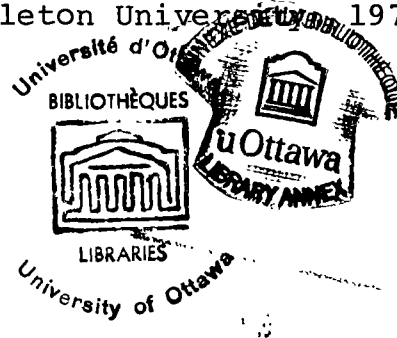


DEVELOPMENT OF AN INSTRUMENT FOR THE MEASUREMENT
OF SATISFACTION IN SPORT

BY

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ABSTRACT

The Sport Satisfaction Inventory (SSI) was developed because of the growing interest in and importance of satisfaction in sport. The literature showed an absence of inventories capable of measuring sport satisfaction. Most satisfaction instruments available have been developed in other research fields and thus are inadequate to deal with the special problems in the area of sport.

A total of 400 male and female sport participants representing a wide range of abilities (excluding professional) took part in eight studies, all of which contributed to the development of the SSI. The subjects ranged in age from 10 to 39 and represented 13 different sports.

Athlete's responses to general, open ended questions provided the basis upon which sources of satisfaction were determined. The six dimensions which emerged include the sport or game itself (Sport/Game), Practice, Coach, Teammates, Opposition and Personal Ability And Performance. Descriptive item lists were then developed for each source of sport satisfaction from the responses to specific, open ended sentences which related to each source of satisfaction. Irrelevant and least discriminating items were eliminated and the scoring direction of each item was determined based on the frequencies with which respondents checked off the adjectives as describing their most and least satisfying teams.

The SSI was refined in a number of ways through item

analysis. All items retained correlated positively with the total scores of their dimensions and correlated higher with the total score of their own dimension than with the total score of other dimensions. The number of items in each scale was reduced and equalized.

The subdivided test method for reliability indicated a strong internal consistency for all scales in the SSI with an average corrected estimate of .85. Test-retest results show relatively good stability over time for all scales with an average correlation of .74. The intercorrelation of the component scales of the Sport Satisfaction Inventory indicate the likelihood of a common satisfaction factor as well as discriminably different areas of sport satisfaction.

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CHAPTER I

THE PROBLEM

Introduction

First, consider where the bulk of satisfaction research has originated. The great majority of satisfaction studies have been conducted in an industrial setting. As a result, general satisfaction theory suffers a lack of source input variation. A study such as the development of the Sport Satisfaction Inventory (SSI) which offers data from an entirely different environment can help offset this weakness. Additional significance is derived from the fact that sport is popular among young people. Sport and games form a large part of the developmental environment of youth and since the importance of satisfaction as a mental health variable has been well documented, the implications for this study are obvious.

Finally, if one accepts the arguments above then a means of measuring satisfaction, where they are relatively non existent, is required. It is hoped the development of the SSI will help fill that gap.

Statement of the Problem

The purpose of this investigation was to develop an

instrument which would allow researchers to measure the satisfaction experienced by participants in organized sport. Specifically, the instrument was designed to allow for the individual study of various aspects of satisfaction derived from sport and to provide a global measure of satisfaction.

Rationale for the Study

Why Measure Satisfaction? Instrument development should provide additional information about both the sources of satisfaction and the nature of satisfaction in general. This in turn may aid in the construction of a general theory of satisfaction. A comprehensive or general theory which includes both the antecedent and behavioural consequences of satisfaction would contribute to the general psychology of motivation, preferences and attitudes. The practical implications of such a theory are extensive.

Why Measure Satisfaction in Sport? To say sport participation is popular is a vast understatement. The various levels of proficiency from house-league to professional and the age ranges represented reflect society's pre-occupation with organized athletics. Competitive and recreational leagues have sprung up all across the continent and the world. Scanlan (1975) provides some statistics on the sport boom. For example, the American Youth Soccer organization (AYSO) was formed ten years ago with a total of 120

male participants. Statistics available in 1974 showed the program involved 30,000 players of both sexes ranging from six to sixteen years of age. League statistics from 1976 indicate the number of players now exceeds 100,000. In 1969 more than one million boys were involved in 5,400 world wide Little Leagues (Schoenstein, 1969). In 1974, there were 200 Little Leagues composed of 4,000 teams involving 63,000 players in Los Angeles County alone (Johnson & Brower, 1974). Recent statistics published by the Athletic Institute have indicated that the number of American boys and girls involved in competitive youth sports is approximately 20 million (Parker, 1975). Over twenty years ago a poll of League players indicated that half to most of their leisure time throughout the year was devoted to baseball (Scubic, 1956). It seems probable that this time commitment has increased due to such things as increased media exposure, longer schedules and increased performance concerns.

Statistics published by the Canadian Amateur Hockey Association (1977) show the extent of hockey participation among young Canadians. There were a total of 262,355 players 12 years old and over, registered with the Association during the 1976-77 season. Many of the additional 305,166 players affiliated but not registered with the CAHA were between the ages of five and 11.

The above statistics emphasize the humanistic importance of a quality exposure in sport. Participants look to sport as a means of satisfying various needs. Studies which

evaluate the degree to which these needs are satisfied (especially where youngsters are concerned) are important.

There is a secondary or peripheral reason for looking at satisfaction in sport. It concerns the extent to which the hypothesis formed in industrial psychology, which suggests that satisfaction on the job is directly related to productivity, is relevant for athletes. Although recent literature has failed to support this notion, it remains an attractive possibility. An interesting note in this regard comes from the research of Orlick (1972) as well as Orlick & Botterill (1975) wherein they report that satisfaction is a determining factor in a child's decision to remain in or 'drop-out' of sport.

Why Are New Measures of Sport Satisfaction Required?

Major studies in the sport area indicate an absence of instruments specifically designed for the measurement of satisfaction in sport. Swingle (1969) used a simple five point scale along which subjects were asked to rate their satisfaction. Martens & White (1973) employed a modified version of the Job Descriptive Index (Smith, Kendall & Hulin, 1969) which was developed by industrial psychologists to measure job satisfaction. Orlick (1977), as a means of evaluating how well his new games were received by the children, asked them to rate how they felt about the game by means of a faces scale. Anywhere from two to five faces (depending on the age of the subjects and their ability to discriminate)

are displayed in a row with facial expressions ranging from a deep scowl (first face) to a broad smile (last face). The respondent indicates with a checkmark, the face which best reflects how he feels about or how much he likes the game. While this latter method seems effective and has strong support in terms of its validity and reliability from industrial psychological literature (Smith et al., 1969) it has yet to be extensively tested in sport. Furthermore, it suffers the same drawbacks as any direct measure. One such drawback is that summary or direct measures tend to present the rater with a long-term frame of reference. A long-term frame of reference makes one think more in terms of one's sport experience in relation to others one may choose, rather than day by day feelings elicited by his sport participation.

There have also been direct appeals from sport psychologists calling for an emphasis on the development of measurement tools within the realm of sport itself.

"In order for the field of Sport Psychology to make significant strides forward it is essential that we (sport psychologists) begin to construct our own measurement instruments designed specifically to assess our own problems."

(Orlick, 1974: 13)

"Measurement is one of the biggest methodological problems affecting both laboratory and field experimentation in competition. Reliable and valid psychological scales that assess relevant personality dispositions and that are situationally specific to the competitive sport setting need to be carefully developed."

(Scanlan, 1977: 16)

Scope of the Problem

The various approaches to instrument development have a number of common facets such as validity and reliability as well as various considerations normally left to the discretion of the individual constructing the test. Decisions on these discretionary steps may well decide the utility of the instrument. The desire to find shortcuts has rendered many psychological test instruments useless. For these reasons an extensive review of measurement literature was conducted in an attempt to develop an extensive blue print for the development of the Sport Satisfaction Inventory.

The steps deemed necessary to produce a meaningful instrument similar in nature to the one proposed, were apparent from the literature. These basic procedures formed the outline for this research and are summarized below. The dimensions of sport satisfaction were investigated followed by the compilation of adjective lists describing each dimension through interviews and questionnaires. The non-discriminating items were eliminated and a scoring strategy was determined for the item lists. The instrument's stability over time as well as its internal consistency were tested. Finally, the inter-correlations of sub-components of the satisfaction scale were computed.

Assumptions of the Study

Multiple Measures. If there is reason to believe that more than one aspect of some psychological process exists then more than one measure should be used to ensure adequate sampling of the processes involved. Since different kinds of measures draw out different aspects of a process, applying multiple measures will reduce the danger of conflicting results due to the shortcomings of a single measurement tool. Humphreys (1960) suggests the most effective approach would be the application of measures covering the entire range of those available.

The literature suggests three dimensions along which measures of satisfaction can be arranged. The first concerns the degree to which a measure is evaluative as opposed to descriptive. Second, measurements vary as to the time perspective. In some instances, questions refer to overall satisfaction or with something "on the whole". This would tend to elicit a long-term type of answer. Other questions delve into day-to-day satisfaction with respect to frequent occurrences. The logical conclusion would be to include items which cover both time frame extremes. A further consideration is the separate aspects of the stimulus object. In this case the different components of team participation should be evaluated separately because it is reasonable to assume these aspects or components are perceived differently at different times. It is also likely that alternatives available to the individual will alter

his priorities and satisfaction with different aspects of the sport (Smith, 1967).

Finally, there is a more general argument for multiple measures. While an abstract concept may be a single element of a theory the concept may not be adequately represented by one operational measure for two reasons. The first is the possible complexity of the concept and the second is the limits of any specific measure. It follows that an appropriate strategy may be the use of multiple measures in an attempt to obtain data converging on the abstract concept. This strategy and variations of it have been proposed by many researchers (Anderson, 1937; Campbell & Fiske, 1959; Garner, Hake & Erikson, 1956; Humphreys, 1960; Melton, 1936; Miller, 1961). This assumption (i.e. utilizing more than one measurement device increases the accuracy of the measurement) is therefore a limitation of any instrument applied by itself.

Frames of Reference. The work satisfaction literature has revealed a number of influences which are relevant to the measurement of satisfaction in all fields. Researchers have concluded that job satisfaction is a function of the perceived characteristics of the job in relation to an individual's frames of reference. Alternatives available in given situations, expectations and experience all play important roles in providing the relevant frame of reference.

The implications of these influences must be explored to understand the nature of the feelings of satisfaction and to develop a valid method for measuring these attitudes.

Perceptual selectivity, to a large extent, determines human behaviour. Individuals select certain aspects of a situation and respond according to those aspects. Different people faced with the same objective situation have different frames of reference, which effect both their evaluations of the situation and the aspects of that situation they perceive as pertinent to their judgments.

The method of measurement proposed by Smith et al. (1969) suggests that a frame of reference has at least two main features. One is the adaptation level, proposed by Helson (1948, 1964), which represents a weighted geometric mean of all the stimuli or situations within the experience of the person. The other feature is the end points or anchors of a person's subjective continuum of alternatives. Frame of reference, then, is the internal standard individuals use in making an evaluation. This standard is related to one's prior experience, one's set for making a given response, one's expectations and one's threshold for change in a given stimulus dimension. The concept of general adaptation level was developed initially by Helson (1948) when studying the effects of brightness and colour. His findings have since been generalized to other sensory

modalities by other researchers while Helson has extended the concept to cover social situations as well (Helson 1964). The relative influence of adaptation level and alternatives vary with the situation. The end points of the individual's perceived scale may be represented by the best and worst sport experiences available. In other words his feelings are dictated to some degree by the best and worst available alternatives. If a young player's present team is very similar to the best team he can imagine himself a part of, he should experience a fair amount of satisfaction. On the other hand, if the player sees his present sport participation as being similar to the worst he can imagine his satisfaction should consequently be low.

The instrument was designed with this assumption in mind. Many open ended questions in the early studies (Studies I & II) called for descriptions of most and least satisfying teams. Furthermore, items were eliminated or retained based on their ability to discriminate between most and least satisfying teams.

The time perspective (long term versus short-term directed items) also relates to frames of reference. The frame of reference of a person may range from the consideration of his life-time values to the minute-by-minute rewards of a particular sport. The response of a hockey player questioned about his satisfaction following the final game of the season may be significantly different (reflect a long-term time frame) than his responses to satisfaction

questions during a particularly brutal game (reflect a short-term time frame). Taken one step further, responses from the same hockey player may reflect a short-short time frame in that his answers may vary during a game depending on the events taking place (e.g. lost a fight, scored, was anxious or relaxed). From this, one could hypothesize that different forms of behaviour are related to different time perspectives. A hockey player's decision to retaliate or to not retaliate after being struck intentionally by an opponent may reflect a long-term perspective (avoid retaliation and therefore avoid being thrown out of a game he wishes to play) or a short-term perspective (venting his anger by belting his opponent) or perhaps both time perspectives (venting his anger now in an attempt to stop people from trying to intimidate him in the future). The time frame can be determined through the type of questions asked, through the time selected for administering the questions and the directions (instructions) which accompany them. As a result, the investigator can set the time frame to a large extent. The choice of time frame would largely depend on the purpose of the investigation. Since the major concern here was in the overall satisfaction of athletes, the Sport Satisfaction Inventory (SSI) was developed with an emphasis on the long-term perspective.

Another dimension concerns descriptive and evaluative measures. Satisfaction literature indicates questions may vary in terms of their factual or evaluative nature.

The descriptive and evaluative techniques show substantially different results. According to Ryan (1947) it is likely that evaluative questions will be effected more than descriptive questions by different frames of reference (e.g. general versus specific, long-term versus short-term and so on). It is also true that there is an evaluative and descriptive aspect to most adjectives and according to Peabody (1970) the issue of which aspect is more important is unresolved. The SSI emphasizes the descriptive approach with the understanding that a response to a descriptive item includes a certain degree of evaluation on the part of the respondent.

Limitations of the Study

It has been proposed (Katz, 1944; Cantril, 1946) that the accuracy of job satisfaction measures may be increased if one assumes that a worker combines his attitudes towards specific aspects of the job to arrive at an overall feeling of satisfaction with the job in general. The hypothesis is that the attitudes towards specific job aspects have differential weights or influences and that these weights will be a function of the amount of importance attached to each job aspect by the employee. The research reviewed indicates that the psychometric properties of satisfaction scales are not significantly improved by using these weighting systems (Decker, 1955; Froechlich & Wolins, 1960; Glennon, Owens, Smith & Albright, 1960; Remitz, 1960).

In their report of the Job Descriptive Index, Smith et al., (1969), explain that they investigated the same weighting possibilities using a scale of descriptive items. After using a variety of methods for rating the relative importance of each dimension they found no improvement in satisfaction measures.

The use of a global measure which does not include intermediate steps for separating a construct into its components transfers the problem of weighting from the researcher to the subject. The subjects go about this difficult task in a variety of ways probably decreasing reliability (test-retest). Consequently this study will not be concerned with assigning different weights to the various components or areas of sport satisfaction in order to arrive at a supposedly more accurate measure of overall satisfaction.

A second issue which will not be dealt with extensively concerns the possible discontinuity of satisfaction and dissatisfaction and the related issue of satisfiers and dissatisfiers. The different sport conditions may be satisfiers, dissatisfiers or irrelevant depending on a myriad of factors and therefore each facet will be treated as a single continuum capable of producing satisfaction and dissatisfaction (House & Wigdor, 1967; Smith 1967; Smith and Cranny, 1968; Whittsett & Winslow, 1967).

Perhaps the most significant limitation of this

study is the fact that the SSI is an instrument in its early stages of development, and as is the case with other psychological inventories, can take a lifetime to validate exhaustively (Cronbach, 1960). Although athletes found the inventory comprehensible, meaningful and the face validity is apparent, in order to further demonstrate its validity, more formal and more exhaustive validation of this scale should be carried out at a later date.

Another potentially limiting factor was the specific focus on satisfaction and not upon the related area of motivation. The theories of Vroom (1964) and Herzberg (1959) emphasize the theoretical difference between the determinants of motivation and the determinants of satisfaction.

Definitions of Terminology

Satisfaction. Satisfaction is defined as the thing that satisfies desire or gratifies feeling. It could also be viewed as the thing which meets expectations, needs or desires leaving no room for complaint. For the purposes of this study satisfaction was operationally defined as the score on the sport satisfaction scale. This score may reflect a subject's satisfaction with any one component of sport satisfaction or the subject's overall satisfaction based on the aggregate score on all dimensions.

Attitudes. "An attitude is a mental and neural state of readiness, organized through experience, exerting a

directive or dynamic influence upon the individual's response to all objects and situations with which it is related." (Allport, 1935)

The terms 'satisfaction' and 'attitude' have been explained in their broadest sense yet a deeper treatment of the concepts is required to fully understand their complexities and importance. A more detailed account of the nature of satisfaction, attitudes and the relationships between the two appears in Chapter II.

Sport Satisfaction Inventory (SSI). The product of this research was a test instrument which groups 'descriptive items' under various attitude objects related to sport satisfaction. Both component and global measures of satisfaction can be derived from athlete's scores on the SSI.

Sport. The subjects selected for this study participated in highly structured physical activity where the competitive aspects were clearly visible. Therefore, for the purposes of this study, sport is a general reference to organized athletics characterized by the elements common to most competitive leagues such as regularly scheduled contests, running tabulation of league standings and year end championships.

Athlete-Participant. The terms 'athletes' and 'participants' are used interchangeably in reference to the individuals who are presently or were, this year, active players in organized sport.

CHAPTER II

REVIEW OF LITERATURE

This chapter gives an overview of a number of different areas related to satisfaction and satisfaction measurement. The meanings and relationship of satisfaction and attitudes are outlined followed by a summary of the satisfaction literature which has emerged from the area of industrial psychology. Finally, the most influential research regarding sport satisfaction is reviewed.

