 'art' in the picture could well be missed. He acknowledges that the studies undertaken give important indicators of the various abilities children can display at various stages of development on matters relevant to aesthetic education but finds that much of the work emerging from Project Zero and other sources are more descriptive than experimental, adding:

"A great deal of research describing developmental trends simply provides experimental evidence that as children get older they grow up" (p.92)

Rush and Lovano-Kerr (1982) are critical of the methodology employed by Project Zero researchers particularly the use of colour reproductions of art works, most of them only three by five inches in size. In calling these 'paintings', Rush and Lovano-Kerr feel that misunderstandings were likely on the part of the subjects. Their most serious objection, however, is that the research fails to take into account school experience, prior art experience or socio-cultural factors. Freeman (1980) agrees with this as a general criticism of educational research commenting that where research into children's development does not take into account children's home background, then a large influence has been omitted. From her research involving artistically talented children, Freeman (1974) found that the home was

of vital importance in developing artistic abilities. Winner (1982), a member of the Project Zero team, seems to recognise the influence of school and other experience when she says that developmental trends so far identified may be simply reflecting the fact that the arts have relatively little place in technological societies and are not stressed in schools, adding that children may have the capacity to see a great deal more in paintings at a much younger age than research suggests. It is curious therefore that socio-cultural influences were not taken into account in her own research. Rush and Lovano-Kerr's (1982) conclusion is unequivocal:

"...ascribing an increase in aesthetic sensitivity solely to developmental factors such as the onset of puberty seems ill-advised" (p.89)

Taunton (1982) also points out that differences in the aesthetic responses of the art-trained adult and the untrained adult (e.g. Gordon, 1955; Goude, 1972) appear to indicate the important influence of education and the environment. She goes on to complain that much of the research available merely shows children's responses are unlike those of trained adults and unlike the conceptualizations of particular aestheticians. Taunton (1982) considers that this kind of research does not reveal how mature aesthetic sensitivity develops through progressive stages; how, in effect, education can develop this capacity. A plea is made for a more 'pluralistic' philosophical base for Project Zero research, Taunton (1982) arguing that so far, this has been set and limited by Goodman (1976) and the philosophical assumptions of the researchers are part of their conclusions. Furthermore, Taunton (1982) maintains, the influence of Piaget is excessive.

The only other substantial research programme in aesthetic development is that undertaken by Michael Parsons (1976, 1987a, 1987b) and his

research team. Although his work has proceeded on a much smaller scale than that of Project Zero, and is independent of the latter, Housen (1983) suggests that the two have reached similar conclusions. The philosophical base is that of Beardsley (1958), the object of the research being to seek a cognitive-developmental account of aesthetic response to paintings paralleling the work of Piaget (1970) and Kohlberg (1981), but not attempting to apply to the arts the stages described by these cognitive psychologists (Parsons et al, 1978). Although Parsons (1987a) like Gardner (1973) stresses the cognitive, Reid (1983) believes that both authors recognise the affective dimension of aesthetic response and Parsons (1976), in particular, sees the cognitive and affective as intertwined. Parsons' methodology is similar to that employed in Project Zero, namely the presentation of reproductions of painting to children of different ages, probing their responses to questions regarding semblance, subject matter, feeling, artist's properties, colour and overall judgement within an unstructured interview format. Pariser (1989) criticises Parson's methodology while recommending Housen's (1983) 'stream of consciousness' approach. Pariser (1989) also claims that the latter's findings are more credible than those of the former, because unlike Parsons she did not try to elicit responses in terms of *a priori* formal properties and her data analysis and synthesis were performed by more people than the principle researcher. Rush and Lovano-Kerr (1982) and Taunton (1982) also criticise Parsons' work on the same grounds as that applied to Project Zero research.

Parsons (1987a) suggests five stages of aesthetic development. The pre-school child's responses are idiosyncratic, merely liking or disliking the object; the next stage is a concern for subject matter, the craft and rules; this is followed by an interest in feeling and expression, then medium and form; a final mature stage is reached when

a work is judged on its aesthetic merits. This last stage is described by D'Onofrio and Nodine (1980) as a relevant response, based on a consideration of the congruence between subject matter, form, skill, use of media, colour and the artist's perspective, and this in turn depends upon how ably the child can read the meaning intended for the viewer. Parsons (1976) sums up this process of aesthetic development:

"...from a highly egocentric response to a response that is highly sensitive to aesthetic qualities as such i.e. to a power of highly relevant and subtle feeling" (p.309)

Although Parsons (1976) highlights the affective nature of mature aesthetic responses here, generally the cognitive component is stressed. Durham (1977) whose research with adolescents was within Parsons' frame of reference, concluded that the stages of aesthetic development were consistent with principles of cognitive development and D'Onofrio and Nodine (1980) believe that Parsons' research underlines the 'radical contribution' made by cognitive development to the growth in the understanding of art. Although the influences of education and other socio-cultural factors do not feature in the research of Parsons and his associates, Di Blasio (1988) points out that apart from the first stage of Parsons' (1987a) proposed sequence of aesthetic development which may be assigned to the pre-school years, the stages cannot be associated with ages for circumstances may confine a thirty year old person to the same stage of understanding as a thirteen year old.

The research emanating from Project Zero and from Parsons' research group constitutes the bulk of empirical work available in the area of aesthetic development. In one of the few additional studies undertaken, Eysenck (1972) used a modified version of the Graves Design Judgement Test, with 1000 subjects, included several hundred children between the ages of seven and fifteen years. The major finding of the study was that there was a steady increase in the number of correct

measures with age, both for boys and girls, which although significant, was not very large. Eysenck (1972) concluded that maturation was probably more influential than teaching, although as Eisner (1982) points out no connection was made between what had been studied and the abilities assessed in the modified Graves Design Judgement Test. The validity of the latter has also been questioned, not least by Eysenck (1981) himself. In his research in association with Gotz (Gotz et al, 1979) a new test was devised, VAST, and administered to 204 male and 165 female children between the ages of eleven and fifteen. They interpreted their results as evidence of:

"...a single aesthetic ability largely independent of intelligence or personality.... . This ability seems to owe little to explicit teaching, in view of the fact that there was no correlation with age in the school children" (p.801)

Similar results were reported in a cross-cultural study by Iwawaki et al (1979). Eysenck (1981) concludes:

"If it be argued that changes in sensitivity are brought about by teaching and other cultural factors, it must be said that these data do not support such a view; maturation is a more likely factor to account for the small increments that are, in fact, observed" (p.95)

A major criticism which could be levelled against these conclusions is that they rest entirely on the assumption that 'aesthetic sensitivity' can be measured from a single test, namely the Visual Aesthetic Sensitivity Test, which merely requires subjects to choose between a series of 42 pairs of designs, each of which has been designated 'right' or 'wrong' by an expert.

Eisner (1982) reports two studies as evidence of the efficacy of art training. Anderson (1969) found that among secondary school students, experience in art classes was in general significantly related to scores on the Child Test of Aesthetic Sensitivity, although the magnitude of correlations was small. Day (1973) studied the effects of an arts curriculum he had designed on high schools students' art preferences and judgements, using two visual arts tests which he had

also devised. His results showed that the control group did not significantly alter their ability to perceive style or their preferences for visual form over a two month period, whereas the experimental group did expand its art preferences and its ability to perceive, recognise and judge art style. It is possible however in Day's study that his curriculum was related, albeit unconsciously, to his tests.

Eisner (1982) also remarks on the paucity of research in this area, which he attributes to the fact that few people question whether art courses affect sensibilities; they assume that they do.

An interesting, fairly comprehensive study is reported by Duffy (1979), who sought to discover predictors of aesthetic sensitivity. Piaget's cognitive developmental stages were used as the basis for selecting 300 school children in grades four, six, eight and ten (which relate to ages nine, eleven, thirteen and fifteen respectively). A battery of non-verbal tests was administered including the Child Test of Aesthetic Sensitivity, Torrance Test of Creative Thinking, the Barron-Welsh Art Scale, the Group Embedded Figures Test, the Junior Eysenck Personality Inventory, and three Lowenfeld Visual-Haptic Tests. These results along with demographic variables and information obtained from school records were subject to a multiple regression analysis. Duffy (1979) concluded that the predictors of aesthetic sensitivity are of a perceptual discriminatory nature and imply an active involvement with cognitive and intellectual processes, which could be taken as broad support for the Project Zero research.

D.J. Hargreaves (1982) conducted an investigation into the development of aesthetic responses to music, with a sample of 126 children between the ages of 7 and 15. He concluded that aesthetic reactions to music do change with age, but the patterns of such change are complex.

Nevertheless he believes that his results show that children's sensitivity to the stylistic categories of music increase with age, which is also in line with Gardner's (1973) conclusions.

Housen (1983) employed a 'stream of consciousness' interviewing method with 90 subjects drawn randomly from high school students (aged 14 to 19), college students (20 to 33 years) and adults (aged 34 and above). This method, it is claimed, captures the spontaneous thought and natural feelings of an observer as he views a work of art. An elaborate scoring system was devised to analyse the comments resulting from this procedure. Housen proposes five stages of aesthetic development, two of which are relevant here. Stage one, characterised by a preoccupation with what the painting is about, extends from pre-school to adolescence. Stage two, from middle adolescence to early adulthood is described as the constructive stage when the viewer evaluates the work in terms of what is known about the world. The study is very wide-ranging and results are not altogether clear, but it is reported that aesthetic stage varied significantly by age, with the highest stages in middle adulthood, and that aesthetic exposure has equally strong effects in different socio-economic groups. A major conclusion is that aesthetic exposure has the strongest overall impact on aesthetic development. Taken overall, these results could be seen as support for aesthetic education to be concentrated at the secondary school stage rather than at primary level.

Further work in the area of aesthetic development seems meagre and those studies which are available concentrate either on young children (e.g. O'Hare and Westwood, 1984) or adults (e.g. Bilotta and Lindauer, 1980). There appears to be little interest among researchers in the development of aesthetic sensitivity among adolescents.

### 3.3.6 Summary and Conclusions

This section has reviewed the literature concerned with art and aesthetic experience, education and development. In such an extensive area, it is perhaps not surprising that both the degree of information available and the quality of the research involved, vary considerably. An overall conclusion is that a lack of clarity prevails in much of the writing surveyed, due in the first place to confusion surrounding the basic concepts of 'art', 'aesthetic' and their relationship.

This literature review has revealed both the array of interpretations of these terms and also pointed up what could be taken as the most commonly accepted view, namely that 'the aesthetic' is a much wider concept than 'art'. Thus, for example, various kinds of sport could be regarded as potential aesthetic subjects. A crucial feature of the 'aesthetic' is considered to be a primary concern for the object itself, without regard for any practical or instrumental value. Although there is little agreement on what constitutes art (or even the arts), a widely held view is that the major purpose is for aesthetic contemplation. These are, of course, complex philosophical issues and are therefore difficult to summarise, a comment which applies equally to the discussion of aesthetic experience.

The review of the literature on aesthetic experience outlined two major positions whereby emphasis is placed either on the aesthetic attitude of the observer (or the participant) or alternatively aesthetic qualities are regarded as residing in the object. The former opinion is possibly more prevalent, although here it is also generally acknowledged that some objects have greater aesthetic value than others. The notion of levels of aesthetic experience was also raised, with contrasts drawn by some authors between initial responses to sensual elements and subsequent more sophisticated preoccupations with



the expressive form. On this view, a predominantly subjective, emotional response is inadequate, for it is necessary to also attend to formal properties and become aware of the relationship between them. The central concern therefore is not with entertainment or sensual gratification, a preoccupation with audience or crowd reaction, individual personalities, and so on. Furthermore, an appreciation of surface aesthetic qualities such as rhythm, line, shape should lead to a regard for the relevance of these qualities to the whole. An appreciation of overall structure and form appears to be a crucial element of mature aesthetic experience.

Views on what constitutes aesthetic experience must also influence ideas on aesthetic education. Various conceptions of aesthetic education were reviewed including those indicated in official government reports on the curriculum. The consistently low priority afforded to arts subjects throughout this century was also revealed. Arguments for the value of aesthetic education in terms of the type of knowledge acquired, and particularly that described as acquaintance knowledge were evaluated along with views on the relative importance of the practice and appreciation of the arts and aesthetic activities. It was noted that at present the emphasis in the school curriculum is on practical experience. Reference was also made to the highly controversial curriculum content issue relating to so-called 'high' and 'popular' arts.

The debate surrounding a view of physical education, sport and dance as aesthetic or even art experience was also presented. Dance, although officially part of PE is generally accepted as capable of offering art experience whereas the idea that sport could or should function in this way is controversial. Many agree however that sport offers the potential for aesthetic experience, although the apparent assumption that merely taking part in sport constitutes aesthetic education is now

being questioned. The notion that some sports possess more aesthetic value than others was discussed, along with the view that teachers should specifically encourage pupils to adopt an aesthetic attitude to all sports. Meanwhile it is evident from at least two surveys that most teachers do not seem to regard aesthetic experience as a major objective of the sports element of physical education.

A review of the empirical research literature on aesthetic development revealed that much of the research has a poor conceptual base and is methodologically unsound. Such criticisms can not be levelled at either Project Zero or Parsons' (1976) research, both of which were conducted over a number of years. There has been criticism however of their restricted philosophical approaches, Project Zero for instance having been conducted strictly in accordance with Goodman's (1976) theory of symbols. A more serious objection perhaps is that neither research programme takes into account socio-cultural factors or school experience, which many claim significantly reduces the value of the results, a view which is unlikely to be held by Eysenck (1981) who makes the controversial claim that aesthetic ability is innate, owing little to any explicit teaching. Overall, results in this area are equivocal and substantially more work needs to be undertaken.

This last comment could also be applied to the whole area of art and aesthetic education and development, a conclusion which must be heavily underlined as far as research (and particularly empirical research) on sport and dance as aesthetic education is concerned.

### 3.4 Attitudes to the aesthetic in sport and dance

#### 3.4.1 Attitude research: the aesthetic in sport and dance

The paucity of research relating specifically to attitudes to the aesthetic in sport and dance is revealed initially by the virtual

absence of pertinent valid and reliable measuring instruments. For instance, none are given in reference works such as Shaw and Wright (1967), Bonjeau et al (1967), Robinson and Shaver (1973), Cohen (1976), Moloney (1981), Tests in Print II (Buros, 1974) and III (Mitchell, 1983). It seems that the only scales available of any relevance are those listed by Johnson (1976), namely Kenyon's (1968b) 'Attitude to Physical Activity Inventory' (ATPA) and its adaptation by Simon and Smoll (1974) for use with children, entitled 'Children's Attitude to Physical Activity Inventory (CATPA). Both inventories include an aesthetic attitude scale, and will be examined later. Research directories (e.g. Smith and Smith, 1978), Abstracts and Indexes underline the severely limited amount of work undertaken in the area.

Empirical work in any aspect of dance is a recent phenomenon, emanating largely from the USA and limited in both quantity and quality. The Committee on Research on Dance (CORD) (1967) for instance reports just seventy dissertations. Dance attitude research is particularly scarce. Allison's (1976) search of the literature produced two pieces of work concerned with attitudes of high school students, both of which are unpublished MA dissertations of little relevance to this study. Brennan (1982) undertook a comprehensive investigation of dance research 1901-1981. No published work was found concerned with attitudes to dance, and of the six items listed, five are Masters degree dissertations and are unavailable for study; the PhD thesis of Halstead (1980) is referred to later in this section. Overby and Humphrey's (1989) publication on current research on dance makes no mention of attitudes, while at three recent international conferences on PE, Sport, Dance, the sole presenter of research on attitudes to the aesthetic in sport and dance was Sanderson (1986, 1988, 1989). A literature search has produced just one piece of published research concerned with attitudes of secondary school pupils to dance: a pilot

study by Priddle and Itkonen (1979) which will be examined later. Yet dance educators recognise the importance of attitudes. Watson-Coleman (1986), for example, argues that for many, prejudice blocks the adoption of an aesthetic attitude when watching dance, and Cohen (1983) suggests that a fundamental reason for an inability to perceive the aesthetic in dance is a negative attitude. A major purpose of the 'Dance Artists in Education' schemes (Briginshaw et al, 1981; Hockey, 1986) is the promotion of positive attitudes among both pupils and teachers, for as Marland (1985) notes, many teachers associate 'dance' with frivolity and pointlessness.

Physical educationalists also recognise the importance of positive attitudes to PE (e.g. PEA, 1987; Murdoch, 1987; Fox and Biddle, 1988b) although current research seems to be dominated by investigating pupil attitudes towards participation in physical activity. There appears to be no reference to the aesthetic aspect. Jones (1988) for instance developed a scale to measure attitudes of pupils aged between 9 and 13 years towards their PE lessons; none of the statements relate to either the aesthetic or dance. Williams (1986) describes the development of an attitude to PE scale. The five areas selected as possible factors within the proposed scale included health and fitness, leisure, competitive physical activity, team games, outdoor PE. Steinhardt et al (1988) tested the factorial validity and reliability of the Purposes for Engaging in Physical Activity Scale (PEPAS). The instrument contains 22 items representing three key concepts, that is, individual development, environmental coping, social interaction. The apparent lack of interest in the attitudes of pupils to aesthetic aspects of PE is supported by the results of research of both Kane (1976) and PEA (1987) who found that the objective 'aesthetic education' was ranked last of nine objectives by both male and female PE teachers. In short,

research into attitudes to the aesthetic in sport and dance has barely begun.

It seems that the only substantial attitude research available relating to an aesthetic aspect of sport and dance is that employing Kenyon's (1968a, 1968b, 1968c) attitude to physical activity inventory (ATPA). The latter comprises six scales, one of which measures attitude to physical activity as an aesthetic experience, and has been used extensively. Zaichkovsky (1978) for instance claims that over 50 such studies are reported in the literature, although details are not given. Simon and Smoll (1974), Coldicott (1979) and Schutz et al (1981b, 1985) list a number of investigations which have used the ATPA and although the majority of these are unpublished student dissertations, many using college students as subjects, a body of published research is also available.

Kenyon (1968a, 1968b) describes the development of the scales. Physical activity is defined as including "active games, sport, calisthenics and dance" (Kenyon, 1968a, p.97) and 'attitude' is taken to be the affective evaluation of a psychological object. The Likert-type attitude statements were evaluated initially by judges and validity and reliability established using adults and college students. The rationale underlying the aesthetic domain, that is attitude to physical activity as an aesthetic experience, is given as follows:

"...many people believe that at least some forms of physical activity are generally pleasing to the eye, and have a capacity for satisfying aesthetic tastes...The important point is that physical activity is often perceived as having aesthetic value for the individual - that is activities are conceived of as possessing beauty or certain artistic qualities" (Kenyon, 1968a, p.100)

Thus aesthetic value is seen as residing in the object, that is, in specific activities. In section 3.3 of this literature review, an alternative point of view, whereby the individual judges any activity

as aesthetically pleasing or displeasing, was discussed. Kenyon's (1968a) limitation of the aesthetic to 'beauty and certain artistic qualities' is also noteworthy.

Kenyon (1968c) undertook a cross-cultural study involving 4,000 students aged 15 to 18 years, using the ATPA. However, the form of the attitude scales for this study, including that dealing with the aesthetic, was changed from Likert-type to semantic differential, although validity had not been established for the latter. According to Zaichkovsky (1978), Kenyon conveyed via a private communication to her, that validity was inferred from the initial work on the Likert-type inventory and the reported validity of the semantic differential as a research technique. The original scales, however, were developed with adults and college students, not 15 to 18 year olds. Zaichkovsky (1978) established the validity and reliability of the semantic differential version, although using only university students as subjects. The validity of Kenyon's (1968c) results must therefore be questioned.

The description of the aesthetic dimension in Kenyon's (1968c) semantic differential inventory confirms his earlier (Kenyon, 1968a) interpretation of the aesthetic as limited to 'beauty' and residing in certain activities:

"Physical Activity as the Beauty in Human Movement:  
physical activities which are thought of as possessing  
beauty or certain artistic qualities such as ballet,  
gymnastics or figure skating" (p.189)

The general information inventory, designed to gather information on various situational variables including age, sex and interests also refers to activities which are 'beautiful', for instance, television programmes showing 'beauty of movement' such as gymnastics or 'fancy diving'.

The results of Kenyon's (1968c) research showed that females possess a more positive attitude towards physical activity when it is perceived as an aesthetic experience, than males. No result was reported relating to the age variable. Those activities towards which the most positive attitudes were expressed were also those in which there was greatest involvement both as participant and spectator, that is, attitude towards physical activity is directly related to degree of involvement.

Nicholls (1974) used the Likert version of Kenyon's (1968b) ATPA with 264 fourteen year old children, although that inventory was developed using adults and college students casting doubt therefore on the validity of his results. He found that girls responded more positively to the aesthetic dimension and boys more positively to the ascetic and excitement dimensions. Similar results are reported by Hendry (1975). Straub and Felock (1974) used Kenyon's (1968c) semantic differential ATPA with 80 delinquent and non-delinquent girls aged 14 to 16 years. Results showed that different PE programmes, backgrounds and experiences had no specific effect on attitudes to physical activity perceived as aesthetic experience.

Schutz et al (1981b) list six published studies where the investigators have used Kenyon's (1968b, 1968c) ATPA to examine the relationship between attitude and various situational and dispositional variables. Apart from Straub and Felock (1974), however, all of the subjects of the investigations are college students or adults (e.g. Hendry and Douglass, 1975; Sidney and Shephard, 1976). There appears to be little published work with adolescents as subjects and independent variables relevant to this study.

Simon and Smoll (1974) developed an instrument for assessing children's attitudes to physical activity (CATPA) based on Kenyon's (1968c)

semantic differential ATPA inventory and adapted for 9 to 11 year olds. The aesthetic sub-domain description, although simplified, remains substantially the same as that of Kenyon (1968c):

"Physical activity as the beauty in human movement. Physical activities which have beautiful movements. Examples are ballet-dancing, gymnastic-tumbling, and figure-skating on ice" (p.410)

Smoll et al (1976) employed CATPA in a study involving 264 boys and girls aged 9 to 11 years, along with measures of practical involvement in physical activities which reflected the six dimensions. Results showed a highly significant relationship between CATPA and involvement. Smoll et al (1976) conclude that this supports previous findings of Kenyon (1968c) and is consistent with the popular view that participation in physical activity is associated with positive attitudes, that is, children are primarily involved in those activities for which they hold most positive attitudes. They caution, however, that no causal inferences are warranted from the correlational analyses.

Schutz et al (1981a) undertook a study involving 550 male and female athletes aged between 12 and 16 years, each of whom had an interest in a specific sport, that is, hockey, swimming, figure-skating, basketball or volleyball. The CATPA inventory was employed, although this had been developed (Simon and Smoll, 1974) for children aged 9 to 11 years, and so once again doubt must be cast on the validity of the results of Schutz et al's (1981a) study. The latter found that females exhibit higher positive attitudes in the aesthetic domain; however among males this scale did have the fourth highest mean. Schutz et al (1981a) point out that this is in contrast to Carre et al's (1980) study where males expressed the least possible value for this domain. They go on to suggest that this may be accounted for by the characteristics of the samples, for subjects of their study were sports enthusiasts whereas



subjects of the Carre study were a random sample of school children. Schutz et al (1981a) believe that a measure of support for this conclusion is forthcoming from Alderman's (1970) research which involved 136 adult Canadian champion athletes (81 male and 55 female) and employed Kenyon's (1968c) semantic differential ATPA. Although results showed that females displayed more positive attitudes than males on the aesthetic sub-domain, an examination of the rank-order of means revealed that both male and female groups rated first, physical activity as an aesthetic experience. These findings could also be taken as providing tentative support for the notion that substantial sports experience develops a degree of aesthetic awareness and consequently contributes to aesthetic education. Apgar (1977) however found no significant difference between athletes and non-athletes in their ranking of Kenyon's aesthetic domain. The group as a whole, which comprised 341 high school male students (223 athletes and 118 non-athletes) rated the aesthetic domain ahead of the other domains in a modified version of Kenyon's (1968c) ATPA. A survey by Schutz et al (1981a) also showed that athletes did not perceive their own sport as being representative of an aesthetic experience but chose dance as the most representative aesthetic activity in all cases. This included figure skaters, although Schutz et al (1981a) claim that figure skaters had more positive attitudes to physical activity as an aesthetic experience than those involved in any other sport.

Schutz et al (1981b) revised the CATPA because of low attitude-behaviour relationships and instability across time. The revised CATPA inventory was deemed to be an improvement over the original instrument because of its superior psychometric characteristics and reduced length. The aesthetic domain description is simplified but retains its essential characteristics.

"Physical Activity as the Beauty in Movement (Aesthetic)  
Taking part in physical activities which have beautiful and graceful movements" (p.342)

Schutz et al (1981b) rescored data from the three year longitudinal study of Smoll and Schutz (1980) involving 114, 9 to 11 year olds, but found no difference in results. There was a significant sex effect for the aesthetic domain, that is, girls scored higher than boys, but no age effect and no age by sex effect. Schutz et al (1985) present normative data (means and standard deviations), for boys and girls in grades 3, 7 and 11 (respective ages 8, 12 and 16 years) based on the Carre et al (1980) study. This shows higher female than male scores on the aesthetic scale for each of the grades, with the differences between the male-female means increasing with age.

Apart from the preliminary research reports of Sanderson (1986, 1988, 1989) the only other piece of published research on dance attitudes with adolescents appears to be a very limited pilot study by Priddle and Itkonen (1979) involving 13 girls aged between 10 and 15 years. Any results from such a small sample must be treated with the utmost caution, but in the absence of other studies, this investigation is reported in more detail than would otherwise be warranted. The group were divided into two, with 7, 10 to 11 year olds, and 6, 12 to 14 year olds to correspond with Piaget's concrete operations and formal operations phases. Subjects were asked to judge four dances, two literal and two non-literal on a 44 question semantic differential scale. The investigation was designed to assess the adequacy of the scale which had been devised for adults, in measuring children's attitudes to the content of dances. The authors concluded that while the questionnaire contained certain inappropriate adjectives it discriminated attitude differences for different age groups on an evaluative factor, differing attitudes to selected dance content on an evaluative factor and attitudes towards an activity factor on selected dances. As predicted, the younger age group showed the strongest preference for the literal dances, but contrary to expectations the

strongest dislikes on the evaluative factor were expressed by the 12 to 15 year olds towards the non-literal dances. The authors comment:

"While perceptual and cognitive development may theoretically influence the receptivity of children aged twelve to fifteen years towards abstract content in dance performance, other factors are obviously in effect. It may be that exposure and education in abstract dance is as essential as cognitive and perceptual maturation" (p.70)

It is worth noting that the question raised by Priddle and Itkonem (1979) has apparently not been the subject of any investigation.

The remaining studies available of some relevance, on attitudes to dance comprise three unpublished PhD dissertations. Allison (1976) describes the development of a Likert-type Creative Dance Attitude Inventory (CDAI) which seems to be heavily weighted towards participation. She concludes that validity and reliability were established when used to measure creative dance related attitudes of grade 5 pupils (that is, 10 to 11 years of age) but the scale does not differentiate between the attitudes of male and female subjects. Halstead (1980) used Allison's (1976) CDAI, with 7 to 12 year old pupils although the scale had been devised for use with 10 to 11 year old children. A further limitation was that the sample of 103 pupils was drawn from the same school. The results, which must be treated with great caution, showed that girls had more positive attitudes to creative dance than boys, and younger children were more positive in their attitudes than older pupils. Neal (1983) describes the development of a Likert-type dance attitude scale for use with 4th and 5th grade children (10 to 11 years old), entitled Neal's Dance Attitude Inventory (NDAI). This was developed after reviewing dance literature, modifying questions from PE, art and dance attitude questionnaires and incorporating questions from fourth and fifth graders from 15 elementary schools. Validity and reliability are claimed for the scale, the 30 questions including questions in each of the affective

and cognitive domains and 6 questions in the behavioural domain (Neal and Fortin, 1988).

Neal and Fortin (1988) report an unpublished study using this scale and a pre-test, post-test design to discover if there was a difference between the dance attitudes of French speaking Canadian third-grade children who were taught by 'home' (French Canadian) male or female teachers and a 'foreign' (American) male teacher. Fifty girls and 56 boys were divided into three groups, although the content of each of the four lessons they received was the same. The study found no significant attitudinal differences between the subjects taught by the 'home' or 'foreign' male teachers and only a difference in the cognitive domain between boys taught by the 'home' female or 'home' male teachers. The authors suggest that the greater experience of the female teacher probably accounted for the higher attitude scores in this case.

It is worth noting that there appears to be an equal paucity of attitude studies available in the visual arts. Morris (1985) for instance comments:

"To date, relatively few instruments for art attitude measurement have been constructed; relatively few alternative methods exist, and relatively few attempts have been made to apply proper and feasible attitude assessment procedures to research, study and curriculum development" (p.325)

Stuckhardt (1973) agrees that the few studies which have been conducted in the area of art attitudes are limited in their usefulness because of conceptual and procedural faults. Stuckhardt and Morris (1979) developed a scale to measure attitudes held by elementary school teachers towards art education, but the only investigation of adolescent attitudes towards art appears to be that of Eisner (1966). He reports the development of an Art Attitude Inventory involving 1,485 high school and college students (age range 15 to 22 years).

Information on sex and socio-economic status was also gathered. Results from this investigation showed that for the population at large and at each grade level, girls received higher attitude scores than boys. Eisner (1966) argues that this is due to (American) cultural influence which tends to view the artist and artistic interests as "something less than masculine, perhaps even effeminate" (p.46). Eisner (1966) reports that the relationship between socio-economic status and attitude towards art was not straightforward, but in general the upper socio-economic groups tended to have higher scores than the lower groups. Eisner (1966) attributes this result to the greater access of the former to art experiences.

There is little doubt that among the arts, music is the most highly developed in terms of published research. For instance, Lehman (1968) and Whybrew (1971) provide fairly comprehensive cover of music tests and measures, while Bullock (1973) reviews the spectrum of musico-aesthetic attitude tests. The range and type of work available precludes even a cursory review. It is appropriate for this study to merely note the scope and extent of literature available in the general area of the social psychology of music and of music education and contrast it with that for dance and art.

#### 3.4.2 Influences on the development of attitudes to the aesthetic in sport and dance

The low level of research interest in attitudes to aesthetic aspects of physical activity has been illustrated in the previous section. That section also showed that with the exception of gender and to some extent social class, the other variables relevant to this investigation seem to have received scant attention.

The general PE, sports and arts literature, however, provides a good deal of pertinent information on the issues of gender, social class, family interests, pupils' leisure interests and school experience, and a review of this literature is therefore presented here. Little seems to be available on the age variable and so this is not given separate consideration. Information on school experience in the arts, including that offered by specialist schools, has already been reviewed in section 3.3.3 on aesthetic education.

(a) Gender

Scruton (1986) distinguishes between the concepts 'sex' and 'gender', arguing that the former refers to the biological aspects of being female or male and the latter to the "social/cultural/psychological constructions of 'femininity' and 'masculinity'" (p.72). She adds however that there is a tendency in the literature to use the terms interchangeably.

Leaman and Carrington (1985) comment that although the notion of femininity is currently undergoing some change, it is still characterised to a considerable extent by gentleness and passivity. This view is endorsed by Cockerill and Hardy (1987) who report that fifteen year old girls perceive 'feminine girls' as fragile, sensitive, unenergetic and bothered a lot about their appearance, whereas 'unfeminine girls' are seen as rough, violent, very energetic and not bothered about their appearance. Hendry (1983) concludes from a review of a wide range of literature that fathers discourage any 'feminine' behaviour in sons, the latter are encouraged to show tenacity, aggressiveness and curiosity. Girls on the other hand are expected to show kindness, obedience and cheerfulness. Willis (1978) and Coffield et al (1986) portray the working-class male as strong, aggressive and

domineering who regard women as scatterbrained, emotional and frivolous. Thompson (1985/86) adds that in the traditional definition of masculinity there is no room for positive traditional feminine values such as emotional expression. In a very interesting review of literature relating to sex-roles, Loy and Ingham (1981) conclude that in American society at least, "there is less social stigma attached to the display of masculine behaviour by girls than to the show of feminine behaviour by boys" (p.203). Howarth (1988) agrees from a British perspective, arguing that the development of 'sissy' characteristics in boys is considered to be far more reprehensible than the development of 'tomboy' characteristics in girls, adding that in her view, this indicates the higher value placed on male characteristics. Both Lobbon (1978) and Clarricoates (1980) claim that there is a tendency for teachers of both sexes to encourage toughness, strength, assertiveness, aggressiveness and boisterousness in boys rather than girls, and furthermore that teachers appear to believe that extreme differences between males and females exist as early as three years of age.

Leaman (1984) and Leaman and Carrington (1985) suggest that the concept of sport often seems to have largely male connotations, symbolising aggression and competitiveness. Indeed Sexton (1969) sees sport as making a significant contribution to 'the masculine quality' of the American male. From a British point of view, J. Hargreaves (1982) considers that sport remains a male domain linked to images and practices of 'masculinity', a conclusion which is qualified later:

"Traditional models of both male and female sports usually reproduce rigid gender role differentiation. The strength and aggression required in macho sports like...rugby, ice-hockey... . By contrast, 'feminine appropriate' sports like gymnastics, ice-skating and synchronised swimming which emphasise balance, coordination, flexibility and grace, idealize popular images of femininity" (J. Hargreaves, 1982, p.116).

The overall view, however, remains that sport is traditionally one of the major male preserves (Dunning, 1986) and the idea that males should be aggressive, dominant and sports loving is a potent one (Sharpe, 1977). Among adolescents, as research by Emmett (1971), Hendry (1978) and a recent survey (The Guardian, 1988) indicate, boys are considerably more sports-loving than girls. Cockerill and Hardy (1988) maintain that adolescent girls associate sport with traditional masculine habits of aggression, dominance, competitiveness and an absence of femininity.

Dance (and gymnastics) are usually seen as fitting more closely the 'feminine image' (Leaman and Carrington, 1985). Wainwright (1989) comments:

"Most will accept that currently there is a very sexist view of dancing and many...regard all forms of dancing by men as being not manly..." (p.119)

Pool (1989) argues that boys appear to be progressively less involved in dance activity, and regards males as a 'deprived group'. He concludes:

"...males in general within Western societies see dance as somehow being 'not very manly'. They associate it with femaleness more than maleness and are often uncomfortable with the very notion that they may have to take part in expressive dance activity" (p.224)

McRobbie (1984) on the other hand believes that dance is becoming more popular with men and that connotations of 'cissiness' are rapidly disappearing. It should be noted however that McRobbie (1984) appears to be referring exclusively to popular dancing and particularly 'disco' styles, whereas most other writers seem to focus on expressive dance within a context of dance as art and aesthetic activity. It is this expressive aspect of dance which is highlighted as a difficulty, especially from a participant perspective. Leaman (1984) for instance records:



"It is not that they doubt the difficulty in physical terms of dance but the expressive nature of dance runs entirely contrary to pressure to develop 'masculine' qualities, in particular the repression of feelings" (p.32)

The unwillingness of boys to associate themselves with an activity which might be interpreted as undermining their masculinity is present at an early age, argues Pollard (1988) in her account of an unsuccessful junior school dance lesson. Leaman (1984) also noted during his research for the Schools Council that some teachers blamed the failure of dance in primary schools on the anxiety among boys to avoid the label of 'cissy'. A number of writers point to the male PE secondary school teacher as a major perpetrator of a view of dance as an exclusively female activity. Brinson (1986) for instance reports that male dancers in the Royal Ballet's 'Ballet for All' group in the late 1960's and 1970's got a 'rough deal' from male PE teachers and Leaman (1984) found from his research on the introduction of boys to dance that the male PE teacher "frequently used the description of dance and dancing as a term of abuse" (p.41). Payne (1987) reports that the negative comments of male teachers (not just PE teachers) seriously hampered her work with male adolescents. It is hardly surprising therefore that Scott and West (1990) found from a sample of 904 secondary school ILEA pupils that more girls than boys named dance as their favourite activity (14 per cent versus 0 per cent). Similarly schemes such as the Arts Council's Dance Artists in Education scheme where special attention was given to the inclusion of boys, were often thwarted because of the "customs within the school" (p.185) reported by Hockey (1986). Henderson (1989) concludes:

"...entrenched attitudes prevail and dance continues to be an art form that men and boys (for whatever reason) are excluded, and exclude themselves from" (p.177)

Statistics supplied by Verwey (1986, 1987, 1989) show that attendance at contemporary dance and ballet is consistently higher among women

than men, thereby offering a measure of support for this view. Verwey's statistics are taken from the Target Group Index (TGI), conducted by the British Market Research Bureau (BMRB), which collects information each year from around 24,000 adults between the ages of 15 and 65 in England, Wales and Scotland.

(b) Social Class

As Crozier and Chapman (1981) point out there is clear empirical evidence of social class differences in aesthetic preferences and it seems from cross-cultural studies that there is greater variability within rather than between societies. Verwey (1986, 1987, 1989) summarises the results of the TGI on attendance at arts events according to social class, for the years 1985/6, 1986/7 and 1988/9 respectively. Verwey (1986, 1987, 1989) shows that attendance at all arts events, that is, plays, ballet, opera/classical music, jazz, art galleries, declines in accordance with social class. For instance (Verwey, 1989) of those attending plays, 47 per cent were from social class A and 10 per cent from classes DE combined. Comparable figures for classical music are 28 per cent and 6 per cent; art galleries, 40 per cent and 12 per cent; ballet 15 per cent and 2 per cent; contemporary dance 8 per cent and 2 per cent. The General Household Surveys for 1977/79 (Reid, 1981) and 1987, as well as the Central Statistical Office (1990) present identical patterns including a clear divide between the manual and non-manual categories. In an additional analysis, Reid (1981) also shows that in the higher social groups, theatre attendance is far larger than the population proportionately warrants, while the reverse is the case with the lower social classes. Dimaggio and Useem (1982) conclude from their examination of a variety of surveys involving cross-sections of the population of the USA that

audiences for what they describe as 'high arts' including visual arts, opera, ballet, modern dance, theatre and classical music are comprised predominantly of the upper social classes. Indeed the pattern is the same as that reported by Reid (1981) and Verwey (1986, 1987, 1989) for British audiences namely that attendance at these events declines in relation to social class. Dimaggio and Useem (1982) add that comparable figures are reported from Canada, France and The Netherlands. They also point out that by contrast the difference in social class attendance at popular concerts and motion pictures is considerably smaller.

Statistics do not appear to be available relating specifically to adolescent interest in the arts and social class although the popular view would confirm that outlined above. In particular, ballet is almost universally regarded as an activity for upper and middle class girls, an 'image' which the Arts Council is currently endeavouring to change (ACGB, 1990). Meanwhile, Wartenburg (1981) argues that the very movement of classical ballet is élitist, with a 'sense of refinement' one associates with the upper classes of society and with nothing of relevance to lower classes.

The research on adolescent involvement in sport and social class seems to focus on practical involvement. Hendry (1974) reviews relevant research and concludes that those with middle class backgrounds are more active in physical activities, a view confirmed by Saunders (1979) who reports that in comprehensive schools extra-curricular physical activities are most popular with middle class pupils. Among adults the 1979 TGI as reported by Reid (1981) shows that there is for the most part a decline in participation across the classes although the pattern varies to some extent with particular sports. Reid (1981) shows that although association football (soccer) is overall the most popular

spectator sport with all classes, there is an inverse relationship between social class and attendance with the exception of the lowest social grouping which forms the smallest percentage of attenders, prohibited perhaps by cost. Attendance at cricket and Rugby Union increases with social class whereas the reverse is the case with Rugby League. The relationship between sports spectators and social class is therefore complex. The General Household Survey (1986) supports these trends.

(c) School experience in physical education

The PE curriculum in secondary schools generally comprises various sports and dance (DES, 1989b) and, as Underwood (1983) comments, its content has remained remarkably stable over quite a long period, despite various changes in educational thought and practice. Physical Education experience for individuals however varies considerably, particularly that of male and female pupils, for as Leaman (1984) and Leaman and Carrington (1985) point out, boys and girls are segregated for much PE and this is usually the only area of the curriculum where this happens. Furthermore, separation begins in primary schools in many cases, a situation also noted by Pollard (1988) and Howarth (1988). Research seems to indicate support for this policy within the PE profession. Scraton (1986) for instance, illustrates by means of quotations from teachers, heads of departments and advisers, the belief that boys and girls have naturally different attributes and so separate PE experiences are necessary. Evans et al (1987) quote a male teacher:

"I think girls are suited to certain aspects of PE and boys are suited to other aspects of PE because of physical differences" (p.64)

Pritchard (1988) from a sample of 840 male and female parents, pupils and teachers throughout England, found that provision for achievement through competitive activities was rated more important for boys while

provision for expression through more artistic and qualitative aspects of education was rated very important for girls.

McIntosh (1976) reveals the dichotomy in the PE curriculum for boys and girls throughout the nineteenth century when there was Swedish gymnastics for girls and military drill for boys, but adds that developments in the mid-twentieth century were more divisive when women teachers' training began to be based on Laban's (1958) ideas on movement. McIntosh (1976) continues:

"Men teachers strongly resisted the claims for 'movement' education...They were not disposed to accepting aesthetic criteria as overriding in physical education" (p.40)

Teacher training for PE is also segregated, mixed courses are a relatively recent innovation. Evans et al (1987) conclude from their ethnographic research involving three comprehensive schools that this traditional segregation results in strongly held, differing attitudes and values between male and female teachers, adding that strong subject and gender specific identities emphasised in colleges, cause teachers to have great difficulty in surmounting 'imagined differences' between males and females. Pool (1989) argues that the male PE teacher has received little or no dance training and this is a major cause of negative attitudes to dance among male pupils and teachers. Kane (1976) reports that his Schools Council survey revealed the differences in secondary schools' PE programmes for boys and girls:

"The boys' programme appears to be characterised by an increasing emphasis on competitive values (team games, athletics, swimming) whereas the growing importance of gymnastics and dance in the girls' programme suggests an aesthetic bias" (p.83)

This survey also showed that dance was ranked last for boys throughout the five years of secondary school, behind team games, gymnastics, athletics and outdoor pursuits. Dance fared only marginally better for girls, changing rank order from fifth to fourth during the last two years of secondary school. According to Leaman (1984, p.14) HMI regret

the traditional separation of boys and girls for some aspects of PE:

"...to limit experience in the aesthetic aspects of movement to girls, and thus to restrict boys to activities concerned with skill training is a traditional tendency, but not one to be desired" (DES, 1975)

It seems that dance is the most poorly represented aspect of PE in the school curriculum and, additionally, access is limited for the most part to girls. The Calouste Gulbenkian Foundation report (1980) for instance concludes:

"...our statistics and all other evidence demonstrate the traditional view that dance is taught by women and is for girls. It is thus a single sex, female activity." (para.128. p.63)

An HMI report (DES, 1983b) agrees with the Gulbenkian report (1980) in regarding the place of dance in secondary schools as "meagre and confused" (p.15). The former sampled 966 secondary schools and found that 80 per cent of the girls' schools taught dance, compared with 63 per cent of mixed schools and less than one per cent of boys' schools. The report adds:

"Support for dance comes mainly from women PE specialists...The number of men teachers involved in teaching dance is minute. Although men and women increasingly follow common teacher-training courses in PE it is unusual to find men teaching dance. Where 'dance' is an identifiable department it is staffed exclusively by women...few boys have the chance to dance, fewer than six in a hundred secondary schools provide dance for boys; fewer than one in a hundred boys' schools do so. Dance is taught mainly to girls in their first two or three years of secondary schooling. Boys are more likely to be taught dance if it is associated with drama or a creative arts department" (DES, 1983, p.13)

Scruton (1986) describes research which focused on one major city in England. In approximately one third of the schools, dance was absent from the curriculum and, when it was taught, it took up only six per cent of the PE curriculum time. Team games were found to dominate the PE curriculum. Sanderson (1986) reporting the results of a pilot study involving 368 secondary school boys and girls in Manchester showed that dance was taught least often of a range of sports and arts. Her

results also overwhelmingly support the opinion (e.g. D.H. Hargreaves, 1983, Redfern, 1986) that children are not taught to appreciate sports and various arts, although the recent GCSE examinations and the forthcoming National Curricula in art and music may change the virtual total emphasis on practical work. This is unlikely to be the case with PE. Meanwhile Sanderson (1989) reports the preliminary results of a survey with a sample of 1668 secondary school pupils throughout England which confirm that arts experience, including dance, is of a practical nature. Results also show that 54 per cent of the sample had never experienced any kind of dance in school and, of these, 70 per cent were boys and 41 per cent girls.

The PEA (1987) nationwide survey confirms Scraton's (1986) finding that team games are regarded as the most important part of the PE curriculum in terms of time allocation. Using the same criterion, the PEA (1987) reports that swimming and athletics are ranked next in importance. For boys, dance is ranked fifth for the first three years of secondary schooling and then last for years four and five. Dance gradually rises in importance for girls, from fifth in year one to second in year five. The PEA (1987) survey also includes a review of 345 HMI reports on PE in state schools. Not surprisingly HMI were particularly critical of the poor quality of 'creative and expressive movement' observed in many schools and the lack of dance for boys.

An HMI survey (DES, 1989c), although limited in scope, involving only twelve secondary schools in eight LEAs, indicates that as far as provision for dance experience is concerned little has changed. The report complains of the very limited opportunities for boys to experience dance, due, the authors feel, to the lack of male dance teachers. They caution, however, that unless more men teach the subject, any increase in the number of boys having dance is likely to be balanced by reduced opportunities for girls.

Taylor and Mardle (1986) comment on the growth of gender research during the past decade and the accompanying rise in consciousness about discrimination against girls occurring within the educational system. Sutherland (1987) however is critical of the apparently exclusive focus on females when she argues:

"The differences associated with gender have been spectacularly highlighted in discussion of education during recent decades. It is probably a weakness in these discussions that they tend to focus on the disadvantages associated with the education of females rather than dealing with the effects on both males and females of determining educational opportunities on gender alone or on gender principally" (p.5)

Marland (1985) makes a similar point in relation to dance provision in schools:

"I have never seen it argued, indeed the issue of dance is amazingly overlooked in the literature and rhetoric of sex equality, but a truly androgenous curriculum would be achieved by as much concentration on dance for boys as physics for girls" (p.9).

Similar arguments could be applied to the overall 'aesthetic bias' of the PE curriculum for girls referred to by DES (1975) and Kane (1976).

(d) Family interests in arts and sport

The influence of the family is illustrated by Freeman's (1974) research involving talented children in music and other arts. She found that in her sample, gifted children lived in environments which were more concerned with 'artistic display' (p.9) than those of their controls, and had parents who were also involved in the arts. Freeman (1974) discovered that there were children in the control group whose parents had positively discouraged them from any aesthetic endeavour. She continues:

"...where there was incentive to play music, the influence of the home appears to have been greater than that of the school, such children who had received encouragement at school to try a musical instrument often gave it up if home influence was not sufficiently supportive" (p.9)



Dimaggio and Useem (1982) report that in one cross-section of American 16 year olds, a high proportion of the variation in their cultural involvement was directly attributable to their parents' influence.

Target Group Index statistics showing the level of interest in the arts among adults aged between 15 and 65 years are presented by Verwey (1986, 1987, 1989). The percentage who attended arts events at least once during the year 1988-89 are as follows: plays, 24 per cent; art galleries, 21 per cent; classical music, 12 per cent; ballet, 6 per cent; contemporary dance, 4 per cent (Verwey, 1989, p.5). Comparable figures for 1986-87 are, respectively, 23 per cent; 21 per cent; 12 per cent; 6 per cent and 4 per cent (Verwey, 1987, p.5) and for 1985-86, 19 per cent; 18 per cent; 10 per cent; 5 per cent; 3 per cent (Verwey, 1986, p.6). It can be seen that the greatest increase in attendance has been for plays and the smallest for ballet and contemporary dance. Adult interest in the latter appears to be particularly limited, although the figures should also be interpreted in relation to provision. Verwey's (1986, 1987, 1989) statistics also show that women are consistently more regular attenders at all arts events than men. There is also considerable overlap of attenders at all arts events with an interesting exception. Audiences for ballet and contemporary dance also go to plays, art galleries, classical music concerts, but the reverse is not the case. Results of a pilot study by Sanderson (1986) seem to support the unpopularity among adults of all types of dance when compared with interest in other arts and sports. The Central Statistical Office (CSO) (1990) and the General Household Surveys (GHS) (1986, 1987) present information broadly in line with that of Verwey (1986, 1987, 1989); they also supply the interesting statistic that 11 per cent of the sample regularly go dancing. It is assumed that this refers to popular dancing. No figures are available from either source

for active participation in ballet, contemporary dance or any of the arts.

The CSO (1990) presents statistics for participation in a range of sports for the years 1971-1989 which show little variation in practical involvement trends during this time. The GHS (1986) however reports an increase of 42 to 46 per cent between 1980 and 1986. Both sources agree however that walking is by far the most popular activity. The GHS (1986) for instance shows that during 1986, 32 per cent of adults took part in an outdoor activity and 28 per cent in an indoor activity, but if walking is excluded, the former figure is reduced to 18 per cent. The CSO (1990) figures also show the pre-eminence of walking. Twenty three per cent of adults are involved in this activity, followed by between 13 and 17 per cent swimming; snooker, billiards, pool, 11 per cent; keep-fit and golf, both 4 per cent; football, squash, tennis, all 3 per cent. The GHS (1986) shows that men are more likely than women to participate in physical activity with figures of 57 per cent and 37 per cent respectively. The dominance of male and female participation is evident across all activities with the exception of dancing and ice-skating, a trend pointed out by Reid (1981) when commenting on TGI (1979) statistics.

The overwhelming popularity of football among spectator sports throughout the period 1971-1989, despite declining attendance figures, is shown by the CSO (1990), followed in descending order by greyhound racing, horse racing, rugby union, motor sports, rugby league, test and county cricket, basketball. The GHS (1986) points up gender differences, for watching sports is far more popular with men than women, with the exception of swimming. Eleven per cent of men and 5 per cent of women attend sports events, although when football is excluded these figures are reduced to 6 per cent and 4 per cent respectively.

Figures from the BBC and the Broadcasting Audience Research Bureau (CSO, 1990) show an increase in television (TV) viewing among adults between 1984 and 1988. On average, during 1988, adults watched almost 28 hours of TV per week. Reid (1981) suggests that television watching is a, if not the, major leisure-time pursuit of the population as a whole; BBC figures for 1980 also show an increase in TV viewing with decline in social class. Goodhart et al (1975) and Cowie (1983) conclude from their research that more men than women are interested in sports programmes, Cowie (1983) adding that this is the only programme category on both BBC TV and ITV which attracts a bigger audience of men than women. Guttman (1986) shows that in the USA the same trend is evident, although it seems that more women than men watch gymnastics. According to Goodhart et al (1975) specialist programmes such as arts documentaries attract small audiences and the latter are generally composed of indiscriminate, heavy viewers. Artists for instance, do not feel the need to watch arts programmes and there is no tendency for such programmes to attract large numbers of viewers in common. People who watch one arts programme "had no more tendency to see some other arts programme than to see say a western" (p.15). The paucity of arts programmes on TV and low viewing figures possibly accounts for the apparent lack of further information in this area.

It seems from the figures available that more adults attend arts rather than sports events. For TV viewing however this trend is reversed, with sports programmes vastly more popular than arts programmes. These trends are complicated by gender differences for it appears that as far as the arts are concerned, women are more interested than men whereas the converse is the case with sports.

(e) Pupils' leisure interests in arts and sports

Coleman (1961) found that among pupils in American high schools, few of their leisure activities bore any relation to pursuits provided by the school, although he acknowledged that some hobbies may have their genesis in school. Hendry (1978) claims that school may play an even less central role in the life of the British adolescent. Later however, Hendry (1983) seems to make a distinction in this respect between younger and older adolescents when he states that during the first three years, leisure pursuits are likely to be influenced by activities done with the school. A measure of support for this view comes from M.I. Reid (1970) who reports from a nationwide study involving almost 11,000 pupils, that participation in extra-curricular activities provided by the school was lower among fourth and fifth year pupils. He also found that involvement was less among girls and those in social classes four and five. Sanderson (1986, 1989) draws the general conclusion that as far as arts and sports are concerned, the leisure interests of secondary school pupils do not seem to be associated very closely with school provision.

