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SEX AND AGE INCENTIVES IN SPORT

by

Helen Katz-Gunther

An Abstract

of a thesis submitted in partial fulfillment

of the requirements for the degree of

Master of Science in the School

of Health, Physical Education,

and Recreation at

Ithaca College

September 1983

Thesis Advisor: Dr. A. Craig Fisher

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ABSTRACT

This investigation assessed the hierarchical structure of athletes' incentive systems across age and sex. The Birch and Veroff (1966) model of incentive motivation provided the theoretical framework for this study. Nine statements represented the seven incentive systems of the model, and were presented in all possible pairs as the Sport Motivation Preference Scale (SMPS). Male and female athletes (N = 389) of various youth sport, high school, and college sport teams from the central New York area served as subjects. These athletes read each pair of statements and placed a check beside the statement from each pair which better reflected their reason for participation in sport. Data were placed on a matrix indicating the number of times incentive systems in columns where chosen over the incentive systems in rows. Data were then scaled according to Thurstone's (1927) law of comparative judgment, and these scaled values were used to assess the importance of each of the nine incentive statements for male, female, youth sport, high school, and college athletes. Spearman rank-order correlations revealed fairly high commonalities of incentives between male and female athletes, youth sport and high school athletes, and high school and college athletes. There was less commonality of incentives between youth sport and college athletes. Excellence was judged to be the most salient incentive for both males and females across all age groups. Power and aggression incentives were ranked equally low for both males and females. The desire to win (success) was more important for males than females. The affiliation incentive (to be with my friends) was more salient for younger than older athletes. Affiliation was the second most important incentive for youth sport athletes, yet ranked sixth in importance for high school athletes, and seventh most salient for college athletes.

SEX AND AGE INCENTIVES IN SPORT

A Thesis Presented to the Faculty of
the School of Health, Physical
Education, and Recreation
Ithaca College

In Partial Fulfillment of the
Requirements for the Degree
Master of Science

Helen Katz-Gunther

September 1983

Ithaca College
School of Health, Physical Education, and Recreation
Ithaca, New York

CERTIFICATE OF APPROVAL

MASTER OF SCIENCE THESIS

This is to certify that the Master of Science Thesis of

Helen Katz-Gunther

submitted in partial fulfillment of the requirements for the degree of Master of Science in the School of Health, Physical Education, and Recreation at Ithaca College has been approved.

Thesis Advisor:

Committee Member:

Candidate:

Chairman, Graduate Programs in Physical Education:

Dean of Graduate Studies:

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Chapter 1

INTRODUCTION

There are numerous questions frequently asked by coaches, teachers, and researchers about sport motivation: What is it about a sport or activity that helps determine whether or not a person engages in it? What is it about sport and competition that attracts or repels individuals and causes some to continue and others to terminate their participation (Alderman, 1976)? Why do certain individuals shun competition, while others glorify it? Some athletes even confront death and injury regularly through their participation in sport, taking part in activities most people like to avoid (Ogilvie, 1974). Is there any explanation?

Even within the same sport, with all the participants performing similar acts, the activity is often being done for very different reasons. Is it possible to arrive at some basic categorization of motivation? Are there certain motives common to all individuals in sport, or do they differ across sports, age groups, sex, and culture? Perhaps motives might be very personal constructs, different for each individual.

The study of human motivation is the study of human action and all its determinants. It is concerned with why certain behaviors are selected by a person, why they vary in intensity, and why these behaviors persist (Alderman, 1974). To provide answers to the questions posed earlier, it would appear to be very useful to examine the sports setting, where examples of human motivation are always present. Individuals in sport subject themselves to the rigors of training, boredom of practices, and punishment to their bodies in hopes of reaching some goal or satisfying some need.

Birch and Veroff (1966) offered one of the most encompassing theories of human motivation. They argued that activity is the basic unit of study for motivation, and that the behavior of an individual is a sequence of activities. The behavior exhibited represents the strongest set of competing behavioral tendencies at any point in time. Within any one person at any given moment, there exists any number of tendencies toward a relatively independent course of action. When a person is motivated to do something, action is mediated by the strongest of competing tendencies salient in that situation.

Birch and Veroff (1966) cited availability, expectancy, incentive, and motive as the four major sources affecting goal-directed action. Availability is the extent to which a particular stimulus situation makes available a particular course of action. An aggressive act is more likely to occur at a football game than at a swim meet. Expectancy functions to link an activity to its consequences. If a child has enjoyed success in a particular sport, the suggestion of further participation generates an expectancy of more attractive outcomes (Alderman, 1976). Incentives determine the strength of goal-directed behaviors. Winning a national race may have more positive incentive value than winning a town turkey-trot. Motives are the strength of attraction to or repulsion from a general class of consequences. Incentive values of a given consequence can be made more attractive to a person with higher motives for that consequence. The incentive value attached to winning will be higher for people with high achievement motives.

In the Birch and Veroff motivational model, the incentive factor is divided into seven specific incentive systems: sensory, affiliation, aggression, achievement, power, curiosity, and independence. Taken together,

these incentive systems account for most of one's goal-directed behavior. Sensory, curiosity, and achievement are asocial incentive systems, whereas affiliation, aggression, power, and independence depend on the responses of others.

These seven systems would appear to fit very nicely into sport motivation theory, in that they account for all of one's goal-directed behavior. However, although many researchers have examined the reasons people participate in sport, only Alderman (1976, 1978) has directly applied these incentive systems to sport. His work involved the use of a multi-item inventory to assess which major incentive systems are salient for youth in sport.

An alternative to this approach can be used to examine these incentive systems. A linear scaling procedure, Thurstone's (1927) law of comparative judgment, can be used to decipher the importance of a number of statements along a single continuum (Fisher, 1980). By constructing one statement to represent each incentive system and then presenting these statements in pairs, subjects are asked to make a discrimination between statements in each paired comparison according to which statement is more salient. A continuum of the incentive systems operating in an individual involved in sport can then be established.