Satisfaction and Attitudes: Their Meaning and Relationship

The study of satisfaction as it pertains to sport is a relatively new area of investigation. As such, it was necessary to depend heavily on satisfaction studies from other related research fields (e.g. industrial psychology) when attempting to apply the construct in a new area such as sport. A review of job satisfaction studies reported in Blum & Naylor (1968) concludes that overall satisfaction is the result of many specific attitudes. Other researchers support this claim. For example, Smith, Kendall & Hulin (1969) state that the method they used to develop a job satisfaction scale could be considered a strategy for the study of attitudes. It follows, that the consideration of attitudes is instrumental to satisfaction research.

Allport (1935, 1954) covered, in great detail, the history of the concept 'attitude' as it relates to social psychology. His reviews point out that as early as 1918, social psychology was defined as the scientific study of attitudes. According to Allport the definition of attitude has varied over the course of psychological history. However, the element common to most definitions is "the readiness to respond" to a situation. This readiness can be a set of mental attitudes as proposed by Spencer (1862) and the ability to interpret correctly what is being said, as a result of holding those attitudes. There are also motor attitudes (Lange 1888) which are states of readiness to respond in a motor task. A definition put forth by Triandis (1971) includes many of the central ideas used by attitude theorists;

"An attitude is an idea charged with emotion which predisposes a class of actions to a particular class of social situations."
(Triandis, 1971: 2)

Rosenberg & Hovland (1960) illustrated their popular conceptualization of attitude (see Figure 1, page 18) showing the stimuli are grouped in a category that represents the attitude object. Each of the three aspects are measured by a variety of subject responses. According to Rosenberg & Hovland the cognitive component is the idea, usually some category used by humans in thinking. These categories are inferred by examining the consistencies in responses to discriminably different stimuli. The affective component is

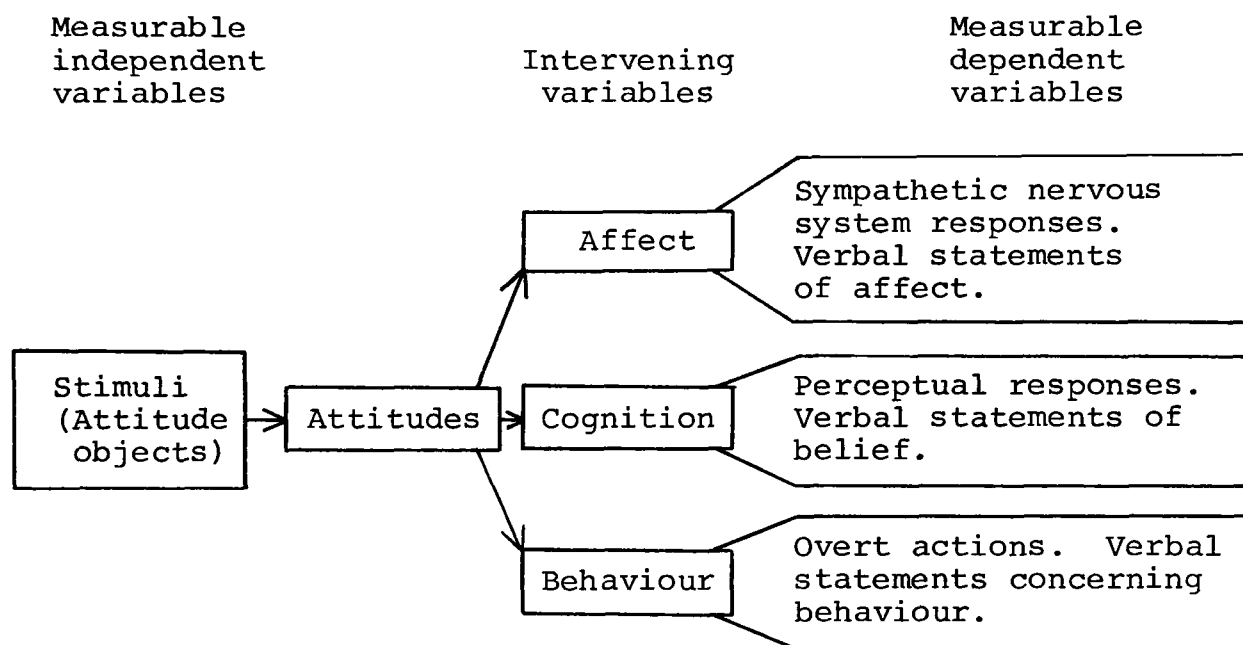


FIGURE 1

A SCHEMATIC CONCEPTION OF ATTITUDES
FROM ROSENBERG & HOVLAND, 1960

the emotion which charges the idea. The behavioural component is a predisposition to action.

Some research reports confuse the terminology inferring that satisfaction and attitudes can be used interchangeably. As pointed out by Blum and Naylor (1968) this is not the case. From an industrial point of view they state that employee attitudes and job satisfaction are not synonymous, but rather attitudes may contribute to job satisfaction since satisfaction is comprised of a number of attitudes.

These findings would suggest that the attitude held by athletes toward the various aspects of their sport environment contribute to their overall sport satisfaction. The theory proposed by Rosenberg & Hovland (1960) indicates that a viable way of looking at these underlying attitudes is to study their component parts.

Satisfaction Research: The Industrial Environment

Even though the diversity of settings has been limited, the purposes for and approaches to satisfaction research have varied. The marketing of most products is the result of a producers attempt to fulfil (satisfy) the needs, wishes and desires of the consumer. This may be said for both material producing and service industries. Realizing this relationship, producers consequently attempt to ascertain their degree of success. This may be possible by monitoring consumption (sales) of a given product, however,

there are times when industry must go out and actively poll the population to determine their degree of satisfaction with respect to any one particular product.

Human engineering takes the concept of satisfaction one step further. This method requires that a company communicate with the consumer to determine their exact needs and wishes and then produce a commodity which is designed specifically to satisfy these needs and wishes. Ford Motor Company, in the early 1960's, studied people in this manner trying to discover what people saw as the ideal car. Designers went to work developing an automobile based on the specifications gathered from the public. The result was the Ford Mustang, one of the most popular cars in automobile history.

The focus of industrial psychology has not always been on consumer satisfaction. Employee and management satisfaction has also been a topic of great concern. It was from this area of research that the hypothesis emerged proposing that satisfaction on the job was related directly to productivity. This hypothesis remains today despite numerous studies which have failed to establish a substantial, reliable or general correlation between satisfaction and productivity (Brayfield & Crockett, 1955; Herzberg, Mausner, Petterson & Capwell, 1957; Kahn, 1960; Opsahl & Dunnette, 1966; Smith & Cranny, 1968; Vroom 1964). While the hypothesis remains largely unsupported it did inspire extensive research in the area of satisfaction and continues

to do so. Information from this body of satisfaction literature may be used as a basis for investigating satisfaction across a broad range of situations.

The degree to which job satisfaction is related to other aspects of work behaviour has received considerable attention. Vroom (1964) provides an excellent review of this material and his findings are summarized below.

Following a review of the literature on turnover he concluded that there exists a negative relationship between satisfaction and turnover. That is, the higher a worker's satisfaction the less apt he was to leave the job.

He also reviewed ten studies concerning satisfaction and absenteeism which show the results to be equivocal. Four studies supported a negative relationship between the amount of job satisfaction and the degree of work absenteeism. Three studies did not support this and three others indicated the relationship between satisfaction and absenteeism was a function of the type of absenteeism measure used and the sex of the worker.

There are few studies which relate accident data to job satisfaction. One such study found a substantial negative relationship while the other found no relationship.

The most popular research concerns the relationship of job satisfaction and performance. Vroom claims that available evidence indicates little or no support for the 'human relations' notion that a satisfied worker is a more productive worker. Exhaustive reviews by Brayfield &

Crockett (1955) for example, fail to support such a relationship.

The implications of these studies for future research are not clear-cut. While there is solid support for a relationship between satisfaction and certain related behaviour there is no overall relationship between satisfaction and performance. These results may be explained, in part, by a statement appearing in Triandis (1971) wherein he talks of the relationship between attitudes and behaviour;

"Attitude is not a necessary or sufficient cause of behaviour, but it is a contributing cause. Behaviour is the result not only of attitudes but also of norms, habits and expectations about reinforcement."

(Triandis, 1971: 25)

The research supports this view. Satisfaction appears to be an important variable in certain related behaviours, but not the sole cause of these behaviours. The previously reported results also indicate satisfaction has significance for the areas of motivation, preference and attitudes in general. It seems, therefore, that an extension of satisfaction research to fields outside industry is not only justified, but a logical stage in the development of a general satisfaction model.

It should be pointed out here that for purposes of this study satisfaction is viewed as an output variable. Adequate support exists to suggest satisfaction is also an input variable, however, the purpose of this scale development was to measure resultant satisfaction (see Chapter I).

The preceding view of the construct has been included to provide a more complete account of satisfaction theory in general as it has emerged from industrial psychology.

Satisfaction Research: The Sport Environment

The study of satisfaction as it relates to sport and competitive activity has been anything but systematic. Many sport psychologists see satisfaction as an appropriate dependent variable as evidenced by the work of a number of researchers (Martens & Peterson, 1971; Martens & White, 1973; Orlick, 1975; Scanlan, 1976; Swingle, 1969).

For the most part, satisfaction in sport and games has involved only two areas. There is a body of literature concerning satisfaction with the task itself and another collection of data on satisfaction with opponents to which one might add some of the opponent preference studies.

The task satisfaction studies in general (Locke, 1965; Martens & Peterson, 1971) indicate that increases in success lead to increases in satisfaction. However, based on Atkinson's (1957) risk taking theory a situation where the win-loss outcomes are evenly distributed is the most attractive in terms of the probability of success and incentive value and it therefore follows that this condition should be the most satisfying one. Martens & White (1973) looked at this conflict, but failed to solve the question. They found that task satisfaction increased from the W_{10} to

W_{30} to W_{50} conditions, but task satisfaction did not continue to increase to a significant degree. Likewise, Atkinson's theory was not supported as satisfaction in the W_{70} to W_{90} conditions was not significantly different than for the W_{50} condition. They concluded that task satisfaction is higher in conditions where the percentage of wins is equal to or greater than the percentage of losses.

With an entirely different orientation, Orlick (1972), interviewed a number of young sport participants and non-participants in an attempt to discover what they found satisfying and dissatisfying in their sport environment. The predominant responses indicated that the excitement and active elements of sport were most appealing while the single greatest source of dissatisfaction was boredom. For example, many respondents found baseball boring because they seldom touched the ball. Orlick's subjects claimed other sports were boring when the players were benched and had to watch the proceedings from the sidelines. Sports such as football (with its offensive and defensive squads) and hockey (can ice only six players at a time) were in this category.

Opponent satisfaction refers to the interpersonal attraction or attitude developed by a subject for his/her opponents. Aronson (1969) outlined seven factors which are important determinants of interpersonal attraction under varying conditions. Examples of which include, a) people are attracted to others who are competent and b) people are

attracted to others similar to themselves. In the terminology of sport psychology it would be expected that opponent satisfaction would be high for opponents who demonstrated an ability to perform well. Research studies by Stotland & Dunn (1962), Stotland & Hilmer (1962), and Iverson (1964) support the hypothesis that individuals are attracted to others of high ability. This holds true to a point. Aronson (1969) reviews research which shows people are not attracted to people who are too competent.

Martens & White (1973) also looked into Aronson's theories. They found that opponent satisfaction was high for the W_{10} , (e.g. the subject won 10% of the time while his opponent won 90%) W_{30} and W_{50} conditions while satisfaction declined significantly in the W_{70} condition and further declined in the W_{90} condition. Therefore, the results supported Aronson's notion that people are attracted to others who are competent. The data does not support the idea that highly successful opponents (W_{10} , W_{30}) were more positively evaluated than equal ability opponents (W_{50}). The results of one body of data indicate the similar ability hypothesis was not supported in that subjects were not significantly more attracted to opponents of marked higher ability than opponents of equal ability. On the other hand, another body of data obtained in the same experiment supported the competence hypothesis for opponent satisfaction. It was found that if subjects were asked to choose a future opponent they frequently picked those of similar ability.

Although earlier evidence shows people are positively attracted to those who are competent, Bramel (1969) notes that individuals may not prefer highly competent people when they might be compared with them.

Swingle (1969) looked at both the win-loss ratio and challenge. Challenge, in this case, was the 'closeness' of the race. He concluded that his satisfaction data reflected the interaction of the reinforcing properties of winning and the stimulating properties of high challenge. The subjects tended to evaluate opponents they had beaten more favourably than highly victorious opponents which is in agreement with the notion that reinforcement affects interpersonal attitudes (Zajonc & Marin, 1967). This general tendency again was attenuated by challenge in that subjects tended to most favourably evaluate opponents who were never far ahead or behind (i.e. "gave them a good race"). Further support for the 'good opponent' finding was the fact that the most favourably evaluated of all opponents were those in the W_{50} -high challenge condition, which was the condition created to stimulate perfectly matched contestants.

It was suggested earlier that opponent preference literature may be included with the opponent satisfaction studies, however, this depends on the nature of the measurement technique. Some researchers have concluded preference for certain opponents based on the degree of liking for an opponent expressed by a subject. Other research conclusions have been based on a subject's choice of opponent for future

contests. As pointed out earlier (Bramel, 1969) the results could be vastly different depending on the approach. The preference for opponent research is based on a different premise. Its theoretical foundation is Festinger's (1954) social comparison theory which means that while the two research areas are related and findings in one area may have implications for the other, they are by no means identical. The nature of the measure determines whether satisfaction or preference is being studied. In other words, you must use caution when making inferences about preference from a satisfaction measure and caution when making inferences about satisfaction from a preference measure. An example of how this may lead to inconsistencies is the study by Martens & White (1973) where opponent satisfaction and opponent preference reports conflict.

The broader category of motivation research has looked at the antecedents of competitive behaviour (Martens, 1976; Scanlan, 1976). It indicates that previous and outside experiences influence an individual's expectations. It follows that their satisfaction is, to some extent, determined by prior experiences as was suggested by Blum & Naylor (1968) with respect to job satisfaction,

"Job satisfaction is a general attitude which is the result of many specific attitudes in three areas, namely, specific job factors, individual characteristics and group relationships outside the job."

(Blum & Naylor, 1968: 364)

Most sport psychologists have seen fit to measure

the degree of satisfaction experienced by participants with respect to what they (sport psychologists) see as the various components of sport satisfaction. This indicates the desirability of developing a satisfaction scale which produces a global measure of satisfaction. In addition, the studies reviewed above employed a variety of satisfaction measures all developed for use in other areas. For our purposes, the validity of a satisfaction measure could be increased if it were developed in and specifically for the study of sport satisfaction.

CHAPTER III

DEVELOPMENT OF THE SSI: GENERAL CONSIDERATIONS

This chapter details four general areas which were of significance to the development of the SSI. The first section deals with the alternative methods available for attitude measurement while the second section outlines the numerous scoring strategies considered most useful for this form of research. In the third section there is a discussion on the influence of two assumptions which include frames of reference and anchoring judgements and in the final section possible approaches to two critical stages of development, 'sources of sport satisfaction' and 'reliability', are reviewed.

Attitude Measurement Techniques

The measurement of attitudes in general has received a great deal of attention and the methodology has been carefully developed in social psychology. Although the final SSI was constructed along the lines of satisfaction scales in organizational psychology some of the more effective techniques employed in social psychology to measure general attitudes are reviewed below. Some of these techniques were used in the early stages of this study largely for the purpose of item construction.

In order to collect data on general attitudes it is important to have a good sample of stimuli of the type whose attributes we wish to discover and a good sample of response continua. One method of accomplishing this is to ask subjects to give their associations to lists of the stimuli or concepts under study (Zajonc, 1960). A more focused approach is to present triads of stimuli and ask the subject which of the three stimuli is different and why (Kelly, 1955). Various forms of "controlled associations" may be used. Davis & Triandis (1965) employed a procedure that they call "the implicative meaning method" for the measurement of the cognitive component. It presents attitude objects and the implications of such objects. A generalization of this approach is the antecedent-consequent meaning method (Triandis et al., 1968). For instance, one might ask the subject to fill in the blanks. "If you are _____ then you have fun", or "If you are active then you _____".

Another effective method (Orlick, 1975) is to simply interview athletes, eliciting their opinions on the area being studied. Finally, Tharp & Wetzel (1969) offer a middle of the road approach which they call 'sentence completion'. Sentence completion is not as open ended as Orlick's interviews nor is it as directed as the other methods outlined previously.

There are a number of indirect methods for studying attitude such as the semantic differential used by Swingle

(1969). Others reviewed by Campbell (1950) include information tests, tests of critical thinking and so on. The problem here is that while validity may be higher for these indirect methods responses are so diffuse that data collected are very difficult to collate and quantify.

The preceding brief review of attitude measurement techniques summarizes some of the fundamentals included in the early stages of the SSI's development. Initial pilot studies employed many of these techniques. However, sentence completion emerged as the most effective in a sport setting and was the method used extensively in this study. Where possible follow-up interviews were conducted to augment the sentence completion data.

Scoring

Scoring procedures frequently cause a dilemma in test construction most notably in the area of attitude measurement. Starch & Elliot (1912, 1913) provided evidence on the faults of impressionistic scoring. They distributed a student's English composition to a group of volunteer teachers and asked them to grade it. On a percentage scale, the grades given ranged from 58 to 98. Since judging a composition of this type could be influenced by writing style, a geometry paper was graded in the same way. The scores ranged from 28 to 92. Cronbach (1960) suggests that no scientific research on behaviour can be carried out if scoring standards vary erratically. Smith, Kendall & Hulin

(1969) addressed this scoring problem in reporting the development of their job satisfaction scale. The following example is used by the authors to explain both the traditional approach and their novel one. Assume the descriptively worded items in Figure 2 on page 33, were part of an adjective checklist to which workers respond with respect to their present jobs.