Hendry (1978, 1983) provides comprehensive reviews of literature relating to adolescent leisure pursuits. He concludes that the latter may be strongly influenced by the patterns, habits and values of young people's general lifestyles and family background. Hendry (1987) argues that by far the most popular leisure activities are home-based, including watching television, reading and so on, and those outside the home have a social function. Hendry and Marr (1985) and Hendry (1978, 1983) make similar comments, adding that sport is a far less favoured leisure pursuit than social activities, pop culture, visiting friends and watching television. Hendry and Marr (1985) for instance found from their study involving fourth year pupils in 32 Scottish high

schools that less than 25 per cent pursued sports activities outside the school context.

Murdock and Phelps (1973) claim that the pop media have a growing influence on the leisure lives of teenagers, especially those from a working class background. Hendry (1983) agrees that involvement in aspects of pop-culture, including dancing, records, teenage magazines, fashion, and other interests centred around the peer group, seem central to the leisure of many young people. Both D.H. Hargreaves (1972) and Hendry (1978) argue that pupils alienated from school are most likely to turn to a pop-based culture and are less likely to be involved in leisure sports.

All of the evidence available points consistently to the conclusion that those adolescents who engage in physical activity outside school are from the upper social classes and the majority are boys (e.g. M.I. Reid, 1970; Emmett, 1971; Saunders, 1979; Hendry and Marr, 1985; Balding, 1987; Williams et al, 1988). In addition, Saunders (1979) found that involvement in extra-curricular physical activities reduced as the pupils grew older. All of the literature on adolescents' leisure time interest in sport, appears to focus on practical participation and there seems to be virtually no information on the nature and extent of spectator participation of secondary school children.

Smith (1973), Fogelman (1976) and Hendry (1983) agree that dance halls and discotheques are very popular venues for adolescents. Smith's (1973) suggestion that dancing is more popular with girls is supported by Wainwright (1989) who reports results of the Youthscan project. It was found that 35 per cent of girls and 26 per cent of boys go dancing once a week or more. The main reason given for doing so, was to dance or enjoy the music, ahead of meeting friends, to drink alcohol or

meeting members of the opposite sex. Significantly however, only 5 per cent of girls and 3 per cent of boys go to dancing class once a week. McRobbie (1984) concludes that dance is a vital feature of leisure culture and regrets its neglect in both sociology and cultural studies. Thomas (1986) also points out that the study of dance as an art form in contemporary Western society is generally neglected by sociologists as illustrated by the very few studies available of any description. She adds that when sociologists and cultural analysts do display an interest in dance, it is towards a consideration of 'popular' dancing as opposed to 'art' or 'performance' dance. Adolescent leisure interests in various art forms including dance, appear to have been the subject of very few research studies. For instance, the DES (1983a) survey 'Young People in the 80's' interprets 'leisure' in terms of the use of sports centres, sports participation, youth club attendance, and 'other' i.e. 'hanging about'. There is no mention of arts involvement, with the exception of music, although this is confined to 'pop' music. Sanderson (1986) reports from a sample of 368 secondary school pupils in Manchester, that 82 per cent never watch ballet and 62 per cent never see modern or creative dance, despite Manchester at that time having a resident ballet company, and various professional and amateur dance groups visiting the city regularly. Although painting and drawing are the most widely taught activities, 62 per cent of pupils never visit an art gallery in their own time. Sanderson (1989) concludes from a nationwide survey that all types of dance are consistently the least popular of the arts in terms of practice, appreciation in theatre or watching on TV.

There is ample evidence of the large amount of TV viewing amongst adolescents, causing both Murdock and Phelps (1973) and Fogelman (1976) to conclude that watching TV is the most common leisure activity of adolescents even at weekends. Murdock and Phelps (1973) found

secondary school pupils watched on average, between 13 and 20 hours of TV each week, viewing increasing with the lower social classes. This latter finding was not confirmed by Hendry and Patrick (1977) who found no significant class differences between high and low frequency viewers. Statistics from the CSO (1990) show that weekly TV viewing of children aged between 4 and 15 years, increased from 16 to almost 19 hours between 1984 and 1988. An array of interesting figures is presented by Balding (1987) from a sample of 18,000 11 to 16 year olds throughout the United Kingdom. In all cases and in all age groups it is evident that boys watch more TV than girls, but for both, viewing figures are high. For instance, between 35 and 56 per cent of boys watch between 3 and 5 hours of television each day. The comparable figure for girls is 29 to 40 per cent. Almost 19 per cent of boys aged between 11 and 12 years of age watch more than 5 hours of TV per day. Hendry and Patrick (1977) conclude from a sample of 2,300 boys and girls in 12 comprehensive schools that boys are significantly more likely than girls, to watch sport on TV and go on to suggest that culturally boys are 'expected' to be interested in sports. However, the top ten BBC programmes among children are invariably all 'soap operas' (e.g. BBC, 1988).

Hendry (1983) comments on the apparent desire of adolescents for excitement in their leisure time activities. Supporting professional football teams for instance, provides an 'obvious arena' for excitement. Willis (1978) concludes that among working class young men there is such a need, hence commercialised dances are preferred to youth clubs because of the edge of danger and competition in the atmosphere. Elias and Dunning (1986) see leisure activities including sports, dances, musical events, whether as performer or spectator, as providing a form of excitement often connected with fear, sadness and other emotions which are avoided in ordinary life. They elaborate:

"While excitement is severely curbed in the pursuit of what one usually regards as the serious business of life... many leisure pursuits provide an imaginary setting which is meant to elicit excitement of some kind imitating that produced by real-life situations yet without its dangers and risks. Films, dances, paintings...operas, football matches; these and many other leisure pursuits belong to this category... feelings are aroused, excitement is elicited by leisure pursuits...usually by the creation of tension" (p.42)

Guttman (1986) agrees with Elias and Dunning's (1986) analysis, adding:

"Exciting the spectator and then providing for the release of normally proscribed and inhibited behaviour, the spectator sport may indeed function as a safety valve" (p.157)

The pursuit of excitement in leisure interests in arts and sports would appear to be the antithesis of an aesthetic concern as discussed in section 3.3.2 of this literature review.

#### 3.4.3 Promoting attitude changes to the aesthetic in sport and dance

In this section the literature concerned with promoting positive attitudes to the aesthetic in sport and dance is surveyed. It has already been acknowledged at the beginning of section 3.3.5, that attitude change is not part of this study, nevertheless it is felt that the literature in this area provides information relevant to the topic as a whole.

The literature however, does not seem to include any empirical research relating specifically to changing attitudes toward the aesthetic in sport and very little in relation to dance. In the former case, it seems that developing awareness of aesthetic qualities in sport is not a priority among educationalists (see Kane, 1976; PEA, 1987, for instance). Research on changing attitudes to sport seems to focus entirely on fostering positive attitudes to participation in physical activity (e.g. Zaichovsky, 1975; Smoll et al, 1976; Schutz et al, 1981a; Fox et al, 1985; Fox and Biddle, 1988a, 1988b). There is, however, some recognition of the need to overcome adolescents' stereotypical attitudes to



sport. Taylor and Mardle (1986) for instance urge schools to adopt a number of different strategies to overcome prejudices, although they add that:

"...anything which schools can achieve is bound to be limited because of the overpowering images which are being transmitted from other sections of society" (p.208)

Carrington and Leaman (1986) argue against the adoption of mixed PE lessons with adolescents as a strategy:

"In the presence of girls, adolescent boys will wish to be seen as 'manly', tough and assertive and will be more likely to eschew activities perceived as feminine" (p.221)

The problem of negative attitudes to dance is recognised by the Calouste Gulbenkian report (1980), Marland (1985) and Brinson (1986) who all consider such prejudices to be pervasive and very difficult to overcome. Actual research however is meagre and virtually none is published, a deficiency which seems to apply to aesthetic education in general. Dimaggio and Useem (1980), for example, conclude that little is known about the effects of aesthetic education and school arts programmes, adding that a fundamental question for educators is whether schools can make a difference for students who come from homes in which the arts are not highly prized.

Neal (1983, 1985) and Neal and Fortin (1988) report research concerned with attitude change to dance among elementary school children. Using Neal's Dance Attitude Inventory (NDAI), Neal (1983) detected a significant positive shift in attitudes of 30 fourth grade children (9 to 10 year olds) to dance immediately after one 35 minute dance treatment. However, one week later, the subjects' attitudes had regressed towards the mean, indicating no permanent change. Clearly such research, involving just one dance session and one group of children is of extremely limited value. Neal (1985) undertook a similar study involving 113 fourth grade children who were given three 35 minute dance sessions. The investigator also assumed the role of

dance teacher which is a weakness in the research design. The NDAI was used to measure any change or shift in attitude. There was an increase in positive attitudes immediately after treatment and this was maintained 4 weeks later. A third testing however, after 17 weeks revealed a significant negative shift and there were no significant differences between the sexes. Neal (1985) concludes appropriately that no generalizations about the effect of dance treatment on attitude could be drawn. It is evident that more sustained dance 'treatment' of both a practical and theoretical nature needs to be employed if worthwhile information is to be gained about attitude change and dance. Neal and Fortin (1988), in another unpublished study, attempted to measure attitude change among 106 boys and girls between 8 and 10 years of age, after participation in 4 dance classes on 4 consecutive days. The measuring instrument was the NDAI and the children were divided into three groups with three different teachers (a male and female 'home' teacher and a 'foreign' male teacher) but all following the same programme. There was also a control group. Among participants there was a significant shift in the affective dimension, with the exception of girls in the two 'home' teacher groups, although the latter's pre-test scores of 85 per cent and 77 per cent for affective attitude, it is suggested, did not allow much room for improvement. The other attitudinal shifts that occurred were in the behavioural domain of the boys taught by the 'foreign' male teacher and the cognitive domain of the boys and girls taught by the 'home' female teacher. It is likely that the differing teaching experience and possibly the teaching expertise of the individual teachers account for these differences in results. No follow-up study has been reported concerning the permanence or otherwise of these attitude shifts, therefore nothing can be said about the effects of four practical dance sessions on changing attitudes of elementary school children, from this study.

The only other empirical work available of even marginal relevance appears to be that comprising two doctoral dissertations, both from American universities. Burton (1977) for instance investigated the influence of two types of dance teaching method on the attitudes of 42 college students, as measured by Kenyon's ATPA. A significant positive shift in attitude towards physical activity as an aesthetic experience was discovered when the traditional lecture demonstration method of teaching was used rather than an experimental media method. Tilton (1983) measured the effect of three years of arts instruction (including dance) on the attitudes of children aged between 9 and 12 years (Grades 4 to 6). Attitudes were measured by the Tilton-Kohler Arts Attitude Survey. It was found that those receiving instruction had more positive attitudes than those who did not, the most positive attitudes occurring after two years with girls showing more positive attitudes than boys and fifth grade children showing more positive attitudes than either fourth or sixth graders. A measure of support for this result is forthcoming from Eisner (1966) who reports a small but significant relationship between attitude and information scores, implying that more knowledge and experience will promote positive attitudes towards art among 15 to 22 year olds. Perhaps the most interesting feature of this research is the limited relationship reported between attitude and information.

A 'trauma' theory of attitude change and the arts has been put forward by D.H. Hargreaves (1983). He interviewed a large number of arts enthusiasts from working class backgrounds and concluded:

"One of the most immediate and striking features of my informants' accounts of how they came to be interested in an art form is the frequency with which they cite a particular event or experience. ...Indeed, it is because the experience was disturbing that it is remembered. ....Some described the experience as 'shattering'. It did indeed cause a kind of wound, one which injured or destroyed all their preconceptions about the art form, to which hitherto they were often hostile or indifferent" (pp.132-133)

Marland (1985) raises the practical difficulties of implementing Hargreaves' (1983) 'trauma' theory in schools; nevertheless this seems to be the philosophy underlying the Dance Artists in Education scheme promoted by the Arts Council and according to Briginshaw et al (1980) and Hockey (1986) it appears to meet with some success. Briginshaw et al (1980), for instance, comment on the effects of a performance of 'Troy Games' during a dance project in Hampshire:

"Its effects were felt throughout the project. Children interviewed at the end of the project spoke enthusiastically of the impact of this sudden exposure to accomplished dancing..." (p.5)

Hockey (1986) believes that such experiences have a positive effect on boys' attitudes to dance, although her comment that "it is not possible to estimate how long their conversion will last" (p.185) illustrates the speculative nature of her remarks. The necessity for research on attitude change in this area is also underlined by the contradictory views of Brinson (1986) who comments on the experiences of a ballet group:

"Time after time I recall going to schools with the Royal Ballet's Ballet for All group in the late 1960s and early 1970s and watching children snigger and point at our girls in leotards. Our boys, of course, got a rougher deal, especially from male physical education teachers. To-day the company education units, which Ballet for All pioneered, all tell me that much the same reaction continues" (pp.74-75)

Marland (1985) makes a number of suggestions for the encouragement of positive attitudes to dance, such as presenting dance as an arts activity rather than as part of PE, encouraging more men to teach dance and giving pupils greater opportunity to watch dance rather than always being a practical participant. HMI (DES, 1989c) also sees an increase in the numbers of male dance teachers as fundamental to encouraging overall positive attitudes to dance. Pool (1986, 1989) feels that there should be more vigorous promotion of the subject as both a recreational and educational activity and that in order to change male

attitudes, there should be dance classes which are open only to boys and men as well as dance productions featuring male dancers only.

It seems that although there is recognition among some educators of the importance of changing negative attitudes to dance little systematic research is available to support, or reject, the various suggestions offered.

It should also be noted however that there is a body of opinion which questions the assumption that any negative attitudes to the arts, or as they are described, the 'high arts' should be changed. Roberts (1983) and Gans (1974) for instance argue that 'popular culture' and 'high culture' are simply different 'taste cultures'; one is neither better nor worse than the other, but merely different. Freedman (1988) also considers that 'popular arts' should be valued equally with 'high arts'. D.H. Hargreaves (1983), however, campaigns vigorously against those who maintain that middle class arts should not be imposed on working class children and, along with Dimaggio and Useem (1980), considers that children from homes where such cultural activities are not highly valued should be given the opportunity to develop these interests. Smith (1986) maintains that the 'classics' offer the best opportunities for aesthetic education and Murdock and Phelps (1973) also argue that elements of high culture should be introduced so that adolescents can be made aware of alternative ways of codifying and expressing experience. Although the notion that the 'high arts' are a superior means of aesthetic education and therefore positive attitudes towards them should be encouraged, is not without its critics, the over-riding view among educationalists seems to be that they constitute the arts curricula. This is apparent in GCSE and 'A' level examinations for instance; further clarification should be forthcoming from the National Curriculum proposals for arts subjects.

#### 3.4.4 Summary and conclusions

This section has reviewed the literature on attitudes to the aesthetic in sport and dance, the general literature concerned with likely influences on such attitudes and information relating to attitude change.

It is clear that the literature available in each of these areas is limited in both quantity and quality. The only measuring instruments of any real relevance appear to be the aesthetic dimension of Kenyon's ATPA (1968b, 1968c) and its adaptation for young children by Simon and Smoll (1974) and Schutz et al (1981b). Both scales can be criticised on conceptual and methodological grounds. For instance a limited view of the aesthetic is presented, namely that of beauty residing in certain activities such as ballet, gymnastics or figure skating, while the scales seem to have been adapted freely and used with age groups other than those for which they were developed.

The main finding of research which has employed ATPA and CATPA is that females have more positive attitudes than males towards physical activity as an aesthetic experience, an unsurprising result perhaps when the arguments of J. Hargreaves (1982) and others are taken into account, specifically that ballet, gymnastics and figure skating are regarded overwhelmingly as 'feminine' activities. There seems to be virtually no information available as far as the age variable is concerned; there may however, be a link between degree of participation and positive attitudes and, from the single piece of research apparently available, it seems that different PE programmes, backgrounds and experiences have no specific effect on attitudes.

It is apparently the case that no substantial progress has been made on aesthetic attitude scale development since Kenyon (1968b, 1968c), Simon and Smoll (1974), Schutz et al (1981b). Although Kenyon's contribution

in particular could be regarded as considerable, there is clearly a need for further work in this area from a broader conceptual base. Additionally, it would seem that scales developed from pupils' own opinions on aesthetic aspects of sport and dance would have more validity than those of Kenyon and others which are based for the most part on descriptions and statements either extracted from the literature or devised by the investigator, and then judged by adults. Moreover it is likely that a number of scales are necessary to cater for the differences in attitudes to aesthetic aspects of both sport and dance.

The general PE, sport and dance literature was also surveyed in order to glean further information on the independent variables relevant to this study. The literature review showed that sport is usually regarded as a male preserve, embodying so-called masculine qualities of strength and aggression, although gymnastics and ice-skating are seen as 'feminine' sports. Dance however is almost universally considered to be an activity for females. The information that adult attendance at 'high arts' events is closely related to social class gains in importance when taken in conjunction with the well-established knowledge that the family has a fundamental influence on the formation of attitudes. Family interests in arts and sports should also be interpreted in relation to gender, for it seems that women are consistently more regular attenders at art events than men, whereas sport is more popular with males, particularly sport on TV.

The survey of the literature on pupils' leisure interests showed that boys from higher social classes participate most often in sport outside school. Little information appears to be available on adolescent interest in watching sport, or dance as an art form. Watching TV however is known to be overwhelmingly the major leisure pursuit, with boys watching sport more often girls. Hendry (1983) comments on the

apparent desire for excitement among adolescents while Elias and Dunning (1986) argue that a major function of various sports and arts is to provide excitement for the spectator or participant. This view would seem to be at odds with one which seeks to encourage adolescents to approach dance and sport with an aesthetic attitude.

It was acknowledged that attitude change is not a part of this investigation, but it was felt nevertheless that an overview of the literature in this field would contribute to an understanding of the area as a whole. The survey highlighted the virtual absence of empirical research on changing attitudes to the aesthetic in sport and dance, reflecting perhaps the low priority accorded the development of aesthetic awareness by physical educationalists. Theories on the encouragement of positive attitudes to the arts were discussed along with the 'high arts' and 'popular' arts arguments.

The abundance of attitude research in the social psychology literature contrasts sharply with that apparently available in the PE, sport and dance areas in general, and the aesthetic aspect in particular. More than fifteen years ago Lewis (1974) commented on the low level of interest in attitude research among educationalists.

"At present it is true to say that educational thinking has yet to advance to the stage where it is thought necessary for serious consideration to be given to attitudes and interests" (p.166)

He continues:

"Practising teachers do not employ attitude scales to help them gain a more complete understanding of their pupils' attitudes towards the subjects they teach or indeed towards any other aspect of school life. Pupils' attitudes have yet to gain acceptance as variables of major importance" (pp.166-167)

Such remarks could be made with equal validity today, especially in relation to PE, sport and dance.



Attitude research in these areas does not seem to have paralleled to any significant extent, developments in mainstream social psychology. In particular, the limited amount of interest which has been shown in an aesthetic dimension of physical activity seems for the most part to be rooted in scales developed more than twenty years ago and furthermore could be subject to the criticism made by McMillan (1980) of educational research in general, namely that little is available which is school based. It hardly needs to be said that this is an area which has been severely neglected by attitude researchers.

#### 4.1 Introduction

The purpose of this investigation is to discover the relative influence of the factors school type, age, sex, social class, pupils' leisure interests in various arts and sports, and their families' interests in the same activities, on attitudes of secondary school pupils to aesthetic aspects of sport and dance.

It was decided that the best way of addressing this problem was by means of a nationwide survey involving a large sample of boys and girls drawn from schools with a wide range of provision in arts and sports. A questionnaire was regarded as the most appropriate method of gathering the necessary information, for it could include measures of both the dependent variable, that is attitude to aesthetic aspects of sport and dance, and the independent variables, namely school, age, sex, social class, family and pupil leisure interests in various arts and sports.

Attitude is defined for the purposes of this investigation as the amount of affect for or against an object. This view is in accordance with that of Fishbein and Ajzen (1975) who also argue that measuring procedures should relate directly to an explicit definition of attitude and, furthermore, that all scaling techniques are measures of affect. The most highly refined techniques are generally considered to be Thurstone's method of equal appearing intervals (Thurstone and Chave, 1929), Likert's method of summated ratings (Likert, 1932), Guttman's scalogram (Guttman, 1950) and Osgood's semantic differential (Osgood et al, 1957).

The literature review has revealed the dearth of appropriate valid and reliable scales for measuring adolescent attitude to aesthetic aspects

of sport and dance. For instance, none are listed in reference works such as: Shaw and Wright (1967), Bonjeau et al (1967), Robinson and Shaver (1973), Cohen (1976), Moloney (1981), Tests in Print II (Buros, 1974) and III (Mitchell, 1983).

Two sets of scales are given in Johnson (1976), namely Kenyon's (1968b) Attitude to Physical Activity Inventory (ATPA) and its adaptation by Simon and Smoll (1974) for use with children, entitled 'Children's Attitude to Physical Activity Inventory (CATPA)'. Both inventories include an aesthetic attitude scale. Kenyon's ATPA was developed using college students and so is unsuitable for this study which is interested in adolescent attitudes. The CATPA, refined by Schutz et al (1985), focuses on pupils' attitudes towards taking part in physical activity, whereas the concern of the present research is with attitudes to physical activity as an aesthetic phenomenon, and this includes both participant and spectator perspectives. Moreover, aesthetic attitudes are measured in terms of attitudes to "Physical activities which are thought of as possessing beauty or certain artistic qualities such as ballet, gymnastics or figure skating" (Kenyon, 1968c, p.189) or to "taking part in physical activities which have beautiful and graceful movements" (Schutz et al, 1985, p.261). It was argued in Chapter 3 that these descriptions indicate a limited concept of the aesthetic. Additionally, they do not allow for the possibility of viewing all types of physical activity from an aesthetic point of view, swimming and games for instance, or other kinds of dance as well as ballet.

Aesthetic attitudes could vary with the activity in question and so a number of scales may be needed. The aesthetic is interpreted in this investigation as being centrally concerned with the sport or dance itself, without regard for any practical outcome such as the result of a contest or the entertainment value of a dance. Thus the quality of the performance is of prime consideration rather than any excitement

generated or a preoccupation with costumes, personal characteristics of the dancers or athletes and so on. Finally, the ATPA and CATPA aesthetic attitude scales were developed using expert judges, whereas this investigator wished to employ scales which used predominantly statements from pupils. This decision was influenced by the 'grounded-theory' argument advanced by Glaser and Strauss (1968) whereby theory is developed from data rather than imposed. Glaser (1978) believes that theory which emerges from data reflects what is actually going on rather than what ought to go on.

Thus it was decided that scales would be developed from the statements of pupils rather than from a search of the literature or the judgements of experts. This approach therefore excluded consideration of Osgood's semantic differential technique and also the employment of Thurstone-type scales which require prior determination of scale values by judges. The Guttman scale was not considered because apart from the laborious and time-consuming process involved (Thomas, 1978) the precise attitude to be measured has to be very narrowly defined at the outset and relevant statements gathered. The development of a Likert-type scale was therefore regarded as most appropriate for the present investigation, for in addition to utilizing the statements of adolescents, the 5-point scale enables pupils to be the judges of those statements.

An initial task was the collection of a large number of statements from which attitude scales would ultimately be developed. This process is described in section 4.2 below.

## 4.2 Collection of the statements

### 4.2.1 Sample

Opinions on aesthetic aspects of sport and dance were sought from boys and girls, aged between 11 and 16 years, with varying educational, social and ethnic backgrounds. Accordingly, during the autumn term, 1984, discussions were held with samples of 12 pupils, 6 boys and 6 girls, each group representing a cross-section of the school's population. Six schools participated. Three were mixed comprehensive schools in Manchester, one inner-city and two from contrasting suburban areas. Together they represented a wide range of provision in arts and sports. Of the remaining schools, two offered a specialist arts education, one in ballet and the other in music, the third encouraged excellence in sport.

Permission was sought initially from the headteachers of the schools. Thereafter arrangements were made with the PE, Dance or Senior teacher and they selected the twelve pupils to participate in the discussion.

### 4.2.2 Stimulus

The purpose of the stimulus - a twelve minute video-tape devised by the investigator - was to provoke a wide-ranging discussion on aesthetic aspects of sport and dance. The following factors and considerations influenced the final form of the tape:

- (a) The video-tape was constructed during September 1984 and the investigator was dependent upon video-taped material available at that time. Folk and national dance tapes, for instance, were not available.
- (b) In order to include as wide a range of visual images as possible, very brief excerpts of sport and dance were chosen, each of approximately thirty seconds.

- (c) Phrases of movement were selected by the investigator and regarded by her to be aesthetically pleasing or displeasing. The nature of certain sporting events meant that in some instances discrete sequences were possible, as in a gymnastic vault or a ski-jump, otherwise recognisable phrases were chosen such as in soccer, a skilful dribbling sequence followed by a shot at goal or a brief section from a dance which could be viewed autonomously.
- (d) Characteristics of performers which could influence aesthetic perception of an event were taken into consideration. Consequently male and female, black and white, British and non-British, ectomorphic and endomorphic performers were included.
- (e) Various types of dance activities e.g. ballet, modern dance and cabaret dancing and various types of sports were chosen.
- (f) The video-tape was limited to 12 minutes on the advice of audio-visual experts who regard this as the optimal attention span. In order to retain attention throughout, there was contrast in the sequence of activities. The order of presentation was: Dance - modern dance, classical ballet, stage dance; Athletics - track events, field events; Gymnastics - women's floor and apparatus work followed by that of men; Cricket; Soccer; Ski-jumps.
- (g) Where sound was considered to be integral to the activity, such as the musical accompaniment in the dance and women's gymnastics floor sequences, it was retained. Otherwise, anything regarded by the investigator as extraneous was eliminated, such as a commentary or crowd noise.
- (h) Slow motion replays were included for all sports events. Such sequences were not available for dance.

#### 4.2.3 Procedure

No adult, other than the investigator was present during the viewing of the video-tape and the subsequent discussion. The following procedure was adopted:

- (a) The investigator introduced herself to the pupils and thanked them for their cooperation. It was then explained that a video-tape comprised of short excerpts of sport and dance would be shown once, after which there would be a group discussion when opinions could be aired.
- (b) Permission was sought to record their comments; the confidentiality of responses was stressed along with the importance of both negative and positive remarks.
- (c) The pupils were then asked to introduce themselves, details were recorded and played back to them. There were a number of advantages in this approach: the correct working order of the cassette recorder was tested; any apprehensions associated with the taping of responses was reduced; the clarity of responses was checked and pupils encouraged to speak more loudly; a rapport was established with the pupils and an informal atmosphere created; and a record was obtained of basic personal details.
- (d) After a single viewing of the video-tape there was an informal group discussion lasting approximately thirty minutes. The investigator opened the discussion by asking for a general reaction to the video-tape. If there was no response, general questions were asked such as 'Did you find it interesting?' or 'Did you enjoy watching it?' The latter usually succeeded in provoking comments which could then be followed up by further queries, for instance, 'Which events did you enjoy the most?',

'Why?' and so on. On a minority of occasions it was necessary to phrase very precise questions related either to the last sequence on the video-tape or a particular reaction which had occurred at some point, such as laughter.

- (e) As the discussion proceeded more probing questions were asked to try to elicit, from general comments such as "I liked it" or "It was boring" more specific explanations. The responses of pupils to comments of their peers were also sought. The questioning process ensured that comments were made on all excerpts constituting the complete tape.

#### 4.2.4 Analysis

The audio-cassette tape of each discussion was transcribed and statements were then selected which reflected pupils' varying reactions to the video-tape. Statements (items) which seemed to indicate underlying aesthetic attitudes to sport and dance were placed together. By this means, fourteen preliminary groups of statements evolved, each with varying numbers of items.

Where there was obvious overlap, statements were discarded. In those groups with small numbers of items, statements were devised in similar language. An arbitrary target of ten items was set for each group.

The structure, expression and content of each statement was carefully examined by both the investigator and a college lecturer in PE, and adjusted where necessary to clarify meaning. The fourteen groups, with titles reflecting content, are given in Table 4.1; the statements asterisked\* were devised by the investigator.



Table 4.1

## Preliminary dimensions of attitude to aesthetic aspects of sport and dance

1. Ballet	2. Ballet	3. Dance
1. Plenty of scenery is important in ballet.	1. Ballet is too slow and after about five minutes you get bored.	1. Dance has to be well-rehearsed to enjoy it.
2. A dance must be done properly with the right costumes, music and set, in order to enjoy it.	2. Watching ballet is difficult unless you are familiar with it.	2. To enjoy dance the movements have to be exciting.
3. Ballet can look so pure, so beautiful.	3. I would never watch ballet on TV.	3. Some kind of expression and communication is very important in dance.
4. Ballet is a graceful activity.	4. Modern dance is more natural than ballet.	4. I don't like to watch dance that is 'fairy-like'.
5. In ballet standing on your toes makes the dancer look more elegant.	5. Ballet seems pretty false.	5. I like to watch slow dances not the normal springy sort.
6. Gymnastics and ballet are very similar.	6. Ballet is just concerned with graceful movements.	6. I like dances that are different.
7. You have to see a whole ballet or dance to appreciate it	7. In ballet it's unnatural to stand on tip-toes like that.	7. Watching dancing doesn't do anything for me.
8. I'd rather watch ballet than sport.	8. Ballet is just jumping around in a pair of tights.	8. I like energetic dances with lots of movement.
9. A lovely stage set is important in ballet.	9. Ballet should entertain the audience.	9. I like dances where the performers are doing exactly the same movements together.
10. A ballet is better to watch if there is a story behind it.	10. I wouldn't watch a ballet all the way through.	10. Break-dancing has more meaning to it than modern dance or ballet.

Table 4.1 (continued)

4. Dance costume	5. Music for dance	6. Male dancers
1. I don't like ballet costumes.	1. I prefer dances that have music with them.	1. You shouldn't see boys doing ballet and modern dance.
2. I enjoy dancing much more when there are beautiful costumes and props.	2. Ballet music has no excitement to it.	2. Ballet dancing is associated with women.
3. In dance you notice the movement more without bright costumes.	3. I like accompaniments for dance that are a bit out of the ordinary.	3. All dancers are athletes in their own way.
4. The costume in dance is some- to look at, to stop being bored.	4. Contemporary music for dance is awful.	4. Men shouldn't move to gentle music, it's not the right image.
5. When dancers wear tight clothes they look much more graceful.	5. I like dance that uses lyrical, tuneful music.	5. Boys think ballet is 'cissy'.
6. The tights dancers wear help you see the movement more clearly.	6. Strange music makes dances more interesting.	6. If you saw a man dancing to really soft music it would look stupid.
7. A nice costume does not help if the performer is not dancing well.	7. Dancing to classical music is boring.	*7. I don't like to see boys doing expressive movement.
*8. The costumes are the most enjoyable part of watching dance.	8. Dancing should have more aggressive music.	*8. If male ballet dancers are strong and muscular then that's alright.
*9. It's better if dancers wear 'ordinary' kinds of clothes on stage.	9. Dancing in time with each other and with the music is very important.	*9. Male dancers look silly wearing tights.
*10. Costumes in dance should be bright and cheerful.	*10. All dance music should have a good rhythm and beat.	*10. Male dancers should do movement that looks very difficult.

Table 4.1 (continued)

7. <u>Body shape</u>	8. <u>Aesthetics of sport</u>	9. <u>Aesthetics of sport</u>
1. The shape of the body doesn't matter if it is appropriate to the sport.	1. I admire the coordination of dancers and sportspeople.	1. I enjoy performances when you can see a lot of effort has been put into it.
2. If a woman throws longer distances by being very muscular then that's alright.	2. Ski-jumping shows beauty of motion.	2. I think the athlete's style is an important part of appreciating sports.
3. You have to be the right shape to dance or do gymnastics.	3. To appreciate cricket you need to see the whole game.	3. How somebody does something in sport is not important, we just remember what he or she achieved.
4. If a female athlete is brilliant it doesn't matter what she looks like.	4. Ski-jumps are brilliant because they look so perfect.	4. I can only appreciate things that are done really well.
*5. Female athletes should be slim and attractive.	5. A really good cricket stroke is very graceful.	5. I enjoy watching top-class sport and dance because it seems so effortless.
*6. I couldn't enjoy watching a dancer who was fat.	6. Cricket is boring, there is no action.	6. I most appreciate the skill part of sport and dance.
*7. A woman athlete shouldn't look big and muscular like a man.	7. I enjoy the display of power in gymnastics.	*7. I like watching movement that is spectacular like ski-jumping.
*8. I can appreciate good style whatever the shape of the performer.	8. You need the music in women's gymnastics to enjoy the movement.	*8. I feel disappointed if an athlete fails.
*9. Fluency and grace of movement have nothing to do with body shape.	9. I like long-jumping because it's like walking on air.	*9. It doesn't matter how a goal is scored as long as it goes in the net.
*10. It doesn't look right when a woman has muscles whatever the sport.	*10. In gymnastics the balance is the thing I enjoy most.	

Table 4.1 (continued)

10. Movement in slow motion	11. Aesthetics of sport: crowd noise and cheering	12. Aesthetics of sport: knowledge of events
1. I like slow motion because you can see the power in a movement.	1. Even with top players, a game without cheering would be as if there is just nothing there.	1. To appreciate an activity you have to know something about it.
2. One slow-motion replay is alright but repeated again and again is boring.	2. Without crowd noise or a commentator you can appreciate the style of an athletic event.	2. It's pointless seeing who can run the fastest and jump the highest unless you know who you want to win.
3. I like to see slow motion replays because you can see the faults.	3. It is better watching sports without a commentator as you can concentrate on the movement.	3. Those people who do a particular sport or event see it from a different angle than us.
4. Sometimes in slow motion a performer does not look so impressive.	4. You need the crowd cheering and the commentator shrieking when a goal is scored to enjoy it.	4. I enjoy watching a sportsman fail if he is not from this country.
5. Watching slow-motion replays is boring because you know what is coming next.	5. Without a commentator and the noise of a crowd the build-up to a goal seems a bit silly.	5. I enjoy an athletic event more if I know a world record has been set.
6. If you saw a replay of a high jump that was OK then you wouldn't really look at it or analyse it, whereas you would with someone who failed.	6. Without a commentator it is very boring just watching someone run around.	6. You must take part in sport and dance in order to enjoy watching it.
7. Slow motion replays of sport and dance on TV are good because you can see the movement exactly.	7. The shouting of the crowd makes an event more enjoyable.	7. I can't enjoy any sporting achievement unless I know who is performing.
*8. With slow motion replays you can enjoy the control and the strength in a movement.	8. The atmosphere helps you understand the sport.	8. I enjoy watching sports people from this country rather than any others.
*9. I can really appreciate the beauty of a movement in a slow motion replay.	*9. The atmosphere in a theatre is part of the enjoyment of the ballet.	9. Only top class performers in sport and dance are worth watching.
*10. Slow motion replays are great if someone falls.	*10. The movement by itself in sports is not interesting.	*10. Even skilful movement is uninteresting if you don't know who is performing.

Table 4.1 (continued)

13. <u>Aesthetics of sport: tension and excitement</u>	14. <u>Aesthetics of sport: competition</u>
1. When someone hurts themselves it's funny, it makes it more interesting.	1. I like watching team sports because everyone works together.
2. Seeing an athlete or ballet dancer doing something I feel would hurt does not spoil my enjoyment of it.	2. I enjoy the competitive element the most in sports.
3. Watching sport becomes boring after a while unless someone falls.	3. If there weren't any failures in sport you wouldn't enjoy the success as much.
4. A ski-jump is exciting because you know that the skier might possibly fall.	4. Dance and ballet are boring because there is no action.
5. A dance audience wants to be kept on edge feeling something might go wrong.	5. I don't enjoy watching dance because there is no outcome.
6. I think very difficult movements create a tense atmosphere which I enjoy.	6. I like watching sports because there is a result.
7. It's boring if everyone succeeds all the time.	*7. If there are no goals in a game it is very boring.
8. I hate violent sports like rugby and boxing.	*8. If ballet was competitive like gymnastics it would be more interesting.
*9. I can't enjoy watching dangerous sports.	*9. I enjoy supporting a team no matter how well or badly it plays.
*10. I hate to see movement that is unnatural like in ballet or gymnastics.	*10. If my team is losing I can't enjoy watching, no matter how well the team is playing.

#### 4.3 Initial draft of the Questionnaire

##### 4.3.1 The Questionnaire

The Questionnaire sought information on a large number of independent variables as well as opinions on the statements on sport and dance. (The acquisition of the latter is described in the previous section, 4.2) In order to facilitate both administration and completion, the Questionnaire was sectionalised as follows:

Introduction, seeking information on school, age, sex and social class;

Part I, concerned with pupils' school experience and leisure interests;

Part II, concerned with the interests of pupils' families;

Part III, comprising the attitude statements.

Each of these sections is described fully below.

##### 4.3.2 The Introduction

The Introduction was constructed to gather information concerning school, age and sex. This section also listed a variety of job descriptions, and the pupils were asked to indicate which of these came closest to describing that of their father (or male guardian) and also that which came closest to describing that of their mother (or female guardian). Responses would then be interpreted with respect to the Registrar General's classification of social class by occupation, i.e. Unskilled, Partly Skilled, Skilled Manual, Skilled Non-Manual, Technical and Managerial, and Professional. When the social class of the two parents (or guardians) was found to differ, the higher of the two was taken as the measure of the pupil's social class for the purposes of this study.

#### 4.3.3 Parts I and II of the Questionnaire

Part I of the Questionnaire was designed to gather information relating to the extent of pupils' school experience and their voluntary commitment to various arts and sports in respect of three modes of involvement, (i) active, practical involvement, (ii) visiting art galleries, theatres and sports grounds etc, (iii) watching programmes on TV.

Part II of the Questionnaire was designed to gather the same information relating to interests in the same arts and sports of pupils' families.

A five-point scale, Very Often, Often, Sometimes, Never, Uncertain was employed throughout Parts I and II and scored 5, 4, 3, 2, and 1 respectively. Explanations of these categories relevant to Part I and to Part II were provided, along with instructions for completion.

In both these parts of the Questionnaire the content and order of the lists of arts and sports remained constant, thereby facilitating both ease of completion and, ultimately, comparisons between groups. The arts and sports selected were as follows:

art, drama and music, as these are generally regarded as the major art forms; dance, expanded to include different types - ballet, creative/modern dance, stage dance and folk/national dance - because of the particular focus of the research and the interests of the investigator; gymnastics, athletics, games, ice-skating and swimming/diving, considered to be representative of the range of physical education and recreation activities found in schools and elsewhere.

#### 4.3.4 Part III of the Questionnaire

Part III comprised the 139 attitude statements which formed the preliminary 14 groups described in Section 4.2.4. The statements were thoroughly mixed and a 5-point scale added, Strongly Agree, Agree, Disagree, Strongly Disagree, Uncertain. The categories were scored 5, 4, 3, 2, and 1 respectively. Explanations of these categories and instructions for completion were provided in this section of the Questionnaire.

A copy of the initial draft of the Questionnaire which was used subsequently in the pilot study - this is described below in Section 4.4 - may be found in Appendix I, pp.361-376. A copy of the accompanying 'Guidelines' for teachers is available in Appendix II, pp.377-380. The 'Guidelines' gave basic instructions for completion, clarified the meanings of certain dance terms and delineated 'drama' and 'games'. Teachers were also requested to give their comments and those of their pupils on the general structure, content and ease of completion of the Questionnaire and the time taken to complete each section. Improvements to the 'Guidelines' were also sought.

#### 4.4 Pilot Study

##### 4.4.1 Aim

The purpose of the pilot study was: (i) to develop the attitude scales (ii) to test the structure and organisation of the Questionnaire and its efficiency in gathering information on the independent variables (iii) to try out the 'Guidelines' for teachers and to test the overall administration of the Questionnaire.



#### 4.4.2 Sample

The sample comprised 400 boys and girls between the ages of 11 and 16 years at four mixed high schools in Manchester. Each school was asked to supply a minimum of 50 boys and 50 girls, spread evenly between 11 and 16 years and representing a cross-section of the school's population. Samples were sought from a specialist music school, an inner-city school where the arts are stressed, a suburban school which has a reputation for high standards of attainment in physical education and sport, and another suburban school where arts and sports feature as part of a broad curriculum. The last three are comprehensive schools and together represent a wide range of provision in arts and sports, as well as varied social background of the pupils.

#### 4.4.3 Administration

Headteachers were contacted towards the end of the spring term, 1985. After examination of the Questionnaire and the 'Guidelines', permission was given to approach a designated member of staff. Subsequently meetings were arranged between the investigator and the PE and dance, drama or music teachers who had agreed to administer the Questionnaire during which the nature of the research and their rôle in it, were clarified. Guidelines for administration were supplied.

At the beginning of the summer term, 1985, 120 questionnaires were delivered to each school. A total of 378 were returned within three weeks. Of these, 10 were deemed 'spoiled' by virtue of, for example, random or incomplete responding. The remaining 368 questionnaires were scored by the investigator. Information on the coding of the data is given in Appendix III, pp.381-385.

#### 4.4.4 Methods of analysis

##### 4.4.4.1 The structure of the Questionnaire, Guidelines and administration

The Questionnaire was scrutinised for problems in design and structure, taking into account the modes of completion by pupils and the comments of teachers. The latter included pupils' opinions. The same sources were employed to refine the 'Guidelines' and the methods of administration of the Questionnaire.

##### 4.4.4.2 Factor analysis

The attitude scales were developed using the SPSS (Version 8.0, 1979) factor analysis computer program. The factor analysis program is described in the SPSS manual (Nie et al, 1975, p.469) as comprising three phases, namely the preparation of the correlation matrix, the reduction of the data into factors which help explain the correlations and, finally, rotation of the factor matrix to achieve a simpler, clearer structure, thereby assisting the interpretation of the factors.

The SPSS (Version 8.0, 1979) factor analysis program can process a maximum of 100 variables. As Part III of the Questionnaire contained 139 variables, two correlation matrices were prepared. The first (a) involved 70 variables concerned predominantly with aspects of dance and the second (b) 69 variables concerned largely with aspects of sport.

In each case, factors were extracted from the inter-correlations of the variables by means of principal components analysis, a process outlined in the SPSS handbook (Norussis, 1985), as follows:

"In principal components analysis, linear combinations of the observed variables are formed. The first principal component is the combination that accounts for the largest amount of variance in the sample. The second principal component accounts for the next largest amount of variance and is uncorrelated with the first. Successive components

explain progressively smaller portions of the total sample variance, and all are uncorrelated with each other" (Norussis, 1985, p.130)

Principal components analysis was followed by oblique rotation, which allows for correlations among factors. The alternative rotational solution is orthogonal, the most commonly used method being varimax (Norussis, 1985, p.40). Youngman (1979) remarks that although the two types of rotation generate similar factors, eliciting scales from questionnaires frequently benefits from oblique rotation as "allowing factors to be related has the effect of producing finer discrimination" (p.102). The choice of rotation therefore depends upon the research problem, although the purpose of both remains the clarification of factors.

#### 4.4.5 Analysis of results

##### 4.4.5.1 The Questionnaire

The overall structure of the Questionnaire was regarded as satisfactory by both pupils and teachers, and the majority of the pupils were able to complete the Questionnaire within a single lesson.

Difficulties reported by teachers (including those conveyed to them by pupils) are given in (a) and (b) below. Modifications considered by the investigator to improve the efficiency of the Questionnaire are given in (c) and (d).

- (a) That part of the Introduction concerned with the employment of parents or guardians was regarded as unsatisfactory, by failing to make provision for the previous work of those currently unemployed and for those who had more than one job. These amendments were made in the final version of the Questionnaire.

- (b) A significant number of pupils were unfamiliar with certain terms such as : appreciation, practical experience, contemporary, style, fluency, atmosphere and co-ordination. When it was appropriate, simpler words were substituted within statements. When any of these words simply introduced a section, they were discarded as unnecessary.
- (c) Numbers were introduced to identify individual schools, academic attainment group, and social class. These modifications were considered helpful to respondents during questionnaire completion and facilitated the encoding of information.
- (d) A 5-point scale involving the placement of the 'Uncertain' category in the middle of the range was adopted as more appropriate in the final version of the Questionnaire.

#### 4.4.5.2 Administration

The 'Guidelines' for the administration of the Questionnaire were reported by teachers to be satisfactory. Some of the modifications to the Questionnaire, however, required additional information in the 'Guidelines' so that teachers could ensure that the correct code was used by pupils for 'school' and 'group'. Teachers were also asked to clarify, when necessary, the meaning of 'aesthetic' terms such as grace, fluency and style, for individual pupils.

It was evident from the pilot study that PE and dance teachers should administer the Questionnaire as they possess the knowledge necessary for the clarification of certain concepts within the context of sport and dance.

#### 4.4.5.3 Factor analysis

##### (a) Dance

A factor analysis performed on the 70 variables, where content was mainly dance orientated, produced eight factors with eigen values greater than 1.0. These accounted for 73.1 per cent of the variance. These factors were then subjected to oblique rotation and rotated item loadings were scanned for size with a view to providing sub-sets of opinion on dance. The first five rotated factors seemed to offer this possibility. Allocation to a particular sub-set was determined on the basis of an item having a loading of at least  $\pm 0.20$  on that component and not having a loading of similar magnitude and sign on the remaining four, that is, the item was rather specific to a particular factor and moderately descriptive of it. The relevant factor matrix is available in Appendix IV, pp.386-387.

The first factor was fairly clearly defined by ten items relating specifically to ballet. Eight of the statements express an attitude to ballet which is unfavourable, citing it as being unattractive and pointless, and two express favourable attitudes regarding ballet as beautiful and graceful (Variables 118 and 191).

Factor 1. Ballet

<u>Variable</u>	<u>Content</u>	<u>Loading</u>
118	Ballet can look so pure, so beautiful	-0.425
123	Ballet is too slow and after about five minutes you get bored	0.719
157	Ballet is just jumping around in a pair of tights	0.608
170	I wouldn't watch a ballet all the way through	0.729
175	Ballet music has no excitement to it	0.669
191	Ballet is a graceful activity	-0.301
194	Watching ballet doesn't do anything for me	0.447
196	Ballet seems pretty false	0.626
227	I don't like ballet costumes	0.502
243	I would never watch ballet on TV	0.632

The second factor was defined by nine items concerned with dance in general. Eight of the statements express an unfavourable attitude towards the aesthetic in dance in so far as they regard dance as a means of entertainment and athleticism. One statement indicates a positive attitude (Variable 209).

Factor 2. Dance

<u>Variable</u>	<u>Content</u>	<u>Loading</u>
128	Dance should entertain the audience	0.259
151	All dancers are athletes in their own way	0.510
173	A dance is better to watch if there is a story behind it	0.312
174	Dancing in time with each other and with the music is very important	0.685
209	Some kind of expression and communication is very important in dance	0.417
215	When dancers stand on their toes they look much more elegant	0.441
216	Dance has to be well-rehearsed to enjoy it	0.569
221	I like dance that uses lyrical, tuneful music	0.279
236	I like energetic dances with lots of movement	0.323

The third factor comprises seven statements all of which express negative attitudes to male dancers, citing them as looking silly or doing what is contrary to the acceptable masculine image.

Factor 3. Male dancers

<u>Variable</u>	<u>Content</u>	<u>Loading</u>
125	If you saw a man dancing to really soft music it would look stupid	0.415
148	Male dancers should do movement that is very difficult	0.360
152	Men shouldn't move to gentle music, it's not the right image	0.323
179	You shouldn't see boys doing ballet or modern dance	0.574
195	Male dancers look silly wearing tights	0.515
206	Ballet dancing is associated with women	0.607
247	I don't like to see boys doing expressive movement	0.322



The fourth factor includes seven statements which are concerned with the presentational aspects of dance. Two of the statements express positive attitudes (Variables 121 and 240) and the other five express negative attitudes in that they have a high regard for the costumes, scenery, music and props rather than the aesthetic qualities of the dance itself.

Factor 4. Dance presentation

<u>Variable</u>	<u>Content</u>	<u>Loading</u>
121	A nice costume does not help if the performer is not dancing well	0.214
220	Plenty of scenery is important in ballet	0.252
231	When dancers wear tight clothes they look much more graceful	0.212
235	Strange music makes dance more interesting	0.682
240	The tights dancers wear help you see the movements more clearly	0.271
241	I enjoy dancing much more when there are beautiful costumes and props	0.224
242	I like accompaniments for dance that are a bit out of the ordinary	0.668

There are seven statements in the fifth factor, one expressing a favourable attitude to an aesthetic aspect of dance performance (Variable 169) and six expressing attitudes which are unfavourable in that these statements affirm the importance of excitement in movement, music and costume.

Factor 5. Dance performance

<u>Variable</u>	<u>Content</u>	<u>Loading</u>
144	To enjoy dance the movements have to be exciting	-0.286
150	All dance music should have a good rhythm and beat	-0.318
169	A dance must be done properly with the right costumes, music and set in order to enjoy it	-0.272
218	You have to be the right shape to dance	-0.236
223	Costumes in dance should be bright and cheerful	-0.802
228	A lovely stage set is important in ballet	-0.432
162	I like dances where the performers are doing exactly the same movements together	-0.144

Variable 162 was included in spite of its rather low loading on the component because there is not a higher loading on any of the remaining factors, and its content is related to the theme.

(b) Sport

A factor analysis performed on the 69 variables where content was mainly sports orientated, produced eight factors with eigen values greater than 1.0. These accounted for 72.6 per cent of the variance. These factors were then subject to oblique rotation and the same procedure followed as for (a) Dance, with the purpose of identifying sub-sets of opinion on aspects of sport. The first four factors appeared to be potentially useful for this purpose. The relevant factor matrix is available in Appendix V, pp. 388-389.

Twelve items where content is positively orientated towards competition, winning at all costs, the participation of the crowd and the commentator, define fairly clearly the first component of this group, which is the sixth factor to emerge from the data comprising Part III of the Questionnaire. None of the statements expresses appreciation of skill for its own sake.

Factor 6. Aesthetics of sport: atmosphere and competition

<u>Variable</u>	<u>Content</u>	<u>Loading</u>
124	Even skilful movement is uninteresting if you don't know who is performing	0.312
134	The shouting of the crowd makes an event more enjoyable	0.244
137	I like watching sports because there is a result	0.376
141	You need the music in women's gymnastics to enjoy the movement	0.322
142	The atmosphere helps you understand the sport	0.255
147	Without a commentator it's very boring just watching someone run around	0.320
153	You need the crowd cheering and the commentator shrieking when a goal is scored to enjoy it	0.651
167	I mostly enjoy the competitive element in sport	0.296
172	A game without cheering would be as if there is just nothing there	0.484
185	It doesn't matter how a goal is scored as long as it goes in the net	0.273
201	If ballet was competitive like gymnastics it would be more interesting	0.390
213	Without a commentator and the noise of the crowd the build-up to a goal seems a bit silly	0.288

The seven statements which comprise factor seven are concerned with aesthetic qualities of sport and dance when excerpts are shown in slow motion on TV. Six of the statements express positive attitudes and one is negative (Variable 198).

Factor 7. Slow Motion Replays

<u>Variable</u>	<u>Content</u>	<u>Loading</u>
135	With slow motion replays you can enjoy the control and strength in a movement	0.699
164	I can really appreciate the beauty of a movement in a slow motion replay	0.414
168	I like slow motion because you can see the power in a movement	0.558
198	Watching slow motion replays is boring because you know what is coming next	-0.418
205	With slow motion I can admire the co-ordination of dancers and sports people	0.467
222	Slow motion replays of sport and dance on TV are good because you can see the movement exactly	0.709
214	In slow motion ski-jumping shows beauty of motion	0.487

There are six items in factor eight. Four of the statements are positively disposed to sport as entertainment with demands for danger, action and high achievement, and therefore express negative attitudes to the aesthetic in sport. Two of the statements express dislike of danger and violence in sport (Variables 126 and 229).