This study was undertaken to assess the hierarchical structure of athletes' incentive systems across age and sex. Do male and female sport participants utilize dissimilar incentives? Are there commonalities among youth sport, high school, and college sport participants' incentives?

Scope of Problem

Members (N = 389) of various 1979 male and female youth sport, high school, and college teams from central New York served as subjects for this investigation.

Subjects ranged in age from 8 to 23 years. The Sport Motivation Preference Scale (SMPS) was developed to assess the degree to which each of nine incentive statements were prevalent in these athletes. Data were scaled according to Thurstonian procedures for the purpose of examining the sex and age relationships in the incentive systems.

Statement of Problem

The commonality of incentive systems for sex and age variables was examined. Two specific questions were pursued: Do male and female athletes participate in sport for similar reasons? Does age influence reasons for sport participation?

Major Hypothesis

Incentives will be differentially salient for sex and age groups.

Minor Hypotheses

The following hypotheses were delineated:

1. The achievement incentive (excellence), "to be the best I can be," will be the most important for both male and female athletes across all age groups.

2. Power and aggression incentives will be more salient for male than for female athletes across all age groups.

3. The desire to win (success) will be more important for male than for female athletes across all age groups.

4. The affiliation incentive, "to be with my friends," will be more salient for younger than for older athletes.

Assumptions of Study

The following assumptions were made in the preliminary stages of the study:

1. The SMPS was an accurate tool for measuring an individual's incentive

system.

2. Each subject could identify with the items presented on the SMPS.

3. Self-report measures of the incentives represent, to a substantial degree, actual incentives operating within sport participants.

4. The Birch and Veroff (1966) model of incentive motivation is applicable to the sport situation.

Definition of Terms

Achievement Incentive: This incentive is characterized by goal activity centering on competition with some standard of excellence (Alderman, 1976). In the present study this incentive was divided to represent people who desire to be the best they can be (excellence) and those that want to be winners (success).

Affiliation Incentive: This stems from the attraction to others in order to obtain reassurance from them that the self is acceptable (Birch & Veroff, 1966). This incentive is salient for people who play sport because they like to be part of a group (Aff_g) or because all of their friends participate (Aff_f).

Aggression Incentive: This incentive may be either reactive (i.e., intent to injure another) or instrumental (i.e., directed toward obtaining a goal with no intention to injure another).

Curiosity Incentive: This incentive is characterized by its focus on perceiving changes in stimulation. Activities pursued for the purpose of trying new things operate under this system.

Incentive Systems: A motive, the incentive itself, and related goal activities form a network of motivational variables, called an incentive system,

that accounts for most of one's major goal-directed behavior (Alderman, 1976; Birch & Veroff, 1966).

Incentives: The consequences or outcomes of particular courses of action are learned from, derived from, and linked to past experiences (Alderman, 1976). The incentive value of an expected outcome becomes an important determinant of the courses for action an individual chooses to pursue.

Independence Incentive: This incentive is represented by the accomplishment of an activity without help or by participating in sport because of a desire to do things by oneself.

Motives: The strength of attraction or repulsion to a general class of consequences is classified as motive. They are modifiers of incentive (Birch & Veroff, 1966). Motives are stable underlying dispositions.

Power Incentive: This exists when motivation ultimately rests on the ability to have influence over the environment (Birch & Veroff, 1966). This is salient for people who participate in sport in order to dominate and control others.

Sensory Incentive: This incentive depends on the stimulation of sensory experiences or feelings. It includes those activities done for thrills or to feel good.

Delimitations

The following delimitations were established as guidelines within which the investigation was conducted:

1. Only male baseball and track athletes, and female softball and track athletes from the central New York area served as subjects in the study.

2. The only tool utilized to determine the incentives of the athletes

was the Sport Motivation Preference Scale.

Limitations

The limitations of the study are as follows:

1. Results can only be generalized to baseball, softball, and track participants in the central New York area.

2. Results may not necessarily apply when participant motivation is assessed in a manner different from that in the present study.

Chapter 2

REVIEW OF LITERATURE

poses of this investigation, the review of literature had its
llowing areas: (a) the Birch and Veroff (1966) theory of
its parallel to sport situations, (b) past research in sport
d (c) an alternative approach for studying incentive motivation.

Birch and Veroff Theory of Motivation

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of this behavior to persist until a goal is achieved (Alderman, 1974).
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n, it might be possible to explain much of the behavior observed in
ttings.

of the most encompassing theories of human motivation is offered by
Veroff (1966). They argued that activity is the basic unit of study
ation, and that the behavior of an individual is a sequence of

activities. The behavior exhibited represents the strongest set of competing behavioral tendencies at any point in time. Within any one person at any given moment, there exist any number of tendencies toward a relatively independent course of action. When a person is motivated to do something, action is mediated by the strongest of competing tendencies salient in that situation. In order to predict when an individual will shift from one activity to another, to what activity the individual will shift, and with what intensity the individual will engage in the activity, one needs to know the strength of the behavioral tendency at that moment.

Four major sources are identified as having effects on goal-directed action. They are availability, expectancy, incentive, and motive (Birch & Veroff, 1966), and all are present in sport situations. Availability, expectancy, and incentive tend to depend on characteristics that reflect an individual's past history.

Availability is the extent to which a particular stimulus situation makes available a particular course of action. Situations give rise to and permit certain activities. For example, an aggressive act is more likely to occur in an ice hockey game than at a swim meet. Characteristics of both the present situation and the individual's past history also contribute to availability. A course of action is more likely to occur when there is a past history of action in that situation, and the likelihood that a goal is suggested to a person in a given situation is a function of the frequency with which that goal has been found relevant in the past (Birch & Veroff, 1966). If individuals have usually experienced success as a result of their actions in that situation in the past, they will anticipate success as the goal in the present situation.