Traditionally there have been two methods used for determining the scoring direction for responses of this type. The simplest is for the investigator to determine on an a priori basis how he thinks each word should be scored. While it is likely correct to assume workers do not desire a hot job, do they want a challenging one, a simple one? The scoring direction in this case would probably be a function of the researcher's own concepts regarding work simplification, automation, etc. The second traditional method is to item-analyse item responses against some criterion which is felt to reflect job satisfaction. The investigator assumes that if a sufficiently large proportion of the satisfied workers respond that their job is 'simple', then anytime a worker says that his job is simple, this should be taken as an indication of satisfaction. With this procedure, the difficulty is in determining what one uses for a criterion of an attitude or feeling.

The triadic scoring method was developed concurrently by Smith, Kendall & Hulin (1969) and Kilpatrick & Cantril (1960). Workers are requested to answer three descriptive

			<u>Items Describing</u> <u>Job</u>
Yes	?	No	routine
Yes	?	No	hot
Yes	?	No	challenging
Yes	?	No	on your feet
Yes	?	No	simple

FIGURE 2

SAMPLE ADJECTIVE CHECKLIST TO WHICH WORKERS RESPOND
WITH RESPECT TO PRESENT JOB
FROM SMITH ET AL., 1969

lists, one for each of best, present and worst jobs. The direction is then determined by whether present job responses are similar to best or worst jobs. In this way, the direction can be determined for each individual worker on each item.

Given descriptions of all three jobs, it is not necessary to use all the information in measuring satisfaction. Scoring directions may be determined by looking at present and best jobs. This procedure (up scoring) means whenever the same adjective is said to be descriptive of both present and best jobs, then the worker is given a score indicating satisfaction. Likewise, the scoring direction may be decided by the way the worker describes his present and worst jobs. These three highly individualistic scoring methods were an attempt to allow the different frames of reference of the worker and the different anchors they use to influence the measures of satisfaction.

In addition to the three methods outlined above Smith et al. (1969) developed a direct scoring key (see Table I, page 35) somewhat different from the traditional.

The original intention with regard to the SSI scoring strategy was to use a variation of the triadic scoring method to determine the direction in which each item should be scored and then on later forms of the SSI (when item scoring direction had been established) use the direct scoring method. In fact, a variation of the triadic scoring method was used to determine the scoring direction of each

TABLE I
TRADITIONAL AND REVISED WEIGHTS FOR
DIRECT SCORING OF ITEMS
FROM SMITH ET AL., 1969

Response	Traditional Weight	Revised Weight
Yes to a positive item	3	3
No to a negative item	3	3
? to any item	2	1
Yes to a negative item	1	0
No to a positive item	1	0

item (see Chapter III: Study III) but the direct scoring approach for later versions of the SSI was abandoned. Respondents indicated they did not like such limited response variety (Yes ? No) and so a Likert-type scale was adopted (see Chapter III: Study III). This meant that for each item, respondents chose one of five options ranging from completely false to completely true. Use of the Likert-type scale for measuring attitudes allows for a more precise measure (five response gradations as opposed to three) and avoids the frustration experienced by a respondent wishing to answer in a more discriminating manner. (This scoring strategy issue arose from the results of Study III and therefore a more extensive treatment of the issue appears in the account of that study, page 61).

Assumptions

Having outlined satisfaction research in general it is appropriate to review the assumptions pertinent to the development of the SSI such as frames of reference and the importance of anchoring judgements.

The influence exerted by a subject's frame of reference on his judgements of weight, colour, loudness, pain, or the pitch of a tone has been well documented in the literature of experimental psychology. Frames of reference have also been studied by social psychologists interested in the influence of a person's own attitudes on his judgement of the position of an attitude item in a scale. Numerous

investigations concerning the influence of the judge's attitude on his ability to make fine discriminations between attitude statements over the length of the attitude continuum were conducted. Much of the psychological research on frames of reference has relevance for the study of attitude statements.

Evidence for the importance of an individual's adaptation level was provided by Helson and his co-workers (Helson, 1938; Helson & Jeffers, 1940). A subject was placed in a small room which was illuminated by a unichromatic light of blue, green, yellow or red. All objects in the room were coloured the same shade of gray. When the subject entered the room it appeared to be flooded with red light. After a few minutes the subjects adapted and the redness became less apparent.

When asked to judge a set of gray samples, the experimenters found that grays which had the same reflectance as the walls of the room were judged to be gray. Samples which were lighter than the walls were thought to be red while darker grays were judged to be mixtures of blue or green.

Similar results were found over a wide range of reflectance values and illumination colours. It seems each subject established a frame of reference, on the basis of the light present, against which to judge the samples of gray presented later.

Experiments of the same nature requiring a subject

to judge the heaviness of a weight have resulted in similar strategies (Tresselt, 1948).

Studies looking at loudness of tone judgements show they are related to the physical energy of the sound and the immediately preceding stimulus, be it a loud tone, soft tone or silence (Woodworth & Schlosberg, 1954).

Other researchers (Burns & Dallenbach, 1933; Wells and Hoisington, 1931) learned that a needle applied to the arm with a weight of up to 25 grams first elicits responses like 'sharp pain'. After a short period of time subject responses change to 'pain' or 'dull pain' and finally 'nothing'. The results concerning the other sense modalities such as taste, touch and smell reveal similar results.

There are some long and involved physiological explanations for these results (e.g. sensory adaptation) but they are not adequate to explain similar results found by social psychologists. According to Helson (1948; 1964) adaption level accounts for all of these results. He suggests a series of loud noises, heavy weights and so on shifts the midpoint of the observers subjective scale in the direction of the preceding stimulus thus effecting judgements about stimuli which follow immediately. The implication for this study is that the subjects response continuum is shifted by his exposure to other stimuli.

Studies carried out by social psychologists support this important influence of frames of reference. One study (Hovland & Sherif, 1952) asked an extreme segregationist and

an extreme integrationist to indicate where on a scale running from 1 (indicating anti-Negro attitudes) to 11 (indicating pro-Negro attitudes) the item, "I would not mind attending school with Negroes" should be placed. Of course, the item placement varied wildly. A related difficulty is that judges with extreme attitudes are unable to make fine discriminations between items at the other extreme of the attitude continuum. These judges generally lump statements near the other end of the scale (Kelley, Hovland, Schwartz & Abelson, 1955).

In work satisfaction research (Smith et al., 1969) it was found that the workers frames of references for judging the relative qualities of their jobs were shifted down or up depending on their exposure to existing conditions. Other studies indicated workers' past experience also had some effect.

Frames of reference are obviously a critical consideration in attitude measurement. Since evaluative type items seem more susceptible to bias resulting from frames of reference, descriptive items were used (Ryan, 1947). Also, in the earlier stages of item development and item list construction for the SSI, interviews and questionnaires elicited information on frames of reference (both most and least satisfying teams). Therefore, frames of reference were accounted for to some degree, in the construction of the Sport Satisfaction Inventory.

A major influence on an individual's frame of

reference are the end points or anchors which define the extent of his subsequent scale. For purposes of illustration, assume an observer is asked to give absolute judgements on a scale running from 1 to 11. It is likely that he will spread his judgements over the entire scale at his disposal. If an anchor stimulus were introduced which is psychologically close to some point on the scale the observer tends to pile his judgements near that stimulus. Furthermore, the subject's judgements are likely to be less variable and more accurate near the anchor stimulus. If additional anchor stimuli are systematically introduced further and further from the original, judgements move away from the original stimulus (Sherif, Taub & Hovland, 1958). These findings are interpreted by Sherif & Hovland (1961) as indicating assimilation (displacement toward the anchor) and contrast (displacement away from the anchor).

Erikson & Hake (1959) found, given similar circumstances, responses were more accurate at either end of the response continuum. When the subjects were presented with a series of squares varying in size from 2 mm. to 40 mm., the responses were more accurate near the ends of the stimulus continuum. These results indicate either stimulus or response characteristics can be important in determining the individual observer's choice of stimuli to serve as his subjective anchors. Erikson & Hake thus conclude that even though we ask subjects to make absolute judgements of stimuli, respondents use subjective standards with which

they compare the stimuli they are judging.

These results would indicate the precision of judgements can be increased by specifying the anchors the subject is to use. In other words, if you could make it clear to the subjects the subjective standards they are to use, variability should be reduced. The triadic scoring method (Kilpatrick & Cantril, 1960; Smith et al., 1969) was developed as a means of taking anchors into consideration. Despite the fact that the theory is strong, research by the above experimenters has been disappointing. Test validities scored in this manner have failed to increase significantly.

The diversity of responses to sport satisfaction questions indicate that what one looks for and what one gains from sport participation depends to a great extent on the individual. For this reason sport satisfaction would appear to be an area in which the triadic scoring method could be effective. The nature of the SSI is such, that with a minimum of modification, the triadic scoring method could be used. Respondents would be required to answer three descriptive lists, one for each of most satisfying, present and least satisfying teams. The scoring direction would then be determined by whether present team responses were similar to the responses for the most or least satisfying team. Such a conversation would mean the direction could be determined for each individual on each item. While the SSI did not use the triadic scoring method to control for anchors it was developed in a form which would allow

researchers to substitute the scoring system later to test its effectiveness for sport satisfaction.

Stages of Development

The development of the SSI followed a predetermined pattern which called for a systematic progression through a series of stages. A review of the two most critical stages which include the determination of major sources of sport satisfaction and reliability follows.

Sources of Sport Satisfaction. There are many ways to investigate the dimensions of a concept but factor analysis appears to be the most popular. A brief review of the factor analytic literature from worker satisfaction is presented below. This is followed by a discussion concerning the relevance of the approach for determining the sources of sport satisfaction.

Baehr (1954; 1956) administered the Science Research Associates Employee Inventory to a group of junior executives and to a group of factory workers where upon she found four factors common to both groups; satisfaction with the immediate supervisor, intrinsic job satisfaction, integration in the organization and friendliness and cooperation of fellow employees. Using the same inventory and a number of measures from the Thurstone Temperament Scale, Ash (1954) obtained six factors. The six factors were personality integration, satisfaction with job rewards, management

effectiveness, adequacy of immediate supervisor, general job satisfaction and regard for fellow employees.

Wherry (1954; 1956) re-analyzed and rotated orthogonally the three matrices presented by Ash and Baehr and found four factors including working conditions and environment, financial reward, supervision and effective management and administration. Dabas (1958), again using the SRA Inventory found seven factors and finally Baehr & Renck (1958) obtained five factors from the application of the SRA; organization and management, immediate supervision, material rewards, fellow employees and intrinsic job satisfaction.

Industrial psychologists did not only factor analyze the SRA. Astin (1958) administered a 21-item inventory to 335 workers and cluster analyzed the results. Three factors emerged dealing with managerial aggressiveness, status need and organizational need. Twery, Schmid & Wrigley (1958) administered the 21-item Job Satisfaction Inventory to Air Force personnel and isolated six factors.

In an extensive review of the literature on job satisfaction Herzberg, Mausner, Peterson & Capwell (1957) concluded that factor analytic studies indicate the presence of six independent factors; general satisfaction and morale, attitudes toward the company and its policies, satisfaction with intrinsic aspects of the job, attitudes toward the immediate supervisor, attitudes toward satisfaction of aspirations and satisfaction with conditions of present job.

During the course of their research Smith et al. (1969) combined similar terms from the factor analytic studies and decided the dimensions of job satisfaction could be viewed as work, pay, promotions, supervision and co-workers. Later, Vroom (1964), in another review of the literature suggested job satisfaction was composed of attitudes toward the company and company management, attitudes toward promotional opportunities, attitudes toward job content, attitudes toward supervision, attitudes toward financial rewards, attitudes toward working conditions and attitudes toward co-workers.

The factorization technique is also supported by authorities in the areas of test theory in general, psychological testing and attitude measurement (Blum & Naylor, 1968; Cronbach, 1960; Dawes, 1972; Guilford, 1954; Harman, 1967; Magnusson, 1967).

It can be seen from the above that factor analysis is not without its problems. Humphreys (1962) pointed out how the splitting of human abilities into more and more pure factors results in a reduced relationship between the factors and non-test behaviour. The point is that isolated factor analytic studies show only the dimensionality of satisfaction employed in the study and not the dimensionality of satisfaction itself. Until Smith et al. (1969) reviewed almost 30 years of research and summarized the findings over this period there was no one study with sufficiently stable categories upon which you could construct

a reliable and valid measure of job satisfaction. The Baehr and Ash studies reveal some of the variance was due to the different samples of workers tested while Wherry's manipulations indicate variance due to the factorization technique.

These results indicate that factor analysis is a 'strong' technique if done repeatedly on different subject samples and the various statistical techniques for factorization exhaustively arrange and rearrange the data.

A number of factors suggest that a less statistically rigorous, yet more comprehensive method than factor analysis should be used to investigate the dimensions of sport satisfaction.

An investigator studying the dimensionality of a concept strives to arrive at dimensions which are accurate, exhaustive and useful. It is possible to formulate very accurate and exhaustive categories which are not particularly useful. For example, a dimension may be too abstract for the layman to fully understand and appreciate. On the other hand, one could develop categories which are not exhaustive nor the categories which account for most of the variance but are very useful. Since it took 30 years to refine the job satisfaction categories to the point where they fulfilled all three requirements one may assume this study is not 'the definitive' work on sport satisfaction dimensions. This research employed an approach where 'useful' categories were its main aim.

Studies by sport psychologists suggest a number of sources of satisfaction. As stated previously the literature can be broken into two major categories dealing with task satisfaction and satisfaction with opponents. The opponent studies, a recent study by Ball (1976) as well as job satisfaction studies (showing the importance of co-workers and superiors) indicated teammates and coach were possible additional dimensions.

Briefly, the dimensions of sport satisfaction were determined by the categorization of athlete's questionnaire responses. One judge coded responses based largely on the dimensions suggested by the literature while a second coded on the basis of the responses alone. Two additional judges were involved in the verification process. Finally, the two categorization systems were combined with an emphasis on developing the most useful categories. A detailed account of the procedure is included in Chapter III: Study I, page 52.

Reliability. According to Cronbach (1960), reliability refers to the consistency of a person's scores on a series of measurements while Triandis (1971) claims reliability refers to the extent to which we obtain information that is free of measurement error. The above are two rather simple explanations of a complex issue.

One way to evaluate stability is to measure the same individual's performance twice with the same measuring

instrument (test-retest method). The resulting reliability measures the stability of the test score over time. The process whereby individual's are tested twice with the same instrument presents some problems. For instance, unless there is a considerable time lapse between test administrations the memory factor could bias responses on the second test. On the other hand, circumstances could change during a lengthy time lapse and scores on the second test administration may reflect true changes rather than poor reliability.

A second reliability method called the subdivided test method measures the internal consistency of a measuring device. This procedure indicates the extent to which people score the same, relative to each other, on different subdivisions of the overall instrument. The basic form of this type is the parallel forms procedure in which the parallel forms are two halves of the same test. The half tests are selected so as to be as equivalent as possible. The equivalent halves are formed only when scoring the test - not when administering it.

There are additional reliability measures which could be used however; the combination of the two outlined above is generally considered to be an effective analysis of the reliability of an instrument. Both the stability over time (test-retest) and internal consistency (subdivided test method) of the SSI were examined.

The background literature for the major stages of

the SSI's development has been reviewed above yet some concerns have not yet been covered. Numerous researchers active in satisfaction, attitude and psychological test development have outlined further methodological issues to be considered.

Some subjects tend to distort their responses in ways that are socially desirable (Edwards, 1957). Also some subjects tend to agree with ambiguously phrased attitude items (acquiescent response set). Semantic bias refers to the fact that some subjects respond in one way when the wording of an item is of a particular form and in a different way when the wording is slightly different. Some subjects have a 'positivity' response set in that they tend to agree with positively worded statements while others have the opposite tendency and agree with negatively worded statements (Cronbach, 1960; Dawes, 1971; Triandis, 1971).

Unfortunately, not all of these areas could be tested. Cronbach (1960) points out that with so many different ways to evaluate a test, each one applying to a particular use of the test, it is apparent that an instrument needs an extensive research history in order to be completely validated.

CHAPTER IV

DEVELOPMENT OF THE SSI: STUDIES, RESULTS AND DISCUSSION

There is no typical format for the development of an instrument. It is the nature of the instrument and the characteristics of what it was designed to measure which dictate how it should be constructed. The problem then becomes one of how to describe the progression of an abstract idea concerning measurement through to a finished, concrete and useable measurement tool.

The development of the Sport Satisfaction Inventory (SSI) can not be viewed as one study with a single set of subjects, procedures and results. Since the development followed a predetermined pattern of stages each linked directly or indirectly to one another the presentation of the instrument's development takes a similar form.

The first part of this chapter is a brief overview of the research methods including an introduction to apparatus, subjects and procedures as they relate to overall development. The remainder of the chapter is divided into eight sections with each section representing one of the studies or developmental stages of the SSI. Each of the eight studies contains the purpose of the particular study, a detailed report on the subjects involved, procedures

followed and the method for data analysis. All studies conclude with the presentation of the results and a brief discussion. This format allows for the treatment of each stage in its entirety, before advancing to the next phase, which is in keeping with the concept of its actual development.

Overview of Development

The following information is common to all stages of the SSI's development.

Apparatus. A variety of questionnaires were used to collect the necessary data. The exact nature of each is reported in the appropriate study and copies of all the questionnaires appear in the appendixes.

Subjects. The subjects for each investigative step were selected such that they represented both sexes, a wide age range, different ability levels and a variety of sports. The exact number of subjects used depended on the requirements of the particular study and therefore the size of N is reported in each study.

Procedure. Initial contact with each coach was made by letter, in which the purposes and general design of the study were outlined (see Appendix A). The letter was followed by a telephone call to each coach, at which time a meeting between the researcher and team members was arranged.

A small percentage of coaches contacted could not participate due to "time constraints".

The meetings between the researcher and team members took place just prior to a regularly scheduled practice session or 'chalk talk'. Introductory remarks and general instructions were given to all teams participating (see Appendix B), followed by specific instructions depending on the particular study being conducted. The individual instructions were in written form and appeared on the first page of the questionnaire being administered.