Factor 8. Sport as entertainment

<u>Variable</u>	<u>Content</u>	<u>Loading</u>
116	I enjoy an athletic event more if I know a world record has been set	-0.242
126	I can't enjoy watching dangerous sports	0.624
146	Dance and ballet are boring because there is no action	-0.480
192	I don't enjoy watching dance because there is no outcome	-0.358
229	I hate violent sports	0.603
163	Seeing an athlete or ballet dancer doing something I feel would hurt him does not spoil my enjoyment of it	-0.217

Factor nine comprises nine statements which indicate an unfavourable attitude towards the aesthetic in that they put forward a view of sport as a provider of opportunities for expression of chauvinism, excitement and entertainment.

Factor 9. Aesthetics of sport: interest and excitement

<u>Variable</u>	<u>Content</u>	<u>Loading</u>
133	When someone hurts themselves in sport it makes it more interesting	0.341
149	I enjoy watching sports people from this country rather than any other	0.360
177	I enjoy watching a sportsman fail if he is not from this country	0.409
180	The movement by itself in sports is not interesting	0.219
232	I like to see slow motion replays because you can see the faults in a performance	0.402
234	A ski-jump is exciting because you know that the skier might possibly fall	0.519
237	Slow motion replays are great if someone falls	0.752
245	Watching sport becomes boring after a while unless someone falls	0.646
248	It's boring if everyone succeeds all the time	0.607

#### 4.4.5.4 Validity and reliability

The nine tentative scales accounted for 80 of the original 139 statements. The alpha (internal consistency) coefficient was calculated for each of the scales. These are shown in Table 4.2.

Table 4.2

Internal Consistency Reliability Coefficients for the Tentative Scales

<u>Embryonic Scale</u>	<u>Description</u>	<u>Alpha</u> <u>Coefficient</u>
1	Ballet	0.73
2	Dance	0.73
3	Male dancers	0.79
4	Dance presentation	0.54
5	Dance performance	0.64
6	Aesthetics of sport: atmosphere and competition	0.76
7	Aesthetics of slow motion	0.74
8	Sport as entertainment	0.05
9	Aesthetics of sport: interest and excitement	0.77

An arbitrary lower limit of 0.6 was set as an acceptable internal consistency reliability coefficient. Accordingly, two of the tentative scales were eliminated, namely Scale 4, Dance Presentation (Alpha = 0.54) and Scale 8, Sport as Entertainment (Alpha = 0.05).

The reliability of each of three further scales was improved by the removal of one statement in each case: from Scale 5, Variable 162; from Scale 6, Variable 201; from Scale 7, Variable 198.



Thus, seven attitude scales, sub-sets of opinion on dance and sport survived the analysis of data from the pilot study sample of 368 pupils. They include four scales concerned with dance entitled: Ballet; Dance; Male dancers; Dance performance. Three of the scales are concerned largely with attitudes to sport and have been given the titles: Aesthetics of sport: atmosphere and competition; Aesthetics of Slow motion; Aesthetics of sport: interest and excitement. Their reliabilities give reasonably reassuring evidence as to the scales' internal consistencies.

Further evidence of the reliabilities of the seven surviving scales is also forthcoming from the alpha (internal consistency) coefficient calculated from the complete sample of 1668 pupils available for the main study. These are given in Table 4.3.

Table 4.3  
Internal reliability coefficients of the seven scales

<u>Scale Number</u>	<u>Description</u>	<u>Alpha Coefficient</u>
1	Aesthetics of sport: atmosphere and competition	0.693
2	Ballet	0.795
3	Dance	0.652
4	Aesthetics of slow motion	0.814
5	Male dancers	0.873
6	Dance performance	0.713
7	Aesthetics of sport: interest and excitement	0.805

Content validity was probed by a careful examination of the statements comprising each scale by both the investigator and an expert judge to clarify meaning and remove ambiguities. Construct validity was forthcoming from a factor analysis of the inter-correlations of all the 58 items of the scales, the sample being the total 1668 pupils of the main study. Six factors with eigen values greater than 1.0 and a seventh with an eigen value of 0.65 resulted, accounting for 90.6 per cent of the variance. These factors were then subjected to rotation. Inspection of the factor matrix reveals that virtually all the scales emerged as distinct entities. Details of the correspondence between the scales and factors are given in Appendix VI, pp.390-391.

Factor analyses were also completed on the individual sets of items constituting each of the seven scales. Virtually all the scales emerged as distinct entities. Details are given in Appendix VII, pp.392-395.

As the scales were developed from pupils' own statements they also have their own internal validity.

The 7 attitude scales, along with the remaining 68 statements formed Part III of the Questionnaire.

#### 4.5 Formulation of the final form of the Questionnaire

The Introduction sought information relating to school, age, sex and social class.

Part I sought information relating to pupils' school experience and leisure interests in various arts and sports in terms of Practical Experience, Visiting theatres, art galleries, sports grounds etc, and TV watching. A 5-point scale, Very Often, Often, Uncertain, Sometimes, Never, was employed.

Part II sought similar information concerning pupils' families' interests and employed the same Likert-type scale.

Part III comprised the seven attitude scales and 68 remaining statements. A 5-point scale, Strongly Agree, Agree, Uncertain, Disagree, Strongly Disagree, was employed.

A copy of the final form of the Questionnaire is given in Appendix VIII, pp.396-412.

It will be noted that the Questionnaire sought more information than was ultimately utilised in the study. It was felt that the opportunity should be taken to collect additional data which could be useful in future analyses.

#### 4.6 Guidelines for administration

The revised 'Guidelines' outline basic requirements for the completion of all parts of the Questionnaire.

Clarification of basic terms is included and important aspects of administration of the Questionnaire are stressed.

A copy of the revised 'Guidelines for Administration' is given in Appendix IX, pp.413-416.

5.1 Aims of the research

It is evident from the literature that little research has been undertaken into the attitudes of adolescents towards the aesthetic aspects of sport and dance. Furthermore, only very limited knowledge is available in respect of these attitudes as to the relative importance of such factors as type of school, age, sex, social class, pupils' leisure interests and their families' interests in various arts and sports. For instance, as Eisner (1982) has pointed out, it is regularly assumed that a specialist education in one or more of the arts develops aesthetic concepts, feelings and behaviours, thereby enabling pupils to be more sensitive to aesthetic qualities in general, whatever the context. Similarly it seems to be implicit in the arguments of those who support the notion of sport as a means of aesthetic education, that a general aesthetic awareness will develop in proportion to the degree of involvement. It is possible that such optimistic assumptions are ill-founded.

The purpose of this research is to investigate the nature and relative importance of factors which may influence attitudes to aesthetic aspects of sport and dance. The independent variables therefore are school type, age, sex, social class, pupils' leisure interests in various arts and sports, their families' interests in the same activities. The criterion variable is the overall attitude to aesthetic aspects of sport and dance. This overall attitude is gauged from the attitudes to specific aspects of sport and dance as measured by each of the scales.

## 5.2 Statement of hypotheses

It has been seen from the literature review that attitudes are not considered to be innate, but learned. Age is necessarily therefore an important variable, and it could be argued that attitudes towards aesthetic aspects of sport and dance should become more positive with the benefit of maturity and education. Research has also shown that in a number of different contexts, females are more positively orientated towards the aesthetic than males. The issue of gender is given additional impetus in this study by the prevailing view in society of dance as an interest more suitable for girls than for boys. It could be hypothesised therefore that females are more likely to have positive attitudes to the aesthetic in sport and dance than males.

Social class is a factor to be considered, for interest in the arts and aesthetic matters is, according to the available literature, predominantly the prerogative of the middle and higher social groups. Consequently, positive attitudes to the aesthetic aspects of sport and dance are likely to be associated with those in the higher social classes.

The influence of the family on young people's attitudes is known to be an important factor. It is likely that a family's degree of interest in various arts and sports will determine, to some extent, a pupil's attitudes including those of an aesthetic nature, and the greater the family's interest in these activities the greater the likelihood of positive attitudes in the adolescent.

Pupils' own leisure interests in arts and sports may also be a significant influence on their attitudes to aesthetic aspects of sport and dance, for the level of voluntary commitment may also imply an appreciation of aesthetic qualities in these activities.

Finally, the type of educational experience could be a significant influence on aesthetic attitudes. For instance, a specialist education in one or more of the arts might well promote positive attitudes, for the arts are concerned centrally with the aesthetic and therefore with the development of aesthetic concepts, behaviours and feelings which it is often claimed, have general applicability.

Similarly an education where sport is emphasised could promote positive attitudes towards aesthetic aspects of sport and dance. Greater involvement and consequently a deepening understanding of sport could result in greater appreciation of skill and more sensitive awareness of aesthetic qualities in human movement whether in a sport or dance form.

The following hypotheses were therefore formulated:

5.2.1 Attitudes towards aesthetic aspects of sport and dance will vary with age, showing an increasing sophistication with increasing age.

5.2.2 There will be real differences in male and female attitudes towards aesthetic aspects of sport and dance, with more positive attitudes displayed by females and more negative attitudes by males.

5.2.3 Social class will be a determinant of attitudes towards aesthetic aspects of sport and dance; that is, the higher the social class the more positive the attitudes.

5.2.4 Family interests will exert a real influence on attitudes towards aesthetic aspects of sport and dance, that is, interest in the arts and/or sports by family members will promote positive attitudes.

5.2.5 Voluntary commitment to arts and/or sports activities will be linked with positive attitudes towards aesthetic aspects of sport and dance.

5.2.6 Attitudes towards aspects of sport and dance will vary with the nature and level of provision in school.

5.2.6.1 A specialist education in one or more of the arts will promote positive attitudes to aesthetic aspects of sport and dance.

5.2.6.2 An education with an emphasis on sport will promote positive attitudes to aesthetic aspects of sport and dance.

### 5.3 Selection of the sample

#### 5.3.1 Schools

Schools were selected from the five main geographical areas of England, namely the North East, North West, Midlands, London and the South East, and the South West, and represented a wide range of provision in arts and sports.

Two mixed comprehensive schools, one inner-city and one suburban were chosen from each area, together with a second inner city school from the South East giving a total of eleven comprehensive schools. In all these schools arts and sports feature as part of a broad curriculum. Rural schools were omitted because of the practical problems of selection.

Schools were also sought which offer specialist education in either arts or sports, or which stress either arts or sports in their curriculum. Eight such schools were included bringing the total number of schools in the sample to nineteen. A list of the schools indicating type of education offered and geographical location is given in Table 5.1.

Table 5.1

Schools: type of education and location

<u>School number</u>	<u>Type of education</u>	<u>Location</u>
01	Stress on arts	South East
06	Stress on arts	South East
09	Stress on arts	South East
10	Stress on arts	South East
12	Stress on arts	North West
02	Stress on sports	Midlands
03	Stress on sports	South West
04	Stress on sports	North West
11	Comprehensive	North East
18	Comprehensive	North East
08	Comprehensive	North West
19	Comprehensive	North West
07	Comprehensive	Midlands
14	Comprehensive	Midlands
05	Comprehensive	South East
15	Comprehensive	South East
16	Comprehensive	South East
13	Comprehensive	South West
17	Comprehensive	South West

5.3.2 Pupils

Each school was asked to supply a minimum sample of 100 pupils, 50 boys and 50 girls spread evenly between the ages of 11 and 16, and representing a cross-section of the school's population. A copy of the letter sent out to schools is given in Appendix X, pp.417-418.



The final sample supplied by the 19 schools comprised 1668 pupils, 735 boys and 933 girls. The breakdown of the sample in terms of age and sex is given in Table 5.2, and a breakdown in terms of school and sex is given in Table 5.3.

Table 5.2

Breakdown of complete sample according to age and sex

	11	12	13	14	15	16	Total
Boys	51	171	173	177	103	60	735
Girls	78	149	208	172	209	117	933
Total	129	320	381	349	312	177	1668

### 5.3.3 Constraints and considerations in the selection of the sample

5.3.3.1 There are very few state supported schools in England offering a specialist arts education, the Royal Ballet School and Chethams Music School appearing as the main providers. Other specialist music schools, such as the Purcell and Yehudi Menuhin schools were not considered because of their small pupil populations. Other specialist arts schools included in the sample were a school where the curriculum gives an emphasis on the theatre arts (music, drama and various types of dance), a school giving an emphasis on arts and crafts (drama, painting, sculpture and design) and a school laying stress on the performing arts, and in particular drama. Although the last two schools are public schools they do offer assisted places, so the social mix may not be unduly restricted.

Table 5.3

Breakdown of sample according to school and sex

School number	Boys	Girls	Total
01	54	44	98
06	14	85	99
09	61	40	101
10	20	39	59
12	27	52	79
02	49	53	102
03	63	31	94
04	45	45	90
11	42	65	107
18	55	46	101
08	51	50	101
19	24	47	71
07	31	19	50
14	18	36	54
05	21	55	76
15	34	63	97
16	59	34	93
13	47	53	100
17	20	76	96
Total	735	933	1668

5.3.3.2 There are no specialist sports schools in England comparable to the Royal Ballet School for instance. Boarding schools, however, traditionally encourage participation in sports both within the school curriculum and during recreation time. Three boarding schools were accordingly selected, and all might reasonably be considered as near equivalents in sport to the specialist arts schools already described. The schools draw their pupils from various parts of the country - the precise geographical location of schools being to this extent relatively unimportant - and all offer assisted places.

5.3.3.3 It was not considered desirable to select a random sample of comprehensive schools in as much as such a sample might well fail to include a single school that has as part of its curriculum the teaching of dance. Only schools that were then registered for GCE or CSE examinations were therefore considered. The examination boards were contacted and the relevant information requested, and a random selection of mixed comprehensive schools made from the lists provided. Some of the contacted schools however were unwilling to be involved in the research for one or more of the following reasons:

- (a) currently participating in other educational research projects;
- (b) teachers involved in the industrial action then taking place, refusing any extra commitments;
- (c) PE and dance teachers finding that their timetables, which are predominantly practical, prevented them from administering the Questionnaire, and
- (d) lack of interest.

Additional schools, again randomly selected from the lists, were therefore approached before the final sample was obtained.

#### 5.4 Measuring instruments

Measures of the pupils' attitudes to the aesthetic aspects of sport and dance, of their outside-school interests together with those of their families, and of their social class, school, age and sex, were taken for the purposes of this study, and these will now be described.

##### 5.4.1 The attitude scales

Attitudes to the aesthetic aspects of sport and dance are measured by the seven Likert-type scales, four of which are concerned with dance and three predominantly with sport. The construction of these scales has been described in detail in Chapter 4, so only a summary account is given here. The complete set of scales, which constitute Part III of the Questionnaire is shown in Appendix VIII, pp.396-412.

All the scale items require a response to a statement by selecting one of the categories Strongly Agree, Agree, Undecided, Disagree and Strongly Disagree. The scores awarded to these categories are 5, 4, 3, 2, and 1 respectively to statements expressing a favourable attitude and (reversing the direction) 1, 2, 3, 4 and 5 for statements expressing an unfavourable attitude. An individual's score for any scale is obtained by summing his or her scores for all the items of that scale, and so the higher the score the more favourable is attitude expressed.

### Scale 1: Aesthetics of sport - atmosphere and competition

The statements here express an unfavourable attitude towards the aesthetic in sport, being positively orientated towards competition, winning at all costs, the commentator and the participation of the crowd. None expresses an appreciation of skill for its own sake. There are eleven statements in all.

#### Sample items:

1. A game without cheering would be as if there is just nothing there.
2. It doesn't matter how a goal is scored as long as it goes in the net.

### Scale 2: Ballet

The statements on this scale express an attitude to ballet which is unfavourable in eight items, and favourable in two. The unfavourable statements cite ballet as boring, unattractive and pointless, while the favourable statements express its grace and beauty.

#### Sample items:

1. Ballet is just jumping around in a pair of tights.
2. Ballet is a graceful activity.

### Scale 3. Dance

Eight of the statements on this scale express an unfavourable attitude towards the aesthetic in dance in so far as they regard dance as a means of entertainment or athleticism. One of the statements indicates a positive attitude.

Sample items:

1. Dance should entertain the audience.
2. Some kind of expression and communication is very important in dance.

Scale 4: Slow motion replays

All the statements here express a favourable attitude to aesthetic qualities in sport and dance when excerpts are shown in slow motion on TV. There are six statements in all.

Sample items:

1. With slow motion I can admire the co-ordination of dancers and sports people.
2. Ski-jumping, slowed down, shows beauty of motion.

Scale 5: Male dancers

The statements here all express a negative attitude towards male dancers, citing them as looking silly or doing what is contrary to the acceptable masculine image. There are seven statements in all.

Sample items:

1. Male dancers look silly wearing tights.
2. Ballet dancing is associated with women.

#### Scale 6: Dance performance

Here there are five statements expressing an attitude to dance performance which is unfavourable and one expressing an attitude that is favourable. The statements in the former category affirm the importance of such aspects as excitement and rhythm.

#### Sample items:

1. To enjoy watching dance the movements have to be exciting.
2. A dance must be done properly with the right costumes, music and set in order to enjoy it.

#### Scale 7: Aesthetics of sport - interest and excitement

The statements on this scale express an unfavourable attitude towards the aesthetic, in that they put forward a view of sport as a provider of excitement, entertainment and opportunities for the expression of chauvinism. There are nine statements in all.

#### Sample items:

1. I enjoy watching a sportsman fail if he is not from this country.
2. A ski-jump is exciting because you know that the skier might possibly fall.

The reliabilities of the scales were established by means of the alpha (internal consistency) coefficient. This was calculated for each of the scales from (1) a sample of 368 pupils from the pilot-study data, and (2) the complete sample of 1668 pupils available for the main study. The two correlations thus obtained for each scale were then averaged via Fisher's Z technique (see Lewis, 1967, pp.177-182), and

the resulting values are shown in Table 5.4 below. They give reasonably reassuring evidence as to the scales' internal consistencies.

Table 5.4

Internal consistency reliability coefficients for the attitude scales

<u>Scale number</u>	<u>Description</u>	<u>Alpha coefficient</u>
1	Aesthetics of sport: atmosphere and competition	0.70
2	Ballet	0.78
3	Dance	0.67
4	Slow motion replays	0.80
5	Male dancers	0.85
6	Dance performance	0.69
7	Aesthetics of sport: interest and excitement	0.79

To adduce evidence of validity of the scales as distinct measures, product-moment coefficients of correlation were calculated, and these are shown in Table 5.5. With one exception, the coefficient of correlation between scales 2 and 5, all the values are less than 0.50, and all but a further two are less than 0.40, so demonstrating for the most part the independence of the scales from each other. [It should also be borne in mind that even the correlation of 0.62 shows that only  $(.62)^2 = 38.4$  per cent of the variance in scale scores is common to both scales.]

Content validity was examined by a careful assessment of the statements comprising each scale to clarify meaning and to remove ambiguities. This was done by an expert judge as well as the investigator.



Table 5.5

Inter-correlations between the seven scale scores

1	2	3	4	5	6	7
1	0.36	0.13	-0.14	0.36	0.39	0.35
	2	-0.07	-0.01	0.62	0.39	0.31
		3	-0.31	-0.12	0.27	-0.01
			4	0.05	-0.08	-0.00
				5	0.46	0.43
					6	0.27
						7

Key:

- 1      Aesthetics of sport - atmosphere and competition
- 2      Ballet
- 3      Dance
- 4      Slow motion
- 5      Male dancers
- 6      Dance performance
- 7      Aesthetics of sport - interest and excitement

Construct validity was established from a factor analysis of the inter-correlations of the 58 items of the scales, the sample being the total 1668 pupils of the main study. Six factors with eigen values greater than 1.0 and a seventh with an eigen value of 0.65 resulted, accounting for 90.6 per cent of the variance. These factors were then subjected to varimax rotation (Nie et al, 1975, p.485). Virtually all the scales emerged as distinct entities. Details of the correspondence between the scales and factors are given in Appendix VI, pp.390-391.

Details of a factor analysis completed on the sets of items constituting each scale are available in Appendix VII, pp.392-395. Virtually all the scales emerged as distinct entities.

#### 5.4.2 Family interests

Measures of the pupils' family interests were obtained from ratings asked for in Part II of the Questionnaire. Pupils were asked to rate their families' interests in various arts and sports in respect of three modes of involvement, (i) active, practical involvement, (ii) visiting art galleries, theatres and sports grounds etc., and (iii) watching programmes on TV. The various arts and sports (listed on pages 7 and 8 of the Questionnaire, see Appendix VIII, pp.396-412) were combined into three broad groups, (i) arts (art, drama, music), (ii) dance (ballet, creative/modern dance and folk/national dance) and (iii) sport (gymnastics, athletics, games, ice-skating and swimming/diving). These three groups combine with the three modes of involvement to give nine separate measures which can be ordered into a 3 x 3 rectangular arrangement as shown.

		<u>ACTIVITY</u>		
		Practical	Visiting	TV Viewing
<u>CONTENT</u>	Arts			
	Dance			
	Sport			

A five-point rating scale was used, the respondents being asked to select for each item of content, and in each mode of activity, one of the categories, Very Often, Often, Uncertain, Sometimes and Never, the categories being scored 1, 2, 3, 4 and 5 respectively. Explanations of how these categories should be interpreted in a family context were provided in the Questionnaire. Measures for nine separate family interests (arts-practical, arts-visiting etc) were obtained in this way. Summing across across content - i.e. horizontally - or across activity - i.e. vertically in terms of the rectangular arrangement above - is also, of course, a possibility, giving a total of sixteen family interest variables.

#### 5.4.3 Pupil interests

Measures of the pupils' own individual interests outside school were forthcoming from ratings asked for in Part I of the Questionnaire, the list of the various arts and sports interests being precisely the same as that for family interests already described. Consequently, with the ratings being made with respect to the same three modes of involvement,

nine separate measures of pupil interests - ordered if necessary into the same 3 x 3 rectangular arrangement - were obtained. The same 5-point rating scale was used, and the possibility of seven additional interest measures obtained by summation remained as before.

#### 5.4.4 Social class

The introductory section of the Questionnaire listed a variety of job descriptions, and the pupils were asked to indicate which of these came closest to describing that of their father (or male guardian) and also that which came closest to describing that of their mother (or female guardian). Their responses were then interpreted with respect to the Registrar General's classification of social class by occupation, i.e. Unskilled, Partly Skilled, Skilled Manual, Skilled Non-Manual, Technical and Managerial, and Professional. When the social class of the two parents (or guardians) was found to differ, the higher of the two was taken as the measure of the pupil's social class for the purpose of this study.

#### 5.4.5 School

Each school was allotted a number between 01 and 19, and this information was included in the 'Guidelines' sent to the designated teacher (see Appendix IX, pp.413-416 for a copy of the 'Guidelines'). Teachers were asked to instruct their pupils to circle the appropriate number.

#### 5.4.6 Age

Pupils were asked to circle the relevant number among those listed, that is 11, 12, 13, 14, 15 or 16.

#### 5.4.7 Sex

Pupils were asked to circle either 'boy' or 'girl'.

### 5.5 Methods of analysis

#### 5.5.1 Analysis of variance: hypotheses 5.2.1 and 5.2.2

Hypotheses 5.2.1 and 5.2.2 will be tested by means of the analysis of variance technique, the dependent variable being the scores on the attitude scales.

If the seven scales are taken together as constituting one source of variation, with age and sex as a second and third such source, the main and interactive effects of age, sex and scales can be separated in a three-way analysis of variance, the degrees of freedom (df) being partitioned as shown below.

	<u>Source of variation</u>	<u>df</u>
Main Effects	Age (A)	5
	Sex (B)	1
	Scales (C)	6
Interactions	A × B	5
	A × C	30
	B × C	6
	A × B × C	30

Individuals are nested within the cross-classifications of Age and Sex, but within each of these cross-classifications are crossed with Scales (see Lewis, 1968, pp.130-140). Consequently, there are two

distinct sources of statistical error, namely that of Individuals within Age  $\times$  Sex and that of Individuals  $\times$  Scales within Age  $\times$  Sex, i.e., the error terms are:

- (i) Individuals (I) within A  $\times$  B
- (ii) I  $\times$  C, within A  $\times$  B.

Attention will be focused on the interactions between Scales and the other variables, since if none of these interactions is found to be significant then no real differences among scales in respect of differences in age or sex may be assumed, i.e. generalization across scales is justified. If, on the other hand, one or more of the interactions involving Scales are found to be significant no such generalization is possible and separate analyses (one for each scale) are necessary. Each of these analyses would be a straightforward two-way analysis of variance permitting the main and interactive effects of age and sex to be separated, and the degrees of freedom would be partitioned as shown below.

	<u>Source of variation</u>	<u>df</u>
Main	Age (A)	5
Effects	Sex (B)	1
Interaction	A $\times$ B	5

The single estimate of statistical error is now derived from the variation of Individuals within the cross-classifications of Age and Sex, i.e. I within A  $\times$  B, and for all the analyses of variance here outlined, equal numbers of boys and girls will be selected within each of the age groups, i.e. for each column of the available sample numbers shown in Table 5.2.

### 5.5.2 Analysis of variance: hypothesis 5.2.3

Information about the respondents' social class was obtained on the Questionnaire, and those from the homes of both unskilled and semi-skilled manual workers were combined into one group. Thus with skilled manual, clerical and skilled non-manual, technical and managerial, and professional constituting four other groups there were five social class groups in all.

Hypothesis 5.2.3 will then be tested by means of an analysis of variance, the dependent variable being the scores on the attitude scales, with the seven scales being taken together in the first instance as one source of variation and with social class (with its five groups as described above) and sex as a second and third source of variation. The main and interactive effects of social class, sex and scales can then be separated in a three-way analysis of variance, the degrees of freedom being partitioned as shown below.

Age of course could also be included as a source of variation, but adequate sample numbers would be difficult to obtain for the finer cross-classification that would then be forthcoming.\*

	<u>Source of Variation</u>	<u>df</u>
Main Effects	Sex (A)	1
	Social Class (B)	4
	Scales (C)	6
Interactions	A × B	4
	A × C	6
	B × C	24
	A × B × C	24

---

\*See also 6.3, p.228.

Individuals are nested within the cross-classifications of Sex and Social Class, but within each of these cross-classifications, are crossed with Scales. Two distinct sources of statistical error thereby result, namely that of Individuals within Sex  $\times$  Social Class and that of Individuals  $\times$  Scales within Sex  $\times$  Social Class.

The error terms are then set out as before, as

- (i) Individuals (I) within A  $\times$  B, and
- (ii) I  $\times$  C, within A  $\times$  B.

The main interest in this analysis will be the three interactions involving Scales, and if none of these is found to be significant no real differences among scales may be claimed in respect of differences in sex or social class. If, on the other hand, one or more of these interactions is found to be significant, separate breakdown analyses - one for each of the scales - becomes necessary. Each of these analyses would be a two-way analysis of variance which separates the main and interactive effects of sex and social class, and the degrees of freedom would be partitioned as shown below.

	<u>Source of variation</u>	<u>df</u>
	Sex (A)	1
Main Effects	Social Class (B)	4
Interaction	A $\times$ B	4

The single estimate of statistical error is now forthcoming from that of Individuals within the cross classification of Sex and Social Class, i.e. from I within A  $\times$  B. For the analysis involving all seven scales together and also for each of the breakdown analyses that may be necessary, boys and girls will be randomly sampled to provide proportionate numbers within each social class, the proportion of boys



to girls being chosen so as to avoid undue wastage from the total sample available.

#### 5.5.3 Regression analysis: hypothesis 5.2.4

The measures of family interest obtained in this study are the pupils' own ratings of their families' interests in the various aspects of arts and sports, and those interests are expressed in the extent of practical involvement, visiting theatres etc. and watching TV. The three content areas (arts, dance and sport) combine with the three modes of involvement (practical, visiting and TV viewing) to give nine separate measures, and these measures may also be summed across content, and across involvement, and across both content and involvement to give a further seven measures, so giving a total of sixteen measures in all. Each of these may be regarded as a predictor of attitudes towards the aesthetic aspects of sport and dance, i.e. as predictors of each of the attitude scale scores.

The issue however is not the effectiveness of each of the predictors acting in isolation. It is rather their effectiveness in combination. And so the necessary statistical tool for testing hypothesis 5.2.4 is that of multiple regression, essentially a means of analysing the "collective and separate combinations" of a number of predictors in respect of a criterion (see Kerlinger and Pedhazur, 1973, p.3).

Moreover two separate questions may be posed, namely how effective is the combination of the sixteen family interest measures as predictors on their own and how effective is this combination additional to that of other measures such as age, sex and social class. Thus adding on measures of these last three variables to the family interest measures, there are a potential team of nineteen predictors in all.

Multiple regression analysis would select the most effective predictors in respect of any criterion measure, and moreover would select them in their most effective, i.e. best weighted, combination. These weights - the beta coefficients - would express the relative effectiveness of the predictors as members of that team. Multiple regression analysis would also produce the correlation between the team of predictors in their best-weighted combination and the criterion, i.e. the multiple correlation. The actual determination of the beta weights and multiple correlation is done by computer analysis (SPSS-X, 1988).

Two sets of regression analyses will be undertaken, one for the sixteen family interest measures as a team of predictors, and one for this team augmented by the additional measures of age, sex and social class. Again each set of analyses will be undertaken in respect of each of the seven attitude-scale scores as criterion. A third regression analysis with only age, sex and social class as predictors may also be performed for the purposes of comparison.

#### 5.5.4 Regression analysis: hypothesis 5.2.5

The measures of leisure interest provided by the pupils' self-ratings on the Questionnaire compare with the measures of family interests considered in the preceding section. There is in fact an exact correspondence between the two. Thus the pupils' leisure interests are rated in the same three content areas and these combined with the same three modes of involvement, and running across content, across involvement, and across both content and involvement as before, a total of sixteen potential predictors are again available.

Multiple regression analysis will accordingly be used to test hypothesis 5.2.5, and in precisely the same way as before. Two sets of analyses will be performed, one confined to the 16 measures of leisure

interests as a team of predictors and the other where these predictors are augmented with those of age, sex and social class. Each set of analyses too will be performed in respect of each of the seven scales as criterion. A third regression analysis involving only age, sex and social class as predictors may also be undertaken for the purpose of comparison.

#### 5.5.5 Analysis of variance: hypothesis 5.2.6

Both hypothesis 5.2.6.1 and 5.2.6.2 will be tested by means of analysis of variance enabling the attitude scale responses of pupils of different ages and drawn from different types of school to be compared.

For hypothesis 5.2.6.1 the relevant school types are the specialist arts schools and the comprehensive schools. In each of these school types, random samples of boys and girls will be selected from two distinct age groups, namely (i) 11 and 12 year-olds, and (ii) 13 and 14-year olds. With equal (or proportionate) numbers of boys and girls randomly selected within each of the cross-classifications of school type and age, the requirements of a three-way analysis of variance will be met, permitting the main and interactive effects of age, sex and school type to be separated. The dependent variable will be the scores on each of the seven attitude scales in turn, and for each analysis the degrees of freedom will be partitioned as shown below.

	<u>Source of variation</u>	<u>df</u>
Main Effects	School Type (A)	1
	Sex (B)	1
	Age Group (C)	1
Interactions	A $\times$ B	1
	A $\times$ C	1
	B $\times$ C	1
	A $\times$ B $\times$ C	1

The estimate of statistical error will be derived from the difference among individuals within the cross-classification of School Type, Sex and Age Group, i.e. of Individuals within A  $\times$  B  $\times$  C.

It is the significance or non-significance of the interaction between School Type and Age Group (A  $\times$  C) which will be crucial in demonstrating any differential effect of school type, whether for instance an education in a special arts school is in fact beneficial in promoting positive attitudes to the aesthetic aspects of sport and dance. Furthermore the significance or non-significance of the second-order interaction (A  $\times$  B  $\times$  C) taken in conjunction with the possible significance of the first-order interaction just mentioned, would indicate whether any advantage attributable to school type applies equally to boys and girls.

For hypothesis 5.2.6.2 the relevant school types are the boarding schools with an emphasis on sport and the comprehensive schools, and boys and girls from the same two age groups would be randomly sampled as before. The design is in fact precisely the same as that for the testing of hypothesis 5.2.6.1, the sole difference being that of the particular school type now being compared with that of the

comprehensive schools. The separation of the sources of variation together with the partitioning of the degrees of freedom is identical to that already described, and again it is the extent of any School Type and Age interaction ( $A \times C$ ) which will be of decisive importance in the interpretation of results.

## 5.6 Administration

5.6.1 Initial approaches were made to headteachers by letter (a copy of which may be found in Appendix X, pp.417-418) during the autumn term of 1986 with a view to the participation of a sample of pupils in the research. A copy of the Questionnaire was attached and a request made to be put in touch with the PE and dance teacher who would administer the Questionnaire.

The letter was followed up with a series of telephone calls to each of the schools until a response was obtained.

Schools were contacted in this way during the autumn term until the required sample of arts, sports and comprehensive schools was acquired.

5.6.2 When a school agreed to take part in the research it was assigned a number. The teacher designated by the school as administrator was then contacted by telephone and the nature and requirements of the research clarified. The following were then forwarded:

- (a) A letter reminding the teacher of the ideal sample, that is a minimum of 100 pupils, 50 boys and 50 girls, spread evenly between the ages of 11 and 16 and representing a cross section of the school's population. A copy of this letter is available in Appendix XI, pp.419-420.

- (b) 120 copies of the Questionnaire
- (c) 10 copies of the 'Guidelines' for administration
- (d) A return label with appropriate postage.

5.6.3 Teachers administering the Questionnaire were asked to do so in accordance with 'Guidelines' supplied by the investigator. A copy of the 'Guidelines' may be found in Appendix IX, pp.413-416.

The 'Guidelines' clarified the level of teacher assistance of pupils which was acceptable and the ideal circumstances for completion, as well as descriptions of certain terms beyond those given within the Questionnaire. For instance the generic word 'dance' and the different types of dance, namely ballet, modern/creative, stage and folk/national.

The 'Guidelines' underlined the absence of a time limit for completion by individuals.

5.6.4 It can be seen from Table 5.3 that few schools complied precisely with the request for a minimum of 100 pupils divided equally between boys and girls and this may be due in part to the administration of the Questionnaire by PE and dance teachers.

Although the pilot study showed that these teachers, by their familiarity with the subject matter and terminology, were able to respond more readily to pupils' queries than colleagues who are classroom based, there were some difficulties. For instance:

- (a) The majority of PE teachers in secondary schools are responsible for either boys or girls PE. The gender of the PE teacher with overall responsibility for administering the Questionnaire therefore determined to some extent the numbers of either sex in the total sample from a particular school.
- (b) In at least one instance the PE teacher ignored the request for equal numbers of boys and girls, commenting later that as the Questionnaire included dance items it was more suitable for female rather than male pupils.
- (c) The practical nature of PE teaching meant that there were difficulties in finding opportunities for completion of the Questionnaire and consequently fulfilling the requirements of the ideal sample.
- (d) Although most of the teachers were conscientious in completing the task, a minority appeared to resent the additional responsibility which had been placed on them by a senior member of staff and took the easiest course of action in administering the Questionnaire.

5.6.5 A further difficulty encountered involved three of the specialist arts schools in that the populations are predominantly female. Furthermore, two of the schools have small pupil numbers and so these schools found it impossible to supply an ideal sample.

5.6.6 The return of the Questionnaires from all the schools in the sample was not complete until the end of the academic year 1986-87. A number of teachers, having agreed to take part in the research were very tardy in completing the task and a number of telephone calls was necessary in order to encourage them to do so.

5.6.7 Fifteen of the Questionnaires were discarded because of random completion by respondents, for instance consistently ticking the last box of the five point scales throughout.

5.6.8 Personal details, including age, sex and social class were scored by the investigator. The remainder of the Questionnaire was scored by a member of the Computer Unit in the Department of Education, University of Manchester, in accordance with the instructions of the investigator.

Details concerning the coding of the Questionnaire are given in Appendix XII, pp.421-429.



6.1 Introduction

The purpose of this study is to ascertain the relative influence of the factors school type, age, sex, social class, pupils' leisure interests in various arts and sports, and their families' interests in the same activities, on attitudes of secondary school pupils to aesthetic aspects of sport and dance. A Questionnaire was constructed which included measures of both the independent and the dependent variables. This was subsequently completed by a sample of 1668 boys and girls between the ages of 11 and 16 with a range of social backgrounds, drawn from 19 secondary schools throughout England with varying provision in arts and sport.

The scores from the complete sample relating to the independent variables, that is school, age, sex, social class, pupil leisure interests and their families' interests in arts and sports, and the 7 scale scores, which taken together constitute the dependent variable are available in the pocket at the end of this thesis. The results were analysed by means of the SPSS-X (1988). The key to the computer print-out of the data is given in Appendix XIII, pp.430-432.

6.2 Analysis of variance<sup>(1)</sup>

To test the first two of the hypotheses as set out in Chapter 5, Section 5.2, and which are reproduced for convenience below,\* a three-

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\*Attitudes towards aesthetic aspects of sport and dance will vary with age, showing an increasing sophistication with increasing age (Hypothesis 5.2.1);  
and

There will be real differences in male and female attitudes towards aesthetic aspects of sport and dance, with more positive attitudes displayed by females and more negative attitudes by males (Hypothesis 5.2.2).

way analysis of variance was first undertaken, one separating the main and interactive effects of age, sex and attitude scales. The age variable had six levels (one for each of the six groups in the sample); the sex variable had two (male and female) and the attitude scales seven (one for each of the scales). Within each age group equal numbers of boys and girls were selected from the total sample available, this equality being attained by appropriate random rejection - to give the breakdown shown in Table 6.2.1 below. We see that this comprises a total of 1382 pupils. It is the seven scale scores of each of these pupils, i.e.  $1382 \times 7 = 9674$  scores in all, which constitute the data of the analysis.

Table 6.2.1

Breakdown of sample used according to age and sex

Age (in years)	11	12	13	14	15	16	Total
Boys	50	147	168	171	99	56	691
Girls	50	147	168	171	99	56	691
Total	100	294	336	342	198	112	1382

There are two distinct sources of statistical error. One is derived from the variation of the total scores of individuals - i.e. their scores summed across all the Scales - and the other from the interaction of Individuals with Scales. The former is the appropriate error for evaluating all sources of variation not involving Scales, i.e. Age, Sex and the Age  $\times$  Sex interaction, while the latter is the appropriate error for evaluating all the sources that do involve Scales, and in particular the three interactions involving Scales upon which interest is here focused.

The results are set out in Table 6.2.2. The entries in the last column - the F ratios - are determined by dividing the mean square for that source of variation by the appropriate mean square for error, and their significance (at the five or one per cent level) or non-significance follows from the tables of F distribution.

Although the main effect of Age is not statistically significant the Age  $\times$  Scales interaction is significant at the five per cent level. (There is, of course, no interest in the main effect of Scales.) The mean scale score for each of the age groups is shown in Table 6.2.3, the pattern is illustrated in Figure 6.2.1. The significant Age  $\times$  Scales interaction may then be viewed as that of the real (non-chance) differences among the pattern of change with age for the separate scales. Thus Scales 1 and 2 stand out as displaying a prominent 'dip' at the end, i.e. as one proceeds from ages 15 to 16, giving an impression (more pronounced perhaps for Scale 2) of an overall decline of score with age. It may be noted too that the mean scores on Scale 6 show a small increase as age increases from 12 to 15 years. Nevertheless the one outstanding feature of Figure 6.2.1 is the 'flatness' of the trends, there being little overall change in mean attitude score with age.

Table 6.2.2

Three-way analysis of variance by age, sex and scales

<u>Source of Variation</u>	<u>Sum of Squares</u>	<u>df</u>	<u>Mean Square</u>	<u>F</u>
Age (A)	345.58	5	69.12	< 1
Sex (B)	7116.00	1	7116.00	92.07**
Scales (C)	352167.89	6	58694.65	2045.68**
A × B	367.91	5	73.58	< 1
A × C	1307.26	30	43.58	1.52*
B × C	14639.10	6	2439.85	85.04**
A × B × C	940.02	30	31.33	1.09
Individuals (I)				
within A × B	105882.14	1370	77.29	
I × C, within A × B	235845.74	8220	28.69	
Total	718611.64	9673		

\* indicates significance at the five per cent level.

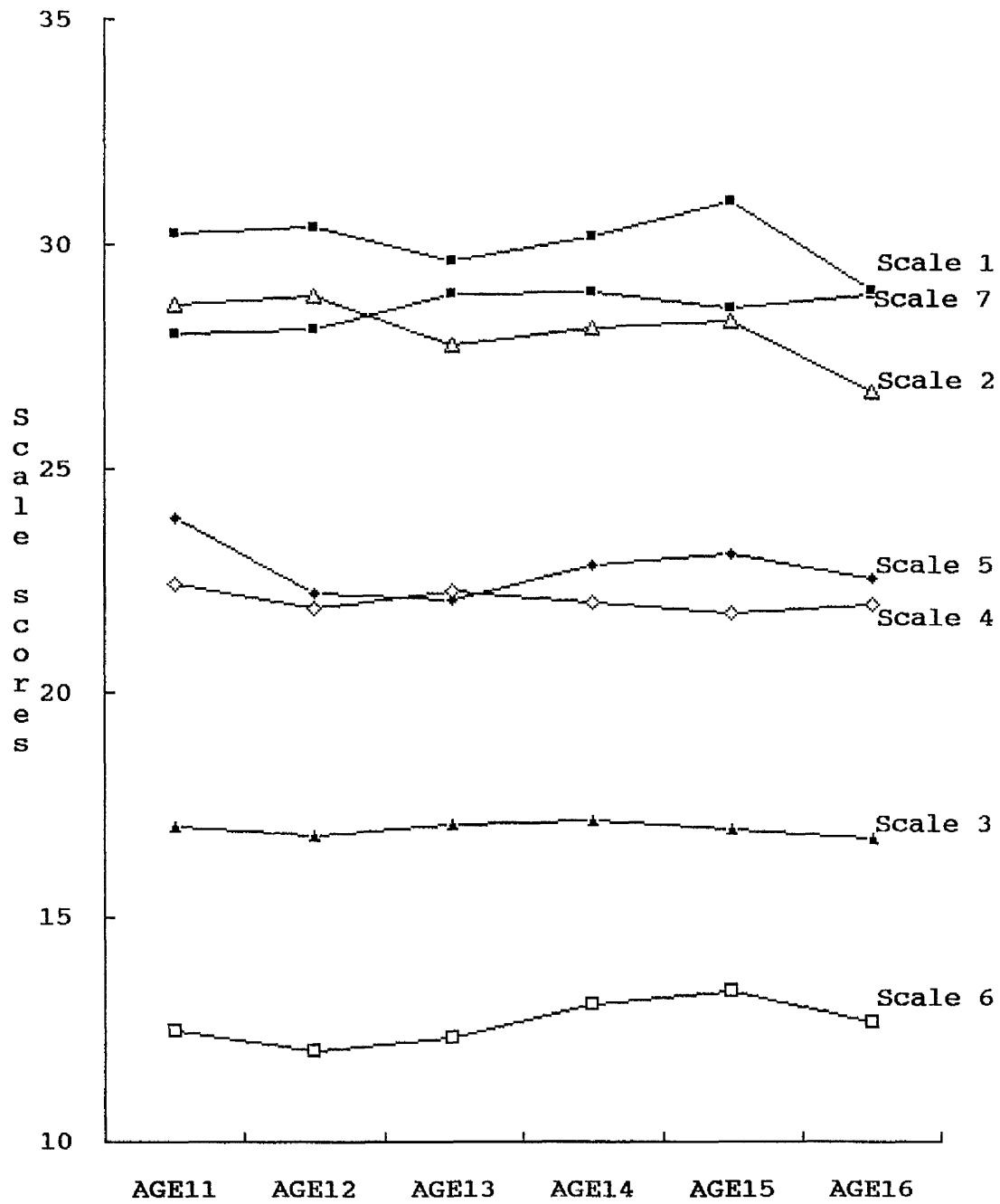
\*\*indicates significance at the one per cent level.

Table 6.2.3

Mean attitude scale scores by age

Scale Number	11 yrs	12 yrs	13 yrs	14 yrs	15 yrs	16 yrs
1	30.27	30.40	29.65	30.20	31.01	29.02
2	28.67	28.87	27.77	28.17	28.32	26.77
3	17.03	16.85	17.07	17.19	16.99	16.80
4	22.46	21.89	22.30	22.02	21.79	22.01
5	23.91	22.22	22.11	22.86	23.14	22.59
6	12.47	12.05	12.35	13.07	13.35	12.65
7	28.05	28.12	28.95	28.97	28.64	28.94

Figure 6.2.1 Mean scale scores by age (from Table 6.2.3)



In contrast to Age, the main effect of Sex is statistically significant, and at the one per cent level. However the Sex  $\times$  Scales interaction is also significant at this level and so - having regard also to the significance of the Age  $\times$  Scales interaction - a breakdown analysis was undertaken. This involved a series of two-way analyses of variance, one for each scale, with each analysis separating the main and interactive effects of Age and Sex, and with the one estimate of statistical error being estimated from the differences among Individuals within the cross-classifications of Age and Sex. The results are set out in Table 6.2.4.

Table 6.2.4

Two-way analysis of variance by age and sex

A. Scale 1 (Aesthetics of Sport - atmosphere and competition)

<u>Source of Variation</u>	<u>Sum of Squares</u>	<u>df</u>	<u>Mean Square</u>	<u>F</u>
Age (A)	254.68	5	50.94	1.24
Sex (B)	1314.84	1	1314.84	31.88**
A $\times$ B	198.74	5	39.75	< 1
Individuals (I)				
within A $\times$ B	56500.20	1370	41.24	
Total	58268.46	1381		

B. Scale 2 (Ballet)

Age (A)	447.42	5	89.48	1.48
Sex (B)	11067.96	1	11067.96	182.90**
A $\times$ B	464.18	5	92.84	1.53
Individuals (I)				
within A $\times$ B	82903.50	1370	60.51	
Total	94883.05	1381		

\*\*indicates significance at the one per cent level.

C. Scale 3 (Dance)

<u>Source of Variation</u>	<u>Sum of Squares</u>	<u>df</u>	<u>Mean Square</u>	<u>F</u>
Age (A)	25.09	5	5.02	< 1
Sex (B)	490.11	1	490.11	28.21**
A × B	155.51	5	31.10	1.79
Individuals (I)				
within A × B	23801.97	1370	17.37	
Total	24472.68	1381		

D. Scale 4 (Slow Motion Replays on TV)

Age (A)	59.73	5	11.95	< 1
Sex (B)	799.28	1	799.28	40.40**
A × B	144.04	5	28.81	1.46
Individuals (I)				
within A × B	27101.43	1370	19.78	
Total	28104.48	1381		

E. Scale 5 (Male Dancers)

Age (A)	376.11	5	75.22	1.68
Sex (B)	5043.13	1	5043.13	112.68**
A × B	99.65	5	19.93	< 1
Individuals (I)				
within A × B	61315.31	1370	44.76	
Total	66834.20	1381		

\*\*indicates significance at the one per cent level.

F. Scale 6 (Dance Performance)

Age (A)	299.04	5	59.81	4.25**
Sex (B)	40.30	1	40.30	2.76
A × B	73.01	5	14.60	1.04
Individuals (I)				
within A × B	19277.63	1370	14.07	
Total	19689.98	1381		

G. Scale 7 (Aesthetics of Sport - interest and excitement)

<u>Source of Variation</u>	<u>Sum of Squares</u>	<u>df</u>	<u>Mean Square</u>	<u>F</u>
Age (A)	190.76	5	38.15	< 1
Sex (B)	2999.49	1	2999.49	58.02**
A × B	172.79	5	34.56	< 1
Individuals (I)				
within A × B	70827.84	1370	51.70	
Total	74190.88	1381		

\*\*indicates significance at the one per cent level.

In no case is the Age × Sex interaction significant thereby confirming the result shown in Table 6.2.2, while the main effect of Sex is significant (and at the one per cent level) for all scales except one, Dance Performance. This scale too is the one scale which gives a significant effect for Age, an exception to the general finding of Table 6.2.2. The mean scores for boys and girls in the separate scales are set out in Table 6.2.5. For the six scales with mean differences which are significant, girls have the higher mean score on four, the two scales of Aesthetics of Sport, Ballet and Male Dancers, while it is the boys who have the higher mean score on two, Dance and Slow Motion on TV. It is this difference in the pattern of mean differences that accounts for the significance of the Sex × Scale interaction.



Table 6.2.5

Mean attitude scale scores for boys and girls

Scale Number	Description	Boys (B)	Girls (G)	Difference (B - G)
1	Aesthetics of Sport - atmosphere and competition	29.23	31.18	-1.95
2	Ballet	25.34	31.00	-5.66
3	Dance	17.61	16.42	1.19
4	Slow Motion Replays on TV	22.82	21.30	1.52
5	Male Dancers	20.73	24.55	-3.82
6	Dance Performance	12.47	12.81	-0.34
7	Aesthetics of Sport - interest and excitement	27.19	30.14	-2.95

Conclusions

The two hypotheses formulated in the last chapter - those concerning the effects of age and sex on attitudes towards the aesthetic aspects of sport and dance - are treated together in this analysis, and the results show that the first hypothesis, that increasing age will provide a more favourable attitude, has to be rejected. No uniform pattern of attitude score increasing with age may be discerned, the only appreciable support for the hypothesis being confined to one of the seven scales and to a restricted age range on that scale.

The second hypothesis - that sex is an important determinant, with females displaying the more favourable attitude - has also to be rejected as a general proposition. There are real sex differences from scale to scale, but a more favourable attitude of girls was found for only four of the scales, with boys displaying the more favourable attitude on two. A discussion of all the results will be provided later.

### 6.3 Analysis of variance<sup>(2)</sup>

The third of the hypotheses set out in Chapter 5, hypothesis 5.2.3\*, concerns the possible effect of social class on the aesthetic aspects of sport and dance, and this was tested by a three-way analysis of variance separating the main and interactive effects of social class, sex and scales. The age variable was omitted from the analysis partly because the numbers in the finer cross-classifications then necessitated were found to be unduly small and partly because the previous analysis had shown the age factor to be relatively unimportant. The social class variable had five levels (unskilled and semi-skilled manual combined<sup>+</sup>, skilled manual, clerical, technical and managerial, and professional; the sex variable had two (male and female) and the attitude scales, seven (one for each scale). Within each of the social class levels girls and boys were randomly selected from the total sample available in the ratio 2:1 respectively to give the breakdown shown in Table 6.3.1 below. (The ratio 2:1 was chosen to avoid excessive wastage of sample numbers.) This gives a total of

Table 6.3.1

Breakdown of sample used according to social class and sex

Social Class	Unskilled and Semi-skilled	Skilled Manual	Clerical	Technical and Managerial	Professional	Total
Boys	65	59	53	132	124	433
Girls	130	118	106	264	248	866
Total	195	177	159	396	372	1299

---

\*Social class will be a determinant of attitudes towards the aesthetic aspects of sport and dance, that is, the higher the social class the more positive the attitudes.

<sup>+</sup>These classes were combined to avoid inadequate numbers.

1299 pupils, and so, as each pupil has seven scale scores, a total of  $1299 \times 7 = 9093$  scores as the data of the analysis.

There are two sources of statistical error, one being derived from the variation of the total scores across Scales of Individuals and the other from the interaction of Individuals within Scales. The former provides the appropriate error for evaluating all sources of variation not involving Scales, i.e. Social Class, Sex and the Social Class  $\times$  Sex interaction, while the latter provides the error term for evaluating all other sources of variation, and in particular those involving the interaction of Social Class with Scales.