An action gets its characteristic of goal-directedness from the determinant of expectancy. The expectancy that an activity will lead to a particular consequence varies in strength, depending on the number of times that an activity has produced consequences in the past. If a child has enjoyed success in a particular sport, the suggestion of further participation generates an expectancy of more attractive outcomes (Alderman, 1976). Like availability, the strength of the expectancy determinant depends on past associations. Expectancy functions to link the activity to its consequences (Birch & Veroff, 1966).

Certain consequences have different incentive values. People indicate their attraction or repulsion to such consequences by their behavior. Incentive values are important in determining the strength of goal-directed behaviors. Consequences with positive incentive values determine the strength of a tendency to engage in an action, whereas situations are avoided when perceived consequences have negative incentive values. Some outcomes have more powerful incentive values than others. For example, winning a national race may have more positive incentive value than winning a town turkey-trot.

The strength of attraction to or repulsion from a general class of consequences is called the motive for that class. Motives are modifiers or mediators of incentives. If the incentive value of a given consequence is of a certain absolute strength, it will be made more attractive to a person with a higher motive for that consequence and less attractive for a person with a low motive for that consequence (Birch & Veroff, 1966). For example, the incentive value attached to winning will be higher for people with high achievement or power motives (Alderman, 1976).

Birch and Veroff (1966) postulated that a motive underlies each incentive.

This motive, the incentive itself, and related goal activities form a network of motivational variables called the incentive system. They delineated seven such incentive systems which, when taken together, account for most of an individual's major goal-directed (instrumental) behavior (Birch & Veroff, 1966). The seven systems are sensory, curiosity, affiliation, aggression, achievement, power, and independence. Sensory, curiosity, and achievement are asocial incentive systems and depend less directly on the responses of others.

Sensory incentives depend on the stimulation of sensory experiences or feelings. When an individual strives for release from tension or pressure due to stimulation or lack of stimulation, the sensory incentive is the kind of commodity in the environment that has the promise of alleviating this pressure condition. Individuals also often seek incentives that are independent of any deprivational state. Individuals often seek sensory incentives in sport. A person gets a good feeling when a skill is executed smoothly and correctly, or just from vigorous exercise. Negative sensory incentives operate when a person experiences physical pain, and this usually leads to avoidance. However, if other incentive systems operating concurrently strengthen the response or action, the physical pain one might feel during a tough workout might be tolerated if it helps the individual attain certain goals.

Goal activity of the curiosity incentive system is characterized by its focus on perceiving changes in stimulation. Such changes elicit the curiosity incentive when they are not changes in body functions in the sensory incentive system or changes of stimulation that are part of the definitions of other incentive systems (Birch & Veroff, 1966). The recognition by an individual of a change in the pattern of stimulation is all that is needed for the curiosity

incentive to occur. Curiosity is also heightened toward activities other than those that are being routinely performed at the present time. A certain level of new information or complexity is sought by the individual, but not too much.

Probably the major reason children participate in sport is the incentive value they attach to trying new things (Alderman, 1976). Sports are inherently complex and offer children constantly changing stimuli and complexity which motivate them to participate. The curiosity incentive in children is often linked to the achievement incentive. If children wish to master a task, through curiosity they are often able to achieve. In adults, these two incentives might diverge (Birch & Veroff, 1966). Perhaps adults do not perceive curiosity as an adequate reason for persisting at a task in order to excel.

The achievement incentive system characterizes goal activity centering on competition with some standard of excellence applied to an individual's performance. If a person's performance exceeds a previous one, that of some other person, or some external standard, that person is said to have successfully competed with a standard of excellence. In each of these areas of competition there is a potential achievement incentive, and the more difficult the task accomplished, the stronger the achievement incentive that can be derived. This is probably the master incentive system working in sport in our culture today (Alderman, 1976).

When people, especially children, are unaware of their own capabilities, they tend to lean heavily on absolute or external standards. However, once capabilities are realized, performance will be judged according to one's own capacities or relative standards of excellence. Once excellence is fully attained in sport, the individual usually shifts to another activity. The

strong incentive is striving toward success, not the enjoyment of success. However, many individuals never feel psychologically finished with the task. This seems to be the case in sport situations, where the essence of competition is excellence. Striving for excellence is a never-ending task in sport.

Three main response systems dominate the need for achievement. The first is competence, with the question being how important is it for a person to have skill in order to attain achievement incentives? If success was judged by relative standards (i.e., intraindividual comparison), one would almost always have high achievement motives. The second system is a sense of effectiveness (i.e., one's self-perceived efficacy or effectance). An individual's level of competence can exceed the perception of one's own competencies. The third response system is the importance of a sexual identity for successful achievement. Alderman (1976) claimed that achievement in sport has been linked to a masculine sexual identity and women have suffered because of it. Achievement behaviors are made readily available to boys, but are incompatible with ideas girls have about what to do with their lives. To retain their feminine identity, girls modify their efforts to achieve.

Deaux (1976) offered another view on the relationship of sex and the achievement motive. Recent research has concluded that both sexes have similar needs for achievement, but there is a difference in the kinds of activities and goals on which men and women focus their needs. Women are more concerned with social skills and interpersonal success than they are with academic or athletic task performance. While men may demonstrate achievement behavior in sport activity due to early training, women attempt to excel in social situations. According to this theory, it is the area of achievement that is different for

men and women, not the motive itself.

The affiliation incentive system is the attraction to other individuals in order to feel reassured by other people of one's acceptability. This reassurance is usually derived from other individuals perceived as similar to oneself. Affiliation is a strong incentive system for children's participation in sport (Alderman, 1976). A feeling of acceptance occurs when a child makes the team, and a feeling of rejection or social isolation can occur for the child who does not make the team or chooses not to participate in sport when all his/her friends participate.