The Development of the SSI

The following section includes detailed accounts of the subjects, procedures, results and discussions for the eight studies which contributed to the construction of the SSI.

Study I: Sources of Sport Satisfaction

The purpose of this study was to determine the most common, meaningful and useful sources of sport satisfaction.

Subjects and Procedure. Following the distribution of the questionnaires and pencils the subjects (N=44) were asked to complete the Sport Satisfaction Inventory (General - see Appendix C). The 10 open ended questions in this survey asked about sport satisfaction in very general terms and were completed by filling in the blanks. (e.g. In general, the most satisfying part of participating in sport is _____.)

The subjects included,

A) Ten members of a girl's waterpolo team competing at the city level ranging in age from 17 to 27.

B) Eleven members of a girl's field hockey team competing at the city level ranging in age from 17 to 31.

C) Five male members and three female members of a mixed soccer team competing in a community house league ranging in age from 11 to 13.

D) Three members of a girl's basketball team competing at the city level ranging in age from 16 to 20.

E) Six male and six female members of a fencing club competing at both the national and international level ranging in age from 18 to 39.

The total number of subjects required for this study was determined by the nature of the responses. After

recording the responses from approximately 30 questionnaires it became apparent that most of the subsequent responses were repetitive. After the comments in the fortieth questionnaire had been recorded there were virtually no new aspects of satisfaction mentioned.

Data Analysis. A summary of responses was set up such that each question was followed by a list representing all the responses received by that question. The researcher recorded only the key words or phrases of each response with identical responses being eliminated.

The final list was given to a group of four judges which included the researcher, a sport psychologist, a graduate student studying in the field of sport psychology and finally an active participant in a variety of sports. This final judge had no psychology background.

Results and Discussion. The response list totalled 253 different responses to ten general questions regarding sport satisfaction. Judge 'No. 1' then used the categories or dimensions suggested by the literature and attempted to place each response in a category. The categories suggested by the sport satisfaction literature were task satisfaction and opponent satisfaction. The categories suggested by the industrial psychology literature included job satisfaction, satisfaction with co-workers, satisfaction with supervisors and satisfaction with pay and promotions. Combined, these would suggest (1) satisfaction with sport or game (from the

sport psychology literature) (2) teammate satisfaction (from the industrial psychology literature - co-workers) (3) satisfaction with opponents (from the sport psychology literature) (4) satisfaction with coach (from the industrial psychology literature - supervisors) (5) satisfaction with officials (from the industrial psychology literature - supervisors).

Judge 'No. 1' found it necessary to add two categories (practice and ability/performance) in order to accommodate the entire response list.

Judge 'No. 2' used the categories or dimensions suggested by the responses themselves. This judge found the responses reflected three factors within five major sources. The factors could be termed social, performance and fairness. Each of these factors were reflected in five sources of satisfaction which included opponents, teammates, officials, self and coach.

This meant that the judges had arrived at five common categories including teammates, opponents, coach, officials and personal performance. The judges then collaborated and decided which system or combination of systems best accommodated the responses. It was decided that the categories arrived at by judge 'No. 1' best met the response requirements since the two additional categories suggested by judge 'No. 2' (social and fairness) would be better handled as factors under each of the seven dimensions or sources of sport satisfaction. The response

list was then given to judges 'No.'s 3 & 4' along with the list of categories with instructions to slot each response in a category. A new category was to be suggested for each response which could not be placed in an existing dimension. Judge 'No. 3' felt there was an 'administration' factor that could be placed within the Team and Coach categories. Judge 'No. 4' found the dimensions to be representative and had no difficulty placing each response in an existing category. Therefore, it was decided that the instrument construction proceed on the basis of the following seven sources of sport satisfaction: (1) Sport/Game (2) Practice (3) Coach (4) Team (5) Opposition (6) Personal Ability and Performance (7) Officials.

As stated previously, there are a number of ways the 'dimensionality' issue could have been approached. It is felt that while a more statistically rigorous method such as factor analysis could have been used the most important single aim was to construct categories that were both meaningful and useful to individuals in the field. The seven dimensions listed above along with the major factors each entails accomplishes this aim. Responses along these dimensions will have a fundamental utility to coaches and others when attempting to deal with satisfaction. Only after years of research employing factor analytic methods, discriminant function analysis, multi-dimensional scaling and so on will the optimum trade-off between accuracy, exhaustiveness and utility with respect to sport satisfaction

dimensions, be achieved.

It should be noted that to ensure the sources of sport satisfaction had been adequately covered in the first study, 91 responses to the first question in the second study were analyzed as well. (i.e. "One thing I like about the sport I am involved with now is _____.") Some new 'factors' emerged (e.g. effort) but they all fit into existing categories. Consequently after examining the responses of 135 subjects including 74 males and 61 females, from 10 different teams and representing eight sports, no new categories were found.

Preliminary data from a study being conducted at the University of Alberta (Alderman & Wood, 1978) into athlete's incentive systems provides support for the dimensions suggested by the present study. They have analyzed the responses of 3000 athletes with respect to factors motivating their sport participation. The three factors which consistently appear as motivators include 'excitement of the sport', the 'drive for excellence' and 'affiliation opportunities'. The motivator described as 'excitement of the sport' resembles the Sport/Game dimension in the SSI while the 'drive for excellence' suggests the Personal Ability and Performance category. Finally, the 'affiliation opportunities' factor is support for the Teammates and/or Opposition dimensions.

Study II: Item List Generation

The purpose of this study was to develop lists of items which would describe each of the sources of satisfaction found in Study I.

Subjects and Procedure. Following the distribution of the questionnaires and pencils the subjects (N=91) were asked to complete the Sport Satisfaction Inventory (Specific - see Appendix D). The 10 open ended questions in this survey asked specifically about satisfaction in terms of the sources of sport satisfaction found in Study I. (e.g. One thing I like about practice is _____.)

The subjects included,

A) Fifteen members of a boy's soccer team competing in a high school league ranging in age from 15 to 19.

B) Twelve members of a girl's basketball team competing in a high school league ranging in age from 14 to 18.

C) Thirteen members of a boy's aquatics team (swimming/water polo) competing in a high school league ranging in age from 13 to 18.

D) Sixteen members of a girl's aquatics team (swimming/water polo) competing in a high school league ranging in age from 13 to 18. (One member of this team swims competitively at the national level.)

E) Thirty-five members of a men's football team competing in a university league ranging in age from 18 to

25.

As was the case in Study I the total number of subjects required for this study was determined by the nature of the responses. While recording the answers from the later questionnaires repetition was more and more evident. When novel responses ceased to appear subject recruitment ended.

Data Analysis. All responses to the questionnaire except exact duplicates were recorded. Many of the responses to the questionnaire in Study I were used as additional items. In order to reduce these descriptive item lists to workable numbers similar items were grouped. From each group of items the best or most representative item was chosen for inclusion in the list.

Results and Discussion. Included in the lists compiled were 67 descriptive items for Sport/Game, 54 items under Practice, 24 items describing Officials, 79 descriptions of Team (teammates-players), 44 items for Opposition, 78 Coach descriptions and a total of 48 items which described Personal Ability and Performance.

These descriptive item lists were reduced to a more workable length by grouping similar items and retaining only the item which best represented the group. In this manner the item lists describing the various sources of satisfaction were reduced to 32 items describing Sport/Game, 29 items describing Practice, 41 items describing Team

(teammates-players), 40 items describing Coach, 30 items describing Opposition, 31 items describing Personal Ability and Performance and 20 items describing Officials. The Sport Satisfaction Inventory (IR & SD) includes a complete list of the items to this point (see Appendix E).

There was no attempt to choose particular items to represent factors within a dimension (e.g. a social factor in Coach) but rather all descriptions (items) were included in the form they were received from the players themselves.

The number of positive and negative items were not regulated. In terms of the item lists this meant that each list reflects a heavy emphasis on positive items. The ratio of positive to negative items varies from list to list but there are generally more positive than negative items. The research was an attempt to develop an instrument for sport participants which reflected the athletes own words and attitudes. It was deemed consistent with the approach to stress either positive or negative items if the responses suggested such an emphasis.

This version of the Sport Satisfaction Inventory did not include a direct question concerning Personal Ability and Performance for three reasons. 1) Many items for this Performance category were generated in response to other questions already being asked. (e.g. One thing I like about the sport I am involved in now is "that it gives me a chance to do well at something"). 2) An extensive list of descriptions of this source of satisfaction had already been

compiled in response to the open ended questions used in Study I (e.g. In general, the most satisfying part of participating in sport is_____.) and 3) lastly it is difficult to come up with a specific open ended question about performance which is consistent with the remainder of this form of the SSI.

Study III: Item List Revision And Scoring Direction

This was a dual purpose stage of development in that the study was designed to 1) eliminate those items which were not as effective as others in describing sport satisfaction and 2) determine the scoring direction of the remaining items. The first part involved the elimination of the least discriminating and irrelevant items in order to streamline the instrument and reduce administration time. The second part of the study utilized the data collected to decide the scoring direction of each item (satisfying or 'positive'/dissatisfying or 'negative') such that frames of reference were taken into account.

The 'Data Analysis' and 'Results and Discussion' sections of Study III are divided into Phase I: Item Revision and Phase II: Scoring Direction.

Subjects and Procedure. The subjects (N=80) were asked to complete the Sport Satisfaction Inventory (IR & SD; Item Revision and Scoring Direction - see Appendix E). This form of the inventory contained seven sections. One source of satisfaction appeared at the beginning of each section followed by the descriptive items (from Study II) which described that source, listed down the centre of the page. Space was provided down the left hand column for respondents to check the items describing their 'most satisfying team' and down the right hand column to check the items describing

their 'least satisfying team'.

The instructions called for the respondents to think of the most satisfying team they had played on in any sport and then go through the adjective check lists for each source and check off those words and phrases which described this most satisfying team. The same subjects were then asked to go through each list once again, but in this instance they were asked to imagine the least satisfying team they had played on and check off those words and phrases which described this least satisfying team. As the playing experience of some players was rather limited it was suggested that those who could not think of actual or real life most and least satisfying teams could imagine such teams and mark the words and phrases in a manner which they thought would describe these teams. See the Sport Satisfaction Inventory (IR & SD) for the exact wording of the instructions (Appendix E).

The subjects included,

A) Eight members of a boy's volleyball team competing in a high school league ranging in age 14 to 18.

B) One 16 year old member of a boy's track team competing at the high school level.

C) Thirteen members of a boy's football team competing in a high school league ranging in age from 15 to 19.

D) Nine members of a girl's basketball team competing in a high school league ranging in age from 16 to 19.

E) Sixteen male members and 11 female members of a

mixed swimming club competing at the community to city level ranging in age from 10 to 16.

F) Five members of a boy's soccer team competing in a high school league ranging in age from 14 to 17.

G) Five members of a boy's football team competing in a high school league ranging in age from 16 to 17.

H) Five members of a men's volleyball team competing at the provincial and national levels ranging in age from 20 to 34.

I) Three male and five female members of a diving club competing at the national and international level ranging in age from 11 to 17.

Data Analysis (General). Four frequencies were computed. The first was the frequency with which each item was checked as describing only the most satisfying team (f_1). The second was the frequency with which each item was checked as describing only the least satisfying team (f_2). The third frequency computed was the number of times each item was checked as describing both the most and least satisfying team by the same individual (f_3). The fourth frequency was the number of times each item was checked as describing neither the most or least satisfying team (f_4).

Data Analysis (Phase I: Item Revision). For the purposes of this study any item with f_4 greater than or equal to 50 percent of the sample was discarded as 'irrelevant'. The rationale behind this was that there were a great number

of players who didn't feel the item described either their most or least satisfying team.

A high proportion of f_3 response indicated that an item did not discriminate between most and least satisfying teams and therefore, would not likely discriminate between present and either least or most satisfying teams. Consequently the item was not considered important to satisfaction. Items with f_3 greater than or equal to 50 percent of the sample were eliminated as 'non discriminating'.

Using f_1 (most satisfying team only) and f_2 (least satisfying team only) the item lists were further reduced. Those items with the smallest differences between f_1 and f_2 were discarded as least discriminating items. The rationale here was similar to that for f_3 in that items which fail to clearly differentiate between most satisfying teams and least satisfying teams would not differentiate present team from either least or most satisfying team and would, therefore, probably not be as important as other items with respect to satisfaction. In this study the difference between f_1 and f_2 was used to reduce each adjective list to either 20 or 22 items.

Results and Discussion (Phase I: Item Revision). As a result of item revision the adjective list for Sport/Game totalled 20 items. The previous Sport/Game list was reduced by 12 items. Of those 12 items seven were 'irrelevant', one was 'non discriminating' and four were 'least discriminating'.

Seven of the nine items discarded from Practice were 'irrelevant' and two were 'least discriminating'. A total of 20 items were retained. Nineteen items were eliminated from the Team list of which nine were 'irrelevant' and 10 were 'least discriminating'. A total of 22 items remained in the Team adjective list. The list of items describing coach was reduced by 18. Seven of the items eliminated were 'irrelevant' and 11 were 'least discriminating' leaving a total of 22 adjectives. The elimination of seven 'irrelevant' items, one 'non-discriminating' item and two 'least discriminating' items left a total of 20 items for Opposition.

In order that all item lists totalled at least 20 items the criteria upon which the decision to retain or discard items were adjusted slightly for the Personal Ability and Performance category. Items were rejected as 'irrelevant' only if f_4 (not representative of either most or least satisfying team) exceeded 71 percent of the sample. This resulted in the Performance list being reduced by 11 items. Under the new criteria nine of these items were considered 'irrelevant' and two were 'least discriminating'.

Table II, pages 66 to 68, contains a) the original item lists, b) the four frequencies (f_{1-4}) c) an indication of which items were discarded, d) the basis upon which each discard decision was made (e.g. irrelevant, non discriminating or least discriminating) and e) all items retained in each list.

TABLE II

ORIGINAL ITEM LISTS DESCRIBING EACH SOURCE OF SATISFACTION, THE FOUR FREQUENCIES (f₁-4), INDICATION OF ITEMS RETAINED AND DISCARDED, BASIS UPON WHICH DECISIONS WERE MADE (IRRELEVANT, NON-DISCRIMINATING OR LEAST DISCRIMINATING) AND THE SCORING DIRECTION FOR EACH ITEM RETAINED (N=80)

Items	f ₁	f ₂	f ₃	f ₄	Decision	Explanation	Scoring Direction
SPORT/GAME							
Healthy physical activity	49%	0%	48%	4%	Retained		+
Taught you to accept success and failure	54	9	28	10	Retained		+
Chance for personal improvement	58	0	35	8	Retained		+
Opportunity to learn new skills	40	6	41	13	Retained		+
Chance to travel	54	8	6	33	Retained		+
Interesting	65	4	20	11	Retained		+
Fast	46	6	28	20	Retained		+
Boring	4	58	0	39	Retained		
Frustrating	14	44	25	18	Retained		-
Challenging	65	3	26	6	Retained		+
Exhilarating	36	5	6	53	Discarded	Irrelevant	
Daring	19	11	8	63	Discarded	Irrelevant	
Grueiling	34	15	6	45	Retained		+
Fun	56	3	29	13	Retained		+
Opportunity to compete	35	3	59	4	Discarded	Non-Disc.	
Good training for other sports	46	9	13	33	Retained		+
Enjoyed skills involved	44	10	21	25	Retained		+
Combined individual and team play	40	15	33	13	Retained		+
Slow	0	33	0	68	Discarded	Irrelevant	
Exciting	65	3	16	16	Retained		+
Quiet	8	24	1	68	Discarded	Irrelevant	
Dangerous	14	26	4	56	Discarded	Irrelevant	
Chance to play with others	29	21	30	20	Discarded	Lst. Disc.	
Violent	9	29	4	59	Discarded	Irrelevant	
Rough	21	24	13	43	Discarded	Lst. Disc.	
Strategy involved	41	9	35	15	Retained		+
Outlet for frustrations	34	24	13	30	Discarded	Lst. Disc.	
Opportunity to meet new people	45	5	34	16	Retained		+
Strenuous	43	9	19	30	Retained		+
Not everything depended on you	20	33	24	24	Discarded	Lst. Disc.	
Chance to be noticed	45	6	23	26	Retained		+
Dull	0	43	0	58	Discarded	Irrelevant	
PRACTICE							
Good for learning new skills	53	9	29	10	Retained		+
Too few practices	15	46	6	30	Retained		
Lots of fooling around	10	56	8	26	Retained		
Coach often absent	3	50	0	48	Retained		
Frequent scrimmages	24	16	11	49	Discarded	Lst. Disc.	
Learned how to play together	49	9	16	26	Retained		+
Hard work	63	5	20	13	Retained		+
Teaching of 'fundamentals'	40	21	19	21	Retained		+
Good for physical fitness	56	1	35	8	Retained		+
Tiring	46	14	20	20	Retained		+
Players hacking around	8	59	9	25	Retained		-
Monotonous	19	34	3	45	Retained		
Highly disciplined	35	18	4	44	Retained		+
Boring	8	49	4	40	Retained		
Learned more about game	41	14	19	26	Retained		+
Long	36	23	4	38	Discarded	Lst. Disc.	
Numerous drills	45	15	18	23	Retained		+
Sat around	1	45	1	53	Discarded	Irrelevant	
Numerous lectures from coach	10	33	5	53	Discarded	Irrelevant	
Short	4	35	0	61	Discarded	Irrelevant	
Satisfied when over	59	9	9	24	Retained		+
Chance to socialize	38	16	13	34	Retained		+
Individual coaching	40	5	11	46	Retained		+
Organized	50	8	18	25	Retained		+
Competitive	56	6	20	18	Retained		+
Hard to get to	10	25	1	64	Discarded	Irrelevant	
Bad time of day	15	29	3	54	Discarded	Irrelevant	
Repetitious	19	28	4	50	Discarded	Irrelevant	
Waste of time	3	46	1	50	Discarded	Irrelevant	