The results are set out in Table 6.3.2. The entries in the last column are determined by dividing the mean square for the particular source of

Table 6.3.2

Three-way analysis of variance by social class, sex and scales

<u>Source of variation</u>	<u>Sum of Squares</u>	<u>df</u>	<u>Mean Square</u>	<u>F</u>
Sex (A)	5709.67	1	5709.67	78.19**
Social Class (B)	5856.93	4	1464.23	20.05**
Scales (C)	362537.80	6	60422.966	2175.76**
A $\times$ B	229.10	4	57.28	< 1
A $\times$ C	11750.16	6	1958.36	70.52**
B $\times$ C	3749.13	24	156.21	5.63**
A $\times$ B $\times$ C	1904.95	24	79.37	2.86**
Individuals (I)				
within A $\times$ B	94124.10	1289	73.02	
A $\times$ C, within A $\times$ B	214777.10	7734	27.77	
Total	700638.94	9092		

\*\*Indicates significance at the one per cent level.

variation by the appropriate mean square for error, and their statistical significance follows from consulting the tables of the F distribution.

The outstanding feature of Table 6.3.2 is that all three of the interactions involving Scales are significant. No generalization across Scales is then possible, and separate analyses, one for each scale are needed. Seven two-way analyses of variance, each separating the main and interactive effects of Social Class and Sex, were therefore undertaken. For each analysis the one estimate of statistical error is that from the differences among Individuals within the cross-classification of Social Class and Sex. The results are shown in Table 6.3.3.

Table 6.3.3

Two-way analysis of variance by social class and sex

A. Scale 1 (Aesthetics of Sport - atmosphere and competition)

<u>Source of Variation</u>	<u>Sum of Squares</u>	<u>df</u>	<u>Mean Square</u>	<u>F</u>
Sex (A)	991.54	1	991.54	24.76**
Social Class (B)	1611.79	4	402.95	10.06**
A × B	324.63	4	81.16	2.03
Individuals (I)				
within A × B	51622.10	1289	40.05	
Total	54550.06	1298		

B. Scale 2 (Ballet)

Sex (A)	8229.94	1	8229.94	142.39**
Social Class (B)	2649.94	4	662.49	11.46**
A × B	1339.78	4	334.95	5.8**
Individuals (I)				
within A × B	74501.18	1289	57.80	
Total	86720.84	1298		

\*\*indicates significance at the one per cent level

C. Scale 3 (Dance)

<u>Source of Variation</u>	<u>Sum of Squares</u>	<u>df</u>	<u>Mean Square</u>	<u>F</u>
Sex (A)	477.67	1	477.67	30.34**
Social Class (B)	292.88	4	73.22	4.65**
A × B	85.78	4	21.44	1.36
Individuals (I)				
within A × B	20291.24	1289	15.74	
Total	21147.57	1298		

D. Scale 4 (Slow Motion Replays on TV)

Sex (A)	586.13	1	586.13	30.37**
Social Class (B)	246.98	4	61.75	3.2*
A × B	123.61	4	30.90	1.6
Individuals (I)				
within A × B	24878.73	1289	19.30	
Total	25835.45	1298		

E. Scale 5 (Male Dancers)

Sex (A)	4715.17	1	4715.17	114.59**
Social Class (B)	2912.30	4	728.08	17.69**
A × B	95.72	4	23.93	< 1
Individuals (I)				
within A × B	53038.81	1289	41.15	
Total	60762.00	1298		

F. Scale 6 (Dance Performance)

Sex (A)	34.41	1	34.41	2.33
Social Class (B)	558.06	4	139.52	9.43**
A × B	57.65	4	14.41	< 1
Individuals (I)				
within A × B	19062.53	1289	14.79	
Total	19712.65	1298		

\* indicates significance at the five per cent level

\*\*indicates significance at the one per cent level

G. Scale 7 (Aesthetics of Sport - interest and excitement)

<u>Source of Variation</u>	<u>Sum of Squares</u>	<u>df</u>	<u>Mean Square</u>	<u>F</u>
Sex (A)	2424.98	1	2424.98	47.72**
Social Class (B)	1334.11	4	333.53	6.56**
A × B	106.88	4	26.72	< 1
Individuals (I)				
within A × B	65506.62	1289	50.82	
Total	69372.59	1298		

\*\*indicates significance at the one per cent level.

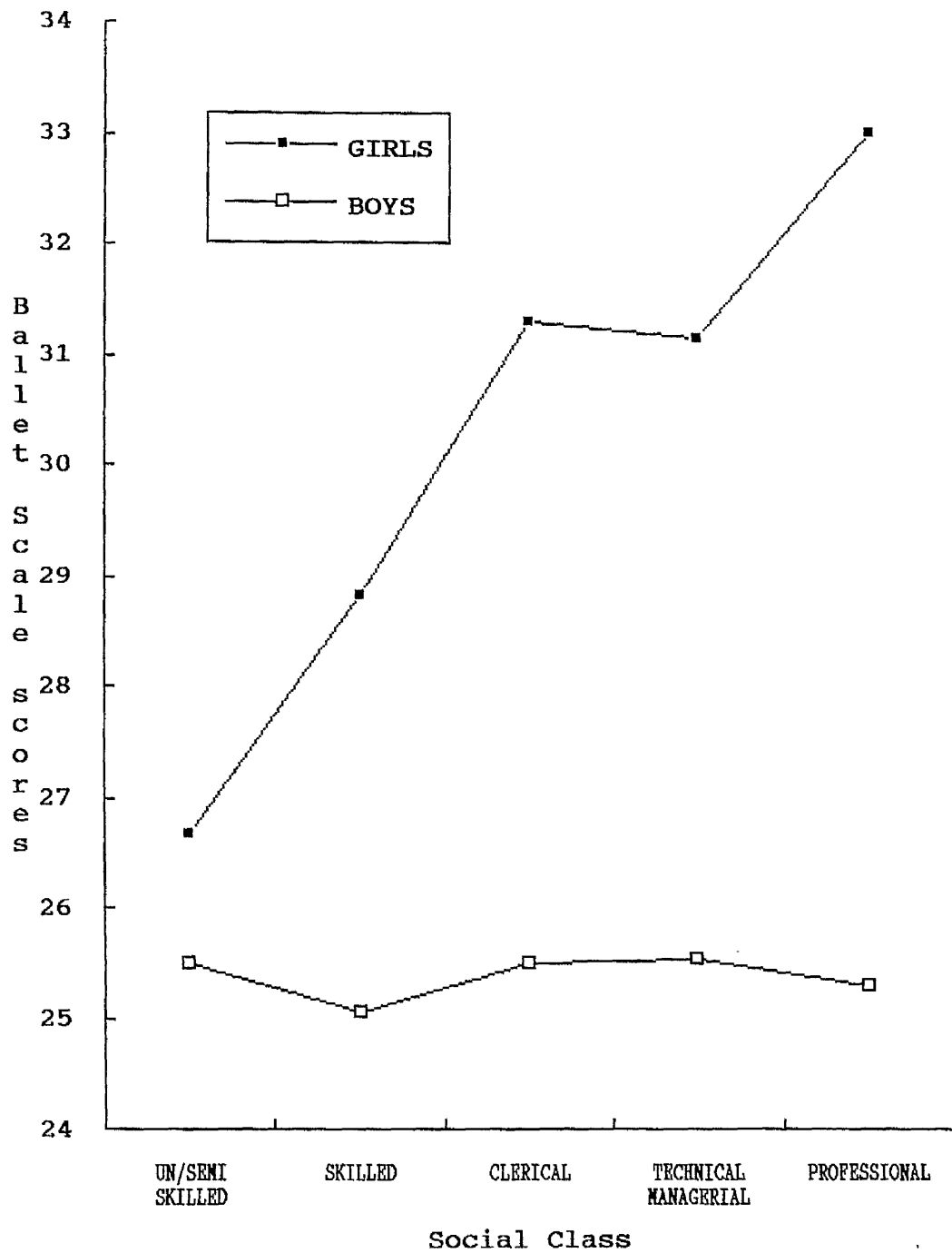
Table 6.3.3 shows that for only one of the scales is the interaction between Social Class and Sex statistically significant - that for ballet. The mean scores for boys and girls for each social class for this scale are shown in Table 6.3.4, and the pattern of these scores is illustrated in Figure 6.3.1. The sex differences - in all cases in favour of the girls - increase as social class moves towards the upper levels, and clearly it is this which underlies the Social Class × Sex interaction. There is in fact little change in the attitude of the boys towards ballet for the different social classes. For girls on the other hand the change is pronounced with more favourable attitudes coming from the higher social classes.

Table 6.3.4

Mean scores for boys and girls for each social class in ballet

<u>Social Class</u>	<u>Unskilled and Semi-skilled</u>	<u>Skilled Manual</u>	<u>Clerical</u>	<u>Technical and Managerial</u>	<u>Professional</u>
Girls (G)	26.69	28.84	31.33	31.17	33.05
Boys (B)	25.51	25.05	25.51	25.55	25.31
Difference (G - B)	1.18	3.79	5.82	6.62	7.74

Figure 6.3.1 Social class and gender interaction: ballet (from Table 6.3.4)



For the other six attitude scales only the main effects need concern us, and that of Social Class is seen to be significant throughout. The relevant mean scores are set out in Table 6.3.5 and the underlying trends shown in Figure 6.3.2. In all cases except one (Scale 3) the trend is for more favourable attitudes to be displayed by the higher social classes. For the one exception, Scale 3 - Dance, the trend is 'flat', there being little difference in attitude throughout the social class range, except for a more favourable attitude being displayed by those from the unskilled and semi-skilled class. A t-test, too, showed significant differences at the one per cent level between the mean of this group and the mean of each of the others. This then deserves a special note as an exception to the general trend.

Finally, with regard to the sex variable, Table 6.3.2 confirms the results of the previous section by showing the Sex  $\times$  Scales interaction to be significant. The mean scores for boys and girls in each of the attitude scales are shown in Table 6.3.6, the pattern of differences being seen to be the same as that of Table 6.2.5.



Table 6.3.5  
Scale means by social class

Scale Number	Description	Unskilled and Semi-skilled	Skilled Manual	Clerical	Technical and Managerial	Professional
1	Aesthetics of Sport - atmosphere and competition	29.19	29.15	30.72	30.74	32.11
3	Dance	17.82	16.73	16.62	16.64	16.33
4	Slow Motion Replays on TV	21.17	21.32	21.94	22.00	22.37
5	Male Dancers	20.54	21.89	24.01	23.61	24.91
6	Dance Performers	11.68	12.00	12.59	12.96	13.50
7	Aesthetics of Sport - interest and excitement	27.86	28.11	30.34	29.10	30.45

Figure 6.3.2 Mean scale scores by social class (from Table 6.3.5)

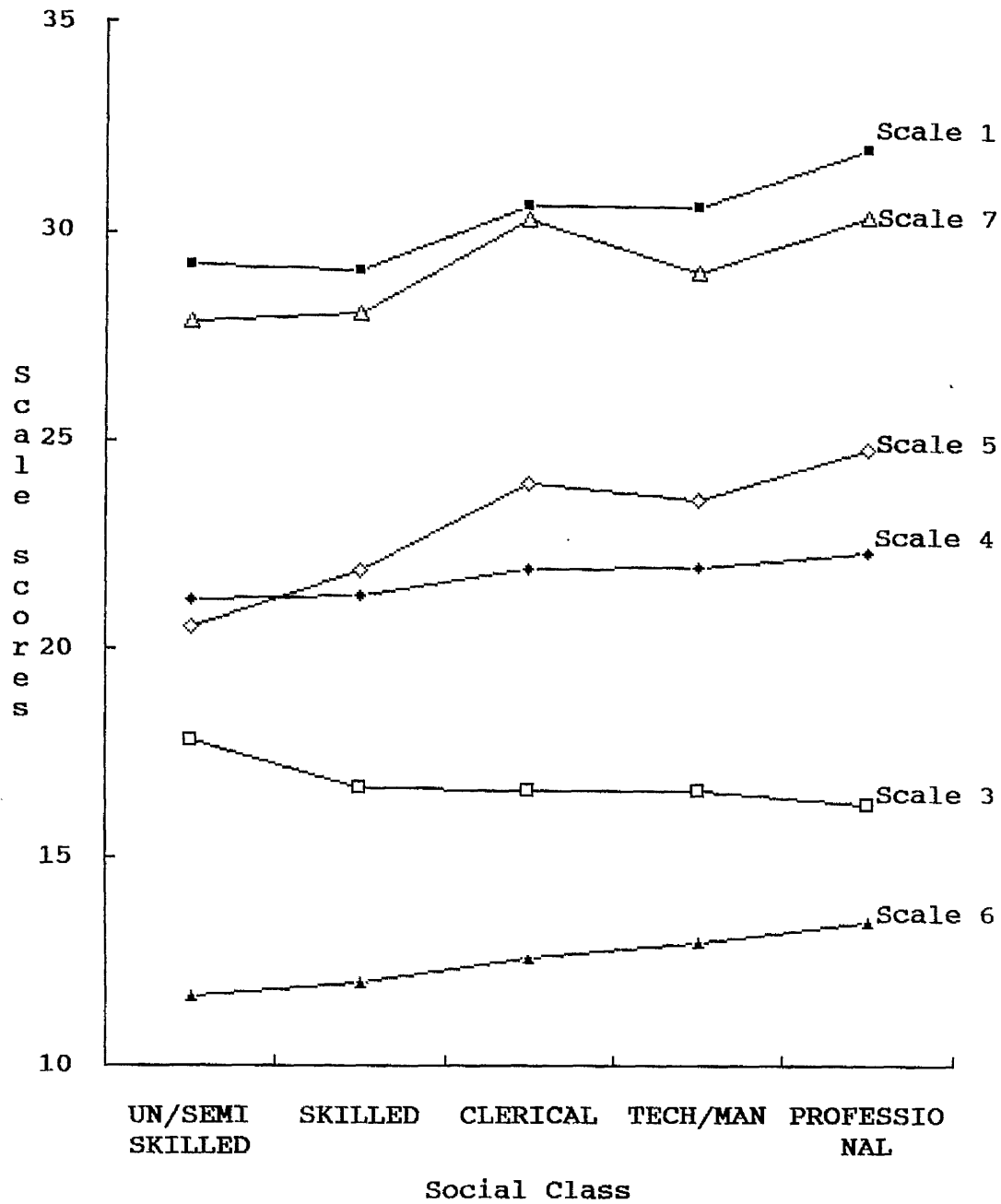


Table 6.3.6

Mean attitude scale scores for boys and girls

Scale Number	Description	Boys (B)	Girls(G)	Difference (B - G)
1	Aesthetics of Sport - atmosphere and competition	29.45	31.30	-1.85
2	Ballet	25.40	30.74	-5.34
3	Dance	17.60	16.31	1.29
4	Slow Motion Replays on TV	22.83	21.41	1.42
5	Male Dancers	20.64	24.68	-4.04
6	Dance Performance	12.52	12.86	-0.34
7	Aesthetics of Sport - interest and excitement	27.38	30.28	-2.90

Conclusions

The results as a whole provide a considerable degree of support to the hypothesis that social class is an effective determinant of attitude to the aesthetic aspects of sport and dance, a more favourable attitude being displayed generally by those from a higher social class, yet this support is far from unqualified. Thus in respect to one of the scales, Ballet, the results provide support for the hypothesis only from girls. Again in respect to another of the scales, Dance, the results show that there is in general little difference in attitudes of the different social classes. The conclusion is therefore that despite the considerable degree of support adduced, an overall acceptance of the hypothesis is not possible. A discussion of the differing patterns of results will be provided later.

#### 6.4 Regression analysis<sup>(1)</sup>

To test the hypothesis that family interests exert an influence on attitudes towards the aesthetic aspects of sport and dance that is, interest in the arts and/or sports by family members will promote positive attitudes - hypothesis 5.2.4 as set out on page 192 - a series of regression analyses was undertaken, one for each of the seven attitude scales in turn, and with the family interests measures as a battery of predictors. It has been explained that these measures were obtained as the pupils' own ratings in three content areas (arts, dance and sport) and in respect of three modes of involvement (practical, visiting and TV viewing), so giving nine separate and independent measures of family interests. These may be set out in rectangular formation in Figure 6.4.1 below. However, summation across modes of involvement (horizontally in Figure 6.4.1) and across content (vertically in Figure 6.4.1) yields a further six measures, while summation across both involvement and content yield one further measure, giving a total of 16 measures in all.

Figure 6.4.1  
Measures of family interests

		<u>Mode of Involvement</u>			Total
		Practical	Visiting	Viewing	
CONTENT AREA	Arts	1	2	3	10 (= 1+2+3)
	Dance	4	5	6	11 (= 4+5+6)
	Sport	7	8	9	12 (= 7+8+9)
Total		13 (= 1+4+7)	14 (= 2+5+8)	15 (= 3+6+9)	16 (= 10+11+12) or 13+14+15

These predictors may be listed as follows:

1. arts - practical
2. arts - visiting
3. arts - viewing
4. dance - practical
5. dance - visiting
6. dance - viewing
7. sports - practical
8. sports - visiting
9. sports - viewing
10. arts
11. dance
12. sport
13. practical
14. visiting
15. viewing
16. total

A multiple regression analysis with these 16 predictors was then undertaken for each of the seven attitude scales in turn as criterion, giving in each case the beta weights (showing the relative effectiveness of each predictor) and the multiple correlation (showing the total effectiveness of the battery of predictors).

A second series of multiple regression analyses was undertaken, with the variables of age, sex and social class added to the battery of predictors, so giving a total battery of 19 predictors, with the beta weights and multiple correlation for each analysis being obtained as before. For purposes of comparison the multiple correlation of the additional three predictors (age, sex and social class) in respect of each of the attitude scales was also obtained.

Finally to probe possible distortions arising from the lack of linear independence among the 16 measures of family interest, seven of these measures being obtained by summation from among the other nine, an additional set of regression analyses was undertaken where the predictors of any one battery were linearly independent (see Appendix XVI, pp.439-449).

The results of these analyses are presented for each of the attitude scales in turn, though as a preliminary, and for purposes of comparison, the correlation of each of the separate predictors with each attitude scale was first obtained. These correlations are presented in Table 6.4.1 below. These correlations together with the results of the multiple regression analyses that follow, are based on the complete sample of pupils who supplied all the relevant data, N = 1619\*. Accordingly a correlation of .049 is necessary for significance at the five per cent level and one of .064 for significance at the one per cent level<sup>+</sup>. Although many of the correlations are statistically significant, most are at the same time, numerically very small except for attitude scales 2 and 5 where correlations of over .3 (and in one instance of over .4) are sometimes obtained.

It should be also be noted that as all of the family interest variables were scored 1, 2, 3, 4 and 5 to correspond with Very Often, Often, Uncertain, Sometimes, Never, the signs of the correlation and beta weights have been reversed for their presentation in the tables which follow, to assist clarity of interpretation.

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\*The normal means of handling missing data on the SPSS-X programme for multiple regression analysis is list-wise deletion (Norusis, 1985). Consequently the sample size for regression analysis involving family interests is reduced from the total sample (see Table 5.2). A discussion on the treatment of missing data relevant to this study is given in Appendix XIV, pp.433-434.

<sup>+</sup>These minimum r's result from an application of the formula for the standard error (SE) of the Fisher z statistic,

$$SE = \frac{1}{\sqrt{n-3}}, \text{ where } n$$

is the sample size (see Lewis, 1967, pp.177-180).

Table 6.4.1

The correlations of family interest measures, age, sex and social class  
with attitude scales

Predictor*	Attitude Scale <sup>+</sup>						
	1	2	3	4	5	6	7
1	.077	.094	-.105	.106	.114	.081	.089
2	.154	.226	-.139	.111	.263	.201	.156
3	.035	.146	-.126	.098	.179	.082	.078
4	.136	.281	-.111	.064	.233	.164	.134
5	.120	.369	-.153	.102	.308	.166	.124
6	.133	.368	-.163	.072	.318	.197	.118
7	-.024	.043	-.054	.125	.066	.030	.089
8	-.112	.003	-.030	.124	-.006	-.034	.030
9	-.106	.015	-.090	.160	.030	-.027	.032
10	.111	.191	-.150	.128	.228	.150	.133
11	.155	.402	-.168	.093	.339	.209	.149
12	-.096	.025	-.071	.164	.037	-.012	.060
13	.067	.167	-.108	.128	.166	.110	.131
14	.044	.231	-.128	.148	.216	.122	.123
15	.004	.202	-.157	.152	.201	.089	.090
16	.044	.228	-.150	.163	.222	.122	.131
17 (age)	.035	-.031	.001	-.034	.038	.096	.052
18 (sex)	.147	.317	-.144	-.168	.269	.036	.195
19 (social class)	.167	.139	-.124	.116	.217	.147	.147

\*see page 239 for key for predictors 1-16.

<sup>+</sup>Key = 1 - Aesthetics of Sport: atmosphere and competition; 2 - Ballet;  
3 = Dance; 4 - Slow Motion Replays; 5 - Male Dancers;  
6 - Dance Performances; 7 - Aesthetics of Sport: interest and  
excitement

The results of the multiple regression analyses for both the family interests predictor battery ( $n = 16$ ) and the battery augmented by the age, sex and social class variables - to be referred to henceforth as the augmented battery ( $n = 19$ ) - will now be presented in tabular form for each of the criteria in turn. In each analysis the predictor first entering into the regression is the one accounting for the greatest amount of the variance of the criterion; the variable entering second is that which accounts for the greatest amount in conjunction with the first, and similarly the variable entering third is that which accounts for the greatest amount in conjunction with the first two; and so on. When the addition of successive predictors into the regression adds only a negligible increment to the multiple correlation the remaining variables are omitted from the tables, and the final multiple correlation indicated below a vertical arrow. In all these tables all beta weights and correlations appear rounded to the third place of decimals.

The most effective predictors, together with their beta weights, with respect to Attitude Scale 1, Aesthetics of Sport - atmosphere and competition, are shown in Table 6.4.2, A and B. Dance is the most effective single predictor in the family interests battery, although its correlation with the criterion is only .156, and the addition of the other variables raises this to .284. In the augmented battery however it is social class and sex that appear as the most effective predictors (though with modest effectiveness) and with considerable changes in the order of effectiveness of the family interest variables, and with the multiple correlation now being raised to .33. Little is added to the effectiveness of the battery however after step 4 in the family interests battery, and after step 8 in the augmented battery.



Table 6.4.2

Beta weights and multiple correlations for Scale 1, Attitude to  
Aesthetics of Sport - atmosphere and competition

A. Family Interests Battery (n = 16)

<u>Step</u>	<u>Predictor</u>	<u>Beta Weight</u>	<u>Multiple R*</u>
1	dance	.239	.156
2	sports - visiting	-.021	.234
3	arts - visiting	.189	.263
4	sports - viewing	-.133	.279
5	visiting	-.201	.281
6	arts - viewing	-.091	.282
7	arts	.116	.283
8	practical	-.040	.284
9	viewing	.023	.284
			↓
			.284

B. Augmented Battery (n = 19)

1	social class	.130	.167
2	sex	.118	.223
3	sports - visiting	-.019	.254
4	visiting	-.160	.302
5	sports - viewing	-.120	.311
6	total	.370	.320
7	sport	-.238	.322
8	arts - viewing	-.097	.326
9	arts - visiting	.131	.330
10	viewing	.036	.330
11	age	.010	.330
12	dance	.039	.330
			↓
			.330

\*This includes the variable in the row concerned and all preceding variables.

The most effective predictors with respect to Scale 2, Attitude to Ballet, are as shown in Table 6.4.3, A and B. We see that in the family interests only battery, the step-wise regression adds little to the multiple correlation after step 8 and in the augmented battery little after step 10, while the augmentation of the battery of predictors raises the multiple correlation from .446 to .523. Sex is by far the most important of the additional variables and the order of importance of the first four of the family interest predictors is precisely the same as in the 16-predictor battery.

The most effective predictors, together with their beta weights, with respect to Scale 3, Attitude to Dance, are shown in Table 6.4.4, A and B. We see that dance is the most effective single predictor in both batteries, although its correlation with the criterion is only .169, and that little is added to the effectiveness of the prediction after step 5 in both batteries. The multiple correlation is raised in the augmented battery from .202 to .254.

The most effective predictors, together with their beta weights, with respect to Scale 4, Attitude to Slow Motion Replays on TV, are shown in Table 6.4.5, A and B. All the correlations in the family interests battery remain under .2, while in the augmented battery the multiple correlation is raised to .263. Little is added to the effectiveness of the prediction however after the first four or five steps.

The most effective predictors, together with their beta weights, with respect to Scale 5, Attitude to Male Dancers, are shown in Table 6.4.6, A and B. Here dance appears as the most important single predictor, with a correlation of .341 with the criterion, but this is raised to .398 for the family interests battery and to .474 for the augmented battery. Little is added to the effectiveness of the prediction, however, after the first four or five steps, and the order of the

Table 6.4.3

Beta weights and multiple correlations for Scale 2: Attitude to Ballet

A. Family Interests Battery (n = 16)

<u>Step</u>	<u>Predictor</u>	<u>Beta Weight</u>	<u>Multiple R*</u>
1	dance	.545	.403
2	sport	-.099	.432
3	dance - practical	-.111	.437
4	arts - visiting	.077	.442
5	arts - practical	-.075	.444
6	sports - visiting	-.080	.446
7	arts	.026	.446
8	viewing	-.009	.446
			↓
			.446

B. Augmented Battery (n = 19)

1	dance	.481	.402
2	sex	.273	.491
3	sport	-.153	.507
4	social class	-.062	.512
5	dance - practical	-.124	.516
6	age	-.056	.519
7	arts - visiting	.040	.520
8	sports - visiting	-.075	.522
9	arts - practical	-.059	.523
10	total	.115	.523
			↓
			.523

\*This includes the variable in the row concerned and all preceding variables.

Table 6.4.4

Beta weights and multiple correlations for Scale 3, Attitude to Dance

A. Family Interests Battery (n = 16)

<u>Step</u>	<u>Predictor</u>	<u>Beta Weight</u>	<u>Multiple R*</u>
1	dance	-.086	.169
2	arts	-.010	.183
3	practical	.184	.190
4	sports - visiting	.147	.193
5	total	-.341	.202
6	arts - practical	-.033	.202
7	dance - viewing	.022	.202
8	viewing	.011	.202
			↓
			.202

B. Augmented Battery (n = 19)

1	dance	.019	.168
2	sex	-.135	.212
3	social class	-.088	.233
4	viewing	-.130	.241
5	sports - visiting	.188	.248
6	visiting	.209	.251
7	arts - practical	.034	.252
8	arts - visiting	.058	.253
9	age	.018	.254
10	sports - practical	.023	.254
			↓
			.254

\*This includes the variable in the row concerned and all preceding variables.



Table 6.4.5

Beta weights and multiple correlations for Scale 4, Attitude to Slow

Motion Replays on TV

A. Family Interests Battery (n = 16)

<u>Step</u>	<u>Predictor</u>	<u>Beta Weight</u>	<u>Multiple R*</u>
1	sport	.028	.165
2	dance - visiting	.082	.172
3	sports - viewing	.177	.179
4	arts	.085	.182
5	viewing	-.114	.187
6	dance - practical	-.023	.188
7	sports - practical	.015	.188
			↓
			.188

B. Augmented Battery (n = 19)

1	sex	-.163	.168
2	total	.023	.235
3	social class	.088	.249
4	sports - viewing	.115	.256
5	dance - visiting	.124	.259
6	dance	-.114	.262
7	practical	.074	.262
8	arts - visiting	.022	.263
9	age	.012	.263
10	sports - practical	.032	.263
			↓
			.263

\*This includes the variable in the row concerned and all the preceding variables.

Table 6.4.6

Beta weights and multiple correlations for Scale 5, Attitude to Male  
Dancers

A. Family Interests Battery (n = 16)

<u>Step</u>	<u>Predictor</u>	<u>Beta Weight</u>	<u>Multiple R*</u>
1	dance	.164	.341
2	sports - visiting	-.262	.364
3	visiting	.212	.387
4	dance - viewing	.134	.393
5	arts - practical	-.121	.394
6	general arts	.168	.397
7	viewing	-.058	.398
8	sports - practical	-.005	.398
			↓
			.398

B. Augmented Battery (n = 19)

1	dance	.123	.339
2	sex	.228	.415
3	social class	.136	.443
4	sports - visiting	-.257	.458
5	visiting	.220	.471
6	dance - viewing	.097	.472
7	arts - viewing	.028	.473
8	arts - practical	-.052	.474
9	sports - viewing	-.031	.474
10	age	.010	.474
			↓
			.474

\*This includes the variable in the row concerned and all the preceding variables.

effectiveness of the first four of the family interest variables remains the same in the augmented battery.

The most effective predictors, together with their beta-weights, with respect to Scale 6, Attitude to Dance Performance are shown in Table 6.4.7, A and B. Dance again appears as the most effective single predictor, though one with a correlation of only .209, the multiple correlation of the family interests battery being .285 and for the augmented battery, raised to one of .311. For each battery little is added to the effectiveness of the prediction for the first six steps, while the order of importance of the first four family interest predictors is retained in the augmented battery.

The most effective predictors, together with their beta weights with respect to Scale 7, Attitude to the Aesthetics of Sport - interest and Excitement, are shown in Table 6.4.8, A and B. Here once again it is low correlations that predominate, the multiple correlation being .186 for the family interests battery and .282 for the augmented battery. In each battery little is added to the effectiveness of the prediction after the first four steps and moreover there is no correspondence between the two batteries in respect of the order of importance of the family interest predictors.

An overall picture is forthcoming from listing the multiple correlations of the family interests battery, the augmented battery and those from the age, sex and social class predictors as a battery of their own. These correlations are set out in Table 6.4.9. Appreciable additions to the correlations are obtained from combining the family interest variables with those of age, sex and social class. All these additions were in fact found to be statistically significant, the majority at the one per cent level, as indicated by the connecting

Table 6.4.7

Beta weights and multiple correlations for Scale 6, Attitude to Dance

Performance

A. Family Interests Battery (n = 16)

<u>Step</u>	<u>Predictor</u>	<u>Beta Weights</u>	<u>Multiple R*</u>
1	dance	.226	.209
2	sports - visiting	-.017	.238
3	arts - visiting	.238	.272
4	total	-.327	.279
5	dance - visiting	-.039	.283
6	dance - viewing	.112	.284
7	practical	.094	.285
8	arts - practical	-.008	.285
			↓
			.285

B. Augmented Battery (n = 19)

1	dance	.498	.209
2	sports - visiting	.188	.238
3	arts - visiting	.352	.272
4	age	.096	.289
5	social class	.078	.299
6	total	-.064	.305
7	visiting	-.459	.309
8	dance - practical	-.112	.309
9	viewing	-.109	.311
10	sex	-.007	.311
			↓
			.311

\*This includes the variable in the row concerned and all the preceding variables.



Table 6.4.8

Beta-weights and multiple correlations for Scale 7, Attitude to the  
Aesthetics of Sport - interest and excitement

A. Family Interests Battery (n = 16)

<u>Step</u>	<u>Predictor</u>	<u>Beta Weight</u>	<u>Multiple R*</u>
1	arts - visiting	.149	.156
2	dance	.146	.177
3	visiting	-.078	.182
4	sports - practical	.040	.184
5	viewing	-.042	.186
6	arts viewing	-.007	.186
			↓
			.186

B. Augmented Battery (n = 19)

1	sex	.182	.195
2	social class	.109	.245
3	practical	.122	.268
4	arts - visiting	.104	.275
5	sport	-.104	.278
6	age	.037	.280
7	arts	-.094	.281
8	total	.117	.282
9	sports - visiting	.014	.282
10	dance - practical	.015	.282
			↓
			.282

\*This includes the variable in the row concerned and all the preceding variables.

Table 6.4.9

Multiple correlations of family interest measures, age, sex and social class with attitude scales

Criterion (Attitude Scale)	Family Interests Battery (A), (n = 16)	Age, Sex and Social Class (B) (n = 3)	Augmented Battery (A + B), (n = 19)
1	.284	.223	.330
2	.446	.350	.523
3	.202	.191	.254
4	.188	.208	.263
5	.398	.341	.474
6	.285	.173	.311
7	.186	.241	.282

————> indicates a difference significant at the one per cent level.

- - - - -> indicates a difference significant at the five per cent level.

arrows in the body of the table\*. The significance of the differences of the augmented battery correlations from those of the sixteen-variable family interests battery are also shown. A further point is that the correlations are at most of modest size, all being below .35 with the exception of those from two of the attitude scales, scales 2 and 5. It is in respect of the prediction of these criteria in particular that the family interest measures appear as worthy of note.

\*The statistical significance of the differences were determined by the t-statistic as given by

$$t = \frac{(r_{12} - r_{13})\sqrt{(N-3)(1+r_{23})}}{\sqrt{2(1-r_{12}^2-r_{13}^2-r_{23}^2+2r_{12}r_{13}r_{23})}}$$

see (McNemar, 1962, p.140). The t-values are shown in Appendix XV, pp.435-437.

In all cases however the addition of the family interest measures to the age, sex and social class measures results in a worthwhile increase in prediction.

It should be added that further regression analyses were undertaken using only selections of the 16 family interest measures available. This was to probe possible distortions due to a lack of linear independence among all the sixteen measures. The results of these further analyses are reported in the Appendix (see Appendix XVI, pp.438-449). Since no distortions were in fact observed, and the general pattern of results not therefore in need of any modification, no further reference to these supplementary analyses will be made here.

### Conclusion

The hypothesis that family interests will exert a real influence on attitudes towards the aesthetic aspects of sport and dance - family interests in arts and sports promoting positive attitudes - can be accepted as a general proposition, with the proviso that in all the scales but two, the influence has been shown to be small in magnitude. This point will be taken up again in the following chapter. Yet in all cases the highest correlations were forthcoming from combining the measures of family interests with the measures of age, sex and social class. And in respect of attitude towards ballet, and towards male dancers in particular, the family interest measures appear as moderately successful predictors.

## 6.5 Regression analysis<sup>(2)</sup>

To test the hypothesis that pupils' voluntary commitment to arts and sports will be linked with positive attitudes towards the aesthetic aspects of sport and dance - hypothesis 5.2.5 as formulated on page 192, a further series of regression analyses were undertaken, a series that exactly parallels that of the last section. This is because the measures of the pupils' individual interests obtained from the Questionnaire cover precisely the same mode of involvement (practical, visiting, viewing), as the measures of family interests, and with the same 5-point rating scale being used. Sixteen measures of pupils' individual interests were thus obtained in exactly the same way as those shown for family interests in Figure 6.4.1, these measures being used as predictors in respect of the attitude scale scores as criteria. The predictors of pupils' individual interests may then be listed as follows:

- 1 arts - practical
- 2 arts - visiting
- 3 arts - viewing
- 4 dance - practical
- 5 dance - visiting
- 6 dance - viewing
- 7 sports - practical
- 8 sports - visiting
- 9 sports - viewing
- 10 arts
- 11 dance
- 12 sport
- 13 practical
- 14 visiting
- 15 viewing
- 16 total

The correlations of the predictors with the attitude scales are set out in Table 6.5.1. These correlations together with the results of the multiple regression analyses that follow are based on the complete sample of pupils who supplied all the relevant data, 1513\*. Accordingly a correlation of .051 is necessary for significance at the five per cent level and one of .067 is necessary for significance at the one per cent level (see footnote p.240). Although many of the correlations are statistically significant most are numerically small, except for those in attitude scales 2 and 5 where several correlations of over .3, and two of over .4, are obtained.

It should also be noted that as in the case of the family interest variables, pupil leisure interest variables were scored 1, 2, 3, 4 and 5 to correspond with Very Often, Often, Uncertain, Sometimes, Never. The signs of the correlations and beta weights have been reversed for their presentation in the tables which follow, to assist clarity of interpretation.

The most effective predictors, together with their beta weights, with respect to Attitude Scale 1, Aesthetics of Sport - atmosphere and competition, are shown in Table 6.5.2, A and B. We see that in the pupils' leisure interests battery the step-wise regression adds little to the multiple correlation after step 5, and in the augmented battery little after step 7, while the addition of sex, age and social class raises the multiple correlation from .249 to .310. Social class appears as the most important of the additional predictors, while the order of importance of the interest variables remain much the same for both batteries, sport and total being the most prominent.

---

\*The normal means of handling missing data in the SPSS-X programme for multiple regression analysis is list-wise deletion (Norusis, 1985). Consequently the sample size for the regression analysis involving pupil interests is reduced from that of the previous analysis (6.4), although by a relatively small amount. A discussion on the treatment of missing data relevant to this study is given in Appendix XIV, pp.433-434.

Table 6.5.1

The correlations of pupil interest measures, with attitude scales

Predictor*	Attitude Scale <sup>+</sup>						
	1	2	3	4	5	6	7
1	.092	.159	-.102	.053	.152	.092	.076
2	.122	.287	-.140	.078	.286	.183	.145
3	.071	.181	-.120	.015	.187	.108	.082
4	.060	.353	-.084	.040	.260	.123	.125
5	.096	.408	-.113	.057	.328	.168	.130
6	.097	.450	-.162	.047	.346	.148	.142
7	-.099	-.100	.044	.086	-.055	-.054	.008
8	-.149	-.118	.058	.102	-.123	-.070	-.020
9	-.147	-.074	-.096	.206	-.053	-.107	.022
10	.121	.265	-.154	.062	.265	.162	.128
11	.098	.471	-.141	.055	.363	.169	.154
12	-.159	-.116	-.004	.163	-.091	-.095	.005
13	-.000	.149	-.048	.092	.135	.055	.088
14	-.012	.192	-.060	.117	.157	.090	.093
15	-.029	.205	-.171	.157	.177	.031	.102
16	-.017	.220	-.116	.149	.189	.069	.114

\*See page 254 for key

<sup>+</sup>Key = 1 - Aesthetics of Sport, atmosphere and competition; 2 - Ballet;  
3 - Dance; 4 - Slow Motion Replays; 5 - Male Dancers; 6 - Dance  
Performance; 7 - Aesthetics of Sport, interest and excitement.

Table 6.5.2

Beta weights and multiple correlations for Scale 1, Attitude to  
Aesthetics of Sport - atmosphere and competition

A. Pupils' Leisure Interests Battery (n = 16)

<u>Step</u>	<u>Predictor</u>	<u>Beta Weight</u>	<u>Multiple R*</u>
1	sport	-.466	.159
2	total	.330	.232
3	sports - practical	.090	.239
4	dance - practical	-.072	.246
5	arts - practical	.006	.249
6	arts - viewing	-.036	.249
7	arts - visiting	.045	.249
8	sports - visiting	-.022	.249
			↓
			.249

B. Augmented Battery (n = 19)

1	social class	.155	.167
2	sport	-.400	.240
3	total	.236	.281
4	sex	.111	.298
5	sports - practical	.097	.304
6	dance - practical	-.071	.308
7	age	.017	.310
8	arts - practical	.019	.310
9	arts - viewing	-.024	.310
10	arts - visiting	.018	.310
			↓
			.310

\*This includes the variable in the row concerned and all the preceding variables.

The most effective predictors with respect to Scale 2, Attitude to Ballet, are as shown in Table 6.5.3, A and B. Little is added to the effectiveness of the prediction after step 5 in the pupil interests battery and after step 8 in the augmented battery, and moreover the order of the effectiveness of the first seven interest predictors is the same in both. Only a small increase in the multiple correlation now follows from the augmentation, from .536 to .576. Dance is prominent as the most influential single predictor.

The most effective predictors, together with their beta weights, with respect to Scale 3, Attitude to Dance, are shown in Table 6.5.4, A and B. Little increase in prediction is achieved after step 4 in the pupils' interests battery and after step 6 in the augmented battery, the order of importance of the interest predictors being unaffected by the inclusion of age, sex and social class. Multiple correlations of only .249 and .275 are achieved however, viewing being the most important single predictor.

The most effective predictors, together with their beta weights, with respect to Scale 4, Attitude to Slow Motion Replays on TV, are shown in Table 6.5.5, A and B. For both batteries little is added to the effectiveness of the prediction after step 4, and the augmentation raises the multiple correlation from .225 to .291. Sports viewing appears as the most important single predictor.



Table 6.5.3

Beta weights and multiple correlations for Scale 2: Attitude to Ballet

A. Pupils' Leisure Interests Battery (n = 16)

<u>Step</u>	<u>Predictor</u>	<u>Beta Weight</u>	<u>Multiple R*</u>
1	dance	.266	.471
2	sports	-.131	.508
3	arts - visiting	.153	.529
4	dance - viewing	.173	.534
5	arts - practical	.025	.536
6	arts - viewing	-.013	.536
7	sports - viewing	-.020	.536
8	sports - visiting	-.076	.536
			↓
			.536

B. Augmented Battery (n = 19)

1	dance	.204	.471
2	sex	.201	.522
3	sports	-.095	.542
4	arts - visiting	.128	.561
5	social class	.099	.569
6	dance - viewing	.159	.572
7	age	-.046	.574
8	arts - practical	.014	.576
9	arts - viewing	-.009	.576
10	sports - viewing	-.031	.576
			↓
			.576

\*This includes the variable in the row concerned and all preceding variables.

Table 6.5.4

Beta weights and multiple correlations for Scale 3, Attitude to DanceA. Pupils' Leisure Interests Battery (n = 16)

<u>Step</u>	<u>Predictor</u>	<u>Beta Weight</u>	<u>Multiple R*</u>
1	viewing	-.245	.171
2	sports - visiting	.124	.218
3	arts - visiting	-.092	.235
4	dance - practical	.006	.249
5	arts - practical	-.063	.249
6	sports - practical	.076	.249
7	dance - visiting	-.015	.249
8	arts - viewing	.078	.249
			↓
			.249

B. Augmented Battery (n = 19)

1	viewing	-.250	.171
2	sports - visiting	.110	.218
3	sex	-.099	.240
4	social class	-.079	.257
5	arts - visiting	-.071	.263
6	age	-.014	.275
7	dance - practical	.018	.275
8	arts - practical	-.058	.275
9	sports practical	.069	.275
10	dance - visiting	-.017	.275
			↓
			.275

\*This includes the variable in the row concerned and all preceding variables.

Table 6.5.5

Beta weights and multiple correlations for Scale 4, Attitude to Slow  
Motion Replays

A. Pupils' Leisure Interests battery (n = 16)

<u>Step</u>	<u>Predictor</u>	<u>Beta Weight</u>	<u>Multiple R*</u>
1	sports - viewing	.228	.206
2	arts - visiting	.072	.213
3	dance - visiting	-.073	.220
4	dance - practical	.010	.225
5	arts - practical	.036	.225
6	sports - visiting	-.006	.225
7	dance - viewing	-.018	.225
8	sports - practical	-.035	.225
			↓
			.225

B. Augmented Battery (n = 19)

1	sports - viewing	.219	.206
2	sex	-.172	.255
3	social class	.085	.273
4	dance	.036	.280
5	age	-.006	.291
6	arts - practical	.042	.291
7	arts - viewing	-.063	.291
8	sports - visiting	.012	.291
9	arts - visiting	.054	.291
10	sports practical	-.060	.291
			↓
			.291

\*This includes the variable in the row concerned and all preceding variables.

The most effective predictors together with their beta weights, with respect to Scale 5, Attitude to Male Dancers, are shown in Table 6.5.6. Dance is seen as the most effective single predictor, with a correlation of .363 with the criterion, but this is raised to .448 for the pupil interests battery and to .504 for the augmented battery. Little is added to the effectiveness of the prediction after step 5 in the pupil interests battery and after step 7 in the augmented battery and the order of the effectiveness of the first five pupil interest variables remains the same.

The most effective predictors, together with their beta-weights with respect to Scale 6, Attitude to Dance Performance, are shown in Table 6.5.7, A and B. Arts visiting and sport appear as the most important two predictors, achieving in combination a correlation of .225 with the criterion though the addition of the other predictors yields a multiple correlation of .262 for the pupil interests battery and of .305 for the augmented battery. Little is added to the effectiveness of the predictors after step 4 for the former regression and after step 7 for the latter.

The most effective predictors, together with their beta weights with respect to Scale 7, Attitude to Aesthetics of Sport - interest and excitement, are shown in Table 6.5.8, A and B. Dance and arts visiting are the most important of the pupil interest predictors, although achieving in combination a correlation with the criterion of just .182. The addition of the other predictors raises the multiple correlation to .192 for the pupil interests battery and to .273 for the augmented battery. The overall picture again is one of low correlations.

Table 6.5.6

Beta weights and multiple correlations for Scale 5, Attitude to MaleDancersA. Pupils' Leisure Interests Battery (n = 16)

<u>Step</u>	<u>Predictor</u>	<u>Beta Weight</u>	<u>Multiple R*</u>
1	dance	.445	.363
2	sports - visiting	-.184	.401
3	arts - visiting	.179	.442
4	dance - practical	-.121	.446
5	arts - practical	.014	.448
6	sports - viewing	-.048	.448
7	arts - viewing	.021	.448
8	sports - practical	.020	.448
			↓
			.448

B. Augmented Battery (n = 19)

1	dance	.377	.363
2	social class	.173	.415
3	sex	.171	.459
4	sports - visiting	-.160	.478
5	arts - visiting	.133	.499
6	dance - practical	-.117	.502
7	age	.013	.504
8	arts - practical	.009	.504
9	sports - viewing	-.412	.504
10	arts - viewing	.019	.504
			↓
			.504

\*This includes the variable in the row concerned and all the preceding variables.

Table 6.5.7

Beta weights and multiple correlations for Scale 6, Attitude to Dance

Performance

A. Pupils' Leisure Interests Battery (n = 16)

<u>Step</u>	<u>Predictor</u>	<u>Beta Weight</u>	<u>Multiple R*</u>
1	arts - visiting	.134	.183
2	sport	-.026	.225
3	dance	.130	.255
4	arts - practical	.011	.262
5	arts - viewing	.031	.262
6	sports - viewing	-.109	.262
7	dance - practical	-.023	.262
8	dance - visiting	.025	.262
			↓
			.262

B. Augmented Battery (n = 19)

1	arts - visiting	.048	.183
2	sport	-.240	.225
3	social class	.124	.257
4	total	.370	.285
5	age	.092	.297
6	sports - viewing	-.116	.302
7	sex	-.009	.305
8	arts - practical	-.039	.305
9	arts - viewing	-.034	.305
10	dance - practical	-.036	.305
			↓
			.305

\*This includes the variable in the row concerned and all the preceding variables.

Table 6.5.8

Beta weights and multiple correlations for Scale 7, Attitude to the  
Aesthetics of Sport - interest and excitement

A. Pupils' Leisure Interests Battery (n = 16)

<u>Step</u>	<u>Predictor</u>	<u>Beta Weight</u>	<u>Multiple R*</u>
1	dance	.158	.154
2	arts - visiting	.157	.182
3	visiting	-.107	.191
4	arts - practical	.005	.192
5	sports - viewing	.021	.192
6	arts - viewing	-.008	.192
7	sports - practical	.012	.192
8	dance - practical	.019	.192
			↓
			.192

B. Augmented Battery (n = 19)

1	sex	.159	.188
2	social class	.121	.239
3	dance	.098	.260
4	arts - visiting	.083	.268
5	age	.032	.273
6	sports - viewing	.028	.273
7	arts - practical	.002	.273
8	sports - visiting	-.049	.273
9	arts - viewing	-.014	.273
10	sports - practical	.031	.273
			↓
			.273

\*This includes the variable in the row concerned and all the preceding variables.

An overall picture is forthcoming from listing the multiple correlations of the pupil interests battery, the augmented battery and those from the age, sex and social class predictors as a battery on their own. These are set out in Table 6.5.9. Appreciable additions to the correlations are obtained from combining the pupil interest variables with those of age, sex and social class. All these additions were found to be statistically significant, the majority at the one per cent level, as indicated by the connecting arrows in the body of the table\*. The significance of the differences of the augmented battery correlations from those of the sixteen-variable pupil interests battery are also shown. A further point is that the correlations are at most of modest size, all being below .32 with the exception of those from two of the attitude scales, scales 2 and 5. It is in respect of the prediction of these criteria in particular that the pupil interest measures appear worthy of note. In all cases, however, the addition of the pupil interest measures to the age, sex and social class measures, results in a worthwhile increase in prediction.

### Conclusion

The hypothesis that pupil interests will exert a real influence on attitudes towards the aesthetic aspects of sport and dance - pupil interests in the arts and dance promoting positive attitudes - can be accepted as a general proposition with the proviso that in all the scales but two the influence has been shown to be small in magnitude.

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\*The statistical significance of the differences were determined by the t-statistic as given by

$$t = \frac{(r_{12} - r_{13})\sqrt{(N-3)(1+r_{23})}}{\sqrt{2(1-r_{12}^2-r_{13}^2-r_{23}^2+2r_{12}r_{13}r_{23})}}$$

(see McNemar, 1962, p.140). The t-values are shown in Appendix XVII, pp.450-452).



Multiple correlations of pupil interest measures, age, sex and social class with attitude scales

<————> indicates a difference significant at the one per cent level.  
<-----> indicates a difference significant at the five per cent level.

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## 6.6 Analysis of variance<sup>(3)</sup>

Both hypotheses formulated about the possible variation of attitudes with the nature and level of provision in school\* are tested by comparing the scale scores of random samples of boys and girls, of different age groups, and selected from different types of school. For the first hypothesis (5.2.6.1) the different types of school are (i) specialist arts schools, where a specialist education in one or more of the arts is provided, and (ii) comprehensive schools, where no such specialist education is provided. In each of these school types, samples of 40 boys and 40 girls were randomly selected from each of (i) the eleven and twelve-year-old age group, and (ii) the thirteen and fourteen year old age group, i.e.  $40 \times 2 \times 2 = 160$  pupils in all. The attitude scale scores of these pupils were analysed, and for each of the separate scales, by a three-way analysis of variance separating the main and interactive effects of School Type, Sex and Age, with the estimate of error being provided by the variation of Individuals within the cross-classification of School Type, Sex and Age.

Interest is focused on the possible significance of two sources of variation, namely the School Type  $\times$  Age interaction, and the second order School Type  $\times$  Sex  $\times$  Age interaction, to see if any differential effects of school type in promoting a positive attitude might be revealed.

The detailed results of the seven three-way analyses of variance are shown in Appendix XVIII, pp.453-457, and a summary of the statistically significant sources of variation found are set out in Table 6.6.1 below. Only the results from the analysis of scales 2 and 6 need therefore be considered further.

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\*A specialist education in one or more of the arts will promote positive attitudes to aesthetic aspects of sport and dance (Hypothesis 5.2.6.1).

An education with an emphasis on sport will promote positive attitudes to aesthetic aspects of sport and dance (Hypothesis 5.2.6.2).

Table 6.6.1

Significant sources of variation; specialist arts and comprehensive schools

Scale	Sources of variation <sup>+</sup>						
	A	B	C	A×B	A×C	B×C	A×B×C
1 Aesthetics of Sport, atmosphere and competition	1%	x	x	x	x	x	x
2 Ballet	1%	1%	x	5%	x	x	1%
3 Dance	1%	x	x	x	x	5%	x
4 Slow Motion Replays	1%	x	x	x	x	5%	x
5 Male Dancers	1%	1%	x	x	x	1%	x
6 Dance Performance	1%	x	x	x	1%	x	x
7 Aesthetics of Sport, interest and excitement	1%	1%	x	x	x	x	x

<sup>+</sup>Key: A - School Type; B - Sex; C - Age Group;  
 5% - Significant at 5 per cent; 1% - Significant at one per cent;  
 x - not significant.