The aggression incentive system is defined by Birch and Veroff (1966) as the condition of intentionally injuring another individual. This type of aggression is reactive--aggressive behavior that is exhibited with no other goals or objectives. This rarely occurs in sports, where most of aggressive behavior is instrumental--aggressive behavior directed toward obtaining goals not related to the aggression. One is aggressive in a football game so his team can score a touchdown or prevent the other team from scoring. Some theorists claim that the aggressive incentive is stimulated by a condition in which individuals recognize that an object or individual has directly frustrated them, or is related to some frustration they have experienced (Birch & Veroff, 1966). In sport situations, the agent of frustration, the opposing player, interferes with one's goals, and the aggressive incentive becomes more salient.

The power incentive system exists when satisfaction ultimately rests on the ability to have influence over the environment. Alfred Adler (cited in Birch & Veroff, 1966) considered power to be the major goal of all human activity. The power incentive operates when one controls or influences another person's

decisions, attitudes, and opinions. Coaches may be motivated by power incentives in needing to have control over their players. This incentive is also seen many times in players who try to win the spectators' approval. The desire of some individuals to resist the influence of others is also prevalent in sports today. Participants know that they can gain recognition, prestige, and status from peer groups and family through successful sport participation.

The remaining incentive system is that of independence. It is the accomplishment of an activity without help. The activity may be related to achievement, power, or affiliative goals. There is a difference, though, between power and independence. Under a power incentive, a person resists someone having control over a decision. In independence, the person resists another person's assistance in any given process. Individual athletes might be operating under this incentive if they have a desire to be independent and on their own. They enjoy training by themselves, succeeding by themselves, and even failing by themselves. Sport can be used in developing a child's desire to accomplish things on his/her own. Independent people tend to have achievement competence in their skill (Alderman, 1976).

These seven major incentive systems appear to fit very nicely into sport motivation theory. In essence, these incentives account for all of an individual's goal-directed behavior. But is sport goal-directed activity?

Martens (1975) stated that competitive behavior is task- or goal-oriented. Competitive behavior is oriented toward a goal in which others are of secondary importance. He also noted that competition (as in sport) is a learned response and cannot begin until children have reached certain levels of cognitive

tition process requires the individual to direct behavior
a remote goal.

plied motivation in sport involves coaches and teachers
tivation techniques to aid the athlete in achieving optimum
s been found that the setting of goals exerts a strong
the level of motivation and subsequent performance (Locke,
am, 1981). Success in sport is dependent on and relative to
y and/or perception of ability, which gives one a reasonable
mance at which to aim (Harter, 1978). To improve athletic
st strive constantly towards goals slightly beyond one's
n fact, often one's personal goals are foresaken in order to
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ected.

Past Research in Sport Motivation

ion becomes which of these incentive systems motivate athletes
cipate in sport and to continue their participation in sport.
ystem which is most salient in explaining sport participation?
hers have attempted to answer the question of why people are
(Ellis, 1973; Ogilvie, 1974). Researchers developed theories
national factors for involvement in sport based on field
in, 1972) and questionnaires (Alderman 1970, 1978; Reis &
p & Hauberstricker, 1978).

is, 1973) and high risk sports (Ogilvie, 1974), the need for
n as the primary motivating incentive. Ellis (1973) asserted
vior motivated by a need to increase the rate of stimulation.

The behaviors can be categorized as investigation, exploration, and manipulation of physical, social, and cognitive environments. The motives that sustain these behaviors are arousal-seeking and caused by the need to generate interactions with the environment or self. These motives stimulate one to an optimal level of arousal and enhance one's interest in the environment (Ellis, 1973). In other words, an individual's interaction with the environment can not remain static, and, to maintain information flow, the environment must contain new elements of increasing complexity, which is accomplished through play.

Ogilvie (1974) claimed that this need for stimulation is the factor motivating athletes in high risk sports, such as sky diving and race car driving. He categorized these people as "stimulus addicts," whose need for excitement is found at the outer limits of physical and emotional endurance. For these individuals, risk is exhilarating, stimulating, and sensual. Ogilvie claimed that, at the uppermost competitive level, men and women share identical personality structures--the human tendency to seek risk. They have a strong desire to be the best and have control (achievement, power), and an inclination to be apart (independence). High risk individuals are not counterphobic and do not have an unconscious death wish. The major factor motivating these "stimulus addicts" is the periodic need for extending themselves to absolute physical, emotional, and intellectual limits in order to escape from the tensionless state associated with everyday living (Ogilvie, 1974). Surely one would agree that curiosity and sensory are major incentive systems operating in these cases.

Other researchers have attempted to uncover the reasons athletes participate in sport by the use of various types of questionnaires. Some studies were

concerned with the motives of young children in sport (Alderman, 1978; Sapp & Haubenstricker, 1978), others examined college and championship athletes (Alderman, 1970; Jones & Williamson, 1976; Reis & Jelsma, 1978), and still others were concerned only with women's motives (Berlin, 1972; Gerber, Felshin, Berlin, & Wyrick, 1974; Lundegren, 1974). Although only Alderman (1978) related the work of Birch and Veroff (1966) directly to the motives of athletes, in almost all the studies one or more of the seven incentive systems are found to be major reasons for involvement in sport. With a closer look at these studies it may be possible to see how their findings relate to the Birch and Veroff incentives.

One of the first studies to examine the attitudes of athletes toward physical activity was done by Alderman (1970). Attitude is considered to be a relatively stable behavioral disposition reflecting one's direction and intensity of feeling toward an object (concrete or abstract). This was a useful unit of analysis for understanding the psycho-social aspect of sport and physical activity. Alderman used an Attitude Toward Physical Activity Inventory to question 136 athletes (male and female) from 10 different sports during the Pan-American games. The instrument consisted of six dimensions, or scales, for assessing one's attitudes toward physical activity.