Items	f ₁	f ₂	f ₃	f ₄	Decision	Explanation	Scoring Direction
TEAM							
Hard to meet	3	31	0	66	Discarded	Irrelevant	
Good communication	49	4	28	20	Retained		
Aggressive	31	20	15	34	Discarded	Lst. Disc.	
Played positions	34	18	14	35	Discarded	Lst. Disc.	
Controlled the play	29	11	1	59	Discarded	Irrelevant	
Took game too seriously	6	33	6	55	Discarded	Irrelevant	
Clean	36	5	24	35	Discarded	Lst. Disc.	
Fair	39	11	25	25	Discarded	Lst. Disc.	
Poor sports	4	46	1	49	Retained		
Glory seekers	8	40	9	44	Discarded	Lst. Disc.	
Blamed one another for loss	6	54	0	40	Retained		
100% effort by all of team	49	6	5	40	Retained		+
Cooperative	54	4	20	23	Retained		+
Socialized after game	50	8	21	21	Retained		+
Respected one another	61	3	23	14	Retained		+
Enthusiastic	60	4	23	15	Retained		+
Feeling of closeness	49	4	9	39	Retained		+
Undependable	1	49	5	45	Retained		
Over confident	13	26	3	59	Discarded	Irrelevant	
Lazy	8	45	6	41	Discarded	Lst. Disc.	
Worked as a unit	45	6	10	39	Discarded	Lst. Disc.	
Cliquish	8	19	8	66	Discarded	Irrelevant	
Fun	61	3	20	16	Retained		+
Lacked interest	4	41	1	54	Discarded	Irrelevant	
Apathetic	1	16	0	83	Discarded	Irrelevant	
Dissention	4	23	3	71	Discarded	Irrelevant	
Open	40	6	11	43	Discarded	Lst. Disc.	
Organized	49	4	13	35	Retained		+
Missed practice	5	53	11	31	Retained		-
Foiled around	9	48	14	30	Discarded	Lst. Disc.	
Argued	9	53	5	34	Retained		-
Bossy	5	51	3	41	Retained		-
Friendly atmosphere	66	1	19	14	Retained		+
Easy going	59	6	11	24	Retained		+
Bad	1	39	0	60	Discarded	Irrelevant	
Good morale	65	4	11	20	Retained		+
Understanding	56	1	6	36	Retained		+
Common desire to win	43	8	40	10	Discarded	Lst. Disc.	
Complainers	8	56	6	30	Retained		
Good	55	3	20	23	Retained		+
Encouraging	58	5	16	21	Retained		+
COACH							
Likeable	58	3	36	4	Retained		+
Took game too seriously	14	35	11	40	Discarded	Lst. Disc.	
Poor loser	9	30	10	51	Discarded	Irrelevant	
Good	61	6	21	11	Retained		+
Bossy	5	43	1	51	Discarded	Irrelevant	
Qualified	59	6	24	11	Retained		+
Apathetic	1	13	1	85	Discarded	Irrelevant	
Displayed favouritism	18	34	14	35	Discarded	Lst. Disc.	
Knowledgeable	44	8	35	14	Discarded	Lst. Disc.	
Open	63	4	18	16	Retained		+
Enthusiastic	53	6	26	15	Retained		+
Played only best players	9	46	9	36	Discarded	Lst. Disc.	
Lenient	14	18	6	63	Discarded	Irrelevant	
Attended practice	55	1	38	6	Retained		+
Critical	26	23	20	31	Discarded	Lst. Disc.	
Over worked players	15	21	0	64	Discarded	Irrelevant	
Set unrealistic goals	8	28	0	65	Discarded	Irrelevant	
Totally removed from team							
off the field	4	29	1	66	Discarded	Irrelevant	
Respected players	60	6	23	11	Retained		+
Interested in game	46	3	43	9	Retained		+
Involved	56	1	31	13	Retained		+
Patient with players	55	9	13	24	Retained		+
Decisive	38	8	16	39	Discarded	Lst. Disc.	
Able to develop potential	59	4	14	24	Retained		+
Optimistic	49	3	19	30	Retained		+
Encouraging	55	1	24	20	Retained		+
Sense of humour	56	6	29	9	Retained		+
Leader	60	6	20	14	Retained		+
Hard worker	61	8	18	16	Retained		+
Late for practice	9	36	0	49	Discarded	Lst. Disc.	
Understanding	59	5	18	20	Retained		+
Friendly	46	5	40	9	Discarded	Lst. Disc.	
Provided individual help	56	6	19	19	Retained		+
Built players confidence	71	5	10	14	Retained		+
Ability to motivate	54	5	10	31	Retained		+
Good teacher	61	4	20	15	Retained		+
Ridiculed players in front							
of teammates	15	33	5	48	Discarded	Lst. Disc.	
Hard to please	14	38	11	40	Discarded	Lst. Disc.	

Items	f ₁	f ₂	f ₃	f ₄	Decision	Explanation	Scoring Direction
Praised effort	48	6	20	26	Retained		+
Quick tempered	15	28	10	48	Discarded	Lst. Disc.	
OPPOSITION							
Easy to get to know	43	14	15	29	Retained		+
Aggressive	31	18	28	24	Retained		+
Started fights	9	41	3	48	Retained		-
Poor sports	5	46	8	41	Retained		-
Blamed one another for loss	8	36	5	51	Discarded	Irrelevant	
Hard working	51	5	26	18	Retained		+
Enthusiastic	51	4	25	20	Retained		+
Mouthy	20	29	16	35	Discarded	Lst. Disc.	
Dirty	10	31	9	44	Retained		-
Bad	3	31	15	51	Discarded	Irrelevant	
Competitive	41	1	56	1	Discarded	Non-Disc.	
Prepared	46	10	26	18	Retained		+
Slow	3	24	4	70	Discarded	Irrelevant	
Conceited	9	21	13	58	Discarded	Irrelevant	
Fair	30	18	13	40	Retained		+
Bad tempered	6	41	5	48	Retained		-
Interesting	41	9	15	35	Retained		+
Friendly	50	6	18	26	Retained		+
Too serious	9	35	4	53	Discarded	Irrelevant	
Rough	18	28	10	45	Discarded	Lst. Disc.	
Fast	38	16	16	30	Retained		+
Skilled	53	4	28	16	Retained		+
Rude	4	29	9	59	Discarded	Irrelevant	
Argued with officials	8	34	15	44	Retained		
Challenging	53	8	28	13	Retained		+
Organized	49	9	14	29	Retained		+
Friendly after game	49	9	23	20	Retained		+
Disciplined	33	10	19	39	Retained		+
Quitters	9	26	1	64	Discarded	Irrelevant	
Well coached	54	13	20	14	Retained		+
PERSONAL ABILITY AND PERFORMANCE							
Not very good	6	36	3	55	Retained		
was cut	6	36	3	55	Discarded	Irrelevant	
Couldn't make team	3	15	0	83	Discarded	Irrelevant	
Many skills to perfect	19	19	25	36	Discarded	Lst. Disc.	
Reached team standards of ability	45	10	31	14	Retained		+
Successful	54	8	28	11	Retained		+
Lacked physical ability	1	18	3	66	Retained		
Not built for it	4	25	1	70	Retained		
Made mistakes	23	23	30	25	Discarded	Lst. Disc.	
Lacked motivation	1	36	0	63	Retained		
Couldn't do it	1	15	0	84	Discarded	Irrelevant	
Lacked endurance	10	19	0	71	Retained		
Didn't play up to potential	13	24	6	60	Retained		
Failed to correct mistakes	5	23	1	71	Retained		
Failed at routine things	3	13	0	85	Discarded	Irrelevant	
Messed up team plays	4	10	1	85	Discarded	Irrelevant	
Coach kept me on bench	4	25	0	71	Retained		-
Gave it my best effort	46	6	35	13	Retained		+
Satisfied with performance	51	8	23	19	Retained		+
Reached personal goal	51	6	13	30	Retained		+
Played well	50	11	16	23	Retained		+
Improved my play	53	6	26	16	Retained		+
Let team down	3	13	0	85	Discarded	Irrelevant	
Gained recognition	44	4	11	41	Retained		+
Not strong enough	4	19	3	75	Discarded	Irrelevant	
Slow	5	13	4	81	Discarded	Irrelevant	
Held team back	3	10	0	88	Discarded	Irrelevant	
Agile	21	5	8	66	Retained		+
Fell short of others expectations	10	18	1	71	Retained		
Helped team	53	9	18	21	Retained		+
Fast	41	8	11	28	Retained		+

It was mentioned previously that the criteria upon which decisions were made to discard or retain items, were altered slightly for the Personal Ability and Performance adjective list. Had the criteria remained unchanged a great number of items would have been eliminated which in turn would have resulted in a significantly shorter item list describing Performance. The criteria were treated as flexible in view of the purpose of this particular study. Recall that the aim of this stage of development was only to streamline or prepare the instrument such that it was in a form more conducive to a rigorous item analysis. It was felt that if the Performance item list would benefit from further reduction this would become apparent during the item analysis to follow. For this reason the decision was made to alter the criteria in order to retain as wide a variety of items under Performance as were retained in the other lists.

In a study which ran concurrently the Officials category was found to be both inefficient and an extremely difficult source of satisfaction for the players to describe (see Study IV, page 75). Based on these findings the Officials category was subsequently eliminated from the SSI and therefore no purpose would have been served by reporting the individual item results for the Officials category which arose from the present study.

The item 'was cut' appearing in the Performance list seemed to be a good item for discriminating between most and

least satisfying teams. It was eliminated however because it was inappropriate for describing present team. For example, how could a player respond to the item in relation to a team of which he is presently an active member? Therefore, to avoid confusion the item was discarded. It should be noted that it would have been discarded as 'irrelevant' if judged under the original criteria (f_4 greater than or equal to 50 percent of the sample was considered 'irrelevant').

The decision to use a scoring system which offers more response alternatives was a direct result of the responses received in this study. Many respondents indicated they felt a simple check mark was inadequate by emphasizing the importance of certain items (for them) by putting multiple check marks beside those items. Similarly, they expressed mixed feelings about an item by substituting a fraction for the check mark which indicated the item was only partially accurate. It would seem that the Lickert-type scoring system which allows for a more discriminating response is a more appropriate choice for this sport satisfaction instrument as compared to a true or false format.

Data Analysis (Phase II: Scoring Direction). The frequency with which each item was checked as describing the most satisfying team only (f_1) and the frequency with which each item was checked as describing the least

satisfying team only (f_2) were compared.

Items in the adjective lists were labelled positive if they were endorsed more frequently for the most satisfying team than for the least satisfying team (f_1 greater than f_2) and considered negative if endorsed otherwise (f_2 greater than f_1). Recall that Phase I eliminated those items where there was little difference between f_1 and f_2 .

Results and Discussion (Phase II: Scoring Direction).

Following the analysis in Phase I the Sport Satisfaction Inventory consisted of 124 items. The remaining items included 95 positive or 'satisfying' descriptions and 29 negative or dissatisfying descriptions. All sources of satisfaction "descriptive lists" contained a greater number of positive items. The Sport/Game list had 18 positive items and two which were negative while there were 14 positive items under Practice and six negative ones. Coach descriptors included 15 positive adjectives and seven which were negative. The 22 Team items were all positive and there were 15 positive items and five negative ones for Opposition. Finally, the Performance category consisted of 11 positive descriptions and nine which were negative.

Table II, pages 66 to 68, shows the scoring direction (i.e. positive or negative) for each item retained. Table III, page 72, summarizes the number of positive and negative items used in the revised inventory to

TABLE III

NUMBER OF POSITIVE AND NEGATIVE ITEMS IN EACH ADJECTIVE LIST
 FOLLOWING THE ELIMINATION OF THE IRRELEVANT, NON-
 DISCRIMINATING AND LEAST DISCRIMINATING ITEMS

Scales	Number of Positively Worded Items	Number of Negatively Worded Items	Total Items
Sport/Game	18	2	20
Practice	14	6	20
Coach	15	7	22
Teammates	22	0	22
Opposition	15	5	20
Performance	11	9	20
Total	95	29	124

describe each source of satisfaction.

As mentioned in Study II, there was no attempt to alter the ratio of positive and negative items. The responses indicate a preference on the part of sport participants to express themselves with positive adjectives. It would have been inconsistent with the approach of instrument development to change this emphasis.

It was reported earlier that unsolicited subject responses to the SSI indicated a preference for a Likert-type scale as opposed to a simple true or false option. Therefore a five point Likert-type scale was adopted under the following scoring strategy. If a respondent indicated that a positive item was completely false (an indication of dissatisfaction) the item would be assigned a value of 'one'. Similarly, if a respondent indicated that a negative item was completely true (also an indication of dissatisfaction) the item would be assigned a 'one'. On the other hand, if a subject marked a positive item completely true (an indication of satisfaction) then the item would be assigned a value of 'five'. Likewise, a negative item would be marked as 'five' if the subject indicated it were completely false (an indication of satisfaction). Therefore, the higher the total, the greater the satisfaction. Figure 3, page 74, indicates the values different items were assigned depending on whether they were positive or negative.

	<u>Completely False</u>	<u>Mostly False</u>	<u>Partly True & Partly False</u>	<u>Mostly True</u>	<u>Completely True</u>
Positive Item	1	2	3	4	5
Negative Item	5	4	3	2	1

FIGURE 3

SCORE VALUES FOR POSITIVE AND NEGATIVE
ITEMS IN THE ADJECTIVE SCALES
OF THE SSI

Study IV: Dimension Ranking and Difficulty Rating

Study IV was designed to poll sport participants to determine if there were any dimensions which were deemed to be of little importance or particularly difficult to answer. Only if a dimension ranked extremely low or very difficult to answer would it be considered for elimination. The elimination of such dimensions would increase the efficiency of the instrument.

Subjects and Procedure. The question sheet for this study (see Appendix F) was distributed to the same subjects who participated in Study III. First the respondents were asked to think back to the Sport Satisfaction Inventory (IR & SD) (see Appendix E) which they had just filled out. They were then requested to answer the two additional questions on the separate sheet about the difficulty and importance associated with each source of satisfaction. Due mainly to time constraints some players failed to complete all or part of the questions. Only complete responses were used. Question I, "Check the two components of sport satisfaction you found most difficult to describe", was completed by a total of 71 of the 80 subjects in Study III. Question II, "List the components of sport satisfaction in order of importance from most to least important", was completed by 65 of those same 80 subjects.

Data Analysis. The frequency with which each dimension received a check mark was computed for Question I.

In the case of Question II the number of times each dimension was ranked in a position from first to seventh was recorded. In order to accentuate differences the frequency was multiplied by the value of the rank. This meant that if a dimension was ranked first, ten times, then the total recorded was $10 \times 7 = 70$. If the same dimension was ranked second in importance 13 times then the value recorded was $13 \times 6 = 78$ (see Appendix G for computations). This process was continued for each dimension across all ranks and totals computed.

Results and Discussion. Based on the rank totals computed from responses to Question II the sources of satisfaction could be divided into two groups. Ranked highest and close together were Team, Personal Ability and Performance, Coach, Sport/Game and Practice with totals ranging from 357 to 284. The second group, consisting of Opposition and Officials, ranked much lower with total scores of 146 and 87 respectively (see Table IV, page 77).

The results of the frequency tabulations calculated for Question I could also be separated into two groups. Coach, Sport/Game, Practice and Team were the least difficult sources to describe. The frequency with which these sources of satisfaction were checked as the most difficult to describe were relatively low ranging from six

TABLE IV

SOURCES OF SATISFACTION LISTED FROM MOST TO LEAST
 IMPORTANT WITH TOTALS COMPUTED ON THE BASIS
 OF THE ORDER IN WHICH THE SOURCES WERE
 RANKED BY SUBJECTS
 (N=65)

Sources of Satisfaction	Totals*
Team	357
Performance	319
Coach	315
Sport/Game	312
Practice	284
Opposition	146
Officials	87

* The number of times (frequency) a source was placed in a particular position from most to least important (i.e. first to seventh) multiplied by the value of the rank (i.e. '7' for first to '1' for seventh).

(Coach) to 14 (Team). The second, more difficult to describe group included Officials, Personal Ability and Performance and Opposition in that order. The frequency with which this second group of sources were checked as the most difficult to describe ranged from 25 to 50 (see Table V, page 79).

Although there was strong support for eliminating both the Opposition and Officials dimensions it was decided that the Opposition dimension be retained largely because the sport satisfaction literature (particularly laboratory studies) considers Opposition a fundamental part of satisfaction.

It was decided however, based primarily on the ranking results, that the Officials dimension be eliminated. An important characteristic of any instrument is that it be concise, requiring as little administration time as possible. The impression received from coaches and players to this point indicated this was especially true for those involved in sport. The Officials dimension seemed much less efficient and meaningful than the other dimensions. For these reasons the instrument was reduced from seven to six adjective lists.

TABLE V

FREQUENCY WITH WHICH SUBJECTS CHECKED EACH
SOURCE OF SATISFACTION AS MOST DIFFICULT
TO DESCRIBE AND THE SOURCES LISTED IN
ORDER FROM LEAST TO MOST DIFFICULT

Sources of Satisfaction	f
Coach	6
Sport/Game	7
Practice	9
Team	14
Officials	25
Performance	31
Opposition	50
Total	142

Study V: Item Analysis

One way of enhancing the utility of an inventory is to make it as reliable and valid as possible with as few items as possible. This study was designed to select those items with the greatest likelihood of increasing the reliability and validity.

Subjects and Procedure. The revised 124 item Sport Satisfaction Inventory, as it stood after Study IV was distributed (see Appendix H). This form of the inventory contained six pages with a different source of satisfaction appearing at the top of each page. The items describing the sources of sport satisfaction were listed in the left hand column with the five response alternatives (Completely False, Mostly False, Partly True and Partly False, Mostly True and Completely True) displayed opposite each descriptive word or phrase.

The subjects (N=152) were asked to complete the survey by selecting one of the five choices appearing beside each item. For the exact wording of the instructions see the Sport Satisfaction Inventory in Appendix H.