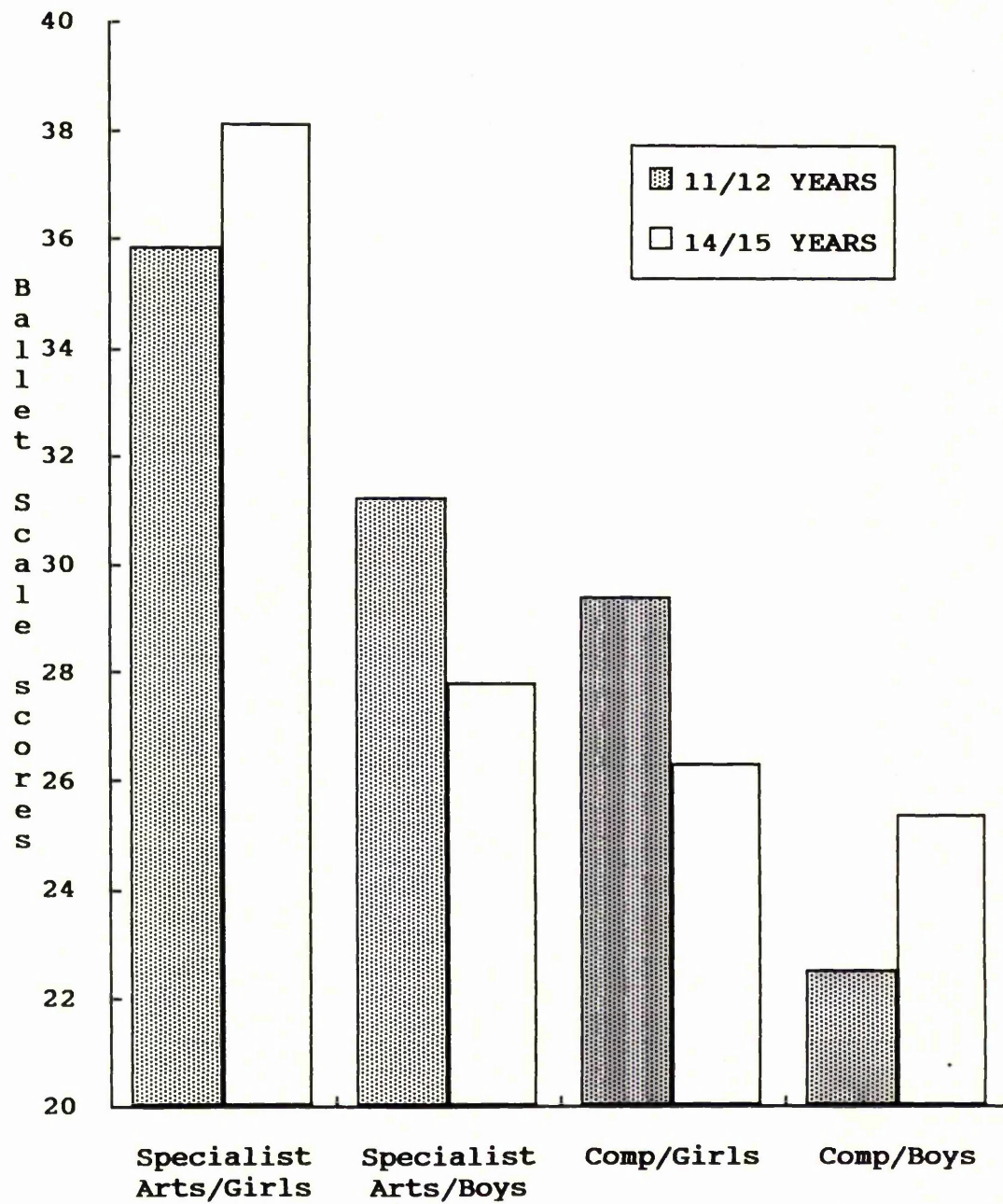
The mean scores underlying the second-order interaction for Scale 2, Ballet, are shown in Table 6.6.2, and the trends are illustrated in Figure 6.6.1.

Table 6.6.2

Mean scores for school type, sex and age: Ballet

	11+12 years 13+14 years Difference			
<u>School Type</u>	<u>(1)</u>	<u>(2)</u>	<u>(2) - (1)</u>	
1. <u>Boys</u>				
Specialist arts	31.25	27.80	-3.45	} Difference of differences = 6.35
Comprehensive	22.50	25.40	2.90	
2. <u>Girls</u>				
Specialist arts	35.85	38.13	2.28	} Difference of differences = 5.38
Comprehensive	29.40	26.30	-3.10	

Figure 6.6.1 Trends of mean scores for school type, sex and age: ballet (from Table 6.6.2)



A breakdown two-way analysis of variance for each of the separate sexes show that in each case the first-order School Type  $\times$  Age interaction to be significant at one per cent (see Appendix XIX, pp.458-459). These interactions, too, occur in opposite directions, the girls' attitude seeming to improve with age in the specialist schools along with the boys' attitude in the comprehensive schools while these trends are reversed in the case of girls in comprehensive schools and boys in specialist schools. It is this (unexpected) opposition in direction which accounts for the significance of the second-order interaction shown in Table 6.6.1. It can be concluded that support for the hypothesis under investigation can be found with respect to Attitude to Ballet (Scale 2) but only in relation to girls.

The other finding that requires consideration is the School Type  $\times$  Age interaction for Scale 6, Dance Performance, and the relevant mean scores are set out in Table 6.6.3.

Table 6.6.3

Mean scores for school type and age: Dance Performance

	11+12 years	13+14 years	Difference
<u>School Type</u>	<u>(1)</u>	<u>(2)</u>	<u>(2) - (1)</u>
Specialist arts	14.77	13.66	-1.11
Comprehensive	11.25	12.26	1.01

It is evident that any difference resulting from a specialist arts education is not in the direction suggested by the hypothesis under consideration. Accordingly no support for this hypothesis can be adduced.

In the second hypothesis (5.2.6.2) formulated in respect of the possible variation of attitudes according to the nature and level of provision in school the different school types contrasted are (1)

boarding schools, where an emphasis on sport is provided and (2) comprehensive schools, where there no corresponding emphasis on sport. As before samples of 40 boys and 40 girls were randomly selected from each of the two age groups (eleven and twelve-year-olds, and thirteen and fourteen-year-olds) and from each of the school types, giving a total of 160 pupils in all. The mode of analysis is the same, the hypothesis being tested by an examination of any significant interaction involving School Type and Age.

The detailed results of the analyses of variance, one for each of the separate scales, are shown in Appendix XX, pp.460-464, and a summary of the statistically significant sources of variation are shown in Table 6.6.4. None of the interactions involving School Type and Age - in the  $A \times C$  and  $A \times B \times C$  columns of the table - are statistically significant. No differential effect on attitudes attributable to school type can be accepted, and no support for the hypothesis under investigation can therefore be adduced.

### Conclusions

Very limited support is forthcoming for the hypothesis that a specialist education in the arts will promote positive attitudes to the aesthetic aspects of sport and dance, this support being evident only for one of the seven scales, Attitude to Ballet, and then only in respect of girls. No support is forthcoming for the corresponding hypothesis concerning a school emphasis on sport, and accordingly this hypothesis is rejected.

Table 6.6.4

Significant sources of variation; boarding and comprehensive  
schools

Scale	Source of variation <sup>+</sup>						
	A	B	C	AxB	AxC	BxC	AxBxC
1 Aesthetics of Sport - atmosphere and competition	1%	1%	x	x	x	x	x
2 Ballet	x	1%	x	x	x	5%	x
3 Dance	1%	5%	x	x	x	x	x
4 Slow Motion Replays	1%	x	x	x	x	x	x
5 Male Dancers	1%	1%	x	x	x	x	x
6 Dance Performance	x	x	1%	x	x	x	x
7 Aesthetics of Sport - interest and excitement	1%	1%	x	x	x	x	x

<sup>+</sup>Key: A - School Type; B - Sex; C - Age Group;  
 5% - Significant at 5 per cent; 1% - Significant at one per cent;  
 x - not significant.

7.1 Introductory statement

This study was designed to reveal the relative importance of factors which may influence attitudes of secondary school pupils to aesthetic aspects of sport and dance. It focused on hypothesised relationships between independent variables, namely age, sex, social class, family interests in various arts and sports, pupils' leisure interests in the same activities, and school type, and the dependent variable, that is, attitude to aesthetic aspects of sport and dance. This overall attitude was gauged from the attitudes to specific aspects of sport and dance as measured by each of seven scales.

The results of the study were presented and analysed in Chapter 6. It is now proposed to discuss these results in the light of the literature reviewed in Chapter 3. This discussion will be in two sections. Initially, interest will focus on the acceptance or rejection of each hypothesis. This will be followed in Part Two by a consideration of issues raised by the study including educational implications, particularly in relation to the proposed National PE Curriculum (DES, 1991) as well as critical comments on the research and suggestions for future investigations.

7.2 Part One: discussion of hypotheses

7.2.1 Attitudes towards aesthetic aspects of sport and dance will vary with age, showing an increasing sophistication with age  
(Hypothesis 5.2.1)

To test this hypothesis (along with hypothesis 5.2.2 which will be discussed later) a three-way analysis of variance was undertaken separating the main and interactive effects of Age, Sex and Attitude



Scales. The results, set out in Table 6.2.2, p.222, reveal that the main effect of Age is not statistically significant, but the Age and Scales interaction is significant at the five per cent level. Seven two-way analyses of variance, one for each of the scales were also undertaken, with each analysis separating the main and interactive effects of Age and Sex. Table 6.2.4, p.224, indicates that only Scale 6 gives a significant effect for Age. The mean scale scores for each of the age groups are shown in Table 6.2.3, p.222, and the pattern is illustrated in Figure 6.2.1, p.223.

The hypothesis is rejected. No uniform pattern of attitude scores increasing with age is evident, indeed the outstanding feature of Figure 6.2.1 is the 'flatness' of the trends. The only appreciable support for the hypothesis is confined to Scale 6, Dance Performance, where mean scores show a small increase between the ages of twelve and fifteen years. On the other hand, Scales 1, Aesthetics of Sport and 2, Ballet, display a prominent 'dip' at the end giving an impression, particularly in the case of Scale 2 of an overall decline of score with age.

These results could be interpreted in one of two ways. Either pupils in secondary schools are not being taught to value aesthetic aspects of sport and dance or, if aesthetic education of this nature is being undertaken, it is unsuccessful in developing positive attitudes, for it seems that the attitudes of pupils entering secondary school at eleven years of age remain virtually unchanged at sixteen. The evidence available in the literature suggests that the former explanation is more likely. For instance, surveys reported by both Kane (1974) and the PEA (1987) indicate that the objective 'aesthetic appreciation' is consistently ranked last by secondary school PE teachers. Yet the curriculum literature, including the recently published interim report of the National Curriculum PE working group (DES, 1991) highlights the

aesthetic as an important aspect of PE. Crucially however as Howarth and Laws (1989) also indicate, such texts do not illustrate precisely how such aesthetic development is to be undertaken. Nor, it could be added, is a clear conceptual understanding of the nature of the aesthetic in sport and dance always apparent. Most PE teachers' understanding in this area is likely to be severely limited and it is unsurprising that as the surveys of Kane (1974) and the PEA (1987) reveal, they remain unconvinced of the relevance of the aesthetic to their work in schools.

There are other considerations which are pertinent to this discussion. For instance, Sanderson's (1986) research showed that pupils are not taught to appreciate dance and sports from any perspective, for the emphasis seems to be on practical participation with little credence given to critical reflection. Furthermore, according to the PEA (1987) it seems that team games are accorded the major portion of time available for PE in secondary schools, implying an emphasis on competition which could, in turn, hinder the development of aesthetic interests in sport. These factors taken together, could offer additional explanations for the absence of growth in positive attitudes. The decline in positive attitudes among sixteen year olds as measured by Scale 1, could perhaps be accounted for, at least in part, by the increased value apparently placed by older adolescents on friendships and shared activities (Coleman and Hendry, 1990). Thus sport could well be regarded primarily in terms of providing opportunities to savour the atmosphere and the competitive elements of sports events in the company of others, aesthetic aspects in consequence being given scant consideration. In this regard it is interesting to note that there is not a similar decline in attitudes to aesthetic aspects of sport as measured by Scales 4 and 7.

The most likely explanation of the lack of growth in positive attitudes to dance is that the latter is poorly represented in the school curriculum. Various HMI reports (e.g. DES, 1983b; 1989b) and statistical surveys (e.g. Sanderson, 1986; 1989) confirm the meagre amount of dance teaching in secondary schools. A further point is that when it does feature in the curriculum, dance is not always taught as an aesthetic or artistic activity, but rather as a means of exercise or therapy. However the research has also revealed a decrease in positive attitudes of pupils between the ages of eleven and sixteen, to a specific type of dance, namely ballet (Scale 2) and this requires further explanation. It seems that as the children grow older they are reflecting the attitudes to ballet of the adult population as a whole, and these are generally acknowledged to be negative. Certainly schools appear to make few efforts to counter this trend, for ballet is rarely, if ever, featured in the curriculum. Indeed it is possible that schools may actually reinforce negative attitudes. Brinson (1986) for instance complains that the negative attitudes of both staff and pupils, encountered by members of the 'Ballet for All' group, have not changed during the past twenty years.

Reasons for the small increase in scale scores on Scale 6, Attitude to Dance Performance, of pupils between the ages of twelve and fifteen are not obvious. It is possible however that the statements have been interpreted in terms of performances of disco or popular dancing, which feature as interests and experiences of this age group, rather than dance as an art or aesthetic activity. If this is the case, it could account for the growth in positive attitudes during this period.

As there is virtually no information available in the literature on the age variable and attitudes of pupils between the ages of eleven and sixteen to aesthetic aspects of sport and dance, no reference can be made to other studies for the purposes of comparison.

7.2.2 There will be real differences in male and female attitudes towards aesthetic aspects of sport and dance, with more positive attitudes displayed by females and more negative attitudes by males (Hypothesis 5.2.2)

This hypothesis was tested by means of a three-way analysis of variance separating the main and interactive effects of Age, Sex and Attitude Scales. Table 6.2.2, p.222, shows that the main effect of Sex is statistically significant at the one per cent level, and that there is also a Sex and Scales interaction at the same level. The results of the seven two-way analyses of variance subsequently undertaken, one for each of the scales with each analysis separating the main and interactive effects of Age and Sex, are set out in Table 6.2.4, p.224. The main effect of Sex is significant and at the one per cent level for all the scales except Scale 6, Dance Performance. The mean scores for boys and girls in the separate scales are shown in Table 6.2.5, p.227.

The hypothesis is rejected as a general proposition. There are real sex differences from scale to scale, but a more favourable attitude of girls was found for only four of the scales, namely the two Aesthetics of Sport Scales (Scales 1 and 7), Ballet (Scale 2) and Male Dancers (Scale 5). Boys have the higher mean scores on two scales, that is Dance (Scale 3) and Slow Motion (Scale 4). There are no significant differences on Scale 6, Dance Performance.

All of the published empirical studies which have included measures of attitude to an aesthetic dimension of physical activity report that females display more positive attitudes than males. Kenyon (1968c), Nicholls (1974) and Hendry (1975) for instance, all of whom employed the ATPA, and Schutz et al (1981a; 1981b; 1985) who used a modified version for children entitled CATPA found females to have more positive attitudes. In both inventories the scale which purports to measure

aesthetic attitude seeks pupil opinion on physical activities which are considered to possess beauty such as ballet dancing, gymnastics or figure-skating. The results of these studies therefore are comparable with that from just one of the scales in the present investigation, namely Attitude to Ballet, Scale 2, and here there is no disagreement with the established trend. To some extent the finding that females have more positive attitudes to ballet than males is unsurprising. After all in this country, unlike in the Soviet Union, for instance, ballet is regarded primarily as a feminine activity. Verwey's (1986; 1987; 1989) statistics show that attendances at ballet performances are consistently higher among women than men and it is also well known, although precise information does not seem to be available, that only a small percentage of the pupils at ballet classes throughout the country are boys. Yet these facts alone do not explain why boys should display such negative attitudes compared with girls. Perhaps as Pollard (1988) argues, the male adolescent is insecure and unwilling to be associated with any activity which may be interpreted as undermining his masculinity. Certainly popular opinion seems to regard ballet gestures and costumes (particularly those of classical ballet) as feminine in character.

But it is apparent that expressive dance movement in general, and not just ballet, is seen as embodying so-called feminine characteristics of sensitivity and gentleness. Expression of feelings is also regarded as a feminine quality and consequently, the male dancer is regarded as doing something 'not very manly' (Pool, 1989). Yet this view of the male dancer is not shared equally by the male and female adolescents in the present investigation, for the girls display more positive attitudes than the boys. This disparity could be due to differentials in expressive dance experience. Reports and surveys by HMI (e.g. DES, 1983b; 1989c) reveal the limited opportunities for boys to experience

dance, particularly in secondary schools. There are also very few male dance teachers. Schools therefore seem to be perpetuating, by default, the prevailing negative view of the male dancer among adolescent boys. But there are also a number of writers, including Leaman (1984), Brinson (1986) and Payne (1987) who believe that the male teacher, and particularly the male PE teacher, actually reinforces these negative attitudes.

Yet the results of this investigation also indicate that boys are favourably disposed to some types of dancing in that they show more positive attitudes than girls on Scale 3, where statements are concerned with dance in general. Adolescent boys, it seems, have different aesthetic preferences to girls as far as dance is concerned. It is also possible however that the scoring system on this scale has produced a spurious result and this will be discussed later in the chapter, when the research as a whole is evaluated. Nevertheless, the apparently specific nature of male prejudice to dance, that is to ballet and the male expressive dancer, is underlined by the absence of any significant differences between boys and girls on Scale 6, Attitude to Dance Performance. It seems likely, as suggested during the discussion of the results relating to the first hypothesis, that the statements comprising Scale 6 have been interpreted in terms of popular dance performances rather than artistic spectacles. According to a number of writers, including Hendry (1983) and Wainwright (1989), dance is a popular leisure activity with adolescents and so the similar attitudes of boys and girls in this case may be reflecting similar interests and experiences.

Mean scores on Scales 1 and 7 show that females are more positively disposed to aesthetic aspects of sport than males. This result could be accounted for, at least in part, by the different PE programmes followed by girls and boys in secondary schools, Kane (1976) for

instance reporting an increasing stress on competitive values for the latter while, for girls, gymnastics and of course dance, are considered of greater importance. It seems therefore that schools are encouraging a competitive approach to sport among boys, at the expense of an appreciation of any aesthetic aspects. It is likely too, that if competitiveness along with aggression, are also regarded as 'masculine' characteristics as some writers claim (e.g. Sharpe, 1977) then it is unsurprising that adolescent boys want to identify with this view of sport, eschewing any regard for aesthetic considerations. Conversely it seems that girls are more interested in aesthetic matters, a reflection perhaps of their school experience and society's expectations.

But the results of this investigation also show that in certain situations, boys do appreciate aesthetic aspects of sport. They display more positive attitudes than girls when sport is shown in slow motion on TV and, according to Best (1974b), aesthetic characteristics become more apparent. This seems to indicate that when an aesthetic approach to sport is presented within an acceptable framework, in this instance as part of popular TV sports programmes, then it is regarded in a favourable manner. The male-female differentials in response are likely to be due to the fact that more boys than girls watch TV (Balding, 1987) and furthermore they are more likely than their female counterparts to watch sport on TV. Although evidence for the influence of TV on attitudes is equivocal (see for instance McGuire, 1985 and Conway et al, 1981), it would certainly appear to be the case that as far as the results of this research are concerned, the degree and nature of TV viewing has had an impact on the attitudes of adolescents to sport in slow motion on TV.

7.2.3 Social class will be a determinant of attitudes towards the aesthetic aspects of sport and dance, that is, the higher the social class the more positive the attitude (Hypothesis 5.2.3)

The hypothesis concerning the possible effect of social class on aesthetic aspects of sport and dance was tested by a three-way analysis of variance separating the main and interactive effects of Social Class, Sex and Scales. The results which are set out in Table 6.3.2, p.229, show that all three of the interactions involving scales are significant. Seven two-way analyses of variance, each separating the main and interactive effects of Social Class and Sex were therefore undertaken. Table 6.3.3, p.230, shows that there is a main effect for Social Class on all of the scales, but for only one, Ballet (Scale 2) is the interaction between Social Class and Sex statistically significant. The mean scores for boys and girls for each social class for this scale are shown in Table 6.3.4, p.232, and the pattern of the score is illustrated in Figure 6.3.1, p.233.

The results as a whole provide a considerable degree of support to the hypothesis that social class is an effective determinant of attitude to the aesthetic aspects of sport and dance, a more favourable attitude being displayed generally by those from a higher social class. Yet this support is far from unqualified, for in respect of one of the scales, Ballet, the results provide support for the hypothesis only from the girls, and to another, Dance (Scale 3) the results show that in general there is little difference in attitudes of the different social classes. The conclusion therefore is that despite the considerable degree of support adduced, an overall acceptance of the hypothesis is not possible.

Surprisingly perhaps, the social class variable has not featured in research reported on attitude to physical activity as an aesthetic



experience and consequently no comparisons can be made between the results of this and any other research. Furthermore although attendance at arts and certain sports events could be interpreted in terms of interest in matters of an aesthetic nature, no figures appear to be available relating specifically to adolescent attendance and social class. The statistics supplied by Reid (1981), Verwey (1986; 1987; 1989), the General Household Survey (GHS, 1987) and the Central Statistical Office (CSO, 1990) however, for adult attendance at plays, art galleries, opera/classical music, ballet and contemporary dance, all show that this increases with social class. According to Reid (1981) and the GHS (1986) the relationship between sports spectators and social class is complex, but it seems that some sports such as cricket, where the manner of performance appears to be valued relatively highly by spectators, attract those from the higher social classes. This apparent growth in aesthetic interests in accordance with social class is paralleled for the most part by the results of this investigation. There seem to be no obvious explanations for the relatively small drop in mean scores on some of the scales, that between the clerical, and technical and managerial groups on Scale 7 for instance.

It is interesting to note that of all the seven scales measuring attitudes to aesthetic aspects of sport and dance, there is an interaction between the sex and social class variables on only one, Scale 2, Ballet. This result confirms the popular view of ballet as a dance form appropriate only for girls who are from, or aspiring to, the middle and higher social classes. It seems that there are firmly entrenched negative views among adolescent boys across all social classes, with similar attitudes expressed by girls from the lower social groups, particularly those with an unskilled/semi-skilled social background. The Arts Council (ACGB, 1990) is currently endeavouring to

change the 'image' of ballet and in doing so attract the interest of adolescents of both sexes and from all social groups. These results highlight the difficulty of that task.

In contrast it appears that adolescents from all social backgrounds share similar attitudes to dance and dancers in general (Scale 3). This result seems to indicate that dance as an activity is regarded somewhat differently by adolescents from a dance performance presented in an expressive form, when differences in social background appear to inform opinion. The decline in positive attitudes between the unskilled/semi-skilled and skilled social class categories is difficult to explain. The result may be due to the scoring system for this scale and this point will be discussed in Part Two of this chapter along with other perceived criticisms of the research.

7.2.4 Family interests will exert a real influence on attitudes towards aesthetic aspects of sport and dance, that is, interest in the arts and/or sports by family members will promote positive attitudes (Hypothesis 5.2.4)

To test this hypothesis a series of regression analyses was undertaken, one for each of the seven attitude scales in turn and with the 16 family interest measures as a battery of predictors. A second series of multiple regression analyses was also undertaken with the variables age, sex and social class added to the battery of predictors, so giving a total of 19 predictors. The results of both sets of multiple regression analyses for each of the seven scales, giving beta weights and multiple regressions, are set out in Tables 6.4.2-6.4.8 (pp.243-252). For the purposes of comparison the multiple correlation of the additional three predictors (age, sex and social class) in respect of each of the attitude scales was also obtained. These are shown in

Table 6.4.9, p.252, along with the final multiple correlations for both family interests and augmented batteries.

The hypothesis that family interests will exert a real influence on attitudes towards aesthetic aspects of sport and dance, family interests in various arts (including dance) and sports promoting positive attitudes, can be accepted as a general proposition with the proviso that in all cases but two, ballet and male dancers, the influence has been shown to be small in magnitude. In all cases the highest correlations were forthcoming from combining the measures of family interests with the measures of age, sex and social class.

The results raise a number of interesting issues. For example, it is generally accepted that the family is a major influence on the attitudes of adolescents as research by Fogelman (1976), Hendry (1983) and Coleman and Hendry (1990) illustrates. Yet in the case of attitudes to aesthetic aspects of sport and dance, although family interests are seen as influences, such influence is of weak or at best moderate intensity. This could merely be a reflection of the interest shown in arts and sports by adults in this country which, according to available statistics, is limited. Since the arts are usually held to be centrally concerned with the aesthetic, the relatively poor attendances at theatres, art galleries and concert halls reported by Verwey (1986, 1987, 1989) and the small audiences recorded for the few arts programmes on TV (Goodhart et al, 1975) would both seem to be particularly relevant and offer a partial explanation for this result.

Family interests are of real importance as predictors in just two instances namely attitude to Ballet and to Male Dancers. But even here it is evident that only one of the sixteen family interest variables, dance, could be regarded as a major influence. It is worth noting for instance, that family interests in the other arts, that is drama, art

and music, apparently do not make a substantial contribution to the multiple correlation for the assumption could have been made that all interests of an aesthetic character would influence positively attitudes to dance as an expressive performing art. On the other hand, Verwey's statistics also show that those who frequent concert halls, art galleries and theatres do not have similar enthusiasms for ballet and contemporary dance and this tendency seems to be reflected in the results here. The precise nature of aesthetic interests and their influence also seems to be highlighted.

A further question which arises is why the general dance interest in the family is an important predictor of positive attitudes to ballet and male dancers and yet not, apparently, to aesthetic aspects of sport or, to any great extent, dance as measured by the other two scales. It seems that family interest in dance art forms influences positively adolescent attitude to dance as art but does not generalise to any great extent by promoting, for instance, interest in the aesthetic manifested in related areas.

There are other aspects of the results which are worthy of note. In the augmented batteries it is sex and social class which appear as the important predictors of positive attitudes to aesthetic aspects of sport (Scales 1, 4 and 7), ahead of any of the family interest variables, thereby clearly illustrating the weakness of the latter as predictors in these areas. Sex is by far the most important of the variables after dance, in predicting attitudes to ballet, the positive beta weight showing that it is girls from families where there is a general interest in dance who are most likely to display such attitudes. Both sex and social class contribute most to the prediction of positive attitudes to male dancers, after the major predictor dance interest, and unsurprisingly perhaps in view of previous results, it is evident that it is girls from higher social classes who display such

attitudes. Finally, it can be seen that family interests in sport appear to make little contribution to the multiple correlation on any of the scales. Furthermore, when any of the sport variables do appear it is often in a negative capacity, that is, low interest in sport taken in conjunction with the other variables in the equation, seems to predict positive attitudes to aesthetic aspects of sport and dance.

The apparent absence of any published research dealing with the influence of family interests in arts and sports on adolescent attitudes to aesthetic aspects of sport and dance precludes any comparative discussion of these results.

7.2.5 Voluntary commitment to arts and/or sports activities will be linked with positive attitudes towards aesthetic aspects of sport and dance (Hypothesis 5.2.5)

To test this hypothesis a series of multiple regression analyses was undertaken, as in the previous section (7.2.4), with each of the seven attitude scale scores in turn as criterion and with the 16 pupil interest measures as a battery of predictors. A second series of multiple regression analyses was also undertaken with the addition of the variables age, sex and social class, giving a battery of 19 predictors. The results of both sets of regression analyses are set out in Tables 6.5.2-6.5.8, pp.257-265. As before, for the purposes of comparison the multiple correlation of the additional three predictors (age, sex and social class) in respect of each of the attitude scales was also obtained and these are shown in Table 6.5.9, pp.267.

The hypothesis that pupil interests will exert a real influence on attitudes towards the aesthetic aspects of sport and dance, pupil interests in the arts promoting positive attitudes, can be accepted as

a general proposition with the proviso that in all cases but two, ballet and male dancers, the influence has been shown to be small in magnitude. In all cases the highest correlations were forthcoming from combining the measures of pupil interests with the measures of age, sex and social class.

The most striking feature of these results is their similarity with those for the influence of family interests on attitudes and a number of the points made in the discussion of the latter are also relevant here.

Pupil leisure interests in arts and sports do influence attitudes but their impact is weak for the most part; in other words such interests do not seem to be of any great relevance to attitudes expressed. A partial explanation for this result could be in the limited voluntary commitment adolescents appear to make to these activities although precise statistics necessary to confirm this suggested low level of interest do not appear to be available.

The results also show that pupil interests are important as predictors only in relation to two scales, Ballet and Male Dancers. A comparison between Tables 6.5.9 and 6.4.9 reveals that these interests have slightly greater influence than family interests on attitudes, although it is acknowledged that the increases in multiple correlations are extremely meagre, with less than one per cent added to the explained variance in the case of Scale 5 and less than three per cent for the Ballet scale.

It is also obvious that there is only one major predictor of attitudes to ballet and male dancers, namely pupil leisure time interest in dance and this seems to highlight the specific nature of the relationship between interest and attitude. It is curious that interests in the other arts, namely music, art and drama, all of which are centrally

concerned with the aesthetic, do not contribute in any substantial way to positive attitudes to ballet and male dancers. Furthermore, the results clearly show that any interest in sport has only a small and also a negative influence on attitudes, indicating that there seems to be no shared appreciation of aesthetic qualities in human movement as manifested in different forms.

Similarly it is strange that a general dance interest does not seem to influence attitudes to aesthetic aspects of sport and other types of dance, which could reasonably have been expected. It appears that a general aesthetic sensitivity to human movement in a sport or dance form is not being promoted by a leisure interest in dance.

Sex and social class are more important predictors of attitudes to aesthetic aspects of sport as measured by Scales 1 and 7, than pupil interests in arts and sports, underlining the weakness of the latter as influences in these instances. Sex is also the most important of the variables, after general dance interest, in predicting attitudes to ballet, the positive beta weights indicating, unsurprisingly perhaps, that it is girls having leisure interests in dance who are most likely to display positive attitudes. Both sex and social class contribute most to the prediction of attitudes to male dancers, again after the major predictor, dance, and here it is evident that it is girls from higher social classes who display such attitudes, a result in line with that which has emerged from previous analyses.

It has already been pointed out that interest in sport does not feature to any great extent, as a predictor of attitudes. An exception is attitude to Slow Motion Replays on TV, Scale 4, where sports viewing appears as the most important single predictor although, it must be stressed, the correlation is small. Such a relationship however is unsurprising in view of the high viewing figures recorded for

adolescents by Balding (1987). It is interesting also to note that the second most important influence is the sex variable, the negative beta weight sign indicating that it is boys who have the more positive attitudes to slow motion replays. This too would be in accord with the relevant literature where it is claimed (Hendry and Patrick, 1977) that boys are significantly more likely than girls to watch sport on TV. The results seem therefore to give a limited measure of support to the view that TV can influence attitudes. The close relationship which appears to exist between pupil interests and positive attitudes is also underlined.

It is also noted that the results of the regression analysis for Scale 3 seem to be against the general trend, suggesting once again that the scoring system on this scale may be at fault. This will be discussed later in this chapter.

Finally as no published work appears to be available concerning the influence of pupils' leisure time commitments to arts and sports on attitudes to aesthetic aspects of sport and dance, the results reported here can only serve as part of a comparative study in future investigations.

7.2.6 A specialist education in one or more of the arts will provide positive attitudes to aesthetic aspects of sport and dance  
(Hypothesis 5.2.6.1)

This hypothesis was tested by comparing the scale scores of random samples of boys and girls of different age groups, that is, the eleven and twelve year old age group and the thirteen and fourteen year old age group, selected from different types of school, namely specialist arts schools, where a specialist education in one or more of the arts is provided and comprehensive schools where no such specialist



education is provided. The attitude scale scores were analyzed and for each of the separate scales by a three-way analysis of variance separating the main and interactive effects of School Type, Sex and Age. Interest was focused on the possible significance of two sources of variation, namely the School Type  $\times$  Age interaction and the second order School Type  $\times$  Sex  $\times$  Age interaction, to see if any differential effects of school type in promoting a positive attitude might be revealed. The detailed results of the seven three-way analyses of variance are shown in Appendix XVIII, pp.453-457. A summary of the statistically significant sources of variation are set out in Table 6.6.1, p.269, where it is evident that only the results from the analysis of Scales 2 and 6 required further consideration. The mean scores underlying the second order interaction for Scale 2, Ballet, are shown in Table 6.6.2, p.269, and the trends are illustrated in Figure 6.6.1, p.270. The mean scores underlying the School Type  $\times$  Age Interaction for Scale 6, Dance Performance, are set out in Table 6.6.3, p.271.

Very limited support is forthcoming for the hypothesis that a specialist education in the arts will promote positive attitudes to the aesthetic aspects of sport and dance, this support being evident only for one of the seven scales, Ballet, and then only in respect of girls. Indeed on this scale there is a decrease in positive attitudes among boys in specialist schools which could be a consequence of the growing importance to the male adolescent of the prevailing culture, overriding any educational experience of an artistic character. Furthermore, with the exception of girls from specialist arts schools, results seem to show a convergence of opinion on ballet among adolescents regardless of sex or educational background, as they progress through secondary school, implying once again increased cultural impact. Thus on this argument, the growth in scale scores of comprehensive school boys is

interpreted merely in terms of maturity, moving towards a 'norm' for fifteen year olds in English society.

There may however be other factors operating in conjunction with cultural influences. For instance the decrease in positive attitudes among boys in specialist schools and girls in comprehensive schools could also be due to the absence of personal ballet experience. In the latter case this is because ballet is not part of the dance curriculum in state schools, while dance of any description is rarely regarded as a suitable activity for boys, even those attending specialist arts schools. On the other hand it is likely that girls in such schools will have regular ballet experience and this is reflected in their growth in positive attitudes between eleven and fifteen years of age. It is also possible that a social class factor is functioning.

Relevant experience may also account for the fall in scale scores on Scale 6, Dance Performance, of pupils attending specialist schools and the small growth in positive attitudes among comprehensive school pupils. It is possible that the latter have greater access to dance performances outside school, including those on TV, in discotheques and 'pop' concerts and this could account for the disparity in scale scores in the opposite direction to that suggested by the hypothesis.

The results overall show clearly that a general aesthetic sensibility is not developed by a specialist arts education, for apart from the findings discussed so far, no significant differences were found between the scores of pupils from both types of schools on the remaining five attitude scales. It is evident that extensive experience in arts such as music, drama, art and ballet, does not promote aesthetic awareness in general, that is there is no evidence of an increasing concern for the qualities of the object itself - in this case sport or dance - without prejudice or regard for any practical

outcome, audience reaction and so on. This conclusion is in line with the results of research by Winner et al (1986) which showed that the ability to perceive aesthetic properties in one art form did not predict ability to perceive these same properties in another art form. The arguments of Goodman (1976) and Eisner (1982) are also supported to some degree when they claim that each of the arts is independent with a distinct language, structure, syntax and vocabulary. It is generally assumed that the various art forms are involved in the same kind of activity, the accompanying implication being that experience in one kind of art form will suffice as an 'aesthetic education'. The results of this research call into question such an assumption and suggest that aesthetic education must be undertaken specifically in relation to particular arts or activities, in this instance sport and dance.

No other research appears to be available on the effect of school experience on attitudes to aesthetic aspects of sport and dance. Indeed, according to Hendry (1978) little research of any description has been undertaken concerning the influence of school experience on attitudes.

7.2.7 An education with an emphasis on sport will provide positive attitudes to aesthetic aspects of sport and dance (Hypothesis 5.2.6.2)

This hypothesis was tested in exactly the same manner as previously, although in this instance the different school types were boarding schools where an emphasis on sport is provided and comprehensive schools where there is no corresponding emphasis on sport. The detailed results of the analysis of variance, one for each of the separate scales, are shown in Appendix XX, pp.460-464, and a summary of the statistically significant sources of variation are shown in Table 6.6.4, p.273. It can be seen that none of the interactions involving

School Type and Age Group are statistically significant; correspondingly there is no support whatsoever for the hypothesis that an education which emphasises sport promotes positive attitudes to aesthetic aspects of sport and dance.

It is clear from these results that merely participating more frequently in sport does not lead automatically to a greater appreciation of aesthetic qualities in sport or in other forms of human movement such as dance. The results of relevant empirical studies which have been undertaken, both employing the aesthetic dimension of Kenyon's (1968c) ATPA, offer a measure of support to this conclusion. Straub and Felock (1974) for instance report that different PE programmes, backgrounds and experiences had no specific effect on the attitudes of 14 to 16 year old girls and Apgar (1977) found no significant differences between athletes' and non-athletes' attitudes. Schutz et al (1981a) also found from their survey that athletes do not perceive their own sport as being representative of aesthetic experience. Only Alderman's (1970) results conflict with the general trend, but here it should be noted that adult champion athletes were involved, thereby reducing the significance of that research for the present study.

The results reinforce the view expressed in the previous discussion that aesthetic education must be specific. If sports are to be considered seriously as a means of developing aesthetic understanding - which might then be expressed in positive attitudes - then this must be undertaken purposefully and systematically. It should also be recognised that this aesthetic understanding is likely to be restricted to sports and that such education will not necessarily produce individuals who are aesthetically sensitive to dance for instance. Yet it is implicit in the literature which advocates PE as a means of aesthetic education (e.g. Carlisle, 1969; Aspin, 1974, 1974; Meakin,

1980) that not only is a general aesthetic understanding a likely consequence from participation in sports but also that this will happen virtually automatically by mere 'immersion', and the more extensive the experience, the deeper the aesthetic knowledge acquired. This research has shown that these apparent assumptions are optimistic.

### 7.3 Part Two: further considerations

Taken overall, the results of this investigation reveal the relative importance of factors influencing adolescent attitudes to aesthetic aspects of sport and dance. Both sex and social class for instance emerge as factors of some significance whereas a specialist arts or sports education seems to have little impact. With the exception of the very specific instances of ballet and male dancers, family interests do not appear to influence attitudes to any great extent, which is surprising given the body of research supporting the role of the family in attitude formation. Pupils' own interests in arts and sports fare only marginally better, although the impact of TV viewing - albeit in a limited capacity - is worthy of note.

The influence of sex and of social class on attitudes raises the issue of equal opportunities, for the results imply that boys, for the most part, are not being given access to experiences which could develop interest in aesthetic aspects of sport and dance and similarly that children from lower social classes are less aware than their counterparts in higher social groups, of aesthetic matters of this nature. This argument of course is based on the assumption that the promotion of such positive attitudes is desirable, a point which will be returned to later in this section. Moreover, a degree of caution should be exercised in any discussion on alleged discrimination based on these results, for an examination of the mean scale scores for the relevant variables (see Table 6.2.5, p.227 and Table 6.3.5, p.235) show

that with few exceptions, notably ballet, the disparity between the scores for boys and girls, and also those of the different social groups although significant is not great. Furthermore, the scale scores in all instances are not very high, suggesting that positive attitudes to aesthetic aspects of sport and dance in the adolescent population as a whole are not firmly established.

Results also indicate that education in the arts (including dance) and sports has apparently little influence of a positive nature on attitudes. However, it was suggested during the discussion in Part One, that this could be attributed to the absence of relevant and specific teaching and does not necessarily mean that schools could not make any worthwhile impact. The recently published interim report of the National Curriculum Physical Education Working Group (DES, 1991) however may give indications that the current situation is soon to change for the better. It is worth examining this document therefore to ascertain whether attitudes to aesthetic aspects of sport and dance are more likely than hitherto to be promoted among all secondary school pupils when the recommendations of the final report - due to be published in June, 1991 - are finally implemented.

There are a number of encouraging signs. For instance three attainment targets (AT) are proposed, namely Planning and Composing, Participating and Performing, Appreciating and Evaluating, suggesting that pupils will be expected to reflect on their sport and dance experiences. Furthermore, developing artistic and aesthetic understanding is given at the outset (p.5) as a major reason for participation in PE by young people and this objective is explained further in paragraphs 1.14 and 1.15 (pp.7-8). There is also a substantial section on equal opportunities in PE for all children (paras. 2.36-2.41, pp.16-18) which stresses, among other things, that boys should have access to dance, that in general, interpretations of masculinity and femininity in

relation to PE activities must be challenged and that all pupils regardless of sex, social class or cultural background should be given the opportunity to benefit from a full range of experiences in PE.

However, a closer scrutiny of the whole document raises doubts that the development of positive attitudes to aesthetic aspects of sport and dance will indeed be promoted within the proposed National Curriculum. For instance in what could be a deliberate - and understandable - effort to distance the aesthetic from any feminine connotations or associations with emotional reactions, a very objective analytical approach has been taken. It could be described as an Adshead et al (1982) rather than a Ross (1975) view of aesthetic education. Thus aesthetic qualities are to be found within certain activities particularly 'dance as art', but also in gymnastics where "quality and aesthetic elements of movement are emphasised" (p.7) and in competitive activities where "the aesthetic quality may enhance the appreciation of the performance" (p.8). There does not appear to be any reference to a personal response or to the development of positive attitudes in relation to aesthetic aspects of all types of sport and dance. It could be argued of course that the opportunities to analyse and discuss PE from a number of standpoints recommended by this interim report is likely to lead to the removal of prejudices and the growth in positive attitudes. The value of analysis is recognised by writers such as Greger (1972) and Collinson (1973), but they also acknowledge the validity of the feeling component of an aesthetic reaction. Aesthetic education from this latter point of view entails development from a sensory response which may have minimal cognitive content to an affective approach based on knowledge and understanding.

On the other hand, disputing the approach adopted may be of little consequence, for matters of an aesthetic nature do not feature to any great extent in the remainder of the report. For instance, of the

thirty 'End of Key Stage Statements' (pp.29-31), just one mentions the aesthetic (A.T. 3; Key Stage 2; p.31) and this aspect of PE does not feature to any great degree in the statements of attainment which largely constitute the remainder of the document. Doubt is therefore raised that it will be given equal status with other objectives in the final report and this is underlined on examination of the matrix presented (p.63) of the proposed 'Programmes of Study'. Here, although 'Sensory Experience and Aesthetic Expression and Appreciation' is said to permeate "all aspects and all key stages", in the subsequent elaboration, when the six activities comprising the proposed PE programme namely games, dance, gymnastics, athletics, swimming and outdoor activities are described (pp.62-65), no mention of the aesthetic is made in relation to any activity other than dance. Furthermore, in the letter from the Chairman of the Working Group to the Secretaries of State of England and Wales, which is re-printed at the front of the document, PE in the school curriculum is justified in terms of physical development, health benefits, self-confidence and "a range of personal qualities", although later it is mentioned that dance - along with outdoor education - has "a key part to play in physical education". The response which follows from the current Secretary of State for Education, Kenneth Clarke, is even more forthright. In paragraphs 7 and 11 of his letter, he makes it clear that he regards PE primarily as a means of keeping fit and underlines this by requesting just one attainment target, Performance, thereby indicating that time spent on analysis and reflection is inappropriate. Mr. Clarke also appears to question (para. 9) the necessity of including dance in a PE curriculum for all children for this "would have serious implications for many schools". It seems, therefore, that despite the firm commitment made to equal opportunities in this report, access to the full range of experiences within PE for all children is unlikely to materialise.



Both the interim report and the Secretary of State's response raise questions of value and these in turn call for a philosophical discussion which will not be attempted here. Nevertheless, some exploration is warranted of the view that positive attitudes should be developed so that learning within the aesthetic realm can take place.

Perhaps the first point which should be made is that efforts to increase such aesthetic awareness do not mean, in consequence, a rejection of keeping fit as a major objective of PE or the denial that competition is fundamental to sport, for as Urmson (1962) has argued, aesthetic concerns may exist alongside other interests. Raising consciousness of the aesthetic however, brings into greater prominence the quality of play, the manner of performances and this could be regarded as a valuable antidote to excessive preoccupations with the competitive, chauvinistic and aggressive aspects of sport.

It should also be borne in mind that this research has shown that positive attitudes to aesthetic aspects of sport are not necessarily developed by either education in art, music, drama or ballet, nor by more extensive participation in sport. It could be argued therefore that unless specific education is undertaken, an area of knowledge could remain inaccessible to a large proportion of adolescents, particularly boys and those who are from lower socio-economic groups. Furthermore, sport could be a major source of aesthetic satisfaction for some people as Guttman (1986) implies, underlining further the value which should be attached to developing positive attitudes. There are, of course, those who dismiss the idea of aesthetic knowledge and claim that there is nothing of substance to be learnt, but arguments in support of a wider concept of knowledge than one confined merely to the discursive, notably those of L.A. Reid (e.g. 1969b; 1974; 1983) and outlined in Chapter 3, remain convincing.

Dance raises other issues. It is likely for instance that many educationalists would maintain that the incidence of widespread negative attitudes among adolescents to ballet and, to a lesser extent, male dancers as revealed in this research is of no consequence. On the other hand it is generally agreed that a major purpose of education is the eradication of prejudices of all descriptions and besides, as Smith (1986) points out, ballet is an important part of Europe's cultural heritage. It could be argued therefore that children of both sexes and from all social classes and cultural backgrounds should be given access to this art form, at the very least by seeking to remove negative attitudes so that interest and knowledge can be developed. Enabling the release of latent talents in this area is an additional consideration. Boys' negative attitudes to the male dancer are also of concern because they too indicate prejudice, in this case against a certain group, which is particularly unacceptable. They also clearly illustrate the need to extend school experiences to include expressive dance for all pupils for it is surely important that boys as well as girls are free to express, without perception of threat, a range of feelings within a dance form, employing where appropriate movement of a gentle and sensitive character. Similarly of course girls should not be limited by stereotypical expectations, and their use of for example, power and strength in dance should be equally acceptable. Unless all educational experiences are open to all children then the affective development of some could be attenuated and, furthermore, stereotyped interpretations of masculinity and femininity within dance could continue unabated.

There are however other results from this research which need to be taken into account. It seems that adolescents of both sexes and from all social, cultural and educational backgrounds share, to a degree, common attitudes to dance as an activity apparently distinguishing this

from dance as art. This suggests that the task of developing positive attitudes to the aesthetic should be undertaken in part within a popular dance framework. Freedman (1988) among others has argued that 'popular arts' should be valued equally with 'high arts', while surveys (e.g. Hendry, 1983; 1987) consistently highlight dancing as a major interest of pupils of secondary school age. A broader dance curriculum is therefore implied than that apparently recommended in the National Curriculum Interim PE report, involving a wide range of dance experiences. Furthermore by focusing initially on attitude formation, aesthetic awareness in relation to all types of dance could possibly then be developed.

But scepticism that schools can make any impact on attitudes continues to find expression in the literature despite, according to Hendry (1978), little research actually having been undertaken. On a wider, front, Eysenck (1981) goes so far as to claim that aesthetic ability is largely innate and owes little to explicit teaching, but this conclusion is based on slender evidence, namely the results of one test, the Visual Aesthetic Sensitivity Test. A more reasonable proposition seems to be that of Hakstian and Cattell (1974) who believe that 'Esthetic Judgement' could be a complex construct involving perhaps a combination of primary abilities and an experiential component. It is the nature of the latter which is at issue here.

A number of writers stress the influence of the mass media on adolescents, Conway et al (1981) even suggesting that this may be emerging as the major determinant of their attitudes and values. Although empirical support for this view is as yet not forthcoming (McGuire, 1985) the high - and growing - TV viewing figures for adolescents suggest that some influence from this media source is inevitable. An indication that this may indeed be the case emerges from this research, for it appears from the results in relation to

Scale 4, that attitudes to the aesthetic in sport are influenced by the degree and nature of TV viewing. On an anecdotal level, the apparent power of TV on public awareness of one of the arts, opera, was seen during the televising of the World Cup Soccer Competition during 1990 when the aria *Nessun Dorma* from Puccini's opera 'Turandot' and sung by Luciano Pavarotti was used throughout to introduce and close BBC TV coverage of the event. Not only did this record remain at the top of the 'popular singles' charts for several weeks, but a long-playing record featuring excerpts from other operas sung by Pavarotti also reached, and maintained for some time, this coveted position, causing the conclusion to be drawn by many that a sizeable proportion of soccer fans were now more positively disposed to opera. On the one hand this apparent phenomenon could be interpreted as evidence for the attitudinal effects of mere exposure referred to by Rajecki (1982), on the other it could merely indicate a temporary shift of opinion (Cialdini et al, 1976) rather than a permanent attitude change and research will be needed to establish the nature and extent of any perceived influences. The highly popular TV series of some years ago, entitled 'Fame', which depicted a rather glamorous performing arts school in New York, provides another example for it was widely credited at the time with promoting more positive attitudes to dance among boys. Tentative support is offered for this notion from this research in that no sex differences were found in attitudes to Dance Performances (Scale 6), which were interpreted it seems in terms of popular stage dance as seen in 'Fame' and other TV shows. It is significant perhaps in the context of the results of this research that a similar series featuring ballet in a positive manner, has not appeared. Indeed TV, along with teenage magazines and the popular press, could be held responsible for helping to sustain negative portrayals of this type of dance and especially the male ballet dancer, as well as promoting aggressive images of sport.

On this account serious consideration should be given to the view that the media are a major determinant of adolescent attitudes to aesthetic aspects of sport and dance, for currently there is little substantial influence of a positive nature from schools and also, according to this research, any family interests in this area seem to have limited impact. Yet leaving the formation of attitudes virtually entirely to the media is surely unacceptable. Sports and dances in their various forms are important constituents of culture in England and attitudes to aspects of them should be of some concern to educationalists. In particular, positive attitudes to the aesthetic dimension should be encouraged quite specifically, so that adolescents can become more sensitive to the qualities of the dance or sport itself. In addition to the arguments advanced earlier in this discussion, an aesthetic approach to the dance forms of ethnic minority groups for instance could be seen as an essential part of anti-racist education.

Aesthetic education therefore should be an important constituent of the National PE Curriculum, but it is evident from the Minister of State's letter that the resources necessary for the full implementation of this objective are unlikely to be forthcoming and so it seems that alternative strategies need to be considered.

One proposal could be the concentration of any finance and expertise into providing a 'single significant experience' (Ajzen, 1984) for every secondary school child, implementing the 'trauma' theory of D.H. Hargreaves (1983). This implies a massive extension of the 'Dance Artists in Education' scheme and an immediately obvious difficulty here is the lack of adequate numbers of dance companies able to virtually guarantee the provision of high quality experiences. A more practical suggestion might be an appropriate theatre visit, but this of course raises the enormous problem of trying to ensure that this single experience would indeed be a positive one for each pupil. There is the

chance that the 'trauma' could be negative in character. A further objection to this approach might be that practical experience is essential if positive attitudes are to be developed and the latter certainly seems to be the policy currently adopted by most education units of dance companies. There is however a body of opinion, represented by, for instance, White (1973) and Redfern (1986) which holds that the appreciative mode should take precedence in aesthetic education. But an overriding objection to the 'single significant experience' approach to promoting positive attitudes to aesthetic aspects of PE among adolescents is likely to be that it focuses on dance. It is difficult to see how the aesthetic in sport could be promoted in a similar fashion. Video-tapes of selected sports performances, for instance, no matter how carefully compiled, would not on the face of it, provide an experience paralleling that of a well-chosen theatre visit.

Another option lies in directing attention towards the primary schools, thereby signalling more involvement in attitude formation rather than attitude change. A conclusion drawn from the results of this research is that attitudes to aesthetic aspects of sport and dance are established before pupils enter secondary school at eleven years of age and these do not vary to any significant degree during the ensuing five years. Furthermore, it seems from studies in both England (e.g. Leaman, 1984) and the USA (e.g. Gardner, 1981) that negative attitudes to dance are already in evidence among primary school children. According to McGuire (1985) who cites a number of studies in support, age has a monotonic inverted-U relationship to influencibility with maximum suggestibility occurring at nine years of age, and this, taken in conjunction with the previous information, implies that energy and resources should be directed towards children in junior schools. The successful implementation of any National PE Curriculum will require a

substantial in-service programme for teachers of this age-group for few have had more than a brief introduction to the teaching of PE during their initial training, and an aesthetic dimension to the subject could readily be incorporated. Moreover, primary school teachers could well be more amenable to aesthetic considerations than some of their specialist PE colleagues in secondary schools.