The results indicated that males and females across all sports varied very little in their ratings of each of the six dimensions. Physical activity as an aesthetic experience (those activities thought of as possessing beauty or certain artistic qualities--sensory) had the most meaning, followed by social experience (provides a medium for social intercourse--affiliation), and catharsis (sport provides the release of tension precipitated by frustration--aggression). Soccer and water polo players proved to be the only exceptions, ranking

catharsis first. Sport as an ascetic experience (conceived of as requiring long, strenuous, painful training--negative sensory) ranked consistently last among the groups, except for swimmers and shooters who ranked social experience and vertigo (providing some risk to the individual, and an element of thrill and excitement--sensory) lower. When related to the seven incentive systems, the most meaningful dimension for all the athletes appeared to be achievement, sensory, affiliative, and aggressive incentives. These findings were consistent for men and women across all subgroups.

Jones and Williamson (1976) developed an Athletic Profile Inventory (API) to assess attitudes toward sport. API consists of 23 items to which the athlete responds on a 9-point Likert scale from "strongly agree" to "strongly disagree." The items are locker room slogans that represent the traditional range of attitudes that describe organized athletics. The items emphasize winning, achievement, hard work, sacrifice, and practice. High school and college students ($\underline{N}$ = 205) were tested, and it was found that three factors accounted for most of the variance. They were achievement, power, and affiliation. The strengths of the responses were in that order. However, Jones and Williamson (1976) did not report any differences among certain sports, between high school and college athletes, or between the sexes.

Reis and Jelsma (1978) were particularly interested in assessing sex differences in the motivation and self-perceptions of college athletes. As a result of Deaux's (1976) earlier finding, Reis and Jelsma (1978) hypothesized that males would be relatively more concerned with the competitive aspects of winning an athletic event than females. For males, the predominant focus of attention and energy would be competing, winning, and beating their opponent.

Related to the Birch and Veroff model, incentives derived from competition would be achievement and power. For females, the most salient factor would be the more participative elements in sport--interacting and working with other team members both in preparation and in competition (affiliation). This interaction might be classified as striving for excellence, if through working together individuals were able to meet or surpass personal standards. Sometimes personal goals can not be met without the cooperation of team members.

A sports questionnaire consisting of questions about athletes' sport experiences, feelings, opinions, and reasons for participation was devised. All items were constructed on a 7-point scale. The questions were divided into three major categories: reasons for participation, definition of a successful performance, and ego-involvement in particular aspects of engaging in sports. An equal number of males and females were tested, distributed across four sports in which there were both male and female teams. The results were consistent with their hypotheses.

On all questions dealing with competition, winning, and beating one's opponent, males scored higher than females. Those items concerned with participation in the game and interaction with one's teammates and opponents were rated as being more important by the females. There were no differences in enjoyment of the sport or desire to perform well. Both males and females were extremely concerned with playing well. This would indicate that the achievement motive was predominant for both males and females, but operating next in importance for the males was the power incentive, whereas the affiliative incentive was rated second in importance for the females.

Berlin (1972), Gerber et al. (1974), and Lundegren (1974) specifically

looked at factors motivating women athletes. Although different methods of data collection were used, some consistent findings surfaced from these studies. Gerber et al. (1974) listed seven reasons why women react positively toward physical activity. They bear close resemblance to some of Birch and Veroff's incentive systems. The reasons include the (a) simple joy of physical movement (sensory), (b) special enjoyment of a particular type of favored sport (sensory), (c) productive effort combined with satisfaction of competition (achievement), (d) delight of exercising in the open air and the pleasure of nature (sensory), (e) contact possibilities with sport-minded people (affiliation), (f) health benefits of physical exercise, and (g) reduction of body fat.

It would appear that the major incentive systems operating here are sensory, achievement, and affiliation. It might be difficult to compare these results to other studies because the level of participation in the Gerber et al. (1974) research is not known, and this might influence the type of motives salient for each group.

Using the Q-sort technique, Lundegren (1974) examined motivational factors of women in physical education. Lundegren found most physical education majors fall within one of the following groups:

1. Straight Arrows--participate in physical activity to be physically fit, mentally fit, alert, stable, and to feel better.

2. Show-offs--participate in sports as a means to become known by people, show off their skills, and make an impression. They are keen on winning (achievement and power).

3. Groupies--participate in physical activity in order to be part of something and feel included (affiliation).

4. Givers--want to learn to work with people and help their community through sports participation (affiliation).

Berlin (1972) used the Q-sort technique to test women on varsity athletic teams. Several motivational factors accounted for the athletes' desire to engage in competitive sports. There was an element of uncertainty and challenge among the first set of statements. The next set of statements was designated "to maneuver for accomplishment" (Berlin, 1972). The notion of competence and effectiveness in relation to achievement was represented by this factor. The third factor reflected the expressions of ambitions and a sense of involvement. It was labeled gratification of role interests. Factor 4 was entitled consequences of affiliation. Factor 5 was labeled satisfaction of adjustment and recognition, accepting both the positive and negative aspects of training. Berlin (1972) found three pervasive motives were revealed in the competitive sport experience: contribution to a person's self-regard, challenges for the attainment of mastery, and the opportunity for expression and interaction. All these fit very nicely into the Birch and Veroff (1966) model of incentive motivation.

Two studies have examined the motivation of children in sport (Alderman, 1978; Sapp & Haubenstricker, 1978). Sapp and Haubenstricker (1978) administered questionnaires to athletes 11-18 years of age asking if they agreed, disagreed, or had no opinion on statements concerning their reasons for joining a youth sport program. The results were quite consistent. The major reason indicated by both boys and girls for their involvement in sport was to have fun. This was followed by participation to improve their skills and to become physically fit. Participation because their friends were involved was also one of the

major reasons for joining a sport program. Very few boys or girls participated in order to feel important. This study suggests that sensory and achievement are the main incentives operating in children's sports, with affiliation being a close third.