The subjects included,

A) Twelve members of a boy's hockey team competing in a high school league ranging in age from 15 to 19.

B) Twelve members of a boy's wrestling team competing in a high school league ranging in age from 13 to 21.

C) Eight members of a boy's basketball team competing in a high school league ranging in age from 14 to 16.

D) Nine members of a girl's basketball team competing in a high school league ranging in age from 14 to 15.

E) Six members of a girl's basketball team competing in a high school league ranging in age from 16 to 18.

F) Fifteen members of a boy's hockey team competing in a high school league ranging in age from 15 to 19.

G) Twenty-one members of a boy's wrestling team competing in a high school league ranging in age from 13 to 17.

H) Seven members of a boy's basketball team competing in a high school league ranging in age from 16 to 18.

I) Twelve members of a boy's basketball team competing in a high school league ranging in age from 14 to 15.

J) Eight members of a girl's basketball team competing in a high school league ranging in age from 15 to 19.

K) Nine members of a girl's volleyball team competing in a high school league ranging in age from 14 to 16.

L) Five members of a boy's curling team competing

in a high school league ranging in age from 14 to 18.

M) Eighteen members of a boy's hockey team competing in a high school league ranging in age from 15 to 18.

N) Ten members of the Canadian Men's National Water Polo Team competing at the international level ranging in age from 19 to 23.

Data Analysis. Pearson product-moment correlation coefficients are used to measure the strength of relationship between two interval level variables. Using the SPSS subprogram 'Pearson Corr' all items were correlated with all other items. The rationale was that all items within a dimension should correlate positively with one another and also all items within one dimension should correlate higher with each other than with the items in other dimensions.

All items were then correlated with the total scores on each dimension. All items in one dimension should correlate positively with the total score of that dimension and all items should correlate higher with the total score of their dimension than with the total scores of each of the other dimensions.

Results. Three items in the Sport/Game dimension were eliminated because they did not correlate positively with items in the same dimension. For the same reason five items were dropped from the Practice dimension, one item from the Coach dimension, four from the Opposition dimension

and three from the Personal Ability and Performance dimension. The value of the mean item intercorrelation for items in the same dimension was compared to the individual correlations between those same items and items in other dimensions. Generally, the mean inter-item correlation for items within a dimension was higher and no items were eliminated on this basis.

None of the remaining items correlated negatively with the total score of their own dimension. Two more items were discarded because they correlated higher with the total score of dimensions other than their own (i.e. one item from Practice and one from Coach).

Two reasons for further reducing the item lists were to shorten test application time and equalize the length of the various scales to simplify scoring. As a result the adjective lists were reduced to 14 items by eliminating those items in each scale which correlated lowest with the total scores on their dimensions. A comparison of the SSI (Appendix H) used in this study and the final form of the SSI (Appendix I) shows all items eliminated by the item analysis. The overall positive effects resulting from eliminating the items are illustrated by the difference between the item intercorrelations computed for the unedited SSI scales (Table VI) and the edited SSI scales (Table VII). The comparison reveals that the 'range' for the item intercorrelations no longer includes negative values and the mean item intercorrelations for all scales are greater.

The most important SSI refinements, as a result of the item analysis, include a) all items correlate positively with the total scores of their dimensions, b) all items correlate higher with the total score of their own dimension than with the total score of other dimensions, c) only those items correlating highest with the total score of their own dimension were retained for each source of satisfaction, d) the mean inter item correlations for each dimension were increased, and e) the time required to complete the SSI was reduced and scoring made easier by reducing and equalizing the number of items in each scale.

A well established inventory, similar to the SSI which was developed to measure worker satisfaction was compared to the SSI. The mean item intercorrelations for the scales in the Job Descriptive Index (Smith et al., 1969) ranged from .25 to .45 with an average of .32. The item intercorrelations for the scales of the Sport Satisfaction Inventory ranged from .24 to .51 with an average item intercorrelation of .34. The comparison speaks well for the SSI considering the JDI was developed over a 10 year period, involving thousands of workers and is highly regarded as a satisfaction measure by authorities in the area.

TABLE VI
ITEM INTERCORRELATIONS FOR THE UNEDITED VERSION OF
THE SSI (124 ITEMS)
(N=152)

Scale	Total Items	Mean Item Intercorrelation	Range
Sport/Game	20	.16	-.31 to .50
Practice	20	.20	-.15 to .67
Coach	22	.40	-.01 to .74
Teammates	22	.35	.01 to .67
Opposition	20	.23	-.22 to .65
Performance	20	.25	-.05 to .70

TABLE VII
ITEM INTERCORRELATIONS FOR THE REVISED VERSION
OF THE SSI (84 ITEMS)
(N=152)

Scale	Total Items	Mean Item Intercorrelations	Range
Sport/Game	14	.24	.03 to .50
Practice	14	.25	.05 to .58
Coach	14	.51	.32 to .74
Teammates	14	.42	.16 to .67
Opposition	14	.29	.02 to .61
Performance	14	.32	.03 to .70

TABLE VIII
NUMBER OF POSITIVE AND NEGATIVE ITEMS IN REVISED
SSI SCALES

Scales	Number of Positively Worded Items	Number of Negatively Worded Items	Total Items
Sport/Game	13	1	14
Practice	11	3	14
Coach	14	0	14
Teammates	12	2	14
Opposition	11	3	14
Performance	10	4	14
Total	71	13	84

Study VI: Subdivided Test Method For Reliability

The purpose of this step in the analysis of the instrument was to evaluate the internal consistency of the SSI using the subdivided test method. This provides an indication of the extent to which people score the same, relative to themselves on different subdivisions of the overall instrument.

Subjects and Procedure. Subjects' responses (N=152) to the 84 items of the SSI retained from Study V were used in this analysis. A subdivided test analysis was performed on the unedited version of the SSI (124 items) which verified the progress of scale development but is not reported here.

Data Analysis. The data was analyzed according to the SPSS subprogram 'Reliability'. In general, the split model partitions the variables in the scale into two subsets. For each subset or 'form' the sum is computed and the reliability calculations make use of only the information contained in the two sums for each case.

A number of coefficients were computed. The first coefficient calculated was the correlation between forms or between halves. If $T(1)$ and $T(2)$ are the sums of the items in parts 1 and 2, the correlation between halves is the correlation between the sums $T(1)$ and $T(2)$. This correlation measures the extent to which the two halves measure

the same thing.

The Spearman-Brown split-half coefficient was also calculated. This formula assumes the two halves of the test have equal reliabilities and based on this assumption, projects the reliability for both halves combined. The Spearman-Brown split-half coefficient is therefore, the reliability for the instrument corrected to full length.

The third coefficient, the Guttman split-half, is similar in form to the Spearman-Brown but does not necessarily presume equal reliabilities.

Results and Discussion. With a sample of 152 subjects the measures of consistency for the final version of the SSI scales show that correlations between halves range from .68 to .86 with an average correlation of .74. The split-half correlations corrected to full length by the Spearman-Brown formula range from .81 to .93 with an average of .85. The Guttman split-half results are equally high. For more details see Table IX, page 90.

The results indicate a strong internal consistency for all scales in the Sport Satisfaction Inventory as all corrected estimates are over .80.

TABLE IX
INTERNAL CONSISTENCY OF THE REVISED SCALES IN THE SSI
(N=152)

Scales	Correlation Between Forms (Halves)	Correlations Corrected To Full Length by Equal Length Spearman-Brown	Guttman Split-Half
Sport/Game	.74	.85	.85
Practice	.68	.81	.81
Coach	.86	.93	.92
Teammates	.75	.86	.86
Opposition	.69	.81	.81
Performance	.82	.84	.83

Study VII: Test-Retest Reliability

The stability of the SSI over time was established by the test-retest method. This form of reliability calls for the administration of the instrument twice to the same individuals with a time interval between applications. The stability of the two sets of responses is the examined by computing the correlation or 'reliability' coefficient for the data.

Subjects and Procedure. The final 84 item version of the Sport Satisfaction Inventory (see Appendix H) was distributed to the members of three teams (N=33). This final version of the SSI was similar to the 124 item version used in Studies IV and VI in that it consisted of six sections each starting with a different source of satisfaction followed by the list of descriptive words and phrases, each of which were accompanied by the five response alternatives. The difference between this form and the preceeding version was that the adjective lists for each source of satisfaction had been reduced to 14 items from the 20 or 22 items which appeared previously.

The subjects included,

A) Six members of a men's volleyball team competing at the provincial and national level ranging in age from 19 to 30.

B) Ten members of a women's basketball team competing at the university level ranging in age from 18 to

29.

C) Seventeen members of a boy's hockey team competing in a high school league ranging in age from 16 to 19.

For the first administration of the SSI each team was grouped together prior to a practice and asked to respond to the inventory. With the exception of the girl's basketball team the groups filled out the same questionnaire prior to another practice one week later. The girl's basketball team filled out the questionnaire a second time, before an exhibition game. The setting was the same as the previous week for the team since the game was played on their home court.

In addition to the standard verbal instructions (see Appendix B) given to all teams and the instructions on the first page of the SSI, additional verbal instructions were given before the second test application. The researcher explained to each team that the study required the same players to fill out the survey again. The groups were also told not to worry about their previous responses, "It doesn't matter if you happen to be the same or different than last week, simply answer according to the way you feel". If a team member asked why the same test had to be answered again the importance of his cooperation and participation was stressed and he was asked to wait until the questionnaire had been returned for an explanation.

Data Analysis. The SPSS subprogram 'Pearson Corr' was used to correlate the total score of each dimension in the SSI for the first administration with the total score of each dimension for the second administration of the inventory.

Results and Discussion. The stability estimates for the scales in the SSI are relatively strong for all dimensions with the possible exception of Opposition. The correlations range from .42 to .91 with an average correlation coefficient of .74. All correlations except that for Opposition exceed .70 and by excluding the Opposition dimension the mean correlation increases to .81. The test-retest correlations are presented in Table X, page 94.

The relatively low correlation for the Opposition scale is not surprising in view of earlier findings. Opposition was ranked as the most difficult dimension to answer (in Study IV) and was also ranked low in terms of importance. Although the low correlation is not surprising some possible explanations for it include the following. First, it is conceivable that the players' feelings about their opposition underwent real changes as a function of an actual change in opponents. Second, during various applications of the SSI there were frequent complaints from subjects who found it difficult to respond to items in this dimension because of the variety of opposition they had met during the playing season. Therefore, a more likely explanation for the low correlation would be that the

TABLE X
CORRELATION OF THE TOTAL SCORE ON EACH SCALE OF THE
SSI FROM THE FIRST ADMINISTRATION WITH THE
TOTAL SCORE ON EACH SCALE FOLLOWING THE
SECOND ADMINISTRATION
(N=33)

1 st SSI Admin. (Test)	Sport/Game	Practice	Coach	Teammates	Opposition	Performance
2 nd SSI Admin. (Retest)	With Sport/Game	With Practice	With Coach	With Teammates	With Opposition	With Performance
	.80	.84	.79	.70	.42	.91

respondents had such great difficulty attempting to generalize about their various opponents that they simply 'guessed' on some items for the sake of expediency. If this procedure (e.g. poor generalization or virtual guessing) were repeated on the retest one week later the result would likely be low test-retest correlations.

The instability of this Opposition dimension is further evidence in support for its elimination from the scale. The possible importance of this scale to particular types of individual sports, where teammates do not provide the person to person interaction, and its possible utility in laboratory research are the only reasons it was retained. Otherwise, it would have been discarded following Study IV along with Officials which is a distinct possibility for the future.

Considering the overall results (e.g. generally high correlations) it could be argued that most SSI scales measure relatively stable or even inflexible components of sport satisfaction. However, indications are that this is not the case. The week between applications was rather uneventful for the subjects in terms of their sport involvement (i.e. practice but no games). It is assumed that this was a major factor influencing the high stability estimates and not the insensitivity of the instrument to real situational changes. Future studies which test the ability of the instrument to detect real changes in satisfaction as a result of an altered environmental

variable will prove the accuracy or inaccuracy of this assumption.

Appendix J contains the results of tests of significance performed on the test-retest data. The fact that none of the tests were significant at the $P=.001$ level is additional support for the stability of the Sport Satisfaction Inventory.

Study VIII: Intercorrelations Of The Component Scales of
The Sport Satisfaction Inventory

The purpose of this analysis was to examine the relationship between each of the component scales of sport satisfaction.

Subjects and Procedure. The analysis involved the responses collected from all subjects having responded to the Sport Satisfaction Inventory (N=185).

Data Analysis. The SPSS subprogram 'Pearson Corr' was used to correlate each dimension of the SSI with each of the other dimensions. A correlation matrix displaying the relationships was constructed.

Results and Discussion. The intercorrelations for the component scales of the SSI ranged from .09 to .58 with an average intercorrelation of .28. Values for the correlations between each source of satisfaction and the total score on the overall instrument ranged from .47 (Opposition) to .74 (Practice) with an average correlation coefficient of .63.

These results, (see Table XI, page 98) indicate some relatively high intercorrelations. While the intercorrelations are not high enough to suggest that some scales measure the same thing they do suggest a few scales measure something similar. One could argue that the correlation between Coach and Practice indicates they are not

TABLE XI
INTERCORRELATIONS OF THE SPORT SATISFACTION
INVENTORY SCALES
(N=185)

Scale	Sport/Game	Practice	Coach	Teammates	Opposition	Performance
Sport/Game	-					
Practice	.51	-				
Coach	.33	.58	-			
Teammates	.27	.43	.30	-		
Opposition	.16	.16	.09	.32	-	
Performance	.28	.11	.17	.30	.12	-
Total	.63	.74	.70	.71	.47	.52

discriminably different areas of sport satisfaction. The high intercorrelation could also be interpreted as being in agreement with research in worker satisfaction which demonstrates a common satisfaction factor as well as specific factors. Perhaps the same is true for sport satisfaction. The generally high intercorrelations may simply reflect a common satisfaction factor nested within specific, discriminably different factors or areas.

Along with the 'common factor' it is probable that an individual's feelings in one area of sport satisfaction effect his feelings in the other areas. For instance, how a basketball player feels about practice would probably effect to some degree, how he feels about the sport (Sport/Game) he plays. This would also tend to increase the dimension intercorrelations.

Finally, there may be logical situational or environmental reasons for significant dimension relationships. A good hockey coach presumably works hard to secure the best arena in the area for his team, arranges convenient ice time for work-outs and conducts a good practice. The relatively high intercorrelations between Coach and Practice can be viewed more as a function of a particular coach than some flaw in the measurement device.

All dimensions show significant correlations with the total score on the SSI. However the correlation between Opposition and Total Score is substantially lower than the others.

CHAPTER V

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Summary

The purpose of this investigation was to develop an instrument which would allow researchers to measure the degree of satisfaction experienced by participants in organized sport. The instrument was designed in a way which facilitates the study of individual aspects of sport satisfaction as well as the study of overall satisfaction derived from sport involvement.

The principle reason the study of satisfaction was undertaken centres on the humanistic importance of satisfaction. Other reasons include its importance to mental health and possible links to the quality and quantity of human performance. The need for the construction of the Sport Satisfaction Inventory was supported by the literature wherein accounts of initial efforts to measure satisfaction as it relates to competitive physical activity showed a lack of inventories specifically designed for sport.

A total of 400 male and female subjects from a variety of sports, representing various ability levels and a wide age range participated in the research.

Six Sport Satisfaction Inventory scales (Sport/Game, Practice, Coach, Teammates, Opposition and Personal Ability and Performance) were developed using open ended responses from a total of 135 subjects. The item content of the six scales was established through content analysis of athletes' responses to open ended questions about their satisfaction in sport. SSI items were presented in a 'list' format and those retained reflected the same positive to negative item ratio as displayed by the athletes themselves in response to questions about satisfaction.

Extensive preliminary lists of descriptive words and phrases for each source of satisfaction, totalling 40 to 80 items, were constructed based on subjects' responses to open ended questions. Rather than choosing subjectively, 'what seemed to be' the best items from these lists a study was devised whereby the sport participants had input into the decision. The athletes checked those items describing their most satisfying team as well as the items describing their least satisfying team and following the analysis of these responses only the most relevant and discriminating items were retained. This step helped to produce item lists with greater sensitivity, discriminability (between satisfying and dissatisfying teams) and usefulness. The procedures used at this stage of development required subjects to think in terms of their most and least satisfying teams such that frames of reference were taken into account to some degree.

The Likert-type scoring system employed by the SSI was chosen to meet the needs expressed by the players themselves. Also, the SSI format is such that it can be easily modified and scored according to the 'triadic' criteria. Respondents would be required to answer the SSI for each of their most satisfying, present and least satisfying teams. The scoring direction would then be determined by whether present team responses were similar to the responses for the most or least satisfying team. Therefore the effectiveness of an individualized scoring strategy (i.e. 'triadic') to assess satisfaction in a sport environment may be tested at a later date through the use of the SSI.

The extensive item analysis showed that the SSI items discriminated between the various sources of sport satisfaction. The instrument's stability over time as well as its internal consistency were confirmed. Finally, the intercorrelations of the component scales were computed.

Conclusions

The following conclusions may be drawn from the development of the Sport Satisfaction Inventory,

1. The result is a carefully designed instrument constructed largely by the sport participants themselves.
2. Since the initial studies used general open ended survey techniques the items generated reflect the participant's own attitudes and

feelings expressed in their own words and presented in a fashion meaningful to them.

3. The studies devoted to the analysis of the SSI indicate that,
 - a) only the best items and dimensions have been retained,
 - b) a strong internal consistency exists within the dimensions,
 - c) the instrument is stable over time and,
 - d) the relationship between the dimensions is appropriate for a measurement device of this kind.
4. Little time is required to administer the inventory.
5. The use of an adjective list format with only short descriptive phrases has resulted in a versatile instrument which permits the administration of the same satisfaction questionnaire across a wide age range and a variety of educational levels.
6. The SSI is a tool that facilitates the collection of satisfaction data from a relatively unexplored area which should ultimately prove to be a contribution to general satisfaction theory.