The question remains however whether it is possible to develop positive attitudes to aesthetic aspects of sport and dance in young children. A cautious response in the affirmative is suggested from the meagre research available of any relevance, virtually all of which has been undertaken by the Project Zero team in the USA. Gardner (1981) for example suggests that there is a natural breakdown of literalism between the ages of nine and thirteen when sensitivity to expressive aspects emerges and so this would be an ideal time for pedagogical intervention. He also reports, however, that a few weeks of 'appropriate' training can transform a 'literal' seven to nine year old child who focuses exclusively on representative characteristics into a more aesthetically sensitive individual. Clearly a good deal of further research is required to establish the validity or otherwise of these conclusions, especially as the literature review reveals that Project Zero studies have been subject to considerable criticism. It is also apparent that if the major focus for aesthetic education in PE is to be in the primary school, then some effort would have to be made during the adolescent period to maintain positive attitudes.

It may be the case, as Taylor and Mardle (1986) remark, that schools are limited in what they can do because of the "overpowering images" transmitted by other sections of society. Nevertheless it is incumbent upon them to make every effort to increase pupils' awareness, knowledge and understanding across a number of dimensions including the aesthetic, compensating where necessary for any inadequacies in family

and cultural environments. Positive attitudes are generally regarded as a pre-requisite for learning in any domain and, as Lewis (1974) points out, one of the main functions of an education system is often held to be "the inculcating of appropriate attitudes" (p.155). A National PE Curriculum, incorporating statutory requirements, presents an invaluable opportunity to promote positive attitudes among all pupils to an aspect of PE activities which has to date been largely neglected, the aesthetic. Future research might then reveal school experiences in PE as a major factor in determining attitudes, rather than social class and sex influences which, according to the results of this research, currently predominate.

#### 7.4 Criticisms of the study

There are a number of criticisms which could be made of this research:

7.4.1 An objection could be advanced to the interpretation of the aesthetic which determined in some instances, the scoring of the scales. For example it could be argued that the general atmosphere at a sporting occasion, including cheering, is part of the aesthetic aspect of sport. Similarly, exciting movement, bright and cheerful costumes and music with a good rhythm and beat might be regarded as more aesthetically relevant to dance than credited by the scoring system.

7.4.2 A related criticism might be that a concept of the aesthetic which is too mature and complex was adopted in an investigation involving eleven to sixteen year olds, and furthermore this was the cause of the unexpected results involving Scale 3 referred to earlier in this chapter. It is possible that too sophisticated an interpretation of the aesthetic by the investigator may paradoxically



have favoured those adolescents who actually hold less positive attitudes. Two statements from Scale 3 are used as illustrations of the problem.

(a) Statement 2: All dancers are athletes in their own way.

This was considered to express a negative attitude and scored accordingly, based on the investigator's view that dancers are involved in an aesthetic activity where expression and communication are important and they should not be regarded primarily as performers of outstanding physical feats. However an adolescent could have disagreed strongly with the statement not from any aesthetic considerations but for reasons of prejudice, refusing to recognise the athletic ability of dancers, preferring to regard them as inferior in this respect. On the other hand, it is possible that those of secondary school age favourably disposed towards dance would regard this as a positive statement.

(b) Statement 6: When dancers stand on their toes they look much more elegant.

This was scored in terms of a negative statement as it was judged by the investigator to reveal a limited view of the aesthetic in dance. But an adolescent who also disagreed with the statement could have done so, not on aesthetic grounds, but from a position of prejudice possibly against ballet and been rewarded with a higher score.

A revision should therefore be undertaken of Scale 3 involving both the removal of ambiguities and the employment of a scoring system in accordance with a concept of the aesthetic more appropriate to eleven to sixteen year olds. Meanwhile the validity of this scale is called into question despite the statistical and other measures taken to establish this.

7.4.3 The Questionnaire could be criticised for its length, implying that information should have been sought only on the dependent and independent variables relevant to the study. It could be claimed further, that in its present form a considerable degree of concentration and comprehension is required for completion and this necessarily limits any sample to those of above average academic attainment.

As the frequencies for variable 3 indicate that most of the pupils were in mixed ability groups, individual academic attainment in consequence remaining unidentified, and relevant comments were not made by teachers, this point cannot be proved or disproved from the present investigation.

7.4.4 Pupils' leisure interest measures concentrated to a large extent on the 'high arts' listing serious music, drama, ballet and so on. Only the category 'Stage Dance' for instance offered the opportunity for the expression of an interest in any popular dancing such as aerobics, disco or street dances of various kinds. These and other known interests of adolescents should perhaps have been taken into account in the devising of the Questionnaire as these could be factors influencing attitudes to the aesthetic in sport and dance.

7.4.5 When measures were obtained from the ratings of both family and pupil interests for the regression analyses, all the sports listed were combined into one category. Greater precision in results might have been forthcoming if a distinction had been made between the more competitive activities of athletics and games on the one hand, and gymnastics, ice-skating, swimming/diving, where aesthetic considerations are regarded by many as integral to the activity, on the other.

7.4.6 Problems encountered in the selection of the sample have been listed in 5.3.3 and 5.6.4. Small sample numbers in the 11 and the 16

year old age groups, and in the unskilled and semi-skilled social classes imposed some limitations on the analyses which were undertaken.

### 7.5 Suggestions for future research

There are extensive opportunities for research in the area of adolescent attitudes to aesthetic aspects of sport and dance, for it seems from the literature review that little work of this nature has as yet been undertaken. The suggestions made here are restricted to those arising from the results of the present investigation and the subsequent discussion.

7.5.1 After further refinement, particularly of Scale 3, all the scales could then be employed in further research. It would be of particular interest to monitor the influence of the National PE Curriculum on adolescent attitudes to aesthetic aspects of sport and dance, from its implementation in September, 1992.

7.5.2 Some of the dance scales would also be useful in ascertaining whether perceived attitude changes often reported after the completion of 'Dance artists in education' schemes or other similar 'treatments' are indeed permanent attitude changes or merely temporary shifts of opinion.

7.5.3 A shortened version of the Questionnaire used in this investigation, might encourage application across all academic attainment groups. Furthermore the inclusion of appropriate measures of academic attainment would permit the latter to be taken into account as an independent variable in future investigations.

7.5.4 Additional attitude scales should be developed. A factor analysis performed on the data gained from responses to the 68 statements included at the end of the Questionnaire has revealed the

likelihood of further viable scales from this source, but there is obviously scope for the development of a wide range of scales from alternative bases. For instance it would be useful to have measures of attitudes to aesthetic aspects of specific sports or even more precisely, particular types of games, athletics and so on.

7.5.5 There may also be a need for separate scales for younger (11 to 13 years) and older (14 to 16 years) adolescents. A scale intended for use throughout the 11 to 16 age range, a period of great change, could be regarded as too blunt a measuring instrument.

7.5.6 Measures of attitude could be developed for primary school children enabling research to be undertaken along similar lines to that suggested for secondary school pupils.

7.5.7 It would be interesting to investigate the possible influences on attitude of adolescents' actual leisure interests, including the nature and extent of their TV viewing.

7.5.8 Exploring the relationship between expressed attitudes and other measurable capacities such as personality would add to knowledge in the area.

Studies of this nature could supply information of value to all educationalists but particularly those interested in sport and dance as part of aesthetic education.

## Chapter 8 - Summary of conclusions

- 8.1 Attitudes of secondary pupils to aesthetic aspects of sport and dance do not vary to any significant extent between the ages of eleven and sixteen. There is therefore no evidence that the objective of developing aesthetic awareness in PE is being achieved.
- 8.2 Extensive sports experience such as that provided by schools which place an emphasis on sport, does not appear to promote positive attitudes to aesthetic aspects of sport and dance. Physical education undertaken with the specific intention of developing these capacities seems to be necessary.
- 8.3 A specialist education in one or more of the arts does not in the main appear to produce more positive attitudes to aesthetic aspects of sport and dance. The specific nature of the education required is therefore highlighted.
- 8.4 The single instance of the apparent impact of a specialist education, namely the positive attitudes to ballet of female pupils, serves to underline conclusion 8.3, above, particularly when contrasted with the decline in the incidence of positive attitudes of boys at the same schools.
- 8.5 The sex factor is an influence on attitudes but the nature of the impact is complex.
- 8.6 Boys' attitudes to ballet and to the male (expressive) dancer are less positive than those of girls, but there are no significant differences in attitudes to dance performances in general, indicating the precise nature of male prejudices to dance.

- 8.7 Attitudes to aesthetic aspects of sport also vary with sex, girls displaying the more favourable attitudes on two of the three relevant scales.
- 8.8 The differential effect of the sex variable is likely to be due to the distinct PE experiences of boys and girls, reinforced by cultural influences and expectations.
- 8.9 When an aesthetic approach to sport is presented within an acceptable framework, as on TV sports programmes, it is more likely to be regarded by boys in a favourable manner.
- 8.10 Social class is an effective determinant of attitude to aesthetic aspects of sport and dance, with more favourable attitudes generally being displayed by those from a higher social class, although this conclusion requires some qualification.
- 8.11 Positive attitudes to ballet increase in line with social class only for girls. Boys' negative attitudes do not vary with their socio-economic background. The popularly held view of ballet as an interest suitable particularly for females in the middle and higher social classes is therefore confirmed.
- 8.12 There is little difference in attitude to dance as an activity (Scale 3) across the social classes.
- 8.13 Relatively low mean scores imply that positive attitudes to aesthetic aspects of sport and dance are not firmly established among any group of adolescents. This in turn indicates that at present aesthetic education in this area is not being purposefully undertaken.

- 8.14 Family interests in arts and sports appear to promote positive attitudes although for the most part this influence is of weak intensity.
- 8.15 The impact of family interests is greatest on attitudes to ballet and male dancers but the nature of this influence is both precise and limited. It seems that the family's general dance interest has the major effect, whereas interests in other arts appear as unimportant.
- 8.16 The family's general dance interest positively influences attitudes to dance as art, but does not generalise to any great extent by promoting interest in aesthetic aspects of sport or other types of dance.
- 8.17 Generally, family interests in sport seem to make little contribution to the promotion of positive attitudes.
- 8.18 The importance of the sex and social class factors in association with family interests in influencing attitudes to aesthetic aspects of sport and dance is highlighted.
- 8.19 Pupils' leisure interest in arts and sports appear to exert an influence on attitudes and although this is marginally greater than that of their families' interests, it remains for the most part of weak intensity.
- 8.20 The pattern of influence of family and pupil interests appears to be similar.
- 8.21 The most significant effect of pupil interests seems to be limited to attitudes to ballet and the male dancer.
- 8.22 Adolescents' general interest in dance is apparently the major influence on attitudes to ballet and male dancers.

- 8.23 Adolescents' general dance interest does not appear to lead to the adoption of an aesthetic approach to sport and all types of dance.
- 8.24 Interests in other arts, that is music, art and drama, do not contribute in any substantial way to positive attitudes to ballet and male dancers.
- 8.25 Pupils' leisure interests in sport do not feature for the most part as important influences on attitudes to aesthetic aspects of sport and dance.
- 8.26 The apparent influence, although small, of TV viewing on attitudes to slow motion replays on TV illustrates the close relationship which seems to exist between pupil interests and positive attitudes.
- 8.27 The importance of sex and social class factors in association with pupil interests as influences on attitudes is also highlighted.
- 8.28 The apparently specific nature of the influence of family and pupil interests on attitudes is underlined by the results taken overall.
- 8.29 The attitude scales should be further refined for future studies.
- 8.30 In particular, ambiguities should be removed from Scale 3, Attitude to Dance, and the scoring system revised.
- 8.31 It may be necessary to adopt a less sophisticated concept of the aesthetic in relation to sport and dance in the scoring of some of the scales.



- 8.32 A modified version of the Questionnaire incorporating revised attitude scales and a reduced number of independent variables could be employed in future research.
- 8.33 Scant research appears to be available on attitudes to aesthetic aspects of sport and dance. There are therefore opportunities for a wide range of investigations in this area.
- 8.34 In particular, the impact of the proposed National PE Curriculum should be monitored for its effect on attitudes to aesthetic aspects of sport and dance.
- 8.35 Information has been revealed from this research which is of relevance to teachers, curriculum planners and other educationalists who are interested not only in an aesthetic dimension of PE but also in the overall aesthetic education and development of adolescents.

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## Appendix I

### Pilot Study Questionnaire

# **ARTS AND SPORTS QUESTIONNAIRE**

**DEPARTMENT OF EDUCATION  
UNIVERSITY OF MANCHESTER  
1985**



REFERENCE  
NUMBER/NAME

You are being asked to help in a study concerning the experience and views of young people in secondary high schools, about various arts and sports. The information you give by filling in the three parts of this questionnaire will be most useful. You are asked to be honest and truthful in your answers which will be treated as highly confidential and private.

PERSONAL DETAILS

SCHOOL \_\_\_\_\_

FORM \_\_\_\_\_

YEAR GROUP	1st	2nd	3rd	OFFICE USE	
				COLS. 1-4	CODE
AGE	11	12	13	14	
	15	16	(please circle)		
SEX	BOY	GIRL	(please circle)		

FOR	
COLS.	CODE
ID 1-4	
ON 5	1
SL 6	
P 7-8	
YQ 9	
A 10-11	
S 12	
SC 13	

Below are some lists of different kinds of work.

- (a) Tick ONE which comes closest to describing the work of your FATHER (or male guardian).
- (b) Tick ONE which comes closest to describing the work of your MOTHER (or female guardian).

	MALE	FEMALE
Unemployed; retired; looks after home and family.	<input type="checkbox"/>	<input type="checkbox"/>
Salesman/woman - such as real estate or insurance salesman/woman, factory representative etc.	<input type="checkbox"/>	<input type="checkbox"/>
Technical - such as draftsman/woman, surveyor, medical or dental technician etc.	<input type="checkbox"/>	<input type="checkbox"/>
Work person or labourer - such as factory or mine worker, fisherman, filling station attendant, oil rig-worker, cleaner etc.	<input type="checkbox"/>	<input type="checkbox"/>
Manager - such as sales manager/ess, store manager/ess, office manager/ess, business manager/ess, factory supervisor etc.	<input type="checkbox"/>	<input type="checkbox"/>
Clerical worker - such as bank-teller, book-keeper, sales clerk, office clerk, typist, secretary, etc.	<input type="checkbox"/>	<input type="checkbox"/>
Professional - such as actor, accountant, artist, clergyman, scientist, teacher, musician, journalist, writer, etc.	<input type="checkbox"/>	<input type="checkbox"/>
Service worker - such as hairdresser, postman/woman, shop assistant, waiter/waitress, receptionist etc.	<input type="checkbox"/>	<input type="checkbox"/>
Official - such as manufacturer, officer in a large company, banker, government official or inspector etc.	<input type="checkbox"/>	<input type="checkbox"/>
Skilled worker or foreman - such as baker, carpenter, electrician, enlisted man/woman in the armed forces, mechanic, plumber, plasterer, tailor/ess, foreman/woman in factory or mine etc.	<input type="checkbox"/>	<input type="checkbox"/>
Protective worker - such as a policeman/woman, fireman, detective,	<input type="checkbox"/>	<input type="checkbox"/>
Semi-skilled worker - such as factory machine operator, bus or cab driver, lorry driver etc.	<input type="checkbox"/>	<input type="checkbox"/>
Proprietor or owner - such as owner of a small business, wholesaler, retailer, contractor, restaurant owner etc.	<input type="checkbox"/>	<input type="checkbox"/>
I don't know.	<input type="checkbox"/>	<input type="checkbox"/>

What is your experience of various arts and sports?

On the next few pages you will find a number of questions about how often you take part in various arts and sports.

In each case answer by ticking ONE of the alternatives:

VO	O	S	N	U
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

VERY OFTEN (VO) means regular involvement in an art or sport activity such as every week or almost every week throughout a year or a season.

OFTEN (O) means regularly although not every week and not always every year or season.

SOMETIMES (S) means now and again but not on a regular basis.

NEVER (N) means no experience at all of the activity.

UNCERTAIN (U) means not sure whether the activity has been experienced or not.

Read the example carefully before you begin to answer the questions.

# QUESTIONNAIRE

## PART I

EXAMPLE - In your PRIMARY SCHOOL did you have lessons in:

Athletics

VO ☐ O ☒ S ☐ N ☐ U ☐

Ice-Skating

VO ☐ O ☐ S ☐ N ☒ U ☐

Ticking the box **OFTEN** for Athletics means that you had lessons fairly regularly during the athletics season, but not every week and not in every class in primary school.

Ticking the box **NEVER** for Skating means that you were never given ice-skating lessons during school time.

If you make a mistake put a line through your tick like this ☒ and put in another one.

NOW BEGIN - read each question carefully before you answer.

PRIMARY SCHOOL

In your primary school did you have lessons in:

Art

VO ☐ O ☐ S ☐ N ☐ U ☐

Ballet

VO ☐ O ☐ S ☐ N ☐ U ☐

Creative Dance

VO ☐ O ☐ S ☐ N ☐ U ☐

Drama

VO ☐ O ☐ S ☐ N ☐ U ☐

Folk/National Dance

VO ☐ O ☐ S ☐ N ☐ U ☐

Games

VO ☐ O ☐ S ☐ N ☐ U ☐

Gymnastics

VO ☐ O ☐ S ☐ N ☐ U ☐

Music

VO ☐ O ☐ S ☐ N ☐ U ☐

Music & Movement (radio)

VO ☐ O ☐ S ☐ N ☐ U ☐

VO = Very Often    O = Often    S = Sometimes    N = Never    U = Uncertain

SECONDARY HIGH SCHOOL

PRACTICAL EXPERIENCE: Do you have lessons when you are involved practically in:

Art

VO ☐ O ☐ S ☐ N ☐ U ☐

Drama

VO ☐ O ☐ S ☐ N ☐ U ☐

Music

VO ☐ O ☐ S ☐ N ☐ U ☐

Ballet

VO ☐ O ☐ S ☐ N ☐ U ☐

Creative/Modern Dance

VO ☐ O ☐ S ☐ N ☐ U ☐

Folk/National Dance

VO ☐ O ☐ S ☐ N ☐ U ☐

Stage Dance

VO ☐ O ☐ S ☐ N ☐ U ☐

Gymnastics

VO ☐ O ☐ S ☐ N ☐ U ☐

Athletics

VO ☐ O ☐ S ☐ N ☐ U ☐

Games

VO ☐ O ☐ S ☐ N ☐ U ☐

Ice Skating

VO ☐ O ☐ S ☐ N ☐ U ☐

Swimming/Diving

VO ☐ O ☐ S ☐ N ☐ U ☐

VO = Very Often    O = Often    S = Sometimes    N = Never    U = Uncertain

SECONDARY HIGH SCHOOL

APPRECIATION: Do you have lessons when you mainly listen to and/or watch the following?

OUTSIDE SCHOOL TIME  
Lunch time, evening, week-end, holiday.

PRACTICAL EXPERIENCE: are you involved practically in the following activities either on the school premises (e.g. extra lessons, club, orchestra, team) or elsewhere (e.g. private lessons, youth club):

	FOR OFFICE USE					CODE
	VO	O	S	N	U	
Art (paintings, sculpture)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	35
Drama	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	36
Music	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	37
Ballet	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	38
Creative/Modern Dance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	39
Folk/National Dance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	40
Stage Dance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	41
Gymnastics	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	42
Athletics	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	43
Games	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	44
Ice-Skating	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	45
Swimming/Divng	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	46

	FOR OFFICE USE					CODE
	VO	O	S	N	U	
Art	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	47
Drama	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	48
Music	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	49
Ballet	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	50
Creative/Modern Dance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	51
Folk/National Dance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	52
Stage Dance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	53
Gymnastics	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	54
Athletics	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	55
Games	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	56
Ice-skating	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	57
Swimming/Divng	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	58

VO = Very Often O = Often S = Sometimes N = Never U = Uncertain

OUTSIDE SCHOOL TIME

Lunch time, evening, week-end, holiday.

APPRECIATION - do you visit art galleries, sports grounds, theatres etc. to look at and/or listen to the following:

FOR OFFICE		COLS. CODE	
		COLS.	CODE
Art (paintings, sculpture)	VO <input type="checkbox"/> O <input type="checkbox"/> S <input type="checkbox"/> N <input type="checkbox"/> U <input type="checkbox"/>	59	
Plays	VO <input type="checkbox"/> O <input type="checkbox"/> S <input type="checkbox"/> N <input type="checkbox"/> U <input type="checkbox"/>	60	
Music (Concerts/Opera)	VO <input type="checkbox"/> O <input type="checkbox"/> S <input type="checkbox"/> N <input type="checkbox"/> U <input type="checkbox"/>	61	
Ballet	VO <input type="checkbox"/> O <input type="checkbox"/> S <input type="checkbox"/> N <input type="checkbox"/> U <input type="checkbox"/>	62	
Creative/Modern Dance	VO <input type="checkbox"/> O <input type="checkbox"/> S <input type="checkbox"/> N <input type="checkbox"/> U <input type="checkbox"/>	63	
Folk/National Dance	VO <input type="checkbox"/> O <input type="checkbox"/> S <input type="checkbox"/> N <input type="checkbox"/> U <input type="checkbox"/>	64	
Stage Dance	VO <input type="checkbox"/> O <input type="checkbox"/> S <input type="checkbox"/> N <input type="checkbox"/> U <input type="checkbox"/>	65	
Gymnastics	VO <input type="checkbox"/> O <input type="checkbox"/> S <input type="checkbox"/> N <input type="checkbox"/> U <input type="checkbox"/>	66	
Athletics	VO <input type="checkbox"/> O <input type="checkbox"/> S <input type="checkbox"/> N <input type="checkbox"/> U <input type="checkbox"/>	67	
Games	VO <input type="checkbox"/> O <input type="checkbox"/> S <input type="checkbox"/> N <input type="checkbox"/> U <input type="checkbox"/>	68	
Ice-skating	VO <input type="checkbox"/> O <input type="checkbox"/> S <input type="checkbox"/> N <input type="checkbox"/> U <input type="checkbox"/>	69	
Swimming/Dividing	VO <input type="checkbox"/> O <input type="checkbox"/> S <input type="checkbox"/> N <input type="checkbox"/> U <input type="checkbox"/>	70	

VO = Very Often O = Often S = Sometimes N = Never U = Uncertain

OUTSIDE SCHOOL TIME

Lunch time, evening, week-end, holiday.

TELEVISION - do you watch the following on T.V.:

OFFICE USE		COLS. CODE	
		COLS.	CODE
Art programmes	VO <input type="checkbox"/> O <input type="checkbox"/> S <input type="checkbox"/> N <input type="checkbox"/> U <input type="checkbox"/>	1	
Plays	VO <input type="checkbox"/> O <input type="checkbox"/> S <input type="checkbox"/> N <input type="checkbox"/> U <input type="checkbox"/>	2	
Music (Concerts, Opera)	VO <input type="checkbox"/> O <input type="checkbox"/> S <input type="checkbox"/> N <input type="checkbox"/> U <input type="checkbox"/>	3	
Ballet	VO <input type="checkbox"/> O <input type="checkbox"/> S <input type="checkbox"/> N <input type="checkbox"/> U <input type="checkbox"/>	4	
Creative/Modern Dance	VO <input type="checkbox"/> O <input type="checkbox"/> S <input type="checkbox"/> N <input type="checkbox"/> U <input type="checkbox"/>	5	
Folk/National Dance	VO <input type="checkbox"/> O <input type="checkbox"/> S <input type="checkbox"/> N <input type="checkbox"/> U <input type="checkbox"/>	6	
Stage Dance	VO <input type="checkbox"/> O <input type="checkbox"/> S <input type="checkbox"/> N <input type="checkbox"/> U <input type="checkbox"/>	7	
Gymnastics	VO <input type="checkbox"/> O <input type="checkbox"/> S <input type="checkbox"/> N <input type="checkbox"/> U <input type="checkbox"/>	8	
Athletics	VO <input type="checkbox"/> O <input type="checkbox"/> S <input type="checkbox"/> N <input type="checkbox"/> U <input type="checkbox"/>	9	
Games	VO <input type="checkbox"/> O <input type="checkbox"/> S <input type="checkbox"/> N <input type="checkbox"/> U <input type="checkbox"/>	10	
Ice-skating	VO <input type="checkbox"/> O <input type="checkbox"/> S <input type="checkbox"/> N <input type="checkbox"/> U <input type="checkbox"/>	11	
Swimming/Dividing	VO <input type="checkbox"/> O <input type="checkbox"/> S <input type="checkbox"/> N <input type="checkbox"/> U <input type="checkbox"/>	12	

VO = Very Often O = Often S = Sometimes N = Never U = Uncertain

Are MEMBERS OF YOUR FAMILY interested in arts and sports?

In this section you are asked to show how much they are interested and involved in particular activities by ticking ONE of the boxes.

VO    O    S    N    U  
☐   ☐   ☐   ☐   ☐

**VERY OFTEN (VO)**

means at least one person in your family is involved every week throughout the year or season and is very enthusiastic.

**OFTEN (O)**

means at least one person is involved regularly but not always every week.

**SOMETIMES (S)**

means at least one person shows interest now and again but not on a regular basis.

**NEVER (N)**

means that no-one is interested or involved.

**UNCERTAIN (U)**

means that you aren't sure if anyone in your family is interested or not.

Remember:

you tick ONE box only

If several members of your family are interested in a particular arts or sports activity, then choose the one with the greatest interest and tick the appropriate box.

Read the example carefully before you begin to answer the questions.

QUESTIONNAIRE

PART II

# PRACTICAL EXPERIENCE

Do members of your family take part in a practical way in the following? Tick **ONE** box only for each activity.

## EXAMPLE

Do any members of your family take part in a practical way in the following:

GAMES ☐ VO ☐ O ☒ S ☐ N ☐ U ☐

If: your sister plays tennis **OFTEN**

your father plays football **SOMETIMES**

Then you would choose the **greater** interest and tick **OFTEN** as shown above.

If you make a mistake cross out your first tick

like this ☒ and put in another one.

		FOR OFFICE USE			
		COLS.	CODE		
Art (e.g. painting, sculpture)	VO <input type="checkbox"/> O <input type="checkbox"/> S <input type="checkbox"/> N <input type="checkbox"/> U <input type="checkbox"/>	18			
Drama	VO <input type="checkbox"/> O <input type="checkbox"/> S <input type="checkbox"/> N <input type="checkbox"/> U <input type="checkbox"/>	19			
Music	VO <input type="checkbox"/> O <input type="checkbox"/> S <input type="checkbox"/> N <input type="checkbox"/> U <input type="checkbox"/>	20			
Ballet	VO <input type="checkbox"/> O <input type="checkbox"/> S <input type="checkbox"/> N <input type="checkbox"/> U <input type="checkbox"/>	21			
Creative/Modern Dance	VO <input type="checkbox"/> O <input type="checkbox"/> S <input type="checkbox"/> N <input type="checkbox"/> U <input type="checkbox"/>	22			
Folk/National Dance	VO <input type="checkbox"/> O <input type="checkbox"/> S <input type="checkbox"/> N <input type="checkbox"/> U <input type="checkbox"/>	23			
Stage Dance	VO <input type="checkbox"/> O <input type="checkbox"/> S <input type="checkbox"/> N <input type="checkbox"/> U <input type="checkbox"/>	24			
Gymnastics	VO <input type="checkbox"/> O <input type="checkbox"/> S <input type="checkbox"/> N <input type="checkbox"/> U <input type="checkbox"/>	25			
Athletics	VO <input type="checkbox"/> O <input type="checkbox"/> S <input type="checkbox"/> N <input type="checkbox"/> U <input type="checkbox"/>	26			
Games	VO <input type="checkbox"/> O <input type="checkbox"/> S <input type="checkbox"/> N <input type="checkbox"/> U <input type="checkbox"/>	27			
Ice-skating	VO <input type="checkbox"/> O <input type="checkbox"/> S <input type="checkbox"/> N <input type="checkbox"/> U <input type="checkbox"/>	28			
Swimming/Divng	VO <input type="checkbox"/> O <input type="checkbox"/> S <input type="checkbox"/> N <input type="checkbox"/> U <input type="checkbox"/>	29			

VO - Very Often O - Often S - Sometimes N - Never U - Uncertain

# APPRECIATION

Do members of your family visit art galleries, sports grounds, theatres etc. to watch and/or listen to the following? Tick ONE box only for each activity.

	FOR OFFICE USE				
Art (paintings, sculpture)	VO	O	S	N	U
Plays	VO	O	S	N	U
Music (concerts/opera)	VO	O	S	N	U
Ballet	VO	O	S	N	U
Creative/Modern Dance	VO	O	S	N	U
Folk/National Dance	VO	O	S	N	U
Stage Dance	VO	O	S	N	U
Gymnastics	VO	O	S	N	U
Athletics	VO	O	S	N	U
Games	VO	O	S	N	U
Ice-skating	VO	O	S	N	U
Swimming/Dividing	VO	O	S	N	U

VO = Very Often O = Often S = Sometimes N = Never U = Uncertain

# TELEVISION

Do members of your family watch the following on T.V.? Tick ONE box for each activity:

	FOR OFFICE USE				
Art programmes	VO	O	S	N	U
Plays	VO	O	S	N	U
Music (concerts/opera)	VO	O	S	N	U
Ballet	VO	O	S	N	U
Creative/Modern Dance	VO	O	S	N	U
Folk/National Dance	VO	O	S	N	U
Stage Dance	VO	O	S	N	U
Gymnastics	VO	O	S	N	U
Athletics	VO	O	S	N	U
Games	VO	O	S	N	U
Ice skating	VO	O	S	N	U
Swimming/Dividing	VO	O	S	N	U

VO = Very Often O = Often S = Sometimes N = Never U = Uncertain



QUESTIONNAIRE

PART III

On the following pages are statements concerning various aspects of sport and dance. For each of them you are asked to say whether you agree or disagree with the statement and by how much.

If you STRONGLY AGREE	tick the box SA	SA <input type="checkbox"/>
If you AGREE	tick the box A	A <input type="checkbox"/>
If you DISAGREE	tick the box D	D <input type="checkbox"/>
If you STRONGLY DISAGREE	tick the box SD	SD <input type="checkbox"/>
If you are UNDECIDED	tick the box U	U <input type="checkbox"/>

EXAMPLE

I enjoy ballet more in a theatre than watching on TV.

If you **STRONGLY DISAGREE** then you would tick the box **SD** as shown.

If you change your mind, please put a line through your tick like this **SD** and put in another one.

Read carefully each of the following statements and give your opinion by ticking **ONE** of the boxes.

BEGIN HERE

1. In a sporting event very difficult movements create a tense atmosphere which I enjoy.

2. To enjoy success in sport you need failures.

3. You have to see a whole ballet or dance to appreciate it properly.

4. I hate to see movement that is unnatural like in ballet or gymnastics.

5. I enjoy an athletic event more if I know a world record has been set.

6. A woman athlete shouldn't look big and muscular like a man.

7. Ballet can look so pure, so beautiful.

8. I feel disappointed if an athlete fails.

9. It's unnatural to stand on tip-toes as in ballet.

10. A costume does not help if the performer is not dancing well.

11. People who do a particular sport or event see it from a different angle than us.

FOR OFFICE  
USE

COMS.	CODE
SD	
1-4	
5	
6	
7	
8	
9	
10	
11	
12	
13	
14	
15	
16	

SA ☐ A ☐ D ☐ SD ☒ U ☐

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FOR OFFICE  
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COMS.	CODE
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12. Ballet is too slow and after about five minutes you get bored.

13. Even skilful movement is uninteresting if you don't know who is performing.

14. If you saw a man dancing to really soft music it would look stupid.

15. I can't enjoy watching dangerous sports.

16. Only top class performers in sport and dance are worth watching.

17. Ballet should entertain the audience.

18. I'd rather watch ballet than sport.

19. Contemporary music for dance is awful.

20. A really good cricket stroke is very graceful.

21. I can appreciate good style whatever the shape of the performer.

22. When someone hurts themselves in a sport it makes it more interesting.

23. The shouting of the crowd makes an event more enjoyable.

24. With slow motion replays you can enjoy the control and the strength in a movement.

25. The outcome is often wrong you being wrong.

26. I like watching sports because there is a result.

SA - Strongly Agree A - Agree D - Disagree SD - Strongly Disagree U - Undecided

SA - Strongly Agree A - Agree D - Disagree SD - Strongly Disagree U - Undecided

FOR OFFICE USE		COLS. CODE	
SA	A	D	SD
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
27. If a female athlete is brilliant it doesn't matter what she looks like.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
28. I prefer dances that have music with them.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
29. Bright costumes distract you from noticing the movement in dance.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
30. You need the music in women's gymnastics to enjoy the movement.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
31. The atmosphere helps you understand the sport.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
32. I like watching team sports because everyone works together.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
33. To enjoy dance the movements have to be exciting.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
34. I enjoy watching top-class sport and dance because it seems effortless.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
35. Dance and ballet are boring because there is no action.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
36. Without a commentator it is very boring just watching someone run around.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
37. Male dancers should do movement that looks very difficult.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
38. I enjoy watching sports people from this country rather than any others.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
39. All dance music should have a good rhythm and beat.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
40. All dancers are athletes in their own way.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
41. Men shouldn't move to gentle music. It's not the right image.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

SA - Strongly Agree A - Agree D - Disagree SD - Strongly Disagree U - Undecided

FOR OFFICE USE		COLS. CODE	
SA	A	D	SD
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
42. You need the crowd cheering and the commentator shrieking when a goal is scored to enjoy it.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
43. A dance audience wants to be kept on edge, feeling something might go wrong.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
44. Fluency and grace of movement have nothing to do with body shape.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
45. Cricket is boring, there is no action.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
46. Ballet is just jumping around in a pair of tights.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
47. If my team is losing I can't enjoy watching no matter how well the team is playing.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
48. Dancing to classical music is boring.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
49. Without crowd noise or a commentator you can appreciate the style of an athletic event.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
50. I can't enjoy any sporting achievement unless I know who is performing.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
51. I like dances where the performers are doing exactly the same movements together.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
52. Seeing an athlete or ballet dancer doing something I feel would hurt him does not spoil my enjoyment of it.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
53. I can really appreciate the beauty of a movement in a slow motion replay.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
54. I enjoy supporting a team no matter how well or badly it plays.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
55. I don't like to watch dance that is "fairy-like".	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
56. I mostly enjoy the competitive element in sports.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

SA - Strongly Agree A - Agree D - Disagree SD - Strongly Disagree U - Undecided

FOR OFFICE  
USE

57. I like slow motion because you can see the power in a movement.	SA <input type="checkbox"/>	A <input type="checkbox"/>	D <input type="checkbox"/>	SD <input type="checkbox"/>	U <input type="checkbox"/>	62
58. A dance must be done properly with the right costumes, music and set in order to enjoy it.	SA <input type="checkbox"/>	A <input type="checkbox"/>	D <input type="checkbox"/>	SD <input type="checkbox"/>	U <input type="checkbox"/>	63
59. I wouldn't watch a ballet all the way through.	SA <input type="checkbox"/>	A <input type="checkbox"/>	D <input type="checkbox"/>	SD <input type="checkbox"/>	U <input type="checkbox"/>	64
60. I can only appreciate things that are done really well.	SA <input type="checkbox"/>	A <input type="checkbox"/>	D <input type="checkbox"/>	SD <input type="checkbox"/>	U <input type="checkbox"/>	65
61. A game without cheering would be as if there is just nothing there.	SA <input type="checkbox"/>	A <input type="checkbox"/>	D <input type="checkbox"/>	SD <input type="checkbox"/>	U <input type="checkbox"/>	66
62. A ballet is better to watch if there is a story behind it.	SA <input type="checkbox"/>	A <input type="checkbox"/>	D <input type="checkbox"/>	SD <input type="checkbox"/>	U <input type="checkbox"/>	67
63. Dancing in time with each other and with the music is very important.	SA <input type="checkbox"/>	A <input type="checkbox"/>	D <input type="checkbox"/>	SD <input type="checkbox"/>	U <input type="checkbox"/>	68
64. Ballet music has no excitement to it.	SA <input type="checkbox"/>	A <input type="checkbox"/>	D <input type="checkbox"/>	SD <input type="checkbox"/>	U <input type="checkbox"/>	69
65. I think the athlete's style is an important part of appreciating sports.	SA <input type="checkbox"/>	A <input type="checkbox"/>	D <input type="checkbox"/>	SD <input type="checkbox"/>	U <input type="checkbox"/>	70
66. I enjoy watching a sportsman fail if he is not from this country.	SA <input type="checkbox"/>	A <input type="checkbox"/>	D <input type="checkbox"/>	SD <input type="checkbox"/>	U <input type="checkbox"/>	71
67. I like long-jumping because it's like walking on air.	SA <input type="checkbox"/>	A <input type="checkbox"/>	D <input type="checkbox"/>	SD <input type="checkbox"/>	U <input type="checkbox"/>	72
68. You don't see boys doing ballet and modern dance.	SA <input type="checkbox"/>	A <input type="checkbox"/>	D <input type="checkbox"/>	SD <input type="checkbox"/>	U <input type="checkbox"/>	73
69. The movement by itself in sports is not interesting.	SA <input type="checkbox"/>	A <input type="checkbox"/>	D <input type="checkbox"/>	SD <input type="checkbox"/>	U <input type="checkbox"/>	74
70. Female athletes should be slim and attractive.	SA <input type="checkbox"/>	A <input type="checkbox"/>	D <input type="checkbox"/>	SD <input type="checkbox"/>	U <input type="checkbox"/>	75
71. I like dances that are different.	SA <input type="checkbox"/>	A <input type="checkbox"/>	D <input type="checkbox"/>	SD <input type="checkbox"/>	U <input type="checkbox"/>	76

72. Watching ballet is difficult unless you are familiar with it.	SA <input type="checkbox"/>	A <input type="checkbox"/>	D <input type="checkbox"/>	SD <input type="checkbox"/>	U <input type="checkbox"/>	6
73. The shape of the body doesn't matter if it is appropriate to the sport.	SA <input type="checkbox"/>	A <input type="checkbox"/>	D <input type="checkbox"/>	SD <input type="checkbox"/>	U <input type="checkbox"/>	7
74. It doesn't matter how a goal is scored as long as it goes in the net.	SA <input type="checkbox"/>	A <input type="checkbox"/>	D <input type="checkbox"/>	SD <input type="checkbox"/>	U <input type="checkbox"/>	8
75. You can only enjoy a high jump up to a point if the bar is knocked off.	SA <input type="checkbox"/>	A <input type="checkbox"/>	D <input type="checkbox"/>	SD <input type="checkbox"/>	U <input type="checkbox"/>	9
76. It doesn't look right when a woman has big muscles whatever the sport.	SA <input type="checkbox"/>	A <input type="checkbox"/>	D <input type="checkbox"/>	SD <input type="checkbox"/>	U <input type="checkbox"/>	10
77. It's pointless seeing who can run the fastest and jump the highest unless you know who you want to win.	SA <input type="checkbox"/>	A <input type="checkbox"/>	D <input type="checkbox"/>	SD <input type="checkbox"/>	U <input type="checkbox"/>	11
78. Dancing should have more expressive music.	SA <input type="checkbox"/>	A <input type="checkbox"/>	D <input type="checkbox"/>	SD <input type="checkbox"/>	U <input type="checkbox"/>	12
79. How somebody does something in sport is not important, we just remember what he or she achieved.	SA <input type="checkbox"/>	A <input type="checkbox"/>	D <input type="checkbox"/>	SD <input type="checkbox"/>	U <input type="checkbox"/>	13
80. Ballet is a graceful activity.	SA <input type="checkbox"/>	A <input type="checkbox"/>	D <input type="checkbox"/>	SD <input type="checkbox"/>	U <input type="checkbox"/>	14
81. I don't enjoy watching dance because there is no outcome.	SA <input type="checkbox"/>	A <input type="checkbox"/>	D <input type="checkbox"/>	SD <input type="checkbox"/>	U <input type="checkbox"/>	15
82. I couldn't enjoy watching a dancer who was fat.	SA <input type="checkbox"/>	A <input type="checkbox"/>	D <input type="checkbox"/>	SD <input type="checkbox"/>	U <input type="checkbox"/>	16
83. Watching dancing doesn't do anything for me.	SA <input type="checkbox"/>	A <input type="checkbox"/>	D <input type="checkbox"/>	SD <input type="checkbox"/>	U <input type="checkbox"/>	17
84. Male dancers look silly wearing tights.	SA <input type="checkbox"/>	A <input type="checkbox"/>	D <input type="checkbox"/>	SD <input type="checkbox"/>	U <input type="checkbox"/>	18
85. Ballet seems pretty false.	SA <input type="checkbox"/>	A <input type="checkbox"/>	D <input type="checkbox"/>	SD <input type="checkbox"/>	U <input type="checkbox"/>	19
86. I like to watch slow dances not the normal springy sort.	SA <input type="checkbox"/>	A <input type="checkbox"/>	D <input type="checkbox"/>	SD <input type="checkbox"/>	U <input type="checkbox"/>	20

SA - Strongly Agree A - Agree D - Disagree SD - Strongly Disagree U - Undecided

SA - Strongly Agree A - Agree D - Disagree SD - Strongly Disagree U - Undecided

FOR OFFICE USE		COLS.	CODE
87. Watching slow-motion replays is boring because you know what is coming next.	SA <input type="checkbox"/> A <input type="checkbox"/> D <input type="checkbox"/> SD <input type="checkbox"/> U <input type="checkbox"/>	21	
88. You need to see a whole game in order to appreciate it.	SA <input type="checkbox"/> A <input type="checkbox"/> D <input type="checkbox"/> SD <input type="checkbox"/> U <input type="checkbox"/>	22	
89. It's better if dancers wear ordinary kinds of clothes on stage.	SA <input type="checkbox"/> A <input type="checkbox"/> D <input type="checkbox"/> SD <input type="checkbox"/> U <input type="checkbox"/>	23	
90. If ballet was competitive like gymnastics it would be more interesting.	SA <input type="checkbox"/> A <input type="checkbox"/> D <input type="checkbox"/> SD <input type="checkbox"/> U <input type="checkbox"/>	24	
91. One slow-motion replay is alright but repeated again and again is boring.	SA <input type="checkbox"/> A <input type="checkbox"/> D <input type="checkbox"/> SD <input type="checkbox"/> U <input type="checkbox"/>	25	
92. To appreciate an activity you have to know something about it.	SA <input type="checkbox"/> A <input type="checkbox"/> D <input type="checkbox"/> SD <input type="checkbox"/> U <input type="checkbox"/>	26	
93. If a woman throws longer distances by being very muscular then that's alright.	SA <input type="checkbox"/> A <input type="checkbox"/> D <input type="checkbox"/> SD <input type="checkbox"/> U <input type="checkbox"/>	27	
94. I admire the co-ordination of dancers and sports people.	SA <input type="checkbox"/> A <input type="checkbox"/> D <input type="checkbox"/> SD <input type="checkbox"/> U <input type="checkbox"/>	28	
95. Ballet dancing is associated with women.	SA <input type="checkbox"/> A <input type="checkbox"/> D <input type="checkbox"/> SD <input type="checkbox"/> U <input type="checkbox"/>	29	
96. I enjoy performances when you can see a lot of effort has been put into it.	SA <input type="checkbox"/> A <input type="checkbox"/> D <input type="checkbox"/> SD <input type="checkbox"/> U <input type="checkbox"/>	30	
97. If there are no goals in a game it is very boring.	SA <input type="checkbox"/> A <input type="checkbox"/> D <input type="checkbox"/> SD <input type="checkbox"/> U <input type="checkbox"/>	31	
98. Some kind of expression and communication is very important in dance.	SA <input type="checkbox"/> A <input type="checkbox"/> D <input type="checkbox"/> SD <input type="checkbox"/> U <input type="checkbox"/>	32	
99. In gymnastics the balance is the thing I enjoy most.	SA <input type="checkbox"/> A <input type="checkbox"/> D <input type="checkbox"/> SD <input type="checkbox"/> U <input type="checkbox"/>	33	
100. Break-dancing has more meaning to it than modern dance or ballet.	SA <input type="checkbox"/> A <input type="checkbox"/> D <input type="checkbox"/> SD <input type="checkbox"/> U <input type="checkbox"/>	34	
101. Gymnastics and ballet are very similar.	SA <input type="checkbox"/> A <input type="checkbox"/> D <input type="checkbox"/> SD <input type="checkbox"/> U <input type="checkbox"/>	35	

SA - Strongly Agree A - Agree D - Disagree SD - Strongly Disagree U - Undecided

FOR OFFICE USE		COLS.	CODE
102. Without a commentator and the noise of the crowd the build-up to a goal seems a bit silly.	SA <input type="checkbox"/> A <input type="checkbox"/> D <input type="checkbox"/> SD <input type="checkbox"/> U <input type="checkbox"/>	36	
103. Ski-jumping shows beauty of motion.	SA <input type="checkbox"/> A <input type="checkbox"/> D <input type="checkbox"/> SD <input type="checkbox"/> U <input type="checkbox"/>	37	
104. In ballet standing on your toes makes the dancer look more elegant.	SA <input type="checkbox"/> A <input type="checkbox"/> D <input type="checkbox"/> SD <input type="checkbox"/> U <input type="checkbox"/>	38	
105. Dance has to be well-rehearsed to enjoy it.	SA <input type="checkbox"/> A <input type="checkbox"/> D <input type="checkbox"/> SD <input type="checkbox"/> U <input type="checkbox"/>	39	
106. Sometimes in slow-motion a performer does not look so impressive.	SA <input type="checkbox"/> A <input type="checkbox"/> D <input type="checkbox"/> SD <input type="checkbox"/> U <input type="checkbox"/>	40	
107. You have to be the right shape to dance or do gymnastics.	SA <input type="checkbox"/> A <input type="checkbox"/> D <input type="checkbox"/> SD <input type="checkbox"/> U <input type="checkbox"/>	41	
108. If male ballet dancers are strong and muscular then that's alright.	SA <input type="checkbox"/> A <input type="checkbox"/> D <input type="checkbox"/> SD <input type="checkbox"/> U <input type="checkbox"/>	42	
109. Plenty of scenery is important in ballet.	SA <input type="checkbox"/> A <input type="checkbox"/> D <input type="checkbox"/> SD <input type="checkbox"/> U <input type="checkbox"/>	43	
110. I like dance that uses lyrical, beautiful music.	SA <input type="checkbox"/> A <input type="checkbox"/> D <input type="checkbox"/> SD <input type="checkbox"/> U <input type="checkbox"/>	44	
111. Slow-motion replays of sport and dance on T.V. are good because you can see the movement exactly.	SA <input type="checkbox"/> A <input type="checkbox"/> D <input type="checkbox"/> SD <input type="checkbox"/> U <input type="checkbox"/>	45	
112. Costumes in dance should be bright and cheerful.	SA <input type="checkbox"/> A <input type="checkbox"/> D <input type="checkbox"/> SD <input type="checkbox"/> U <input type="checkbox"/>	46	
113. You must take part in sport and dance in order to enjoy watching it.	SA <input type="checkbox"/> A <input type="checkbox"/> D <input type="checkbox"/> SD <input type="checkbox"/> U <input type="checkbox"/>	47	
114. Boys think ballet is 'cissy'.	SA <input type="checkbox"/> A <input type="checkbox"/> D <input type="checkbox"/> SD <input type="checkbox"/> U <input type="checkbox"/>	48	
115. The costumes are the most enjoyable part of watching dance.	SA <input type="checkbox"/> A <input type="checkbox"/> D <input type="checkbox"/> SD <input type="checkbox"/> U <input type="checkbox"/>	49	
116. I don't like ballet costumes.	SA <input type="checkbox"/> A <input type="checkbox"/> D <input type="checkbox"/> SD <input type="checkbox"/> U <input type="checkbox"/>	50	

SA - Strongly Agree A - Agree D - Disagree SD - Strongly Disagree U - Undecided

FOR OFFICE USE		FOR OFFICE USE	
COLS.	CODE	COLS.	CODE
51	<input type="checkbox"/> SA <input type="checkbox"/> A <input type="checkbox"/> D <input type="checkbox"/> SD <input type="checkbox"/> U	66	<input type="checkbox"/> SA <input type="checkbox"/> A <input type="checkbox"/> D <input type="checkbox"/> SD <input type="checkbox"/> U
52	<input type="checkbox"/> SA <input type="checkbox"/> A <input type="checkbox"/> D <input type="checkbox"/> SD <input type="checkbox"/> U	67	<input type="checkbox"/> SA <input type="checkbox"/> A <input type="checkbox"/> D <input type="checkbox"/> SD <input type="checkbox"/> U
53	<input type="checkbox"/> SA <input type="checkbox"/> A <input type="checkbox"/> D <input type="checkbox"/> SD <input type="checkbox"/> U	68	<input type="checkbox"/> SA <input type="checkbox"/> A <input type="checkbox"/> D <input type="checkbox"/> SD <input type="checkbox"/> U
54	<input type="checkbox"/> SA <input type="checkbox"/> A <input type="checkbox"/> D <input type="checkbox"/> SD <input type="checkbox"/> U	69	<input type="checkbox"/> SA <input type="checkbox"/> A <input type="checkbox"/> D <input type="checkbox"/> SD <input type="checkbox"/> U
55	<input type="checkbox"/> SA <input type="checkbox"/> A <input type="checkbox"/> D <input type="checkbox"/> SD <input type="checkbox"/> U	70	<input type="checkbox"/> SA <input type="checkbox"/> A <input type="checkbox"/> D <input type="checkbox"/> SD <input type="checkbox"/> U
56	<input type="checkbox"/> SA <input type="checkbox"/> A <input type="checkbox"/> D <input type="checkbox"/> SD <input type="checkbox"/> U	71	<input type="checkbox"/> SA <input type="checkbox"/> A <input type="checkbox"/> D <input type="checkbox"/> SD <input type="checkbox"/> U
57	<input type="checkbox"/> SA <input type="checkbox"/> A <input type="checkbox"/> D <input type="checkbox"/> SD <input type="checkbox"/> U	72	<input type="checkbox"/> SA <input type="checkbox"/> A <input type="checkbox"/> D <input type="checkbox"/> SD <input type="checkbox"/> U
58	<input type="checkbox"/> SA <input type="checkbox"/> A <input type="checkbox"/> D <input type="checkbox"/> SD <input type="checkbox"/> U	73	<input type="checkbox"/> SA <input type="checkbox"/> A <input type="checkbox"/> D <input type="checkbox"/> SD <input type="checkbox"/> U
59	<input type="checkbox"/> SA <input type="checkbox"/> A <input type="checkbox"/> D <input type="checkbox"/> SD <input type="checkbox"/> U		
60	<input type="checkbox"/> SA <input type="checkbox"/> A <input type="checkbox"/> D <input type="checkbox"/> SD <input type="checkbox"/> U		
61	<input type="checkbox"/> SA <input type="checkbox"/> A <input type="checkbox"/> D <input type="checkbox"/> SD <input type="checkbox"/> U		
62	<input type="checkbox"/> SA <input type="checkbox"/> A <input type="checkbox"/> D <input type="checkbox"/> SD <input type="checkbox"/> U		
63	<input type="checkbox"/> SA <input type="checkbox"/> A <input type="checkbox"/> D <input type="checkbox"/> SD <input type="checkbox"/> U		
64	<input type="checkbox"/> SA <input type="checkbox"/> A <input type="checkbox"/> D <input type="checkbox"/> SD <input type="checkbox"/> U		
65	<input type="checkbox"/> SA <input type="checkbox"/> A <input type="checkbox"/> D <input type="checkbox"/> SD <input type="checkbox"/> U		

117. A lovely stage set is important in ballet.

118. I hate violent sports.

119. The atmosphere in a theatre is part of the enjoyment of the ballet.

120. When dancers wear tight clothes they look much more graceful.

121. I like to see slow-motion replays because you can see the faults in a performance.

122. I most appreciate the skill part of sport and dance.

123. A ski-jump is exciting because you know that the skier might possibly fall.

124. Strange music makes dances more interesting.

125. I like energetic dances with lots of movement.

126. Slow-motion replays are great if someone falls.

127. It is better watching sports without a commentator as you can concentrate on the movement.

128. I enjoy the display of power in gymnastics.

129. The tight dancers wear help you see the movements more clearly.

130. I enjoy during much more when there are beautiful costumes and props.

131. I think it is marvellous for dance that you can see the faults of the ordinary.

132. I would never watch ballet on T.V.

133. Ski-jumps are brilliant because they look so perfect.

134. Watching sport becomes boring after a while unless someone falls.

135. Ballet is just concerned with graceful movements.

136. I don't like to see boys doing expressive movement.

137. It's boring if everyone succeeds all the time.

138. Modern dance is more natural than ballet.

139. I like watching movement that is spectacular like ski-jumps.

THANK YOU FOR COMPLETING THIS QUESTIONNAIRE.