These findings are very similar to those found by Alderman (1978). Using the theoretical model of Birch and Veroff, Alderman modified the seven incentive systems to be specific to sport, and arrived at seven slightly different motive-incentive systems: affiliation, success, excellence, aggression, stress, power, and independence. Stress incentives focus on the excitement, pressure, and tension that sport can provide. Excellence incentives are characterized by the opportunity to do something well for its own sake or to do it better than anyone else, whereas success incentives are seen as being attached to extrinsic rewards of sport such as status, prestige, and recognition.

The two strongest and most consistent incentive systems for young athletes were affiliation and excellence, with stress being a consistent third. Aggression and independence were not viewed as important, even in individual and physical contact sports. In addition, Alderman found children to be motivated by the same incentives regardless of age, sex, sport, or culture. Unfortunately, Alderman does not report the groups of children used for this research.

So far, Alderman has been the only investigator to apply the seven Birch and Veroff incentive systems directly to sport. His results closely resemble the results of other researchers. Even though different techniques were used, the findings in all the other research relate back to those seven incentive systems. Certain incentives seem to dominate others. Achievement, sensory,

and affiliation surface in the majority of the studies. The other incentives comprise the rest of sport-motivated behavior.

However, some questions remain unanswered. Various studies have yielded contradictory results with respect to age, sex, and sport. Although Alderman found no differences in children's motivated behavior, might not there be some differences as the athletes approach college age? Perhaps there is an age level at which sex differences begin to emerge. The results of the research of Reis and Jelsma (1978) seem to imply this. As noted previously, they found sex differences among college athletes. Questions dealing with competition, winning, and beating one's opponent were more salient for men than women. Items concerned with participation in the game and interaction with one's teammates and opponents were rated as being more important by females. These findings are consistent with sex differences found for the achievement motive (Deaux, 1976).

An Alternative Approach for Studying Incentive Motivation

In order to understand human behavior in its full content and meaning, methodologies need to be devised to capture important aspects of person-situation variables (Fisher, 1980). Psychological scaling, of which Thurstone's (1927) law of comparative judgment is an example, is a methodology for constructing scales in order to measure a variety of psychological attributes, such as motives and incentives, that remain resistant to traditional types of measurement. Scaling procedures, both unidimensional and multidimensional, appear to be undergoing a rebirth in the psychological literature. These techniques may offer alternative means of collecting sport-specific data.

Thurstonian scaling is a method of paired comparisons whereby stimuli

(often statements) are presented in pairs. Subjects are asked to discriminate between the paired comparisons according to which statement is more salient or preferred. These data are described as dominance data and result in a matrix in which each cell contains a measure of the extent to which the column statement dominates (i.e., is chosen over) the row statement (Fisher, 1980). If the research involves comparative judgments by a number of individuals, with each paired comparison being judged once by each individual, then Case V of Thurstone's law of comparative judgment should be used. The Case V model assumes normality of distribution of discriminal processes and unidimensionality of the psychological continuum (Edwards, 1957).

The following key postulates underlie the scaling procedure model (Torgerson, 1958): (a) each statement gives rise to a discriminal process (i.e., means by which individual identifies, distinguishes, and reacts to stimuli) that has some value on the psychological continuum of interest, (b) on repeated judgments by the same individual or judgments by a large number of individuals there will be fluctuations in the discriminal process of each stimulus, and the resultant frequency distribution for each stimulus will be normal, (c) the mean and standard deviation associated with a given stimulus are taken as the scale value and discriminal dispersion, respectively.

It is important to control for possible biases in the discriminal process. Spatial and temporal errors can be reduced by keeping pairs which have stimuli in common separated in order of presentation. Most errors can be sufficiently controlled by randomizing relative positions and orders (Torgerson, 1958).

Fisher (1980) illustrated the use of Thurstonian scaling by using a statement to represent each of the Birch and Veroff (1977) seven major incentive

systems. A pool of statements was rated by a panel of judges to determine which statement best represented each incentive system. High school athletes made comparative judgments of the incentive systems, presented in all possible pairs. This resulted in a f matrix, which indicated the frequencies with which column statements dominated row statements. The frequencies were then transformed into proportions and expressed as unit normal deviates. Scale separations were then represented as z scores. Scale values for each incentive were derived from the z matrix and presented on a continuum, which represented the hierarchical order of the incentives of the athletes.

Until recently dimensional scaling procedures have been absent from sport research literature. More recently Kroll (1976, 1977a, 1977b) derived statements from established codes of ethics and used Thurstonian scaling procedures to map the dimensions of sportsmanship for athletes, officials, coaches, and spectators. Many forms of cognitive and affective constructs could be investigated by the comparative judgment method. Attitudes, values, and opinions are representative of these types of constructs.

Thurstonian scaling can also be used with ordinal data when it is important to determine the intervals between rankings. In this way, ordinal data can be transformed into interval data (Fisher, 1980; Torgerson, 1958). It is more difficult to discriminate among items that fall in the middle of a ranking than among items ranked high or low. Thurstonian scaling simplifies the ranking process, as only two items are presented at a time. This may be especially appropriate for children. It is easier to answer the question, "What motivates you to participate in sport?," when the incentives are presented in pairs rather than in a long list. Thurstonian scaling may prove to be an effective way of deciphering the

incentives most salient for male and female athletes of all ages.

Chapter 3

METHODS AND PROCEDURES

The methods and procedures employed in collecting and interpreting the data are included within this chapter. The chapter is divided into the following areas: selection of subjects, selection and description of testing instrument, methods of data collection, and treatment of data.