Recommendations

The dimensionality of sport satisfaction requires additional research. The establishment of the most accurate, exhaustive and useful dimensions is the necessary first step required for a sound sport satisfaction literature base. The worker satisfaction literature was in a chaotic state for a period while researchers attempted to assimilate seemingly disjointed studies based on inadequately researched dimensions. Sport satisfaction researchers could avoid similar problems by considering the literature progression in the job satisfaction area. A variety of techniques such as factor analysis and discriminant function analysis, designed to test the dimensionality of a construct, could be employed to provide researchers with stable and consistent satisfaction dimensions.

A more in depth case study approach to further explore certain dimensions may be of value in subsequent research. The Officials dimension is a good example. Based on the results of Study I, officials appeared to make a contribution to satisfaction. However, a subsequent study (Study IV) resulted in the elimination of the dimension when the subjects indicated officials were of relatively little consequence. These conflicting results may indicate that the importance of Officials (or any dimension) depends on the various sports. For instance, officials may be a

greater satisfaction concern for figure skaters and divers than for soccer players. It is also possible that without extensive interviews the more aesthetic aspects of sport satisfaction (e.g. peak experience) may not be revealed. Also, retrospective reports from retired athletes along with the views of participants in relatively unstructured (unorganized) sport may provide a valuable perspective on sport satisfaction.

A major aim behind the development of the SSI was that it be an instrument which could generalize among many populations. To this end subjects representing both sexes, various ability levels, a wide age range and a variety of sports were used. There was a noticeable difference in the answers to the open ended questions in the early stages of development depending on the age and experience of the respondents. While the final instrument contains a sampling of different types of answers a future consideration of similar studies should be the age variable. An approach like that of the SSI, where the age variable is controlled may increase the validity of each instrument developed.

Various component scales of the SSI are apt to be effective tools in competition research in a laboratory setting where one wishes to treat the degree of satisfaction as a dependent variable. The Opposition scale may prove useful in this case even though evidence suggests the Opposition dimension could probably be eliminated if used to evaluate satisfaction within a team.

The logical next step in the analysis of the SSI would be extensive validation studies. Assuming this research reflects favourably on the scale it would probably be most effective as a coach's or league tool to determine changes in satisfaction over the course of a season. Alternatively, given in whole or in part during the season specific problem areas could be located and corrected.

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APPENDIX A
LETTER TO COACHES

I am a graduate student at the University of Ottawa in the M.Sc. (Kinanthropology) program. My major field of study is Sport Psychology under the direction of Dr. T. Orlick. I am currently conducting research for my thesis in the area of satisfaction in sport. What is it about sport that participants enjoy or find most rewarding? The project is designed to answer this question in order to help coaches, players and consequently sport in general.

The information will be gathered through a questionnaire given to team members prior to either a practice or game. Players generally find the questionnaire both interesting and simple to complete. The total time required of each team is fifteen to twenty minutes. As we are only interested in finding out what influences satisfaction in sport all information will be confidential. Your cooperation would be appreciated and is required for the project to work.

I will be in touch shortly in hopes that you will be willing to assist in this research, and if you are, we can arrange a time to meet with your team.

A summary of the findings of this study will be available to all those participating.

Sincerely,

Rick Whittall
M.Sc. Candidate

APPENDIX B

GENERAL VERBAL INSTRUCTIONS TO EACH TEAM

This questionnaire represents part of a major study in the area of sport psychology being conducted at the University of Ottawa. We are investigating player's attitudes toward sport by asking participants to answer questions about different aspects of their sport experience. Please fill in the information requested at the top of the first page and read the instructions carefully. The survey will take about 15 minutes to complete. Your coach will see only a summary of the results, not the actual questionnaires, so please answer honestly.

Thank You

APPENDIX C

SPORT SATISFACTION INVENTORY (GENERAL)

SPORT SATISFACTION INVENTORY (G)

Team name _____

Sport _____

Age _____

Sex Male Female

Complete the following ten (10) questions by filling in the blanks.

PLEASE PRINT

1. In general, the most satisfying part of participating in sport is _____

_____.
2. I no longer play _____ because _____
(name sport)

_____.
3. My favourite sport is _____ because _____
(name sport)

_____.
4. I never wanted to play _____ because _____
(name sport)
_____.

5. In sport, it makes me mad when _____

_____.
6. One thing I liked about the most satisfying team I
ever played for was _____

_____.
7. One thing I disliked about the least satisfying team
I ever played for was _____

_____.
8. The most satisfying experience I have had while
playing for the team I am on now was _____

_____.
9. The most dissatisfying experience I have had while
playing for the team I am on now was _____

_____.
10. If I could change one thing about this team it would
be _____
_____.

THANK YOU FOR YOUR HELP.

APPENDIX D

SPORT SATISFACTION INVENTORY (SPECIFIC)

SPORT SATISFACTION INVENTORY (S)

Team name _____

Sport _____

Age _____

Sex Male _____ Female _____

Complete the following ten (10) questions by
filling in the blanks.

PLEASE PRINT

1. One thing I like about the sport I am involved with now
is _____
_____.
2. One thing I like about practice is _____
_____.
3. One thing I don't like about practice is _____
_____.
4. It bothers me when the officials (referees) _____
_____.
5. One thing I like about my teammates is _____
_____.

6. One thing I don't like about my teammates is _____
_____.
7. The opposing team can effect how much I enjoy the sport.
Two (2) words describing the type of opposition I like
are _____.
8. Two (2) words describing the type of opposition I don't
like are _____.
9. In order to be a good coach he or she must _____
_____.
10. In order to be a good coach he or she must not _____
_____.

THANK YOU FOR YOUR HELP.

APPENDIX E

SPORT SATISFACTION INVENTORY (IR & SD)

SPORT SATISFACTION INVENTORY (IR & SD)

Team Name _____

Sport _____

Age _____

Sex Male ____ Female ____

INSTRUCTIONS

Please think of the most satisfying (fulfilling, enjoyable) team you have ever played for and the least satisfying (unfulfilling, not enjoyable) team you have played for. These teams could be from any sport, not necessarily the sport you are playing now.

The following questionnaire contains seven (7) sections. Some component of your most satisfying and least satisfying teams appears at the beginning of each section. The component is followed by a list of words and phrases which may or may not describe the component. Please put a check mark in the space provided to the left of those words and phrases which describe the component of the most satisfying team.

Example: COACH

<u>Most</u>	<u>Items</u>	<u>Least</u>
<u>Satisfying</u>	<u>Describing</u>	<u>Satisfying</u>
<u>Team</u>	<u>Coach</u>	<u>Team</u>
_____	 poor strategist	_____
<u>✓</u>	 expected too much of players	_____
<u>✓</u>	 talented	_____

In the above example it was felt that the coach of the most satisfying team could be described as 'expected too much of players' and 'talented' but not 'poor strategist'. Go through all seven sections and describe your most satisfying team in this manner.

Following this, return to the first page and repeat the procedure by putting check marks in the spaces to the right of those words and phrases describing your least satisfying team.

SPORT/GAME (What items describe the sport the team participated in?)

<u>Most</u> <u>Satisfying</u> <u>Team</u>	<u>Items</u> <u>Describing</u> <u>Sport/Game</u>	<u>Least</u> <u>Satisfying</u> <u>Team</u>
_____	 healthy physical activity	_____
_____	 taught you to accept success & failure ..	_____
_____	 chance for personal improvement	_____
_____	 opportunity to learn new skills	_____
_____	 chance to travel	_____
_____	 interesting	_____
_____	 fast	_____
_____	 boring	_____
_____	 frustrating	_____
_____	 challenging	_____
_____	 exhilarating	_____
_____	 daring	_____
_____	 gruelling	_____
_____	 fun	_____
_____	 opportunity to compete	_____
_____	 good training for other sports	_____
_____	 enjoyed skills involved	_____
_____	 combined individual and team play	_____
_____	 slow	_____
_____	 exciting	_____
_____	 quiet	_____
_____	 dangerous	_____
_____	 chance to play with others	_____
_____	 violent	_____
_____	 rough	_____
_____	 strategy involved	_____
_____	 outlet for frustrations	_____
_____	 opportunity to meet new people	_____
_____	 strenuous	_____
_____	 not everything depended on you	_____
_____	 chance to be noticed	_____
_____	 dull	_____

IRACTICE (What items describe the team's practices or work-outs?)

<u>Most</u> <u>Satisfying</u> <u>Team</u>	<u>Items</u> <u>Describing</u> <u>Practice</u>	<u>Least</u> <u>Satisfying</u> <u>Team</u>
_____	 good for learning new skills	_____
_____	 too few practices	_____
_____	 lots of fooling around	_____
_____	 coach often absent	_____
_____	 frequent scrimmages	_____
_____	 learned how to play together	_____
_____	 hard work	_____
_____	 teaching of 'fundamentals'	_____
_____	 good for physical fitness	_____
_____	 tiring	_____
_____	 players hacking around	_____
_____	 monotonous	_____
_____	 highly disciplined	_____
_____	 boring	_____
_____	 learned more about game	_____
_____	 long	_____
_____	 numerous drills	_____
_____	 sat around	_____
_____	 numerous lectures from coaches	_____
_____	 short	_____
_____	 satisfied when over	_____
_____	 chance to socialize	_____
_____	 individual coaching	_____
_____	 organized	_____
_____	 competitive	_____
_____	 hard to get to	_____
_____	 bad time of day	_____
_____	 repetitious	_____
_____	 waste of time	_____

<u>Most</u> <u>Satisfying</u> <u>Team</u>	<u>Items</u> <u>Describing</u> <u>Team</u>	<u>Least</u> <u>Satisfying</u> <u>Team</u>
_____	 hard to meet	_____
_____	 good communication	_____
_____	 aggressive	_____
_____	 played positions	_____
_____	 controlled the play	_____
_____	 took game too seriously	_____
_____	 clean	_____
_____	 fair	_____
_____	 poor sports	_____
_____	 glory seekers	_____
_____	 blamed one another for loss	_____
_____	 100% effort by all team	_____
_____	 cooperative	_____
_____	 socialized after game	_____
_____	 respected one another	_____
_____	 enthusiastic	_____
_____	 feeling of closeness	_____
_____	 undependable	_____
_____	 over confident	_____
_____	 lazy	_____
_____	 worked as unit	_____
_____	 cliquish	_____
_____	 fun	_____
_____	 lacked interest	_____
_____	 apathetic	_____
_____	 dissention	_____
_____	 open	_____
_____	 organized	_____
_____	 missed practice	_____
_____	 fooled around	_____

continued...

TEAM (continued)

<u>Most</u>	<u>Items</u>	<u>Least</u>
<u>Satisfying</u>	<u>Describing</u>	<u>Satisfying</u>
<u>Team</u>	<u>Team</u>	<u>Team</u>
_____	 argued	_____
_____	 bossy	_____
_____	 friendly atmosphere	_____
_____	 easy going	_____
_____	 bad	_____
_____	 good morale	_____
_____	 understanding	_____
_____	 common desire to win	_____
_____	 complainers	_____
_____	 good	_____
_____	 encouraging	_____

COACH (What items describe the coach of the team?)

<u>Most</u> <u>Satisfying</u> <u>Team</u>	<u>Items</u> <u>Describing</u> <u>Coach</u>	<u>Least</u> <u>Satisfying</u> <u>Team</u>
_____	 likeable	_____
_____	 took game too seriously	_____
_____	 poor loser	_____
_____	 good	_____
_____	 bossy	_____
_____	 qualified	_____
_____	 apathetic	_____
_____	 displayed favouritism	_____
_____	 knowledgeable.....	_____
_____	 open	_____
_____	 enthusiastic	_____
_____	 played only best players	_____
_____	 lenient	_____
_____	 attended practice	_____
_____	 critical	_____
_____	 over worked players	_____
_____	 set unrealistic goals	_____
_____	 totally removed from team off the field	_____
_____	 respected players	_____
_____	 interested in game	_____
_____	 involved	_____
_____	 patient with players	_____
_____	 decisive	_____
_____	 able to develop potential	_____
_____	 optimistic	_____
_____	 encouraging.....	_____
_____	 sense of humour	_____
_____	 leader	_____
_____	 hard worker	_____
_____	 late for practice	_____

continued...

<u>Most</u> <u>Satisfying</u> <u>Team</u>	<u>Items</u> <u>Describing</u> <u>Coach</u>	<u>Least</u> <u>Satisfying</u> <u>Team</u>
_____	 understanding	_____
_____	 friendly	_____
_____	 provided individual help	_____
_____	 built player's confidence	_____
_____	 ability to motivate	_____
_____	 good teacher	_____
_____	 ridiculed players in front of teammates	_____
_____	 hard to please	_____
_____	 praised effort	_____
_____	 quick tempered	_____

OPPOSITION (What items describe the team's opposition?)

<u>Most</u> <u>Satisfying</u> <u>Team</u>	<u>Items</u> <u>Describing</u> <u>Opposition</u>	<u>Least</u> <u>Satisfying</u> <u>Team</u>
_____	easy to get to know	_____
_____	aggressive	_____
_____	started fights	_____
_____	poor sports	_____
_____	blamed one another for loss	_____
_____	hard working	_____
_____	enthusiastic	_____
_____	mouthy	_____
_____	dirty	_____
_____	bad	_____
_____	competitive	_____
_____	prepared	_____
_____	slow	_____
_____	conceited	_____
_____	fair	_____
_____	bad tempered	_____
_____	interesting	_____
_____	friendly	_____
_____	too serious	_____
_____	rough	_____
_____	fast	_____
_____	skilled	_____
_____	rude	_____
_____	argued with officials	_____
_____	challenging	_____
_____	organized	_____
_____	friendly after game	_____
_____	disciplined	_____
_____	quitters	_____
_____	well coached	_____

PERSONAL ABILITY AND PERFORMANCE (What items describe your ability with the team?)

<u>Most</u> <u>Satisfying</u> <u>Team</u>	<u>Items</u> <u>Describing</u> <u>Ability and Performance</u>	<u>Least</u> <u>Satisfying</u> <u>Team</u>
_____	 not very good	_____
_____	 was cut	_____
_____	 couldn't make team	_____
_____	 many skills to perfect	_____
_____	 reached team standards of ability	_____
_____	 successful	_____
_____	 lacked physical ability	_____
_____	 not built for it	_____
_____	made mistakes	_____
_____	 lacked motivation	_____
_____	 couldn't do it	_____
_____	lacked endurance	_____
_____	 didn't play up to potential	_____
_____	 failed to correct mistakes	_____
_____	 failed at routine things	_____
_____	 messed up team plays	_____
_____	 coach kept me on bench	_____
_____	 gave it my best effort	_____
_____	 satisfied with performance	_____
_____	 reached personal goal	_____
_____	 played well	_____
_____	 improved my play	_____
_____	 let team down	_____
_____	 gained recognition	_____
_____	not strong enough	_____
_____	 slow	_____
_____	 held team back	_____
_____	 agile	_____
_____	 fell short of others expectations	_____
_____	helped team	_____
_____	 fast	_____

OFFICIALS (REFEREES/JUDGES) (What items describe those who officiated
at team contests?)

<u>Most</u> <u>Satisfying</u> <u>Team</u>	<u>Items</u> <u>Describing</u> <u>Officials</u>	<u>Least</u> <u>Satisfying</u> <u>Team</u>
_____	 controlled outcome	_____
_____	 unqualified	_____
_____	 biased	_____
_____	 interested	_____
_____	 bad	_____
_____	 didn't do job properly	_____
_____	 made mistakes	_____
_____	 allowed dangerous rule infractions	_____
_____	 admitted mistakes	_____
_____	 lenient	_____
_____	 aloof	_____
_____	 blind	_____
_____	 good	_____
_____	 slowed things down	_____
_____	unfair.....	_____
_____	 strict	_____
_____	 explained calls when asked	_____
_____	 compensated for weaker teams	_____
_____	 lost control of game	_____
_____	 consistent	_____

APPENDIX F

QUESTIONS I & II: DIFFICULTY RATING AND DIMENSION RANKING

I. Check the two (2) components of sport satisfaction you found most difficult to describe.

SPORT/GAME	_____
PRACTICE	_____
TEAM	_____
COACH	_____
OPPOSITION	_____
PERSONAL ABILITY AND PERFORM- ANCE	_____
OFFICIALS	_____

II. List the components of sport satisfaction in order of importance from most to least important.

(most important)	1. _____
	2. _____
	3. _____
	4. _____
	5. _____
	6. _____
(least important)	7. _____

APPENDIX G
RESULTS OF DIMENSION RANKING

Sources	First		Second		Third		Fourth		Fifth		Sixth		Seventh		Total
Sport/Game	18x7	126	11x6	66	8x5	40	9x4	36	9x3	27	7x2	14	3x1	3	312
Practice	6x7	42	6x6	36	18x5	90	17x4	68	14x3	42	2x2	4	2x1	2	284
Team	15x7	105	19x6	114	19x5	95	7x4	28	5x3	15	0x2	0	0x1	0	357
Coach	10x7	70	15x6	90	10x5	50	19x4	76	8x3	24	2x2	4	1x1	1	315
Opposition	0x7	0	1x6	6	0x5	0	4x4	16	14x3	42	36x2	72	10x1	10	146
Performance	16x7	112	13x6	78	10x5	50	7x4	28	15x3	45	2x2	4	2x1	2	319
Officials	0x7	0	0x6	0	0x5	0	2x4	8	0x3	0	16x2	32	47x1	47	87

APPENDIX H

SPORT SATISFACTION INVENTORY (124 ITEMS)

SPORT SATISFACTION INVENTORY

Player's Name _____

Team Name _____

Sport _____

Age _____ Sex M F

INSTRUCTIONS

This questionnaire contains six pages. On each page you will find a list of words and phrases describing a different part of your present sport involvement; (1) Sport/Game (2) Practice (3) Teammates (4) Coach (5) Opposition (6) Ability & Performance.