ALL THE INFORMATION YOU HAVE GIVEN IS CONFIDENTIAL.

SA - Strongly Agree A - Agree D - Disagree SD - Strongly Disagree U - Undecided

SA - Strongly Agree A - Agree D - Disagree SD - Strongly Disagree U - Undecided

## Appendix II

### Pilot Study Administration 'Guidelines' for Teachers

Dear Colleague,

Below are certain guidelines which, it is hoped, will help gain a positive response from the pupils, May I ask you therefore to keep to these as far as possible.

1. The questionnaire is in THREE parts.  
A reference number or name is only necessary if all parts of the questionnaire cannot be completed on the same occasion. It is CRUCIAL that the same child completes all three sections of the same questionnaire and I ask your assistance in ensuring that this does happen.  
  
When all THREE parts of the questionnaire are complete, then the reference number or name is no longer necessary and may be deleted.
2. If possible pupils should be seated separately to reduce the possibility of them seeing each other's responses.
3. There should be no discussion by the pupils about the responses they are making.
4. You are asked to read through the Introduction and the instructions for PART I with the pupils, ensuring as far as possible that they are clear about the method of completing this part of the questionnaire. When PART I is completed by all pupils please read through the instructions for Part II and on its completion the instructions for Part III.
5. You are at liberty to read out for the pupils any of the items that they find difficult to read.
6. You are at liberty to give a reasonable amount of further explanation if pupils have difficulty in comprehending any of the items.
7. It would be helpful if a check could be made to ensure that pupils are in fact reading the questions carefully and ticking their responses as instructed.
8. There is no time limit for completing the questionnaire.  
However it would be most helpful if you could indicate the average time taken for pupils to complete each part of the questionnaire.
9. Clarification of dance terms for the purposes of this questionnaire.  
Creative Dance/Modern Dance - refers to the art form dance which makes use of a range of styles, methods and techniques such as those of Laban and Graham. It is often regarded as 'free' and 'expressive'. Examples of Modern Dance Companies are London Contemporary Dance; Extemporary.  
Stage Dancing - refers to popular dance such as that of the 'Young Generation' and in the 'Hot Shoe Show'. It includes tap dance, cabaret dancing, aerobics, keep-fit, break dancing, body-popping etc.  
Folk/National Dances - traditional dances of all nationalities including English Folk Dance, Irish, Scottish, Polish, American Square Dance etc.



Ballet - refers to dance where special 'pointe' shoes are often worn.  
Ballet compaines include the Royal Ballet and the Northern Ballet Theatre.

Please ensure that pupils are reasonably aware of the distinctions.

10. Games - include individual and team games. Snooker, chess and darts  
may be included.  
Drama/Plays - generally all types may be included but not soap operas  
e.g. Dynasty, Dallas, Coronation Street.

May I thank you very much for your assistance in this work. Any  
comments and suggestions will be most welcome.

Yours sincerely,

PATRICIA SANDERON

FORM:

AVERAGE TIME TAKEN TO COMPLETE - PART I =

PART II =

PART III =

COMMENTS:

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Signature of teacher

### Appendix III

Data computer coding, pilot study Questionnaire

### Appendix III

#### Data Computer Coding. Pilot Study Questionnaire (1985)

<u>Variable</u>	<u>Col.No.</u>	<u>Variable Description</u>	<u>Coding</u>
	1-4	Pupil identification	0001-0368
	5	Card number	1
1	6	School A; B; C; D	A = 1; B = 2; C = 3; D = 4
2	7-8	Form; Academic identification	F = 1-5; A.I. = 1-3
3	9	Year group	1-5
4	10-11	Age	11-16
5	12	Sex	Boy = 1; Girl = 2
6	13	Social class	Professional = 1; Managerial/Tech. = 2; Clerical = 3; Skilled Manual = 4; Semi- skilled = 5; Unskilled = 6; Don't know = 7

#### Primary School

7-15	14-22	Art; Ballet; Creative Dance; Drama; Folk/National Dance; Games; Gymnastics; Music; Music and Movement	V.O. = 5; O = 4; S = 3; N = 2; U = 1
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#### Secondary School, Practical

16-27	23-34	Art; Drama; Music; Ballet; Creative/Modern Dance; Folk/ National Dance; Stage Dance; Gymnastics; Athletics; Games; Ice-skating; Swimming/Diving	V.O. = 5; O = 4; S = 3; N = 2; U = 1
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<u>Variable</u>	<u>Col.No.</u>	<u>Variable Description</u>	<u>Coding</u>
<u>Secondary School, Appreciation</u>			
28-39	35-46	Art; Drama; Music; Ballet; Creative/Modern Dance; Folk/ National Dance; Stage Dance; Gymnastics; Athletics; Games; Ice-skating; Swimming/Diving	V.O. = 5; 0 = 4; S = 3; N = 2; U = 1
<u>Outside School Time, Practical</u>			
40-51	47-58	Art; Drama; Music; Ballet; Creative/Modern Dance; Folk/ National Dance; Stage Dance; Gymnastics; Athletics; Games; Ice-skating; Swimming/Diving	V.O. = 5; 0 = 4; S = 3; N = 2; U = 1
<u>Outside School Time, Appreciation</u>			
52-63	59-70	Art; Plays; Music; Ballet; Creative/Modern Dance; Folk/ National Dance; Stage Dance; Gymnastics; Athletics; Games; Ice-skating; Swimming/Diving	V.O. = 5; 0 = 4; S = 3; N = 2; U = 1
	1-4	Pupil identification	0001-0368
	5	Card number	2

<u>Variable</u>	<u>Col.No.</u>	<u>Variable Description</u>	<u>Coding</u>
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Outside School time; TV Viewing

64-75	6-17	Art programmes; Plays; Music; V.O. = 5; 0 = 4; Ballet; Creative/Modern S = 3; N = 2, U = 1 Dance; Folk/National Dance; Stage Dance; Gymnastics; Athletics; Games; Ice-skating; Swimming/Diving	
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Family Interests, Practical

76-87	18-29	Art; Drama; Music; Ballet; V.O. = 5; 0 = 4; Creative/Modern Dance; Folk/ S = 3; N = 2; U = 1 National Dance; Stage Dance; Gymnastics; Athletics; Games; Ice-skating; Swimming/Diving	
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Family Interests, Appreciation

88-99	30-41	Art; Plays; Music; Ballet; V.O. = 5; 0 = 4; Creative/Modern Dance; Folk/ S = 3; N = 2; U = 1 National Dance; Stage Dance; Gymnastics; Athletics; Games; Ice-skating; Swimming/Diving	
-------	-------	--	--

<u>Variable</u>	<u>Col.No.</u>	<u>Variable Description</u>	<u>Coding</u>
<u>Family Interests, TV</u>			
100-111	42-53	Art programmes; Plays; Music; V.O. = 5; 0 = 4; Ballet; Creative/Modern Dance; Folk/National Dance; Stage Dance; Gymnastics; Athletics; Games; Ice-skating; Swimming/Diving	S = 3; N = 2, U = 1
	1-4	Pupil identification	0001-0368
	5	Card number	3
112-182	6-76	Attitude statements	S.A. = 5; A = 4; D = 3; S.D. = 2; U = 1
	1-4	Pupil identification	0001-0368
	5	Card number	4
183-250	6-73	Attitude statements	S.A. = 5; A = 4; D = 3; S.D. = 2; U = 1

Missing Data = 0 (zero)

## Appendix IV

### Factor Matrix: Dance



OBlique FACTOR STRUCTURE ANALYSIS  
AFTER ROTATION WITH KATSER NORMALIZATION

DELTA = 0.000

	FACTOR 1	FACTOR 2	FACTOR 3	FACTOR 4	FACTOR 5
V114	.07423	.15048	.06470	.12283	-.02343
V117	.07274	.05730	.10140	.09051	-.06979
V118	-.07493	.01011	-.02460	.00380	.19040
V120	.16193	-.06370	.03139	.16042	-.00319
V121	.11305	.05067	.14723	.21382	-.00625
V123	.11240	-.01091	.07139	-.07350	-.07450
V125	.07297	-.13760	.01477	.05541	-.20300
V126	-.10191	.05939	-.05360	-.03334	.06250
V129	-.09770	-.00392	-.07071	-.05009	.22037
V130	.07317	-.15043	.24093	-.03077	-.15543
V132	-.04396	.10113	-.10133	.16035	-.06310
V136	-.01370	.01310	-.05773	.27719	-.10053
V138	.10214	.12077	-.07431	.00460	.02054
V139	-.00214	.19902	-.03335	.03109	-.04410
V140	.07023	-.00000	.13371	-.05427	.00014
V144	.07400	.09323	.15361	.21704	-.28010
V148	.10210	.10000	.06060	.05835	-.07240
V150	.24040	.24154	.17310	.06370	-.01331
V151	-.00327	.01030	.04330	.19025	-.07304
V152	.29129	-.17781	.37311	.00332	-.07599
V153	.11043	.13322	.06311	.10074	-.00023
V157	.00013	-.11384	.07172	-.11357	-.04177
V159	-.09193	-.20377	.05304	-.04164	-.42271
V162	.01137	.03023	-.07135	-.01239	-.14353
V166	.05267	-.02000	.19023	.01073	-.07700
V169	.00132	.21481	-.05455	.09737	-.27203
V170	.17091	-.02097	.20777	.08270	-.27115
V173	-.19384	.01107	-.09903	.16073	-.07421
V174	-.04420	.04467	-.16300	.17042	-.07025
V175	.06020	-.01531	.03152	.04360	-.40519
V179	.17019	-.20423	.07307	.07421	-.17597
V181	.06010	-.04021	.07107	-.03003	-.18579
V182	.05350	.12090	.00041	.27152	-.00000
V183	.07801	.02053	.24360	.04130	-.11470
V184	.07175	.11172	-.00757	.09093	.07420
V187	.07364	.01100	.25741	-.13030	-.17093
V189	.20261	.03024	.17000	-.01047	-.09047
V191	-.00667	.04074	-.26347	.00060	.11090
V193	.01037	.19007	.20907	-.04053	-.21213
V194	.44074	-.26424	.26313	-.12005	-.12393
V195	.00032	-.07040	.01312	-.09042	-.34793
V196	.07022	-.06044	.07082	-.02354	-.01325
V197	-.16071	-.07093	-.00017	-.02207	.10231
V200	.16159	-.16267	.04304	.01218	-.06044
V204	.10170	.07071	.19391	.27157	-.01051
V206	.11100	.11071	.00077	.05073	-.21174
V209	-.16060	.01027	-.07351	.18464	-.04050
V211	.09061	-.03117	.07903	.13089	-.00595
V212	.11101	.12057	.06090	.08257	-.00709
V213	-.13009	.04093	-.19012	.12410	-.02021
V216	.05071	.06060	-.01050	.27233	-.21020
V218	.17037	.17017	.21452	.07300	-.23371
V219	.04074	.13107	.07050	.06300	-.13420
V220	.13237	.00371	.17319	.05164	-.27310
V221	-.04027	.07070	.04303	.27140	-.17983
V223	.06143	.13371	.11493	.15003	-.00161
V225	.02383	.12320	.22519	.01067	-.07599
V226	.17920	-.11010	.17412	-.01733	-.15464
V227	.00210	-.14414	.40360	.06299	-.29700
V228	.17200	.11733	.04120	.16240	-.43233
V231	-.01120	.09287	.11344	.21243	-.11443
V235	.09017	.09043	-.00200	.08233	-.12021
V236	.09029	.07070	-.16954	.18491	-.11283
V240	-.17000	.16067	-.10093	.27142	.06164
V241	-.15110	.11017	-.05047	.27343	-.20031
V242	-.07009	.17077	.03902	.06011	-.17003
V243	-.03170	-.14970	.07200	-.03038	-.01160
V246	.03270	-.07000	.08330	.12151	-.06337
V247	.01023	-.19340	.07104	-.01342	-.27001
V249	.07490	.19007	.24454	.14304	-.15030

## Appendix V

### Factor Matrix: Sport

OBlique FACTOR STRUCTURE MATRIX  
AFTER ROTATION WITH KATSER NORMALIZATION

DELTA = 0.000

	FACTOR 1	FACTOR 2	FACTOR 3	FACTOR 4
V112	.03970	.12900	-.06911	-.05104
V113	.08945	.03370	-.12010	.09050
V115	.06304	-.06234	-.12114	.18718
V116	.14905	.13180	-.24154	.10789
V119	.11045	.16317	.11271	-.07019
V122	.10524	.12408	-.03217	.02755
V124	.31171	-.04235	-.15570	.07774
V126	-.05760	-.06945	.02435	-.13717
V127	.02111	-.06700	-.06451	.10251
V131	.11934	.06035	-.19087	.08905
V133	-.10530	-.00057	-.29220	.54072
V134	.24422	.23962	-.19185	.04112
V135	.09027	.09920	-.04234	.10058
V137	.37590	.13473	-.14065	.01021
V141	.32240	.10405	.18045	.22950
V142	.25477	.17000	.00007	.13485
V143	-.28960	.25374	-.01191	.06171
V145	.04912	.11070	.11734	.12725
V146	.19680	-.06312	-.48021	.21112
V147	.31955	.14177	-.04735	.24534
V149	.21171	-.01404	-.11085	.36007
V153	.05102	.21465	-.10017	.20204
V154	.11774	-.03092	-.09491	.10784
V156	.06441	.11910	.03069	-.08745
V158	.08720	.02027	-.02022	.14900
V160	-.03065	.05037	.05095	-.03149
V161	.06421	-.02081	.07215	.06077
V163	.04509	.05190	-.21057	.17504
V164	.01035	.41442	.04915	.05465
V165	.09777	.15105	-.04080	-.10015
V167	.29012	.23595	-.25945	.16802
V168	.19750	.05017	.00067	.00204
V171	.13232	.03177	-.04922	.17330
V172	.48412	.19367	-.20022	.15765
V176	.32490	.26840	-.04244	.03520
V177	.12032	-.00560	-.16432	.40930
V178	.10009	.14039	-.05085	.16701
V180	.02242	-.08323	.03053	.21914
V185	.27340	.09025	.00522	.21611
V186	.08345	-.03290	-.05021	.23855
V188	.04032	.04407	.10900	.14000
V190	.02720	.19920	-.07079	.01477
V192	.10392	-.04030	-.35700	.27578
V196	.04279	-.41790	-.00070	.04535
V199	.36421	.09034	.04209	.06087
V201	.38997	.11020	-.30274	.12550
V202	.05384	-.04947	.13057	-.02610
V203	.19270	.20305	.03449	.14799
V205	.04130	.46708	.04315	-.00225
V207	.11557	.23990	.11130	-.09710
V208	.09055	-.04435	.08821	.15489
V210	.20384	.21375	.03739	.07467
V213	.28015	.06794	-.06015	.15062
V214	.20737	.48734	-.17531	.00028
V217	.03575	-.00573	-.03268	.11095
V222	.26001	.70089	-.00070	-.01075
V224	.26062	-.04045	-.03401	.20250
V229	-.04147	-.04075	.60331	-.20051
V230	.10715	.27911	.27335	.03808
V232	.15075	.32440	-.00820	.40233
V233	.09090	.31075	-.03755	-.08990
V234	.17067	.08037	-.27507	.51055
V237	.07470	.14250	-.31022	.75209
V238	-.19090	-.21432	.10157	-.01533
V239	.16780	.19999	.08355	-.05728
V244	.24119	.41120	-.09742	.29585
V245	.00155	-.11010	-.14541	.64623
V246	.23435	.00740	-.03040	.60679
V250	.17062	.31064	-.22985	.23960

## Appendix VI

### Factor Matrix: Seven Attitude Scales



VARIMAX ROTATED FACTOR MATRIX  
AFTER ROTATION WITH KAISER NORMALIZATION

	FACTOR 1	FACTOR 2	FACTOR 3	FACTOR 4	FACTOR 5	FACTOR 6	FACTOR 7
V112	.16682	.08805	.10583	.00749	<u>.32520</u>	-.05969	-.18676
V113	.17364	.06901	-.07503	.06399	<u>.26648</u>	.11657	.15472
V114	.05034	.08053	.13184	.11451	<u>.25232</u>	.14922	.00059
V115	-.00836	.01883	.02206	.05524	<u>.33222</u>	.19055	-.08099
V116	.10475	.01753	.15981	.08223	<u>.30370</u>	-.02395	-.17090
V117	.10197	.08328	.02405	.06313	<u>.52306</u>	.09178	.04259
V118	.09443	.14356	.01231	.01764	<u>.61851</u>	.06604	.03631
V119	.10647	.06102	.21689	.07142	<u>.22541</u>	.06041	-.10980
V120	.08384	.10129	-.02711	.06103	<u>.57147</u>	.13953	.00140
V121	.03230	.12847	-.01114	.12439	<u>.20176</u>	.11210	.09497
V122	.03559	.07727	.03089	.04617	<u>.51522</u>	.08401	-.00361
V123	<u>.60775</u>	.07634	-.11023	.06979	<u>.00549</u>	-.05132	.13394
V124	<u>.80187</u>	.07601	-.00928	.11106	.13089	.05348	.04099
V125	<u>.71621</u>	.16903	-.03167	.26368	.09967	.04865	.06027
V126	<u>.81714</u>	.05626	-.00824	.07574	.10873	.07402	.01251
V127	<u>.71509</u>	.13887	-.03001	.17763	.15629	.08514	.06395
V128	<u>.43125</u>	.08100	-.10638	.13484	.08432	-.05514	.28565
V129	<u>.81807</u>	.07141	-.02325	.08420	.07052	.09095	-.02357
V130	<u>.67413</u>	.15213	-.03287	.24097	.09006	.04715	-.01452
V131	<u>.69655</u>	.12264	.01805	.21058	.06052	.02099	-.02839
V132	<u>.80058</u>	.08058	-.01494	.14511	.06277	.02889	-.01003
V133	<u>.03338</u>	.01252	.10919	-.08612	.06073	.13724	-.38600
V134	.01025	.01455	-.16324	.07797	.05485	-.01917	.47698
V135	-.00955	-.00261	.06925	-.00555	-.03678	.30140	<u>-.23241</u>
V136	-.15848	-.00075	.07564	-.02604	.13356	.19055	<u>-.30241</u>
V137	.33116	.02720	-.14555	.09835	-.03277	-.06776	<u>.43379</u>
V138	-.24751	-.03233	.12330	.04267	.10165	.23602	<u>-.12514</u>
V139	.07579	-.01597	-.02496	-.00537	-.12317	-.36036	<u>.21015</u>
V140	-.20818	-.06483	.09037	-.03822	.00794	.14177	<u>-.25056</u>
V141	-.04964	.00251	.13039	-.08466	.04377	.09732	<u>-.20750</u>
V142	.00795	.00236	.68853	-.03041	.06465	-.04379	-.03430
V143	-.07464	-.00847	<u>.75413</u>	.01103	-.00442	.08249	-.05520
V144	-.03923	-.00217	<u>.76396</u>	-.02517	.00542	.03599	-.01720
V145	-.13345	-.05587	<u>.69508</u>	-.00886	-.01640	.03243	-.13199
V146	.02207	.04149	<u>.59078</u>	-.05975	.07515	.06482	-.11437
V147	-.01312	.02990	<u>.38281</u>	.01519	.10660	.02841	-.15816
V148	.46255	.14680	-.03296	.51141	.12410	.18073	.09255
V149	.20768	.16436	.01341	<u>.41469</u>	.11884	.25545	-.05110
V150	.38630	.13917	-.01596	<u>.57652</u>	.10181	.06636	.15877
V151	.49145	.13176	-.03500	<u>.48545</u>	.11054	.07367	.01798
V152	.32298	.15974	-.01977	<u>.52045</u>	.07499	.09457	.00871
V153	.40207	.13829	-.04931	<u>.62115</u>	.13742	.10611	.15724
V154	.38673	.11997	-.03998	<u>.67058</u>	.10206	.19279	.14735
V155	.26131	.06440	.02118	.17197	.13086	.37188	.01413
V156	.28721	.10397	.01613	.17796	.12313	<u>.31500</u>	-.04736
V157	-.10395	-.07632	-.02991	-.06393	-.17374	<u>-.62877</u>	.04773
V158	.01449	.09545	.02670	.13313	.02613	<u>.33882</u>	-.14533
V159	.23541	.03665	-.01030	.21189	.15808	<u>.43182</u>	.07459
V160	.07958	.03297	.00605	.08113	.17710	<u>.62736</u>	.02188
V161	.10192	<u>.54894</u>	.00114	.10059	.10706	.00719	-.04424
V162	.12272	<u>.26862</u>	.01173	.15478	.09347	.07216	.05570
V163	.14179	<u>.47039</u>	-.00895	.14962	.12939	.05648	.00748
V164	.03669	<u>.29193</u>	-.19255	.07871	.13477	.10534	.00830
V165	.08626	<u>.44426</u>	.13647	.04546	.18912	.09618	.05993
V166	.15715	<u>.67506</u>	.04971	.10878	.08233	.01622	.02167
V167	.13713	<u>.77328</u>	.04261	.06042	.08310	.01385	.01323
V168	.05810	<u>.65604</u>	-.10262	.12782	.09077	.09098	.01746
V169	.08009	<u>.48980</u>	-.05006	.04539	.04901	.05979	.07638

## Appendix VII

### Factor Matrices: Individual Scales

## Appendix VII

### Factor Matrices: Individual Scales

#### Scale One: Aesthetics of Sport, atmosphere and competition

	Factor 1	Factor 2
V112	.35647	.14371
V113	.31425	-.11640
V114	.34118	.10665
V115	.36984	.07421
V116	.37061	.40500
V117	.51854	-.04751
V118	.61655	-.05784
V119	.29832	.15259
V120	.62157	-.15901
V121	.27163	-.12633
V122	.52168	-.15459

#### Scale Two: Ballet

	Factor 1	Factor 2
V123	-.63921	.40352
V124	.80557	.15784
V125	.78714	-.07280
V126	.79909	.25744
V127	.76573	.07401
V128	-.50959	.54923
V129	.81277	.18974
V130	.76524	-.05916
V131	.72980	.05671
V132	.81659	.06766

Scale Three: Dance

	Factor 1	Factor 2	Factor 3
V133	.40614	.32230	-.03726
V134	.41492	.41462	.00427
V135	.29941	.03699	.31139
V136	.44844	-.01176	.05666
V137	.52187	-.02130	.12754
V138	.37565	-.21979	.14399
V139	.39829	-.17297	.12077
V140	.53602	-.20308	-.12582
V141	.51472	-.07248	-.40137

Scale Four: Aesthetics of Slow Motion

	Factor 1
V142	.69958
V143	.74142
V144	.77348
V145	.71516
V146	.60086
V147	.42039

Scale Five: Male Dancers

	Factor 1
V148	.74174
V149	.52505
V150	.71330
V151	.68456
V152	.63598
V153	.79049
V154	.81425



Scale Six: Dance Performance

	Factor 1
V155	.57933
V156	.57329
V157	.62721
V158	.33094
V159	.57199
V160	.59386

Scale Seven: Aesthetics of Sport, interest and excitement

	Factor 1	Factor 2
V161	.56831	-.07816
V162	.44191	.38777
V163	.62114	.35240
V164	.35756	.18670
V165	.50157	-.05412
V166	.70629	-.21219
V167	.77141	-.28857
V168	.65036	-.02648
V169	.49525	.00859

## Appendix VIII

### Questionnaire

# **ARTS AND SPORTS QUESTIONNAIRE**

**DEPARTMENT OF EDUCATION  
UNIVERSITY OF MANCHESTER  
1986**

REFERENCE  
NUMBER/NAME

1

You are being asked to help in a study concerning the experience and views of young people in secondary high schools, about various arts and sports. The information you give by filling in the three parts of this questionnaire will be most useful. You are asked to be honest and truthful in your answers which will be treated as highly confidential and private.

PERSONAL DETAILS

SCHOOL 01 02 03 04 05 06 07 08 09

10 11 12 13 14 15 16 17 18  
(please circle)

FORM 1st 2nd 3rd 4th 5th  
(please circle)

GROUP 1 2 3 4  
(please circle)

AGE 11 12 13 14 15 16  
(please circle)

SEX BOY GIRL  
(please circle)

Below are some lists of different kinds of work.

- (a) Tick ONE which comes closest to describing the work of your FATHER (or male guardian).
- (b) Tick ONE which comes closest to describing the work of your MOTHER (or female guardian).
- If he/she is not employed at present tick the kind of work done most recently.

If he/she has more than one job tick the one on which most time is spent.

Salesman/woman - such as real estate or insurance salesman/woman, factory representative etc.

Technical - such as draftsman/woman, surveyor, medical or dental technician etc.

Work person or labourer - such as factory or mine worker, fisherman, filling station attendant, oil rig-worker, cleaner etc.

Manager - such as sales manager/ess, store manager/ess, office manager/ess, business manager/ess, factory supervisor etc.

Clerical worker - such as bank-teller, book-keeper, sales clerk, office clerk, typist, secretary, etc.

Professional - such as actor, accountant, artist, clergyman, scientist, teacher, musician, journalist, writer, etc.

Service worker - such as hairdresser, postman/woman, shop assistant, waiter/waitress, receptionist etc.

Official - such as manufacturer, officer in a large company, banker, government official or inspector etc.

Skilled worker or foreman - such as baker, carpenter, electrician, enlisted man/woman in the armed forces, mechanic, plumber, plasterer, tailor/ess, foreman/woman in factory or mine etc.

Protective worker - such as a policeman/woman, fireman, detective.

Semi-skilled worker - such as factory machine operator, bus or cab driver, lorry driver etc.

Proprietor or owner - such as owner of a small business, wholesaler, retailer, contractor, restaurant owner etc.

I don't know.

FOR  
OFFICE USE

COLS.	CODE
ID 1-4	
CN 5	1
SL 6-7	
P 8	
G 9	
A 10-11	
S 12	
SC 13	

FOR  
OFFICE  
USE  
☐ (5)

MALE  
☐

FEMALE  
☐

☐ (6)

☐ (2)

☐ (6)

☐ (5)

☐ (7)

☐ (3)

☐ (7)

☐ (4)

☐ (5)

☐ (3)

☐ (6)

☐ (1)

What is your experience of various arts and sports?

On the next few pages you will find a number of questions about how often you take part in various arts and sports.

In each case answer by ticking ONE of the alternatives:

VO	O	U	S	N
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- VERY OFTEN (VO) means regular involvement in an art or sport activity such as every week or almost every week throughout a year or a season.
- OFTEN (O) means regularly although not every week and not always every year or season.
- UNCERTAIN (U) means not sure whether the activity has been experienced or not.
- SOMETIMES (S) means now and again but not on a regular basis.
- NEVER (N) means no experience at all of the activity.

Read the example carefully before you begin to answer the questions.

QUESTIONNAIRE  
PART I

EXAMPLE - In your PRIMARY SCHOOL did you have lessons in:

Athletics  
 VO ☐ O ☒ U ☐ S ☐ N ☐

Ice-Skating  
 VO ☐ O ☐ U ☐ S ☐ N ☒

Ticking the box **OFFEN** for Athletics means that you had lessons fairly regularly during the athletics season, but not every week and not in every class in primary school.

Ticking the box **NEVER** for Skating means that you were never given ice-skating lessons during school time.

If you make a mistake put a line through your tick like this ☒ and put in another one.

**NOW BEGIN** - read each question carefully before you answer.

#### PRIMARY SCHOOL

In your primary school did you have lessons in:

FOR OFFICE  
USE

	VO	O	U	S	N	COLS. CODE
Art	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	14
Ballet	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	15
Creative Dance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	16
Drama	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	17
Folk/National Dance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	18
Games	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	19
Gymnastics	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	20
Music	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	21
Music & Movement (radio)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	22

VO = Very Often    O = Often    U = Uncertain    S = Sometimes    N = Never

#### SECONDARY HIGH SCHOOL

Do you have lessons when you are involved practically in:

	VO	O	U	S	N	COLS. CODE
Art	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	23
Drama	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	24
Music	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	25
Ballet	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	26
Creative/Modern Dance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	27
Folk/National Dance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	28
Stage Dance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	29
Gymnastics	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	30
Athletics	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	31
Games	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	32
Ice Skating	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	33
Swimming/Diving	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	34

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SECONDARY HIGH SCHOOL

Do you have lessons when you mainly listen to and/or watch the following:

	FOR OFFICE USE				COLS.	CODE
Art (paintings, sculpture)	VO	O	U	S	N	35
Drama	VO	O	U	S	N	36
Music	VO	O	U	S	N	37
Ballet	VO	O	U	S	N	38
Creative/Modern Dance	VO	O	U	S	N	39
Folk/National Dance	VO	O	U	S	N	40
Stage Dance	VO	O	U	S	N	41
Gymnastics	VO	O	U	S	N	42
Athletics	VO	O	U	S	N	43
Games	VO	O	U	S	N	44
Ice-Skating	VO	O	U	S	N	45
Swimming/Dividing	VO	O	U	S	N	46

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OUTSIDE SCHOOL TIME

Lunch time, evening, week-end, holiday.

Are you involved practically in the following activities either on the school premises (e.g. extra lessons, club, orchestra, team) or elsewhere (e.g. private lessons, youth club):

	FOR OFFICE USE				COLS.	CODE
Art	VO	O	U	S	N	47
Drama	VO	O	U	S	N	48
Music	VO	O	U	S	N	49
Ballet	VO	O	U	S	N	50
Creative/Modern Dance	VO	O	U	S	N	51
Folk/National Dance	VO	O	U	S	N	52
Stage Dance	VO	O	U	S	N	53
Gymnastics	VO	O	U	S	N	54
Athletics	VO	O	U	S	N	55
Games	VO	O	U	S	N	56
Ice-skating	VO	O	U	S	N	57
Swimming/Dividing	VO	O	U	S	N	58

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OUTSIDE SCHOOL TIME

Lunch time, evening, week-end, holiday.

Do you visit art galleries, sports grounds, theatres etc. to look at and/or listen to the following:

	FOR OFFICE USE				COLS. CODE
Art (paintings, sculpture)	VO	O	U	S	N
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	59				
Plays	VO	O	U	S	N
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	60				
Music (Concerts/Opera)	VO	O	U	S	N
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	61				
Ballet	VO	O	U	S	N
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	62				
Creative/Modern Dance	VO	O	U	S	N
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	63				
Polk/National Dance	VO	O	U	S	N
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	64				
Stage Dance	VO	O	U	S	N
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	65				
Gymnastics	VO	O	U	S	N
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	66				
Athletics	VO	O	U	S	N
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	67				
Games	VO	O	U	S	N
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	68				
Ice-skating	VO	O	U	S	N
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	69				
Swimming/Dividing	VO	O	U	S	N
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	70				

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OFFICE USE		COLS. CODE
ID	1-4	
CN	5	2
VO	O	U
	<input type="checkbox"/>	<input type="checkbox"/>
	6	
VO	O	U
	<input type="checkbox"/>	<input type="checkbox"/>
	7	
VO	O	U
	<input type="checkbox"/>	<input type="checkbox"/>
	8	
VO	O	U
	<input type="checkbox"/>	<input type="checkbox"/>
	9	
VO	O	U
	<input type="checkbox"/>	<input type="checkbox"/>
	10	
VO	O	U
	<input type="checkbox"/>	<input type="checkbox"/>
	11	
VO	O	U
	<input type="checkbox"/>	<input type="checkbox"/>
	12	
VO	O	U
	<input type="checkbox"/>	<input type="checkbox"/>
	13	
VO	O	U
	<input type="checkbox"/>	<input type="checkbox"/>
	14	
VO	O	U
	<input type="checkbox"/>	<input type="checkbox"/>
	15	
VO	O	U
	<input type="checkbox"/>	<input type="checkbox"/>
	16	
VO	O	U
	<input type="checkbox"/>	<input type="checkbox"/>
	17	
VO	O	U
	<input type="checkbox"/>	<input type="checkbox"/>

VO = Very Often    O = Often    U = Uncertain    S = Sometimes    N = Never



Are MEMBERS OF YOUR FAMILY interested in arts and sports?

In this section you are asked to show how much they are interested and involved in particular activities by ticking ONE of the boxes.

VO    O    U    S    N  
☐   ☐   ☐   ☐   ☐

**VERY OFTEN (VO)** Means at least one person in your family is involved every week throughout the year or season and is very enthusiastic.

**OFTEN (O)** means at least one person is involved regularly but not always every week.

**UNCERTAIN (U)** means that you aren't sure if anyone in your family is interested or not.

**SOMETIMES (S)** means at least one person shows interest now and again but not on a regular basis.

**NEVER (N)** means that no-one is interested or involved.

Remember: you tick ONE box only

If several members of your family are interested in a particular arts or sports activity, then choose the one with the greatest interest and tick the appropriate box.

Read the example carefully before you begin to answer the questions.

QUESTIONNAIRE

PART II

EXAMPLE

Do any members of your family take part in a practical way in the following:

GAMES      VO   O   ☒   U   S   N  
                  ☐                   ☐                   ☐                   ☐

IF: your sister plays tennis OFTEN

your father plays football SOMETIMES

Then you would choose the greater interest and tick OFTEN as shown above.

If you make a mistake cross out your first tick

like this ☒ and put in another one.

Do members of your family take part in a practical way in the following? Tick ONE box only for each activity.

FOR OFFICE USE						
COLS.	CODE					
18	VO   O   U   S   N	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
19	VO   O   U   S   N	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
20	VO   O   U   S   N	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
21	VO   O   U   S   N	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22	VO   O   U   S   N	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
23	VO   O   U   S   N	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
24	VO   O   U   S   N	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
25	VO   O   U   S   N	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
26	VO   O   U   S   N	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
27	VO   O   U   S   N	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
28	VO   O   U   S   N	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
29	VO   O   U   S   N	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

VO = Very Often    O = Often    U = Uncertain    S = Sometimes    N = Never

Do members of your family visit art galleries, sports grounds, theatres etc. to watch and/or listen to the following? Tick ONE box only for each activity.

	FOR OFFICE USE				
Art (paintings, sculpture)	VO <input type="checkbox"/>	O <input type="checkbox"/>	U <input type="checkbox"/>	S <input type="checkbox"/> N <input type="checkbox"/>	30
Plays	VO <input type="checkbox"/>	O <input type="checkbox"/>	U <input type="checkbox"/>	S <input type="checkbox"/> N <input type="checkbox"/>	31
Music (concerts/opera)	VO <input type="checkbox"/>	O <input type="checkbox"/>	U <input type="checkbox"/>	S <input type="checkbox"/> N <input type="checkbox"/>	32
Ballet	VO <input type="checkbox"/>	O <input type="checkbox"/>	U <input type="checkbox"/>	S <input type="checkbox"/> N <input type="checkbox"/>	33
Creative/Modern Dance	VO <input type="checkbox"/>	O <input type="checkbox"/>	U <input type="checkbox"/>	S <input type="checkbox"/> N <input type="checkbox"/>	34
Folk/National Dance	VO <input type="checkbox"/>	O <input type="checkbox"/>	U <input type="checkbox"/>	S <input type="checkbox"/> N <input type="checkbox"/>	35
Stage Dance	VO <input type="checkbox"/>	O <input type="checkbox"/>	U <input type="checkbox"/>	S <input type="checkbox"/> N <input type="checkbox"/>	36
Gymnastics	VO <input type="checkbox"/>	O <input type="checkbox"/>	U <input type="checkbox"/>	S <input type="checkbox"/> N <input type="checkbox"/>	37
Athletics	VO <input type="checkbox"/>	O <input type="checkbox"/>	U <input type="checkbox"/>	S <input type="checkbox"/> N <input type="checkbox"/>	38
Games	VO <input type="checkbox"/>	O <input type="checkbox"/>	U <input type="checkbox"/>	S <input type="checkbox"/> N <input type="checkbox"/>	39
Ice-skating	VO <input type="checkbox"/>	O <input type="checkbox"/>	U <input type="checkbox"/>	S <input type="checkbox"/> N <input type="checkbox"/>	40
Swimming/Divng	VO <input type="checkbox"/>	O <input type="checkbox"/>	U <input type="checkbox"/>	S <input type="checkbox"/> N <input type="checkbox"/>	41

= Very Often O = Often U = Uncertain S = Sometimes N = Never

Do members of your family watch the following on T.V.?  
Tick ONE box for each activity:

	FOR OFFICE USE				
Art programmes	VO <input type="checkbox"/>	O <input type="checkbox"/>	U <input type="checkbox"/>	S <input type="checkbox"/> N <input type="checkbox"/>	42
Plays	VO <input type="checkbox"/>	O <input type="checkbox"/>	U <input type="checkbox"/>	S <input type="checkbox"/> N <input type="checkbox"/>	43
Music (concerts/opera)	VO <input type="checkbox"/>	O <input type="checkbox"/>	U <input type="checkbox"/>	S <input type="checkbox"/> N <input type="checkbox"/>	44
Ballet	VO <input type="checkbox"/>	O <input type="checkbox"/>	U <input type="checkbox"/>	S <input type="checkbox"/> N <input type="checkbox"/>	45
Creative/Modern Dance	VO <input type="checkbox"/>	O <input type="checkbox"/>	U <input type="checkbox"/>	S <input type="checkbox"/> N <input type="checkbox"/>	46
Folk/National Dance	VO <input type="checkbox"/>	O <input type="checkbox"/>	U <input type="checkbox"/>	S <input type="checkbox"/> N <input type="checkbox"/>	47
Stage Dance	VO <input type="checkbox"/>	O <input type="checkbox"/>	U <input type="checkbox"/>	S <input type="checkbox"/> N <input type="checkbox"/>	48
Gymnastics	VO <input type="checkbox"/>	O <input type="checkbox"/>	U <input type="checkbox"/>	S <input type="checkbox"/> N <input type="checkbox"/>	49
Athletics	VO <input type="checkbox"/>	O <input type="checkbox"/>	U <input type="checkbox"/>	S <input type="checkbox"/> N <input type="checkbox"/>	50
Games	VO <input type="checkbox"/>	O <input type="checkbox"/>	U <input type="checkbox"/>	S <input type="checkbox"/> N <input type="checkbox"/>	51
Ice-skating	VO <input type="checkbox"/>	O <input type="checkbox"/>	U <input type="checkbox"/>	S <input type="checkbox"/> N <input type="checkbox"/>	52
Swimming/Divng	VO <input type="checkbox"/>	O <input type="checkbox"/>	U <input type="checkbox"/>	S <input type="checkbox"/> N <input type="checkbox"/>	53

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QUESTIONNAIRE

PART III

On the following pages are statements concerning various aspects of sport and dance. For each of them you are asked to say whether you agree or disagree with the statement and by how much.

If you STRONGLY AGREE	tick the box	SA	<input type="checkbox"/>
If you AGREE	tick the box	A	<input type="checkbox"/>
If you are UNDECIDED	tick the box	U	<input type="checkbox"/>
If you DISAGREE	tick the box	D	<input type="checkbox"/>
If you STRONGLY DISAGREE	tick the box	SD	<input type="checkbox"/>

FOR OFFICE

USE		COLS. CODE	
ID			
1-4			
CN			
5	3		
6		SA	A U D SD
7		SA	A U D SD
8		SA	A U D SD
9		SA	A U D SD
10		SA	A U D SD
11		SA	A U D SD
12		SA	A U D SD
13		SA	A U D SD
14		SA	A U D SD
15		SA	A U D SD
16		SA	A U D SD

These Statements Are About The  
Atmosphere And Competition In Sport

1. The shouting of the crowd makes an event more enjoyable.
2. Even ekilful movement is uninteresting if you don't know who is performing.
3. I like watching sports because there is a result.
4. You need the music in women's gymnastics to enjoy the movement.
5. The atmosphere helps you understand the sport.
6. Without a commentator it's very boring just watching someone run around.
7. You need the crowd cheering or the commentator shrieking when a goal is scored to enjoy it.
8. I mostly enjoy the competitive element in sport.
9. A game without cheering would be as if there is just nothing there.
10. It doesn't matter how a goal is scored as long as it goes in the net.
11. Without a commentator or the noise of the crowd, the build up to a goal seems a bit silly.

EXAMPLE

I enjoy ballet more in a theatre than watching on T.V.

SA ☐ A ☐ U ☐ D ☐ SD ☒

If you STRONGLY DISAGREE then you would tick the box SD as shown above.

If you change your mind, please put a line through your tick like this ☒ and put in another one.

Read carefully each of the statements on the following pages and give your opinion by ticking ONE of the boxes.

CA Strongly Agree A Agree U Uncertain D Disagree SD Strongly Disagree

These Statements Are  
Concerned With Ballet.

1. Ballet can look so pure, so beautiful.
2. Ballet is too slow and after about five minutes you get bored.
3. Ballet is just jumping around in a pair of tights.
4. I wouldn't watch a ballet all the way through.
5. Ballet music has no excitement to it.
6. Ballet is a graceful activity.
7. Watching ballet doesn't do anything for me.
8. Ballet seems pretty false.
9. I don't like ballet costumes.
10. I would never watch ballet on T.V.

These Statements Are About  
Dance And Dancers In General

1. Dance should entertain the audience.
2. All dancers are athletes in their own way.

FOR OFFICE USE	
COLS.	CODE
17	SA <input type="checkbox"/> A <input type="checkbox"/> U <input type="checkbox"/> D <input type="checkbox"/> SD <input type="checkbox"/>
18	SA <input type="checkbox"/> A <input type="checkbox"/> U <input type="checkbox"/> D <input type="checkbox"/> SD <input type="checkbox"/>
19	SA <input type="checkbox"/> A <input type="checkbox"/> U <input type="checkbox"/> D <input type="checkbox"/> SD <input type="checkbox"/>
20	SA <input type="checkbox"/> A <input type="checkbox"/> U <input type="checkbox"/> D <input type="checkbox"/> SD <input type="checkbox"/>
21	SA <input type="checkbox"/> A <input type="checkbox"/> U <input type="checkbox"/> D <input type="checkbox"/> SD <input type="checkbox"/>
22	SA <input type="checkbox"/> A <input type="checkbox"/> U <input type="checkbox"/> D <input type="checkbox"/> SD <input type="checkbox"/>
23	SA <input type="checkbox"/> A <input type="checkbox"/> U <input type="checkbox"/> D <input type="checkbox"/> SD <input type="checkbox"/>
24	SA <input type="checkbox"/> A <input type="checkbox"/> U <input type="checkbox"/> D <input type="checkbox"/> SD <input type="checkbox"/>
25	SA <input type="checkbox"/> A <input type="checkbox"/> U <input type="checkbox"/> D <input type="checkbox"/> SD <input type="checkbox"/>
26	SA <input type="checkbox"/> A <input type="checkbox"/> U <input type="checkbox"/> D <input type="checkbox"/> SD <input type="checkbox"/>
27	SA <input type="checkbox"/> A <input type="checkbox"/> U <input type="checkbox"/> D <input type="checkbox"/> SD <input type="checkbox"/>
28	SA <input type="checkbox"/> A <input type="checkbox"/> U <input type="checkbox"/> D <input type="checkbox"/> SD <input type="checkbox"/>

FOR OFFICE USE	
COLS.	CODE
29	SA <input type="checkbox"/> A <input type="checkbox"/> U <input type="checkbox"/> D <input type="checkbox"/> SD <input type="checkbox"/>
30	SA <input type="checkbox"/> A <input type="checkbox"/> U <input type="checkbox"/> D <input type="checkbox"/> SD <input type="checkbox"/>
31	SA <input type="checkbox"/> A <input type="checkbox"/> U <input type="checkbox"/> D <input type="checkbox"/> SD <input type="checkbox"/>
32	SA <input type="checkbox"/> A <input type="checkbox"/> U <input type="checkbox"/> D <input type="checkbox"/> SD <input type="checkbox"/>
33	SA <input type="checkbox"/> A <input type="checkbox"/> U <input type="checkbox"/> D <input type="checkbox"/> SD <input type="checkbox"/>
34	SA <input type="checkbox"/> A <input type="checkbox"/> U <input type="checkbox"/> D <input type="checkbox"/> SD <input type="checkbox"/>
35	SA <input type="checkbox"/> A <input type="checkbox"/> U <input type="checkbox"/> D <input type="checkbox"/> SD <input type="checkbox"/>
36	SA <input type="checkbox"/> A <input type="checkbox"/> U <input type="checkbox"/> D <input type="checkbox"/> SD <input type="checkbox"/>
37	SA <input type="checkbox"/> A <input type="checkbox"/> U <input type="checkbox"/> D <input type="checkbox"/> SD <input type="checkbox"/>
38	SA <input type="checkbox"/> A <input type="checkbox"/> U <input type="checkbox"/> D <input type="checkbox"/> SD <input type="checkbox"/>
39	SA <input type="checkbox"/> A <input type="checkbox"/> U <input type="checkbox"/> D <input type="checkbox"/> SD <input type="checkbox"/>
40	SA <input type="checkbox"/> A <input type="checkbox"/> U <input type="checkbox"/> D <input type="checkbox"/> SD <input type="checkbox"/>
41	SA <input type="checkbox"/> A <input type="checkbox"/> U <input type="checkbox"/> D <input type="checkbox"/> SD <input type="checkbox"/>

3. A dance is better to watch with a story behind it.
4. Dancing in time with each other and with the music is very important.
5. Some kind of expression and communication is very important in dance.
6. When dancers stand on their toes they look much more elegant.
7. Dance has to be well rehearsed to enjoy it.
8. I like dances that use expressive tuneless music.
9. I like energetic dances with lots of movement.

These Statements Are About  
Watching Sport And Dance In Slow  
Motion On T.V.

1. With slow motion replays you can enjoy the control and strength in a movement.
2. I can really enjoy the beauty of a movement in a slow motion replay.
3. I like slow motion because you can see the power in a movement.
4. With slow motion I can admire the coordination of dancers and sports people.
5. Slow motion replays of sport and dance on T.V. are good because you can see the movement exactly.
6. Ski-jumping, slowed down, shows beauty of motion.

FOR OFFICE USE

These Statements Are About

Male Dancers

1. If you saw a man dancing to really soft music it would look stupid.
2. Male dancers should do movement that is very difficult.
3. Boys shouldn't do ballet or modern dance.
4. Male dancers look silly wearing tights.
5. Ballet dancing is associated with women.
6. I don't like to see boys doing expressive movement.
7. Men shouldn't move to gentle music, it's not the right image.

These Statements Are About

Dance Performances

1. To enjoy watching dance the movements have to be exciting.
2. All dance music should have a good rhythm and beat.
3. A dance must be done properly with the right costumes, music and set in order to enjoy it.
4. You have to be the right shape to be a dancer.

COLS.	CODE
42	SA <input type="checkbox"/> A <input type="checkbox"/> U <input type="checkbox"/> D <input type="checkbox"/> SD <input type="checkbox"/>
43	SA <input type="checkbox"/> A <input type="checkbox"/> U <input type="checkbox"/> D <input type="checkbox"/> SD <input type="checkbox"/>
44	SA <input type="checkbox"/> A <input type="checkbox"/> U <input type="checkbox"/> D <input type="checkbox"/> SD <input type="checkbox"/>
45	SA <input type="checkbox"/> A <input type="checkbox"/> U <input type="checkbox"/> D <input type="checkbox"/> SD <input type="checkbox"/>
46	SA <input type="checkbox"/> A <input type="checkbox"/> U <input type="checkbox"/> D <input type="checkbox"/> SD <input type="checkbox"/>
47	SA <input type="checkbox"/> A <input type="checkbox"/> U <input type="checkbox"/> D <input type="checkbox"/> SD <input type="checkbox"/>
48	SA <input type="checkbox"/> A <input type="checkbox"/> U <input type="checkbox"/> D <input type="checkbox"/> SD <input type="checkbox"/>
49	SA <input type="checkbox"/> A <input type="checkbox"/> U <input type="checkbox"/> D <input type="checkbox"/> SD <input type="checkbox"/>
50	SA <input type="checkbox"/> A <input type="checkbox"/> U <input type="checkbox"/> D <input type="checkbox"/> SD <input type="checkbox"/>
51	SA <input type="checkbox"/> A <input type="checkbox"/> U <input type="checkbox"/> D <input type="checkbox"/> SD <input type="checkbox"/>
52	SA <input type="checkbox"/> A <input type="checkbox"/> U <input type="checkbox"/> D <input type="checkbox"/> SD <input type="checkbox"/>

SA = Strongly Agree A = Agree U = Uncertain D = Disagree SD = Strongly Disagree

FOR OFFICE USE

COLS.	CODE
53	SA <input type="checkbox"/> A <input type="checkbox"/> U <input type="checkbox"/> D <input type="checkbox"/> SD <input type="checkbox"/>
54	SA <input type="checkbox"/> A <input type="checkbox"/> U <input type="checkbox"/> D <input type="checkbox"/> SD <input type="checkbox"/>
55	SA <input type="checkbox"/> A <input type="checkbox"/> U <input type="checkbox"/> D <input type="checkbox"/> SD <input type="checkbox"/>
56	SA <input type="checkbox"/> A <input type="checkbox"/> U <input type="checkbox"/> D <input type="checkbox"/> SD <input type="checkbox"/>
57	SA <input type="checkbox"/> A <input type="checkbox"/> U <input type="checkbox"/> D <input type="checkbox"/> SD <input type="checkbox"/>
58	SA <input type="checkbox"/> A <input type="checkbox"/> U <input type="checkbox"/> D <input type="checkbox"/> SD <input type="checkbox"/>
59	SA <input type="checkbox"/> A <input type="checkbox"/> U <input type="checkbox"/> D <input type="checkbox"/> SD <input type="checkbox"/>
60	SA <input type="checkbox"/> A <input type="checkbox"/> U <input type="checkbox"/> D <input type="checkbox"/> SD <input type="checkbox"/>
61	SA <input type="checkbox"/> A <input type="checkbox"/> U <input type="checkbox"/> D <input type="checkbox"/> SD <input type="checkbox"/>
62	SA <input type="checkbox"/> A <input type="checkbox"/> U <input type="checkbox"/> D <input type="checkbox"/> SD <input type="checkbox"/>
63	SA <input type="checkbox"/> A <input type="checkbox"/> U <input type="checkbox"/> D <input type="checkbox"/> SD <input type="checkbox"/>

5. Costumes in dance should be bright and cheerful.

6. A lovely stage set is important in dance.

These Statements Are About

What Some People Find Interesting And

Exciting In Sport.

1. When someone hurts themselves in sport it makes it more interesting.
2. I enjoy watching sports people from this country rather than any others.
3. I enjoy watching a sportsman fail if he is not from this country.
4. The movement by itself in sports is not interesting.
5. I like to see slow-motion replays because you can see the faults in a performance.
6. A ski-jump is exciting because you know that the skier might possibly fall.
7. Slow motion replays are great if someone falls.
8. Watching sport becomes boring after a while unless someone falls.
9. It's boring if everyone succeeds all the time.