Selection of Subjects

The subjects (N = 389) involved in this study were male and female members of youth sport, high school, and college baseball, softball, and track teams in the central New York area during the 1979 season. The investigator spoke with each team individually, at either the beginning or the end of one of the practices, and asked the athletes if they would donate 10 minutes of their time to complete a questionnaire. Informed consent was obtained from those who volunteered. Youth sport teams were visited twice. On the first visit the study was explained and parent informed consent forms were distributed. On the second visit, those athletes who did not return the form (thereby indicating consent) were used as subjects.

Selection and Description of Testing Instrument

Birch and Veroff (1966) proposed that seven major incentive systems account for most of our goal-directed behavior. These incentives are sensory, curiosity, affiliation, aggression, achievement, power, and independence. Statements were written to represent each incentive system, and a group of judges (N = 13) were then asked to decide which statement best represented each incentive system. Examples were given to assist in the meaning of each statement. Both the affiliation statement and the achievement statement were two-dimensional in their meaning and were, therefore, each divided into two statements. The end result of

this process can be seen in Table 1.

From these statements, a Sport Motivation Preference Scale (SMPS) was constructed. Statements were presented in pairs, with each statement in the top position half the time and in the bottom position half the time. The 36 pairs (see Appendix A) were then placed in a random order on the questionnaire. Subjects were requested to read each pair of statements, decide which statement from each pair better reflected their reason for participation in sport, and then place a check beside their choice.

Method of Data Collection

The coaches of the teams were contacted by telephone, and the purpose of the investigation was outlined. Permission was obtained from the coaches, and times and dates were arranged for the investigator to collect the data from the athletes. The testing was done for each team either before or after a regular practice session, whichever the coach preferred. Youth sport teams were visited twice. The first time the study was explained and parent informed consent forms (Appendix B) were distributed. On the second visit the athletes who did not return the parent consent form completed the SMPS.

The experimenter explained the purpose of the study and asked the athletes to take 10 minutes to complete a questionnaire. Informed consent forms (Appendix C), the SMPS, and pencils were distributed to team members. Those who chose to participate completed the questionnaire at that time and returned it to the experimenter.

Treatment of Data

Data were placed on a matrix indicating the number of times (frequency) the incentive systems in columns dominated (i.e., were chosen over) the incentive systems in rows. The frequency matrix was transformed to a proportion (p) matrix

Table 1

Statements Representing the Incentive Systems

Incentive Systems	Statements
Achievement (Exc)	I want to be the best I can be
Achievement (Suc)	I want to be a winner
Affiliation (Aff_f)	I can be with my friends
Affiliation (Aff_g)	I like to be part of a group
Aggression (Agg)	I can express my aggressive nature
Curiosity (C)	I like to try new things
Independence (I)	I like to do things by myself
Power (P)	I can control my opponents
Sensory (S)	I enjoy the thrills

that was subjected to $\underline{z}$ transformation (Edwards, 1957). From the $\underline{z}$ transformation, each column in the matrix was summed and then divided by the number of $\underline{z}$ scores in that column. A constant was added to the mean $\underline{z}$ values to eliminate negative values. The resultant scale scores were then plotted on separate continuums for male and female groups and for different age groups.

An internal consistency check, a measure of the discrepancy between observed proportions and those expected from derived scale values, assessed the adequacy of the scaled values along the psychological continuum for each of the five groups (Edwards, 1957). This provided an indication of how well the Thurstonian (1927) model fit the data. The discrepancies between the observed and theoretical proportions were tested by a χ^2 test of significance (Mosteller, 1951). The Case V model assumes normality of distribution of the discriminal process (i.e., the standard deviation of the distribution of scores around the scale value) and unidimensionality of the psychological continuum (Thurstone, 1927). In reality, however, the test of significance is primarily sensitive to a lack of unidimensionality (Mosteller, 1951). If the discrepancies between the observed and theoretical proportions were significant, corrected scale values were computed (Edwards, 1957).

The rank ordering of incentive systems between male and female athletes, and among youth sport, high school, and college athletes was assessed by Spearman rank-order correlation. Where appropriate to test hypotheses, the relative importance of the incentive systems in question were derived by dividing one system's scale value by that of another. This was possible because of the interval scale properties of the psychological continuum (Fisher, 1980).

Kendall's (1948) coefficient of agreement assessed within-groups agreement, or the degree to which male and female and youth sport, high school, and college

athletes agreed on their comparative judgments of incentive systems.

Chapter 4

RESULTS

The analysis of data in this chapter deals with the following topics: a schematic representation of incentive statements, the internal consistency of the incentives, the within-groups coefficient of agreement, and the commonality of incentive systems for sex and age groups.

Schematic Representation of Incentives

The proportion of times that the incentive systems in columns were judged more favorable than the incentive systems in rows by male athletes is seen in Table 2. For example, excellence was favored over curiosity by 81% of the male athletes. The z matrix corresponding to the p entries is seen in Table 3, along with the scaled values for the incentives. Table 4 represents the proportion matrix for female athletes with the corresponding z matrix presented in Table 5.

The proportion of times the incentive systems in columns were judged more favorable than the incentive systems in rows by youth sport, high school, and college athletes is presented in Tables 6, 8, and 10, respectively. Tables 7, 9, and 11 show the z matrices corresponding to the p entries for youth sport, high school, and college athletes.