- A) Read the top of each page completely so that you know what area you are being asked to describe.
- B) Read each description in the list carefully and select one of the five choices listed below.

<u>Completely</u>	<u>Mostly</u>	<u>Partly</u>	<u>Mostly</u>	<u>Completely</u>
<u>False</u>	<u>False</u>	<u>True &</u>	<u>True</u>	<u>True</u>
		<u>Partly</u>		
		<u>False</u>		
☐	☐	☐	☐	☐

- C) Indicate your choice by putting a check mark in the box under your selection.

IMPORTANT:

1. Put a check mark in only one box.
2. Do not spend too much time on any one description.
3. There are no right or wrong answers.

How well do the following words and phrases describe
the sport or game in which your team participates?

Sport/Game Descriptions	<u>Completely</u> <u>False</u>	<u>Mostly</u> <u>False</u>	<u>Partly</u> <u>True &</u> <u>Partly</u> <u>False</u>	<u>Mostly</u> <u>True</u>	<u>Completely</u> <u>True</u>
Healthy physical activity	☐	☐	☐	☐	☐
Teaches you to accept success and failure	☐	☐	☐	☐	☐
Chance for personal improvement	☐	☐	☐	☐	☐
Opportunity to learn new skills	☐	☐	☐	☐	☐
Chance to travel	☐	☐	☐	☐	☐
Interesting	☐	☐	☐	☐	☐
Fast	☐	☐	☐	☐	☐
Boring	☐	☐	☐	☐	☐
Challenging	☐	☐	☐	☐	☐
Gruelling	☐	☐	☐	☐	☐
Fun	☐	☐	☐	☐	☐
Good training for other sports	☐	☐	☐	☐	☐
Enjoy skills involved	☐	☐	☐	☐	☐
Combines individual and team play	☐	☐	☐	☐	☐
Exciting	☐	☐	☐	☐	☐
Frustrating	☐	☐	☐	☐	☐
Strategy involved	☐	☐	☐	☐	☐
Opportunity to meet new people	☐	☐	☐	☐	☐
Strenuous	☐	☐	☐	☐	☐
Chance to be noticed	☐	☐	☐	☐	☐

PRACTICE

How well do the following words and phrases describe
the team's practices or work-outs?

<u>Practice Descriptions</u>	<u>Completely False</u>	<u>Mostly False</u>	<u>Partly True & Partly False</u>	<u>Mostly True</u>	<u>Completely True</u>
Good for learning new skills	☐	☐	☐	☐	☐
Too few practices	☐	☐	☐	☐	☐
Learn how to play together	☐	☐	☐	☐	☐
Hard work	☐	☐	☐	☐	☐
Teaching of 'fundamentals'	☐	☐	☐	☐	☐
Lots of fooling around	☐	☐	☐	☐	☐
Good for physical fitness	☐	☐	☐	☐	☐
Tiring	☐	☐	☐	☐	☐
Players hacking around	☐	☐	☐	☐	☐
Highly disciplined	☐	☐	☐	☐	☐
Boring	☐	☐	☐	☐	☐
Learn more about game	☐	☐	☐	☐	☐
Numerous drills	☐	☐	☐	☐	☐
Satisfied when over	☐	☐	☐	☐	☐
Coach often absent	☐	☐	☐	☐	☐
Chance to socialize	☐	☐	☐	☐	☐
Individual coaching	☐	☐	☐	☐	☐
Organized	☐	☐	☐	☐	☐
Monotonous	☐	☐	☐	☐	☐
Competitive	☐	☐	☐	☐	☐

COACH

How well do the following words and phrases describe
your coach?

<u>Coach Descriptions</u>	<u>Completely False</u>	<u>Mostly False</u>	<u>Partly True & Partly False</u>	<u>Mostly True</u>	<u>Completely True</u>
Likeable	☐	☐	☐	☐	☐
Good	☐	☐	☐	☐	☐
Qualified	☐	☐	☐	☐	☐
Open	☐	☐	☐	☐	☐
Enthusiastic	☐	☐	☐	☐	☐
Attends practice	☐	☐	☐	☐	☐
Respects players	☐	☐	☐	☐	☐
Interested in game	☐	☐	☐	☐	☐
Involved	☐	☐	☐	☐	☐
Patient with players	☐	☐	☐	☐	☐
Able to develop potential	☐	☐	☐	☐	☐
Optimistic	☐	☐	☐	☐	☐
Encouraging	☐	☐	☐	☐	☐
Sense of humour	☐	☐	☐	☐	☐
Leader	☐	☐	☐	☐	☐
Hard worker	☐	☐	☐	☐	☐
Understanding	☐	☐	☐	☐	☐
Provides individual help	☐	☐	☐	☐	☐
Builds player's confidence	☐	☐	☐	☐	☐
Ability to motivate	☐	☐	☐	☐	☐
Good teacher	☐	☐	☐	☐	☐
Praises effort	☐	☐	☐	☐	☐

How well do the following words and phrases describe
your teammates?

<u>Teammate Descriptions</u>	<u>Completely False</u>	<u>Mostly False</u>	<u>Partly True & Partly False</u>	<u>Mostly True</u>	<u>Completely True</u>
Good communication	☐	☐	☐	☐	☐
Poor sports	☐	☐	☐	☐	☐
Blame one another for loss	☐	☐	☐	☐	☐
100% effort by all team	☐	☐	☐	☐	☐
Cooperative	☐	☐	☐	☐	☐
Socialize after game	☐	☐	☐	☐	☐
Respect one another	☐	☐	☐	☐	☐
Enthusiastic	☐	☐	☐	☐	☐
Feeling of closeness	☐	☐	☐	☐	☐
Undependable	☐	☐	☐	☐	☐
Fun	☐	☐	☐	☐	☐
Organized	☐	☐	☐	☐	☐
Miss practice	☐	☐	☐	☐	☐
Argue	☐	☐	☐	☐	☐
Bossy	☐	☐	☐	☐	☐
Friendly atmosphere	☐	☐	☐	☐	☐
Easy going	☐	☐	☐	☐	☐
Good morale	☐	☐	☐	☐	☐
Understanding	☐	☐	☐	☐	☐
Complainers	☐	☐	☐	☐	☐
Good	☐	☐	☐	☐	☐
Encouraging	☐	☐	☐	☐	☐

How well do the following words and phrases describe
your team's opposition?

Opposition Descriptions	<u>Completely False</u>	<u>Mostly False</u>	<u>Partly True & Partly False</u>	<u>Mostly True</u>	<u>Completely True</u>
Easy to get to know	☐	☐	☐	☐	☐
Aggressive	☐	☐	☐	☐	☐
Start fights	☐	☐	☐	☐	☐
Hard working	☐	☐	☐	☐	☐
Enthusiastic	☐	☐	☐	☐	☐
Dirty	☐	☐	☐	☐	☐
Prepared	☐	☐	☐	☐	☐
Fair	☐	☐	☐	☐	☐
Bad tempered	☐	☐	☐	☐	☐
Interesting	☐	☐	☐	☐	☐
Friendly	☐	☐	☐	☐	☐
Fast	☐	☐	☐	☐	☐
Skilled	☐	☐	☐	☐	☐
Argue with officials	☐	☐	☐	☐	☐
Challenging	☐	☐	☐	☐	☐
Organized	☐	☐	☐	☐	☐
Friendly after game	☐	☐	☐	☐	☐
Poor sports	☐	☐	☐	☐	☐
Disciplined	☐	☐	☐	☐	☐
Well coached	☐	☐	☐	☐	☐

PERSONAL ABILITY AND PERFORMANCE

How well do the following words and phrases describe
your personal ability and performance?

Personal Ability and Performance Descriptions	<u>Completely False</u>	<u>Mostly False</u>	<u>Partly True & Partly False</u>	<u>Mostly True</u>	<u>Completely True</u>
Not very good	☐	☐	☐	☐	☐
Reached team standards of ability	☐	☐	☐	☐	☐
Successful	☐	☐	☐	☐	☐
Lack physical ability	☐	☐	☐	☐	☐
Not built for it	☐	☐	☐	☐	☐
Not playing up to potential	☐	☐	☐	☐	☐
Give it my best effort	☐	☐	☐	☐	☐
Coach keeps me on bench	☐	☐	☐	☐	☐
Satisfied with performance	☐	☐	☐	☐	☐
Fail to correct mistakes	☐	☐	☐	☐	☐
Reaching personal goals	☐	☐	☐	☐	☐
Lack endurance	☐	☐	☐	☐	☐
Playing well	☐	☐	☐	☐	☐
Lack motivation	☐	☐	☐	☐	☐
Improving my play	☐	☐	☐	☐	☐
Gaining recognition	☐	☐	☐	☐	☐
Agile	☐	☐	☐	☐	☐
Fall short of others expectations	☐	☐	☐	☐	☐
Help team	☐	☐	☐	☐	☐
Fast	☐	☐	☐	☐	☐

APPENDIX I

SPORT SATISFACTION INVENTORY (84 ITEMS)

SPORT SATISFACTION INVENTORY

Player's Name _____

Team Name _____

Sport _____

Age _____ Sex M F

INSTRUCTIONS

This questionnaire contains six pages. On each page you will find a list of words and phrases describing a different part of your present sport involvement; (1) Sport/Game (2) Practice (3) Teammates (4) Coach (5) Opposition (6) Ability & Performance.

- A) Read the top of each page completely so that you know what area you are being asked to describe.
- B) Read each description in the list carefully and select one of the five choices listed below.

<u>Completely</u>	<u>Mostly</u>	<u>Partly</u>	<u>Mostly</u>	<u>Completely</u>
<u>False</u>	<u>False</u>	<u>True &</u>	<u>True</u>	<u>True</u>
		<u>Partly</u>		
		<u>False</u>		
☐	☐	☐	☐	☐

- C) Indicate your choice by putting a check mark in the box under your selection.

IMPORTANT:

1. Put a check mark in only one box.
2. Do not spend too much time on any one description.
3. There are no right or wrong answers.

SPORT/GAME

How well do the following words and phrases describe
the sport or game in which your team participates?

<u>SPORT/GAME DESCRIPTIONS</u>	<u>Completely False</u>	<u>Mostly False</u>	<u>Partly True & Partly False</u>	<u>Mostly True</u>	<u>Completely True</u>
Healthy physical activity	☐	☐	☐	☐	☐
Teaches you to accept success and failure	☐	☐	☐	☐	☐
Chance for personal improvement	☐	☐	☐	☐	☐
Opportunity to meet new people	☐	☐	☐	☐	☐
Chance to travel	☐	☐	☐	☐	☐
Interesting	☐	☐	☐	☐	☐
Fast	☐	☐	☐	☐	☐
Boring	☐	☐	☐	☐	☐
Challenging	☐	☐	☐	☐	☐
Strenuous	☐	☐	☐	☐	☐
Fun	☐	☐	☐	☐	☐
Chance to be noticed	☐	☐	☐	☐	☐
Enjoy skills involved	☐	☐	☐	☐	☐
Exciting	☐	☐	☐	☐	☐

PRACTICE

How well do the following words and phrases describe
the team's practices or work-outs?

<u>PRACTICE DESCRIPTIONS</u>	<u>Completely False</u>	<u>Mostly False</u>	<u>Partly True & Partly False</u>	<u>Mostly True</u>	<u>Completely True</u>
Good for learning new skills	☐	☐	☐	☐	☐
Too few practices	☐	☐	☐	☐	☐
Individual coaching	☐	☐	☐	☐	☐
Hard work	☐	☐	☐	☐	☐
Organized	☐	☐	☐	☐	☐
Lots of fooling around	☐	☐	☐	☐	☐
Good for physical fitness	☐	☐	☐	☐	☐
Monotonous	☐	☐	☐	☐	☐
Competitive	☐	☐	☐	☐	☐
Highly disciplined	☐	☐	☐	☐	☐
Boring	☐	☐	☐	☐	☐
Learn more about game	☐	☐	☐	☐	☐
Numerous drills	☐	☐	☐	☐	☐
Satisfied when over	☐	☐	☐	☐	☐

COACH

How well do the following words and phrases describe
your coach?

<u>COACH DESCRIPTIONS</u>	<u>Completely False</u>	<u>Mostly False</u>	<u>Partly True & Partly False</u>	<u>Mostly True</u>	<u>Completely True</u>
Hard worker	☐	☐	☐	☐	☐
Good	☐	☐	☐	☐	☐
Qualified	☐	☐	☐	☐	☐
Leader	☐	☐	☐	☐	☐
Enthusiastic	☐	☐	☐	☐	☐
Understanding	☐	☐	☐	☐	☐
Provides individual help	☐	☐	☐	☐	☐
Interested in game	☐	☐	☐	☐	☐
Builds player's confidence	☐	☐	☐	☐	☐
Ability to motivate	☐	☐	☐	☐	☐
Able to develop potential	☐	☐	☐	☐	☐
Good teacher	☐	☐	☐	☐	☐
Encouraging	☐	☐	☐	☐	☐
Praises effort	☐	☐	☐	☐	☐

TEAMMATES

How well do the following words and phrases describe
your teammates?

<u>TEAMMATES DESCRIPTIONS</u>	<u>Completely False</u>	<u>Mostly False</u>	<u>Partly True & Partly False</u>	<u>Mostly True</u>	<u>Completely True</u>
Good communication	☐	☐	☐	☐	☐
Easy going	☐	☐	☐	☐	☐
Good morale	☐	☐	☐	☐	☐
100% effort by all team	☐	☐	☐	☐	☐
Cooperative	☐	☐	☐	☐	☐
Friendly atmosphere	☐	☐	☐	☐	☐
Respect one another	☐	☐	☐	☐	☐
Enthusiastic	☐	☐	☐	☐	☐
Feeling of closeness	☐	☐	☐	☐	☐
Understanding	☐	☐	☐	☐	☐
Bossy	☐	☐	☐	☐	☐
Organized	☐	☐	☐	☐	☐
Encouraging	☐	☐	☐	☐	☐
Argue	☐	☐	☐	☐	☐

OPPOSITION

How well do the following words and phrases describe
your team's opposition?

<u>OPPOSITION DESCRIPTIONS</u>	<u>Completely False</u>	<u>Mostly False</u>	<u>Partly True & Partly False</u>	<u>Mostly True</u>	<u>Completely True</u>
Easy to get to know	☐	☐	☐	☐	☐
Challenging	☐	☐	☐	☐	☐
Organized	☐	☐	☐	☐	☐
Friendly after game	☐	☐	☐	☐	☐
Enthusiastic	☐	☐	☐	☐	☐
Dirty	☐	☐	☐	☐	☐
Prepared	☐	☐	☐	☐	☐
Fair	☐	☐	☐	☐	☐
Poor sports	☐	☐	☐	☐	☐
Disciplined	☐	☐	☐	☐	☐
Friendly	☐	☐	☐	☐	☐
Well coached	☐	☐	☐	☐	☐
Skilled	☐	☐	☐	☐	☐
Argue with officials	☐	☐	☐	☐	☐

PERSONAL ABILITY AND PERFORMANCE

How well do the following words and phrases describe
your personal ability and performance?

<u>PERSONAL ABILITY AND PERFORMANCE DESCRIPTIONS</u>	<u>Completely False</u>	<u>Mostly False</u>	<u>Partly True & Partly False</u>	<u>Mostly True</u>	<u>Completely True</u>
Not very good	☐	☐	☐	☐	☐
Reached team standards of ability	☐	☐	☐	☐	☐
Successful	☐	☐	☐	☐	☐
Fast	☐	☐	☐	☐	☐
Help team	☐	☐	☐	☐	☐
Fall short of others expectations	☐	☐	☐	☐	☐
Agile	☐	☐	☐	☐	☐
Gaining recognition	☐	☐	☐	☐	☐
Satisfied with performance	☐	☐	☐	☐	☐
Fail to correct mistakes	☐	☐	☐	☐	☐
Reaching personal goals	☐	☐	☐	☐	☐
Improving my play	☐	☐	☐	☐	☐
Playing well	☐	☐	☐	☐	☐
Lack motivation	☐	☐	☐	☐	☐

APPENDIX J

TESTS FOR SIGNIFICANT DIFFERENCES BETWEEN SCALES ON THE TEST-RETEST DATA

Variable	Number Of Cases	Mean	Standard Deviation	Standard Error
Sport/Game (1)	33	62.7273	5.281	0.919
Sport/Game (2)		61.1212	5.366	0.934
Practice (1)	33	54.4242	5.793	1.009
Practice (2)		52.9394	5.607	0.976
Coach (1)	33	56.6970	7.655	1.332
Coach (2)		54.4848	7.649	1.332
Teammates (1)	33	54.7576	5.979	1.041
Teammates (2)		55.8788	5.594	0.974
Opposition (1)	33	49.6364	5.177	0.901
Opposition (2)		51.0000	6.225	1.084
Performance (1)	33	53.1212	6.229	1.084
Performance (2)		52.1818	6.971	1.213

...continued

Variable	(Difference) Mean	Standard Deviation	Standard Error
Sport/Game (1)	1.6061	3.344	0.582
Sport/Game (2)			
Practice (1)	1.4848	3.203	0.558
Practice (2)			
Coach (1)	2.2121	4.910	0.855
Coach (2)			
Teammates (1)	-1.1212	4.477	0.779
Teammates (2)			
Opposition (1)	-1.3636	6.229	1.804
Opposition (2)			
Performance (1)	0.9394	2.882	0.502
Performance (2)			

...continued

Variable	Correlation	Degrees of Freedom	T Value
Sport/Game (1)	.803	32	2.76
Sport/Game (2)			
Practice (1)	.843	32	2.66
Practice (2)			
Coach (1)	.794	32	2.59
Coach (2)			
Teammates (1)	.703	32	-1.44
Teammates (2)			
Opposition (1)	.415	32	-1.26
Opposition (2)			
Performance (1)	.911	32	1.87
Performance (2)			

$$P = .001$$

$$= \pm 3.64$$

None of the scales showed a significant difference between the test administrations.