SA = Strongly Agree A = Agree U = Uncertain D = Disagree SD = Strongly Disagree

FOR OFFICE

FOR OFFICE USE		COLS. CODE
12.	I can enjoy good style whatever the shape of the performer.	17
13.	If a female athlete is brilliant it doesn't matter what she looks like.	18
14.	I prefer dances that have music with them.	19
15.	Bright costumes distract you from noticing the movement in dance.	20
16.	I like watching team sports because everyone works together.	21
17.	I enjoy watching top-class sport and dance because it seems effortless.	22
18.	Dance and ballet are boring because there is no action.	23
19.	A dance audience wants to be kept on edge feeling something might go wrong.	24
20.	Fluency and grace of movement have nothing to do with body shape.	25
21.	Cricket is boring, there is no action.	26
22.	If my team is losing I can't enjoy watching no matter how well the team is playing.	27
23.	Dancing to classical music is boring.	28
24.	Without crowd noise or a commentator you can enjoy the style of an athletic event.	29
25.	I can't enjoy any sporting achievement unless I know who is performing.	30
26.	Seeing an athlete or ballet dancer doing something I feel would hurt him does not spoil my enjoyment of it.	31

SA = Strongly Agree A = Agree U = Undecided D = Disagree SD = Strongly Disagree

SA = Strongly Agree A = Agree U = Undecided D = Disagree SD = Strongly Disagree

This Final Section Of The Questionnaire  
Consists Of Various Statements About

Sport And Dance

1. In a sporting event very difficult movements create a tense atmosphere which I enjoy.
2. You have to see a whole ballet or dance to enjoy it properly.
3. I hate to see movement that is unnatural like in ballet or gymnastics.
4. I enjoy an athletic event more if I know a world record has been set.
5. A woman athlete shouldn't look big and muscular like a man.
6. A nice costume does not help if the performer is not dancing well.
7. Those people who do a particular sport or event see it from a different angle than us.
8. I can't enjoy watching dangerous sports.
9. Only top class performers in sport and dance are worth watching.
10. I'd rather watch ballet than sport.
11. A really good cricket stroke is very graceful.



	USE	COLS	CODE
27. I enjoy supporting a team no matter how well or badly it plays.	SA <input type="checkbox"/> A <input type="checkbox"/> U <input type="checkbox"/> D <input type="checkbox"/> SD <input type="checkbox"/>	32	
28. I don't like to watch dance that is "fairy-like".	SA <input type="checkbox"/> A <input type="checkbox"/> U <input type="checkbox"/> D <input type="checkbox"/> SD <input type="checkbox"/>	33	
29. I can only enjoy watching things that are done really well.	SA <input type="checkbox"/> A <input type="checkbox"/> U <input type="checkbox"/> D <input type="checkbox"/> SD <input type="checkbox"/>	34	
30. I think an athlete's style is an important part of appreciating sports.	SA <input type="checkbox"/> A <input type="checkbox"/> U <input type="checkbox"/> D <input type="checkbox"/> SD <input type="checkbox"/>	35	
31. Female athletes should be slim and attractive.	SA <input type="checkbox"/> A <input type="checkbox"/> U <input type="checkbox"/> D <input type="checkbox"/> SD <input type="checkbox"/>	36	
32. I like dances that are different.	SA <input type="checkbox"/> A <input type="checkbox"/> U <input type="checkbox"/> D <input type="checkbox"/> SD <input type="checkbox"/>	37	
33. Watching ballet is difficult unless you are familiar with it.	SA <input type="checkbox"/> A <input type="checkbox"/> U <input type="checkbox"/> D <input type="checkbox"/> SD <input type="checkbox"/>	38	
34. The shape of the body doesn't matter if it is appropriate to the sport.	SA <input type="checkbox"/> A <input type="checkbox"/> U <input type="checkbox"/> D <input type="checkbox"/> SD <input type="checkbox"/>	39	
35. It doesn't look right if a woman has big muscles whatever the sport.	SA <input type="checkbox"/> A <input type="checkbox"/> U <input type="checkbox"/> D <input type="checkbox"/> SD <input type="checkbox"/>	40	
36. It's pointless seeing who can run the fastest and jump the highest unless you know who you want to win.	SA <input type="checkbox"/> A <input type="checkbox"/> U <input type="checkbox"/> D <input type="checkbox"/> SD <input type="checkbox"/>	41	
37. How somebody does something in sport is not important, we just remember what he or she achieved.	SA <input type="checkbox"/> A <input type="checkbox"/> U <input type="checkbox"/> D <input type="checkbox"/> SD <input type="checkbox"/>	42	
38. I don't enjoy watching dance because there is no outcome.	SA <input type="checkbox"/> A <input type="checkbox"/> U <input type="checkbox"/> D <input type="checkbox"/> SD <input type="checkbox"/>	43	
39. I couldn't enjoy watching a dancer who was fat.	SA <input type="checkbox"/> A <input type="checkbox"/> U <input type="checkbox"/> D <input type="checkbox"/> SD <input type="checkbox"/>	44	
40. Watching slow-motion replays is boring because you know what is coming next.	SA <input type="checkbox"/> A <input type="checkbox"/> U <input type="checkbox"/> D <input type="checkbox"/> SD <input type="checkbox"/>	45	
41. You need to see a whole game to appreciate it properly.	SA <input type="checkbox"/> A <input type="checkbox"/> U <input type="checkbox"/> D <input type="checkbox"/> SD <input type="checkbox"/>	46	

SA = Strongly Agree A = Agree U = Uncertain D = Disagree SD = Strongly Disagree

	USE	COLS	CODE
42. It's better if dancers wear ordinary kinds of clothes on stage.	SA <input type="checkbox"/> A <input type="checkbox"/> U <input type="checkbox"/> D <input type="checkbox"/> SD <input type="checkbox"/>	47	
43. If ballet was competitive like gymnastics it would be more interesting.	SA <input type="checkbox"/> A <input type="checkbox"/> U <input type="checkbox"/> D <input type="checkbox"/> SD <input type="checkbox"/>	48	
44. One slow-motion replay is alright but repeated again and again is boring.	SA <input type="checkbox"/> A <input type="checkbox"/> U <input type="checkbox"/> D <input type="checkbox"/> SD <input type="checkbox"/>	49	
45. To appreciate an activity you have to know something about it.	SA <input type="checkbox"/> A <input type="checkbox"/> U <input type="checkbox"/> D <input type="checkbox"/> SD <input type="checkbox"/>	50	
46. If a woman throws long distances by being very muscular then that's alright.	SA <input type="checkbox"/> A <input type="checkbox"/> U <input type="checkbox"/> D <input type="checkbox"/> SD <input type="checkbox"/>	51	
47. I enjoy performances when you can see a lot of effort has been put into it.	SA <input type="checkbox"/> A <input type="checkbox"/> U <input type="checkbox"/> D <input type="checkbox"/> SD <input type="checkbox"/>	52	
48. If there are no goals in a game it is very boring.	SA <input type="checkbox"/> A <input type="checkbox"/> U <input type="checkbox"/> D <input type="checkbox"/> SD <input type="checkbox"/>	53	
49. Disco-dancing has more meaning to it than modern dance or ballet.	SA <input type="checkbox"/> A <input type="checkbox"/> U <input type="checkbox"/> D <input type="checkbox"/> SD <input type="checkbox"/>	54	
50. Gymnastics and ballet are very similar.	SA <input type="checkbox"/> A <input type="checkbox"/> U <input type="checkbox"/> D <input type="checkbox"/> SD <input type="checkbox"/>	55	
51. Sometimes in slow motion a performer does not look so impressive.	SA <input type="checkbox"/> A <input type="checkbox"/> U <input type="checkbox"/> D <input type="checkbox"/> SD <input type="checkbox"/>	56	
52. Plenty of scenery is important in ballet.	SA <input type="checkbox"/> A <input type="checkbox"/> U <input type="checkbox"/> D <input type="checkbox"/> SD <input type="checkbox"/>	57	
53. You must take part in sport and dance to enjoy watching it.	SA <input type="checkbox"/> A <input type="checkbox"/> U <input type="checkbox"/> D <input type="checkbox"/> SD <input type="checkbox"/>	58	
54. Boys think ballet is "easy".	SA <input type="checkbox"/> A <input type="checkbox"/> U <input type="checkbox"/> D <input type="checkbox"/> SD <input type="checkbox"/>	59	
55. The costumes are the most enjoyable part of watching dance.	SA <input type="checkbox"/> A <input type="checkbox"/> U <input type="checkbox"/> D <input type="checkbox"/> SD <input type="checkbox"/>	60	
56. I hate violent sports.	SA <input type="checkbox"/> A <input type="checkbox"/> U <input type="checkbox"/> D <input type="checkbox"/> SD <input type="checkbox"/>	61	

SA = Strongly Agree A = Agree U = Uncertain D = Disagree SD = Strongly Disagree

	SA	A	U	D	SD	COLS 62	CODE
57. The atmosphere in a theatre is an important part of the enjoyment of the ballet or dance.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	62	
58. When dancers wear tight clothes they look much more graceful.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	63	
59. I like the skill part of sport and dance the most.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	64	
60. Strange music makes dances more interesting.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	65	
61. It is better watching sports without a commentator as you can concentrate on the movement.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	66	
62. The tight dancers wear help you see the movements more clearly.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	67	
63. I enjoy dancing much more when there are beautiful costumes and props.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	68	
64. I like accompaniments for dance that are a bit out of the ordinary.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	69	
65. Ski-jumps are brilliant because they look so perfect.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	70	
66. Ballet is just concerned with graceful movement.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	71	
67. Modern dance is more natural than ballet.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	72	
68. I like watching movement that is spectacular like ski-jumps.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	73	

THANK YOU FOR COMPLETING

THIS QUESTIONNAIRE

ALL THE INFORMATION YOU HAVE

GIVEN IS CONFIDENTIAL

SA = Strongly Agree    A = Agree    U = Undecided    D = Disagree    SD = Strongly Disagree

## Appendix IX

### Administration 'Guidelines' for Teachers

UNIVERSITY OF MANCHESTER

Department of Education

Dear Colleague,

Your assistance is requested in helping the pupils complete the questionnaire as accurately, honestly and objectively as can reasonably be expected. It is hoped that the guidelines listed below will be helpful in achieving this and you are asked to adhere to them as far as possible.

1. The questionnaire is in THREE parts.

A reference number/name (top of P.1) is only necessary if all parts of the questionnaire cannot be completed on the same occasion. It is CRUCIAL that the same child completes all three sections of the same questionnaire and I ask your assistance in ensuring that this does happen.

When all THREE parts of the questionnaire are complete, then the reference number/name is no longer necessary and may be deleted.

2. Please read through with the pupils, the introductory paragraph and then provide the information necessary to complete the PERSONAL DETAILS section relating to SCHOOL FORM and GROUP identification.

School Pupils should circle  which is the number allocated to your school.

Form 1st, 2nd, 3rd, 4th, 5th correspond to age-ranges 11-12; 12-13; 13-14; 14-15; 15-16 respectively.

Group The teacher should select from the following list that number which all the children in a particular class will then circle.

- ① A class comprised of pupils where there is a wide range of academic attainment.
- ② A class comprised largely of pupils who are in the upper academic attainment range.
- ③ A class comprised largely of pupils in the middle academic attainment range.
- ④ A class comprised largely of pupils in the lower academic attainment range.

3. Please read through with the pupils the instructions for completing the section relating to employment of parents.

Similarly the instructions for PART I, ensuring as far as possible that the pupils are clear about the method of completing this part of the questionnaire.

When PART I is completed by all pupils please read through instructions for PART II and on its completion the instructions for PART III.

4. Clarification of terms for the purposes of this questionnaire. Please ensure that pupils are reasonably aware of the distinctions.

Creative/Modern Dance - refers to the art form of dance which makes use of a range of styles, methods and techniques such as those of Laban and Graham. It may sometimes be described as 'free', 'expressive', 'contemporary', 'avant-garde'. Examples of modern dance companies are London Contemporary Dance Theatre, Extemporary, Phoenix.

Stage Dance - refers to popular dance such as that seen on T.V. and in theatre variety shows. The following types of dance may be included in this category: tap dancing, cabaret dancing, aerobics, keep-fit, break-dancing, body-popping etc.

Folk/National Dance - refers to traditional dances of all countries and all regions.

Historical dance and ballroom dance may also be included.

Ballet - refers to dance which is based on a precise technique. Ballet companies include the Royal Ballet, Festival Ballet, Northern Ballet Theatre.

Drama/Plays - generally all types may be included but not soap operas such as Dynasty, Dallas, Coronation Street.

Games - refers to individual and team games. Snooker, darts and chess may be included.

Dance - when this general term is employed (as in Part III of the questionnaire) it refers to all types and styles of dance and includes those listed above.

5. General Administration

- (a) If possible pupils should be seated separately to reduce the possibility of them seeing each other's responses.
- (b) There should be no discussion by the pupils about the responses they are making.
- (c) You are at liberty to read out for the pupils any of the items that they find difficult to read.
- (d) You are at liberty to give a reasonable amount of further explanation if pupils have difficulty in comprehending any of the items.
- (e) Certain 'aesthetic' terms such as 'appreciation', 'fluency', 'grace', 'gracefulness', 'style' may need to be explained to some pupils.

- (f) It would be helpful if a check could be made to ensure that pupils are in fact reading the questions carefully and ticking their responses as instructed.
- (g) The average time taken to complete the questionnaire is forty minutes. There is, however, no time limit.

Thank you very much for your assistance in this work. Any comments and suggestions will be most welcome.

Yours sincerely,

Patricia Sanderson

COMMENTS

Form:

.....  
Signature of Teacher

## Appendix X

### Letter to Headteachers of Schools





**University of Manchester**  
Department of Education

Professor J.D. Turner  
Professor P. Mittler  
Professor A.G. Smithers

Centre for Physical Education  
Director: Mr. A.I. Macdonald, M.Ed.

Oxford Road, Manchester M13 9PL Telephone: 061-275 4962/3

PS/PAH

Dear

I am currently undertaking a research project which is concerned with attitudes towards various arts and sports of pupils of secondary school age. The research employs a questionnaire and a pilot study has been completed involving various types of schools in different areas of Manchester.

I now wish to extend the survey to other parts of the country and to include once again pupils with a wide range of backgrounds, interests and abilities. I would be most grateful if students from could be involved in the research and I enclose a copy of the questionnaire for your examination. The questionnaire takes approximately 30 minutes to complete, confidentiality is assured and no costs will be incurred on the part of the school. According to teachers involved in the pilot study, the questionnaire is straightforward to administer and pupils enjoy completing it. A sample of 100 boys and girls is sought, ideally 50 boys and 50 girls spread evenly between the ages of 11 and 16.

If you agree to pupils from your school taking part in the research, perhaps you could put me in touch with a member of your PE/Dance staff with whom I could liase. I can be contacted by telephone at most times if this is convenient.

Yours sincerely

Patricia Sanderson  
Lecturer

Enc



## Appendix XI

### Letter to Teachers Administering the Questionnaire



Professor J.D. Turner  
Professor P. Mittler  
Professor A.G. Smithers

# University of Manchester

## Department of Education

Centre for Physical Education  
Director: Mr. A.I. Macdonald, M.Ed.

Oxford Road, Manchester M13 9PL Telephone: 061-275 4962/3

PS/PAH

Dear

Thank you for agreeing to administer the questionnaire.

I am enclosing:

1. A label addressed to me with stamps to the value of £3.50 for the return of the questionnaires.
2. 10 copies of 'Guidelines' for the administration of the questionnaire.
3. 120 copies of the questionnaire.

A sample of 100 pupils is sought, ideally 50 boys and girls between the ages of 11 - 16, and representing a cross-section of the school's population.

I would be grateful if the questionnaires could be completed and returned as soon as possible, and no later than the end of term.

Yours sincerely

Patricia Sanderson  
Lecturer

Enc

## Appendix XII

Data Computer Coding. Questionnaire, 1986

## Appendix XII

### Data Computer Coding. Questionnaire, 1986

<u>Variable</u>	<u>Col.No.</u>	<u>Variable Description</u>	<u>Coding</u>
	1-4	Pupil identification	0001-1668
	5	Card number	1
1	6-7	School	01-19
2	8	Form	1-5
3	9	Group	1-4
4	10-11	Age	11-16
5	12	Sex	Boy = 1; Girl = 2
6	13	Social Class	1-7
Don't know = 1; Unskilled =			
2; Semi-skilled = 3; Skilled			
Manual = 4; Clerical = 5;			
Technical/Managerial = 6;			
Professional = 7.			

### Primary School

7	14	Art	V.0.=1; 0=2; U=3; S=4; N=5
8	15	Ballet	" " " " "
9	16	Creative Dance	" " " " "
10	17	Drama	" " " " "
11	18	Folk/National Dance	" " " " "
12	19	Games	" " " " "
13	20	Gymnastics	" " " " "
14	21	Music	" " " " "
15	22	Music and Movement	" " " " "

<u>Variable</u>	<u>Col.No.</u>	<u>Variable Description</u>	<u>Coding</u>				
<u>Secondary School Practical</u>							
16	23	Art	V.O.=1; O=2; U=3; S=4; N=5				
17	24	Drama	"	"	"	"	"
18	25	Music	"	"	"	"	"
19	26	Ballet	"	"	"	"	"
20	27	Creative/Modern Dance	"	"	"	"	"
21	28	Folk/National Dance	"	"	"	"	"
22	29	Stage Dance	"	"	"	"	"
23	30	Gymnastics	"	"	"	"	"
24	31	Athletics	"	"	"	"	"
25	32	Games	"	"	"	"	"
26	33	Ice-skating	"	"	"	"	"
27	34	Swimming/Diving	"	"	"	"	"

<u>Secondary School Listening/Watching</u>							
28	35	Art	V.O.=1; O=2; U=3; S=4; N=5				
29	36	Drama	"	"	"	"	"
30	37	Music	"	"	"	"	"
31	38	Ballet	"	"	"	"	"
32	39	Creative/Modern Dance	"	"	"	"	"
33	40	Folk/National Dance	"	"	"	"	"
34	41	Stage Dance	"	"	"	"	"
35	42	Gymnastics	"	"	"	"	"
36	43	Athletics	"	"	"	"	"
37	44	Games	"	"	"	"	"
38	45	Ice-skating	"	"	"	"	"
39	46	Swimming/Diving	"	"	"	"	"

<u>Variable</u>	<u>Col.No.</u>	<u>Variable Description</u>	<u>Coding</u>
<u>Outside School Time, Practical</u>			
40	47	Art	V.O.=1; 0=2; U=3; S=4; N=5
41	48	Drama	" " " " "
42	49	Music	" " " " "
43	50	Ballet	" " " " "
44	51	Creative/Modern Dance	" " " " "
45	52	Folk/National Dance	" " " " "
46	53	Stage Dance	" " " " "
47	54	Gymnastics	" " " " "
48	55	Athletics	" " " " "
49	56	Games	" " " " "
50	57	Ice-skating	" " " " "
51	58	Swimming/Diving	" " " " "

<u>Outside School Time, Visiting</u>			
52	59	Art (paintings, sculpture)	V.O.=1; 0=2; U= 3; S=4; N=5
53	60	Plays	" " " " "
54	61	Music (concerts/opera)	" " " " "
55	62	Ballet	" " " " "
56	63	Creative/Modern Dance	" " " " "
57	64	Folk/National Dance	" " " " "
58	65	Stage Dance	" " " " "
59	66	Gymnastics	" " " " "
60	67	Athletics	" " " " "
61	68	Games	" " " " "
62	69	Ice-skating	" " " " "
63	70	Swimming/Diving	" " " " "

1-4	Pupil identification	0001-1668
2	Card number	2

<u>Variable</u>	<u>Col.No.</u>	<u>Variable Description</u>	<u>Coding</u>				
<u>Outside School Time, TV Viewing</u>							
64	6	Art programmes	V.O.=1; O=2; U=3; S=4; N=5				
65	7	Plays	"	"	"	"	"
66	8	Music (concerts/opera)	"	"	"	"	"
67	9	Ballet	"	"	"	"	"
68	10	Creative/Modern Dance	"	"	"	"	"
69	11	Folk/National Dance	"	"	"	"	"
70	12	Stage Dance	"	"	"	"	"
71	13	Gymnastics	"	"	"	"	"
72	14	Athletics	"	"	"	"	"
73	15	Games	"	"	"	"	"
74	16	Ice-skating	"	"	"	"	"
75	17	Swimming/Diving	"	"	"	"	"

<u>Family Interests, Practical</u>							
76	18	Art	V.O.=1; O=2; U=3; S=4; N=5				
77	19	Drama	"	"	"	"	"
78	20	Music	"	"	"	"	"
79	21	Ballet	"	"	"	"	"
80	22	Creative/Modern Dance	"	"	"	"	"
81	23	Folk/National Dance	"	"	"	"	"
82	24	Stage Dance	"	"	"	"	"
83	25	Gymnastics	"	"	"	"	"
84	26	Athletics	"	"	"	"	"
85	27	Games	"	"	"	"	"
86	28	Ice-skating	"	"	"	"	"
87	29	Swimming/Diving	"	"	"	"	"

<u>Variable</u>	<u>Col.No.</u>	<u>Variable Description</u>	<u>Coding</u>
<u>Family Interests, Visiting</u>			
88	30	Art	V.O.=1; O=2; U=3; S=4; N=5
89	31	Plays	" " " " "
90	32	Music (concerts/opera)	" " " " "
91	33	Ballet	" " " " "
92	34	Creative/Modern Dance	" " " " "
93	35	Folk/National Dance	" " " " "
94	36	Stage Dance	" " " " "
95	37	Gymnastics	" " " " "
96	38	Athletics	" " " " "
97	39	Games	" " " " "
98	40	Ice-skating	" " " " "
99	41	Swimming/Diving	" " " " "
<u>Family Interests, TV Viewing</u>			
100	42	Art programmes	V.O.=1; O=2; U=3; S=4; N=5
101	43	Plays	" " " " "
102	44	Music (concerts/opera)	" " " " "
103	45	Ballet	" " " " "
104	46	Creative/Modern Dance	" " " " "
105	47	Folk/National Dance	" " " " "
106	48	Stage Dance	" " " " "
107	49	Gymnastics	" " " " "
108	50	Athletics	" " " " "
109	51	Games	" " " " "
110	52	Ice-skating	" " " " "
111	53	Swimming/Diving	" " " " "
	1-4	Pupil identification	0001-1668
	5	Card number	3



Variable   Col. No.   Variable Description

Coding

Scale One: Aesthetics of sport: atmosphere and competition

112	6	Unfavourable attitude statement	S.A.=1; A=2; U=3; D=4; S.D.=5
113	7	" " " " " "	" " " " "
114	8	" " " " " "	" " " " "
115	9	" " " " " "	" " " " "
116	10	" " " " " "	" " " " "
117	11	" " " " " "	" " " " "
118	12	" " " " " "	" " " " "
119	13	" " " " " "	" " " " "
120	14	" " " " " "	" " " " "
121	15	" " " " " "	" " " " "
122	16	" " " " " "	" " " " "

Scale Two: Ballet

123	17	Favourable attitude statement	S.A.=5; A=4; U=3; D=2; S.D.=1
124	18	Unfavourable attitude statement	S.A.=1; A=2; U=3; D=4; S.D.=5
125	19	" " " " " "	" " " " "
126	20	" " " " " "	" " " " "
127	21	" " " " " "	" " " " "
128	22	Favourable attitude statement	S.A.=5; A=4; U=3; D=2; S.D.=1
129	23	Unfavourable attitude statement	S.A.=1; A=2; U=3; D=4; S.D.=5
130	24	" " " " " "	" " " " "
131	25	" " " " " "	" " " " "
132	26	" " " " " "	" " " " "

Variable   Col. No.   Variable Description

Coding

Scale Three: Dance

133	27	Unfavourable attitude statement	S.A.=1; A=2; U=3; D=4; S.D.=5
134	28	" " " " " "	" " " " "
135	29	" " " " " "	" " " " "
136	30	" " " " " "	" " " " "
137	31	Favourable attitude statement	S.A.=5; A=4; U=3; D=2; S.D.=1
138	32	Unfavourable attitude statement	S.A.=1; A=2; U=3; D=4; S.D.=5
139	33	" " " " " "	" " " " "
140	34	" " " " " "	" " " " "
141	35	" " " " " "	" " " " "

Scale Four: Slow Motion on TV

142	36	Favourable attitude statement	S.A.=5; A=4; U=3; D=2; S.D.=1
143	37	" " " " " "	" " " " "
144	38	" " " " " "	" " " " "
145	39	" " " " " "	" " " " "
146	40	" " " " " "	" " " " "
147	41	" " " " " "	" " " " "

Scale Five: Male dancers

148	42	Unfavourable attitude statement	S.A.=1; A=2; U=3; D=4; S.D.=5
149	43	" " " " " "	" " " " "
150	44	" " " " " "	" " " " "
151	45	" " " " " "	" " " " "
152	46	" " " " " "	" " " " "
153	47	" " " " " "	" " " " "
154	48	" " " " " "	" " " " "

<u>Variable</u>	<u>Col. No.</u>	<u>Variable Description</u>
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Coding

Scale Six: Dance performances

155	49	Unfavourable attitude statement	S.A.=1; A=2; U=3; D=4; S.D.=5
156	50	" " " " " "	"
157	51	Favourable attitude statement	S.A.=5; A=4; U=3; D=2; S.D.=1
158	52	Unfavourable attitude statement	S.A.=1; A=2; U=3; D=4; S.D.=5
159	53	" " " " " "	"
160	54	" " " " " "	"

Scale Seven: Aesthetics of sport: interest and excitement

161	55	Unfavourable attitude statement	S.A.=1; A=2; U=3; D=4; S.D.=5
162	56	" " " " " "	"
163	57	" " " " " "	"
164	58	" " " " " "	"
165	59	" " " " " "	"
166	60	" " " " " "	"
167	61	" " " " " "	"
168	62	" " " " " "	"
169	63	" " " " " "	"

1-4 Pupil identification

0001-1668

5 Card number

4

170-

237 6-73 Attitude statements

S.A.=1; A=2; U=3; D=4; S.D.=5

Missing data

0 (zero)

## Appendix XIII

### Key to Computer Print-out of Data

Appendix XIII

Key to Computer Print-out of Data

<u>Variable</u>	<u>Column No.</u>	<u>Variable Description</u>	<u>Coding</u>
	1-4	Pupil number	0001-1668
	5	Line number	1
1	6-7	School	01-19
2	8-9	Age	11-16
3	10	Sex	Boy = 1; Girl = 2
4	11	Social class	1-7
			Don't know = 1; Unskilled =
			2; Semi-skilled = 3;
			Skilled manual = 4; Clerical
			= 5; Tech/Managerial = 6;
			Professional = 7.

Pupils' Leisure Interests (i.e. Outside School Time)

5	12-13	Arts - practical	1-15
6	14-15	Dance - practical	1-20
7	16-17	Sports - practical	1-25
8	18-19	Arts - visiting	1-15
9	20-21	Dance - visiting	1-20
10	22-23	Sports - visiting	1-25
11	24-25	Arts - viewing	1-15
12	26-27	Dance - viewing	1-20
13	28-29	Sports - viewing	1-25
14	30-31	Arts	1-45
15	32-33	Dance	1-60
16	34-35	Sport	1-75
17	36-37	Practical	1-60
18	38-39	Visiting	1-60
19	40-41	Viewing	1-60
20	42-43	Total	1-180

<u>Variable</u>	<u>Column No.</u>	<u>Variable Description</u>	<u>Coding</u>
	1-4	Pupil number	0001-1668
	5	Line number	2

Family Interests

21	6-7	Arts - practical	1-15
22	8-9	Arts - visiting	1-15
23	10-11	Arts - viewing	1-15
24	12-13	Arts	1-45
25	14-15	Dance - practical	1-20
26	16-17	Dance - visiting	1-20
27	18-19	Dance - viewing	1-20
28	20-21	Dance	1-60
29	22-23	Sports - practical	1-25
30	24-25	Sports - visiting	1-25
31	26-27	Sports - viewing	1-25
32	28-29	Sport	1-75
33	30-31	Practical	1-60
34	32-33	Visiting	1-60
35	34-35	Viewing	1-60
36	36-37	Total	1-180

Scale Scores

37	38-39	Scale One: Aesthetics of Sport	1-55
38	40-41	Scale Two: Ballet	1-50
39	42-43	Scale Three: Dance	1-45
40	44-45	Scale Four: Slow Motion Replays	1-30
41	46-47	Scale Five: Male Dancers	1-35
42	48-49	Scale Six: Dance Performance	1-30
43	50-51	Scale Seven: Aesthetics of Sport	1-45

Missing values = 0 (zero)

## Appendix XIV

### Treatment of Missing Data: Multiple Regression Analysis

#### Appendix XIV

##### Treatment of Missing Data: Multiple Regression Analysis

The SPSS-X programme for multiple regression analysis offers three main options for the treatment of missing data.

The default or normal means of handling missing data in the computation of the simple correlation matrix is by means of list-wise deletion, which "causes a case to be omitted from the calculation of all coefficients specified in a partial list when that case contains a missing value on any variable entered onto either the correlation or the control list" (SPSS handbook, Nie et al, 1975, p.312). List-wise deletion is "the only way to ensure that the partial correlations are computed from the same population" (p.313).

Alternatives are either the inclusion of all missing data, when missing-value indicators are ignored or pair-wise deletion of missing data. These are not recommended (Nie et al, 1975; Norusis, 1985) as serious problems may result because of computational inaccuracies and the user is advised that little confidence can therefore be placed in multiple regression statistics.

The SPSS handbook (Norusis, 1985) stresses the importance of selecting a missing-value treatment based on careful examination of the data, rather than merely leaving the choices up to system defaults. An examination of the raw-scores, taking into account the large sample size, indicated that the default or list-wise deletion option was acceptable in the computation of all the multiple regression analyses which follow. List-wise deletion of missing data therefore accounts for the (relatively small) variation in the sample sizes involved.



## Appendix XV

t-values

Age, Sex, Social Class. Family Interests

Appendix XV

t-values

(a) Age, Sex, Social Class ( $r_{12}$ ), Augmented Battery ( $r_{13}$ ) (i.e. Family Interests + Age, Sex, Social Class)

Differences  $r_{12} - r_{13}$

Criterion

Scale 1                       $t = 4.879^{**}$

Scale 2                       $t = 7.304^{**}$

Scale 3                       $t = 2.403^{*}$

Scale 4                       $t = 3.460^{**}$

Scale 5                       $t = 9.628^{**}$

Scale 6                       $t = 5.054^{**}$

Scale 7                       $t = 3.441^{**}$

\* indicates significance at the five per cent level.

\*\*indicates significance at the one per cent level.

(b) Family Interests Battery ( $r_{12}$ ) Augmented Battery ( $r_{13}$ )

Differences  $r_{12} - r_{13}$

Criterion

Scale 1	$t = 1.918$
Scale 2	$t = 6.746^{**}$
Scale 3	$t = 3.004^{**}$
Scale 4	$t = 3.436^{**}$
Scale 5	$t = 5.000^{**}$
Scale 6	$t = 3.634^{**}$
Scale 7	$t = 7.77^{**}$

**\*\*indicates significance at the one per cent level.**

## Appendix XVI

### Additional Regression Analyses, Family Interests

Additional regression analyses, family interests

Although multiple regression analysis offers many advantages to the researcher there are also potential problems. Kerlinger and Pedhazur (1973) for instance discuss the issue of correlated independent variables. They point out that "In nonexperimental, or ex postfacto research,...the independent variables are generally correlated, sometimes substantially. This makes it difficult, if not impossible, to untangle the variance accounted for in the dependent variable and to attribute portions of it to individual independent variables" (p.296). The authors quote both Goldberger (1964) and Darlington (1968) in support and to illustrate, refer to the report by Coleman et al (1966) "Equality of Educational Opportunity". This reported that students' attitudes and home background accounted for a far larger proportion of variance in school achievement compared to the proportion of variance accounted for by the schools attended by the pupils. The interpretation that students' attitudes and backgrounds are far more important than the school attended has been challenged by some researchers in view of the intercorrelations among the variables. Mood (1969) for instance has reanalyzed and reinterpreted the data.

An additional potential difficulty with the proposed multiple regression analyses involving family interest variables (and pupil interest variables) is that variables are included which are combinations of each other. There is the possibility that this could result in spuriously high correlations and so cloud the analysis. The contentious question of correlated predictors is compounded therefore in the proposed multiple regression analyses by the linear combinations.

In order to check the results, four additional analyses involving the 16 family interest variables were completed, which minimised the enforced intercorrelation of the linear variable set. The following diagram and descriptions explain the independent variables involved in each multiple regression analysis. Each of the seven scale scores in turn was the criterion in each analysis.

Figure XVI.1

Measures of family interests

		Practical	Visiting	TV Viewing	
<u>Content</u>	Arts	1	2	3	10
	Dance	4	5	6	11
	Sports	7	8	9	12
		13	14	15	<div style="border: 1px solid black; padding: 5px; display: inline-block;">           16            = 10 + 11 + 12            or 13 + 14 + 15         </div>

Analysis 1. Variables 1-9 plus age, sex and social class

Arts Practical  
 Arts Visiting  
 Arts Viewing  
 Dance Practical  
 Dance Visiting  
 Dance Viewing  
 Sports Practical  
 Sport Visiting  
 Sports Viewing

Analysis 2. Variables 10-12 plus age, sex and social class

Arts

Dance

Sports

Analysis 3. Variables 13-15 plus age, sex and social class

Practical

Visiting

Viewing

Analysis 4. Variable 16 plus age, sex and social class

Total

Table XVI.1

Multiple Regression Analyses: Criterion, each of the scale scores

Scale One: Attitude to Aesthetics of Sport: atmosphere and competition

<u>Step</u>	<u>Variable</u>	<u>Beta weight</u>	<u>Multiple R*</u>
1.	<u>Variables 1-9 plus Age, Sex and Social Class</u>		
1	Social Class	0.130	0.167
2	Sex	0.118	0.223
3	Sports Visiting	-0.121	0.254

N = 1619

2.	<u>Variables 10-12 plus Age, Sex and Social Class</u>		
1	Social Class	0.136	0.165
2	Sex	0.120	0.222
3	Dance	0.153	0.247

N = 1634

3.	<u>Variables 13-15 plus Age, Sex and Social Class</u>		
1	Social Class	0.164	0.165
2	Sex	0.147	0.222

N = 1634

4.	<u>Variable 16 plus Age, Sex and Social Class</u>		
1	Social Class	0.163	0.165
2	Sex	0.147	0.222

N = 1638

\*This includes the variables in the row concerned and all preceding variables.



Scale Two: Attitude to Ballet

<u>Step</u>	<u>Variable</u>	<u>Beta weight</u>	<u>Multiple R*</u>
1. <u>Variables 1-9 plus Age, Sex and Social Class</u>			
1	Dance Visiting	0.194	0.369
2	Sex	0.273	0.469
3	Dance Viewing	0.190	0.492

N = 1619

2. <u>Variables 10-12 plus Age, Sex and Social Class</u>			
1	Dance	0.406	0.384
2	Sex	0.277	0.478
3	Sports	-0.172	0.498

N = 1634

3. <u>Variables 13-15 plus Age, Sex and Social Class</u>			
1	Sex	0.321	0.316
2	Visiting	0.108	0.375
3	Social Class	0.096	0.387

N = 1634

4. <u>Variable 16 plus Age, Sex and Social Class</u>			
1	Sex	0.321	0.317
2	Total	0.187	0.380
3	Social Class	0.101	0.392

N = 1638

\*This includes the variable in the row concerned and all preceding variables.

Scale Three: Attitude to Dance

<u>Step</u>	<u>Variable</u>	<u>Beta weight</u>	<u>Multiple R*</u>
1. <u>Variables 1-9 plus Age, Sex and Social Class</u>			
1	Dance Viewing	-0.044	0.163
2	Sex	-0.135	0.209
3	Social Class	-0.088	0.231

N = 1619

2. <u>Variables 10-12 plus Age, Sex and Social Class</u>			
1	Dance	-0.090	0.153
2	Sex	-0.140	0.204
3	Social Class	-0.088	0.225

N = 1634

3. <u>Variables 13-15 plus Age, Sex and Social Class</u>			
1	Sex	-0.152	0.148
2	Viewing	-0.114	0.202
3	Social Class	-0.102	0.225

N = 1634

4. <u>Variable 16 plus Age, Sex and Social Class</u>			
1	Sex	-0.149	0.148
2	Total	-0.117	0.201
3	Social Class	-0.097	0.223

N = 1638

\*This includes the variable in the row concerned and all preceding variables.

Scale Four: Attitude to Slow Motion Replays

<u>Step</u>	<u>Variable</u>	<u>Beta weight</u>	<u>Multiple R*</u>
1. <u>Variables 1-9 plus Age, Sex and Social Class</u>			
1	Sex	-0.163	0.168
2	Sports Viewing	0.120	0.227
3	Social Class	0.088	0.249

N = 1619

2. <u>Variables 10-12 plus Age, Sex and Social Class</u>			
1	Sex	-0.164	0.171
2	Sports	0.116	0.228
3	Social Class	0.093	0.249

N = 1634

3. <u>Variables 13-15 plus Age, Sex and Social Class</u>			
1	Sex	-0.168	0.170
2	Viewing	0.097	0.225
3	Social Class	0.091	0.243

N = 1634

4. <u>Variable 16 plus Age, Sex and Social Class</u>			
1	Sex	-0.169	0.169
2	Total	0.141	0.232
3	Social Class	0.089	0.248

N = 1638

\*This includes the variable in the row concerned and all preceding variables.

Scale Five: Attitude to Male Dancers

<u>Step</u>	<u>Variable</u>	<u>Beta weight</u>	<u>Multiple R*</u>
1. <u>Variables 1-9 plus Age, Sex and Social Class</u>			
1	Dance Viewing	0.149	0.318
2	Sex	0.228	0.399
3	Social Class	0-.136	0.433

N = 1619

2. <u>Variables 10-12 plus Age, Sex and Social Class</u>			
1	Dance	0.291	0.327
2	Sex	0.235	0.407
3	Social Class	0.152	0.437

N = 1634

3. <u>Variables 13-15 plus Age, Sex and Social Class</u>			
1	Sex	0.268	0.269
2	Social Class	0.176	0.343
3	Viewing	0.115	0.381

N = 1634

4. <u>Variable 16 plus Age, Sex and Social Class</u>			
1	Sex	0.267	0.269
2	Social Class	0.181	0.343
3	Total	0.162	0.378

N = 1638

\*This includes the variable in the row concerned and all preceding variables.

Scale Six: Attitude to Dance Performance

<u>Step</u>	<u>Variable</u>	<u>Beta weight</u>	<u>Multiple R*</u>
1. <u>Variables 1-9 plus Age, Sex and Social Class</u>			
1	Arts Visiting	0.172	0.201
2	Dance Viewing	0.148	0.237
3	Sports Viewing	-0.076	0.267

N = 1619

2. <u>Variables 10-12 plus Age, Sex and Social Class</u>			
1	Dance	0.201	0.196
2	Sports	-0.159	0.227
3	Social Class	0.097	0.254

N = 1634

3. <u>Variables 13-15 plus Age, Sex and Social Class</u>			
1	Social Class	0.118	0.142
2	Age	0.098	0.169
3	Visiting	0.059	0.191

N = 1634

4. <u>Variable 16 plus Age, Sex and Social Class</u>			
1	Social Class	0.118	0.142
2	Total	0.106	0.172
3	Age	0.098	0.199

N = 1638

\*This includes the variable in the row concerned and all preceding variables.

Scale Seven: Attitude to Aesthetics of Sport - interest and excitement

<u>Step</u>	<u>Variable</u>	<u>Beta weight</u>	<u>Multiple R*</u>
1. <u>Variables 1-9 plus Age, Sex and Social Class</u>			
1	Sex	0.182	0.195
2	Social Class	0.108	0.245
3	Arts Visiting	0.079	0.268

N = 1619

2. <u>Variables 10-12 plus Age, Sex and Social Class</u>			
1	Sex	0.184	0.194
2	Social Class	0.114	0.240
3	Dance	0.071	0.258

N = 1634

3. <u>Variables 13-15 plus Age, Sex and Social Class</u>			
1	Sex	0.191	0.194
2	Social Class	0.124	0.240
3	Practical	0.106	0.261

N = 1634

4. <u>Variable 16 plus Age, Sex and Social Class</u>			
1	Sex	0.190	0.194
2	Social Class	0.123	0.239
3	Total	0.085	0.253

N = 1638

\*This includes the variable in the row concerned and all preceding variables.

A comparison of these results with those from the original multiple regression analysis, using a 19 predictor variable set, indicates that they are substantially the same. Linear combinations and inter-correlations of independent variables are not producing artificial results and confidence can therefore be placed in the original multiple regression analyses.

In view of these results it was considered unnecessary to complete similar separate analyses involving pupil interest variables when testing hypothesis 5.2.5.

## Appendix XVII

t-values

Age, Sex, Social Class. Pupil Interests



Appendix XVII

t-values

(a) Pupil Interests ( $r_{12}$ ), Augmented Battery ( $r_{13}$ )

Differences  $r_{12} - r_{13}$

Criterion

Scale 1	$t = 2.559^*$
Scale 2	$t = 4.742^{**}$
Scale 3	$t = 1.416$
Scale 4	$t = 3.447^{**}$
Scale 5	$t = 4.779^{**}$
Scale 6	$t = 2.676^{**}$
Scale 7	$t = 3.482^{**}$

\* indicates significance at the five per cent level.

\*\*indicates significance at the one per cent level.

(b) Age, Sex and Social Class ( $r_{12}$ ), Augmented Battery (Pupil  
Interests + Age, Sex and Social Class) ( $r_{13}$ )  
Differences  $r_{12} - r_{13}$

Criterion

Scale 1                       $t = 3.555^{**}$

Scale 2                       $t = 13.337^{**}$

Scale 3                       $t = 3.520^{**}$

Scale 4                       $t = 4.390^{**}$

Scale 5                       $t = 9.592^{**}$

Scale 6                       $t = 6.100^{**}$

Scale 7                       $t = 2.390^{*}$

\* indicates significance at the five per cent level.

\*\*indicates significance at the one per cent level.

## Appendix XVIII

### Three-way Analyses of Variance by School Type, Sex and Age Group

Appendix XVIII

Table XVIII.1. Three way analyses of variance by school type, sex and age group

A. Scale 1 (Aesthetics of sport - atmosphere and competition)

<u>Source of variation</u>	<u>Sum of squares</u>	<u>df</u>	<u>Mean square</u>	<u>F</u>
School type (A)	1264.05	1	1264.05	32.12**
Sex (B)	54.45	1	54.45	1.38
Age group (C)	94.61	1	94.61	2.40
A × B	11.25	1	11.25	< 1
A × C	6.61	1	6.61	< 1
B × C	2.11	1	2.11	< 1
A × B × C	6.61	1	6.61	< 1
Within	12277.50	312	39.35	
Total	13717.19	319		

\*\*indicates significance at the one per cent level.

B. Scale 2 (Ballet)

<u>Source of variation</u>	<u>Sum of squares</u>	<u>df</u>	<u>Mean square</u>	<u>F</u>
School type (A)	4329.15	1	4329.15	80.03**
Sex (B)	2582.13	1	2582.13	47.74**
Age group (C)	9.45	1	9.45	< 1
A × B	253.83	1	253.83	4.70*
A × C	4.75	1	4.75	< 1
B × C	0.38	1	0.38	< 1
A × B × C	687.38	1	687.38	12.71**
Within	16876.98	312	54.10	
Total	24744.05	319		

C. Scale 3 (Dance)

<u>Source of variation</u>	<u>Sum of squares</u>	<u>df</u>	<u>Mean square</u>	<u>F</u>
School type (A)	308.11	1	308.11	21.41**
Sex (B)	23.11	1	23.11	1.61
Age group (C)	15.31	1	15.31	1.06
A × B	18.05	1	18.05	1.25
A × C	9.80	1	9.80	< 1
B × C	68.45	1	68.45	4.76*
A × B × C	1.01	1	1.01	< 1
Within	4489.35	312	14.39	
Total	4933.19	319		

\* indicates significance at the five per cent level.

\*\*indicates significance at the one per cent level.

D. Scale 4 (Slow motion replays on TV)

<u>Source of variation</u>	<u>Sum of squares</u>	<u>df</u>	<u>Mean square</u>	<u>F</u>
School type (A)	140.45	1	140.45	6.51*
Sex (B)	37.81	1	37.81	1.75
Age group (C)	28.80	1	28.80	1.33
A × B	2.45	1	2.45	< 1
A × C	23.11	1	23.11	1.07
B × C	101.25	1	101.25	4.69*
A × B × C	5.51	1	5.51	< 1
Within	6734.10	312	21.58	
Total	7073.48	319		

E. Scale 5 (Male dancers)

<u>Source of variation</u>	<u>Sum of squares</u>	<u>df</u>	<u>Mean square</u>	<u>F</u>
School type (A)	3360.53	1	3360.53	94.38**
Sex (B)	901.15	1	901.15	25.31**
Age group (C)	13.20	1	13.20	< 1
A × B	71.25	1	71.25	2.00
A × C	106.95	1	106.95	3.00
B × C	334.15	1	334.15	9.38**
A × B × C	67.53	1	67.53	1.90
Within	11109.73	312	35.61	
Total	15964.49	319		

\* indicates significance at the five per cent level.

\*\*indicates significance at the one per cent level.

F. Scale 6 (Dance performance)

<u>Source of variation</u>	<u>Sum of squares</u>	<u>df</u>	<u>Mean square</u>	<u>F</u>
School type (A)	485.11	1	485.11	37.33**
Sex (B)	3.20	1	3.20	< 1
Age group (C)	0.20	1	0.20	< 1
A × B	1.51	1	1.51	< 1
A × C	90.31	1	90.31	6.95**
B × C	6.05	1	6.05	< 1
A × B × C	5.51	1	5.51	< 1
Within	4054.05	312	12.99	
Total	4645.94	319		

G. Scale 7 (Aesthetics of sport - interest and excitement)

<u>Source of variation</u>	<u>Sum of squares</u>	<u>df</u>	<u>Mean square</u>	<u>F</u>
School type (A)	548.63	1	548.63	11.18**
Sex (B)	346.53	1	346.53	7.06**
Age group (C)	0.53	1	0.53	< 1
A × B	133.90	1	133.90	2.73
A × C	1.38	1	1.38	< 1
B × C	0.08	1	0.08	< 1
A × B × C	4.75	1	4.75	< 1
Within	15317.93	312	49.10	
Total	16353.73	319		

\*\*indicates significance at the one per cent level.

## Appendix XIX

### Two-way Analysis of Variance by School Type and Age Group for Scale 2, Ballet



Appendix XIX

Table XIX.1. Two-way analysis of variance by school type and age group  
for scale 2, ballet

A. Boys

<u>Source of variation</u>	<u>Sum of squares</u>	<u>df</u>	<u>Mean square</u>	<u>F</u>
School type (A)	1243.23	1	1243.23	19.05**
Age group (B)	3.03	1	3.03	< 1
A × B	403.23	1	403.23	6.18**
Individuals (I)				
within A × B	10181.50	156	65.26	
Total	11830.99	159		

B. Girls

<u>Source of variation</u>	<u>Sum of squares</u>	<u>df</u>	<u>Mean square</u>	<u>F</u>
School type (A)	3339.76	1	3339.76	77.81**
Age group (B)	6.81	1	6.81	< 1
A × B	288.91	1	288.91	6.73**
Individuals (I)				
within A × B	6695.48	156	42.92	
Total	10330.96	159		

\*\*indicates significance at the one per cent level.

## Appendix XX

### Three Way Analyses of Variance by School Type, Sex and Age Group

Appendix XX

Table XX.1. Three way analyses of variance by school type, sex and age group

A. Scale 1 (Aesthetics of sport - atmosphere and competition)

<u>Source of variation</u>	<u>Sum of squares</u>	<u>df</u>	<u>Mean square</u>	<u>F</u>
School type (A)	312.05	1	312.05	8.26**
Sex (B)	241.51	1	241.51	6.39**
Age group (C)	30.01	1	30.01	< 1
A × B	23.11	1	23.11	< 1
A × C	46.51	1	46.51	1.23
B × C	14.45	1	14.45	< 1
A × B × C	0.05	1	0.05	< 1
Within	11789.50	312	37.79	
Total	12457.19	319		

\*\*indicates significance at the one per cent level.

B. Scale 2 (Ballet)

<u>Source of variation</u>	<u>Sum of squares</u>	<u>df</u>	<u>Mean square</u>	<u>F</u>
School type (A)	28.80	1	28.80	< 1
Sex (B)	2010.01	1	2010.01	43.83**
Age group (C)	22.05	1	22.05	< 1
A × B	99.01	1	99.01	2.16
A × C	31.25	1	31.25	< 1
B × C	255.61	1	255.61	5.57*
A × B × C	117.61	1	117.61	2.57
Within	14308.85	312	45.86	
Total	16873.19	319		

C. Scale 3 (Dance)

<u>Source of variation</u>	<u>Sum of squares</u>	<u>df</u>	<u>Mean square</u>	<u>F</u>
School type (A)	111.63	1	111.63	7.87**
Sex (B)	75.08	1	75.08	5.29*
Age group (C)	15.75	1	15.75	1.11
A × B	0.15	1	0.15	< 1
A × C	9.45	1	9.45	< 1
B × C	14.88	1	14.88	1.05
A × B × C	29.40	1	29.40	2.07
Within	4426.53	312	14.19	
Total	4682.87	319		

\* indicates significance at the five per cent level.

\*\*indicates significance at the one per cent level.

D. Scale 4 (Slow motion replays on TV)

<u>Source of variation</u>	<u>Sum of squares</u>	<u>df</u>	<u>Mean square</u>	<u>F</u>
School type (A)	580.50	1	580.50	32.09**
Sex (B)	48.83	1	48.83	2.70
Age group (C)	13.20	1	13.20	< 1
A × B	0.53	1	0.53	< 1
A × C	42.78	1	42.78	2.37
B × C	58.65	1	58.65	3.24
A × B × C	22.58	1	22.58	1.25
Within	5644.53	312	18.09	
Total	6411.60	319		

E. Scale 5 (Male dancers)

<u>Source of variation</u>	<u>Sum of squares</u>	<u>df</u>	<u>Mean square</u>	<u>F</u>
School type (A)	328.05	1	328.05	8.31**
Sex (B)	1256.11	1	1256.11	31.80**
Age group (C)	74.11	1	74.11	1.88
A × B	9.11	1	9.11	< 1
A × C	3.61	1	3.61	< 1
B × C	2.45	1	2.45	< 1
A × B × C	72.20	1	72.20	1.83
Within	12324.55	312	39.50	
Total	14070.19	319		

\*\*indicates significance at the one per cent level.

F. Scale 6 (Dance performance)

<u>Source of variation</u>	<u>Sum of squares</u>	<u>df</u>	<u>Mean square</u>	<u>F</u>
School type (A)	33.80	1	33.80	3.09**
Sex (B)	5.51	1	5.51	< 1
Age group (C)	115.20	1	115.20	10.54**
A × B	0.45	1	0.45	< 1
A × C	2.81	1	2.81	< 1
B × C	0.20	1	0.20	< 1
A × B × C	0.31	1	0.31	< 1
Within	3411.60	312	10.94	
Total	3569.88	319		

G. Scale 7 (Aesthetics of sport - interest and excitement)

<u>Source of variation</u>	<u>Sum of squares</u>	<u>df</u>	<u>Mean square</u>	<u>F</u>
School type (A)	437.11	1	437.11	8.58**
Sex (B)	1178.11	1	1178.11	23.13**
Age group (C)	0.11	1	0.11	< 1
A × B	17.11	1	17.11	< 1
A × C	0.61	1	0.61	< 1
B × C	0.11	1	0.11	< 1
A × B × C	4.51	1	4.51	< 1
Within	15893.30	312	50.94	
Total	17530.97	319		

\*\*indicates significance at the one per cent level.

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