Internal Consistency of Incentive Continuums

Comparisons of observed proportions (Tables 2, 4, 6, 8, and 10) and expected proportions derived from scaled values (Tables 3, 5, 7, 9, and 11) are reported in this section. The discrepancies between the observed and theoretical proportions were tested by a chi-square test of significance (Mosteller, 1951). The average absolute discrepancies for the groups in this study were as follows: male athletes--.044, χ^2 (28) = 57.41, $p < .05$; female athletes--.044,

Table 2

p Matrix of Incentive Systems

for Male Athletes (n = 199)

Incentives	C	S	Agg	Ind	Pow	Aff_f	Aff_g	Suc	Exc
C	___	.60	.37	.33	.27	.42	.52	.64	.81
S	.40	___	.30	.33	.35	.48	.40	.63	.76
Agg	.63	.70	___	.56	.40	.66	.61	.79	.82
Ind	.67	.67	.44	___	.40	.68	.64	.73	.84
Pow	.73	.65	.60	.60	___	.67	.62	.83	.86
Aff_f	.58	.52	.34	.32	.33	___	.57	.64	.72
Aff_g	.48	.60	.39	.36	.38	.43	___	.67	.82
Suc	.36	.37	.21	.27	.17	.36	.33	___	.72
Exc	.19	.24	.16	.16	.14	.28	.18	.28	___

Table 3

$\underline{z}$ Matrix of Incentive Systems for

Male Athletes ($\underline{n}$ = 199)

Incentives	C	S	Agg	Ind	Pow	Aff_f	Aff_g	Suc	Exc
C	.000	.254	-.332	-.440	-.613	-.202	.051	.359	.878
S	-.254	.000	-.525	-.440	-.386	-.051	-.254	.332	.707
Agg	.332	.525	.000	.151	-.254	.413	.280	.807	.916
Ind	.440	.440	-.151	.000	-.254	.468	.359	.613	.995
Pow	.613	.386	.254	.254	.000	.440	.306	.955	1.081
Aff_f	.202	.051	-.413	-.468	-.440	.000	.177	.359	.583
Aff_g	-.051	.254	-.280	-.359	-.306	-.177	.000	.440	.916
Suc	-.359	-.332	-.807	-.613	-.955	-.359	-.440	.000	.583
Exc	-.878	-.707	-.916	-.995	-1.081	-.583	-.916	-.583	.000
Sums	.045	.871	-3.170	-2.910	-4.289	-.051	-.437	3.282	6.659
Means	.005	.097	-.352	-.323	-.477	-.006	-.049	.365	.740
Means + .477	.482	.573	.124	.153	.000	.471	.428	.841	1.216

Table 4

p Matrix of Incentive Systems for

for Female Athletes (n = 190)

Incentives	C	S	Aff	Ind	Pow	Aff_f	Aff_g	Suc	Exc
C	___	.48	.17	.27	.16	.31	.44	.28	.73
S	.52	___	.26	.34	.19	.40	.36	.44	.72
Agg	.83	.74	___	.63	.38	.70	.76	.74	.86
Ind	.73	.66	.37	___	.26	.52	.62	.61	.82
Pow	.84	.81	.62	.74	___	.83	.84	.83	.97
Aff_f	.69	.60	.30	.48	.17	___	.77	.55	.79
Aff_g	.56	.64	.24	.38	.16	.23	___	.45	.81
Suc	.72	.56	.26	.39	.17	.45	.55	___	.85
Exc	.27	.28	.14	.18	.03	.21	.19	.15	___

Table 5

z Matrix of Incentive Systems for

Female Athletes (n = 190)

Incentives	C	S	Agg	Ind	Pow	Aff_f	Aff_g	Suc	Exc
C	.000	-.051	-.955	-.613	-.995	-.496	-.151	-.583	.613
S	.051	.000	-.644	-.413	-.878	-.254	-.359	-.151	.583
Agg	.955	.644	.000	.332	-.306	.525	.707	.644	1.081
Ind	.613	.413	-.332	.000	-.644	.051	.306	.280	.916
Pow	.995	.878	.306	.644	.000	.955	.995	.955	1.881
Aff_f	.496	.254	-.525	-.051	-.955	.000	.739	.126	.807
Aff_g	.151	.359	-.707	-.306	-.995	-.739	.000	-.126	.878
Suc	.583	.151	-.644	-.280	-.955	-.126	.126	.000	1.037
Exc	-.613	-.583	-1.081	-.916	-1.881	-.807	-.878	-1.037	.000
Sums	3.231	2.065	-4.582	-1.603	-7.609	-.891	1.485	.108	7.796
Means	.359	.229	-.509	-.178	-.845	-.099	.165	.012	.866
Means + .845	1.204	1.075	.336	.667	.000	.746	1.010	.857	1.712

Table 6

p Matrix of Incentive Systems

for Youth Sport Athletes (n = 58)

Incentives	C	S	Agg	Ind	Pow	Aff_f	Aff_g	Suc	Exc
C	___	.52	.28	.17	.19	.52	.60	.33	.57
S	.48	___	.36	.24	.36	.69	.60	.52	.60
Agg	.72	.64	___	.29	.29	.74	.74	.57	.66
Ind	.83	.76	.71	___	.38	.90	.90	.74	.78
Pow	.81	.64	.71	.62	___	.81	.79	.74	.84
Aff_f	.48	.31	.26	.10	.19	___	.55	.45	.47
Aff_g	.40	.40	.26	.10	.21	.45	___	.40	.64
Suc	.67	.48	.43	.26	.26	.55	.60	___	.83
Exc	.43	.40	.34	.22	.16	.53	.36	.17	___

Table 7

z Matrix of Incentive Systems

for Youth Sport Athletes (n = 58)

Incentives	C	S	Agg	Ind	Pow	Aff_f	Aff_g	Suc	Exc
C	.000	.051	-.583	-.955	-.878	.051	.254	-.440	.177
S	-.051	.000	-.359	-.707	-.359	.496	.254	.051	.254
Agg	.583	.359	.000	-.554	-.554	.644	.644	.177	.413
Ind	.955	.707	.554	.000	-.306	1.282	1.282	.644	.773
Pow	.878	.359	.554	.306	.000	.878	.807	.644	.995
Aff_f	-.051	-.496	-.644	-1.282	-.878	.000	.126	-.126	-.076
Aff_g	-.254	-.254	-.644	-1.282	-.807	-.126	.000	-.254	.359
Suc	.440	-.051	-.177	-.644	-.644	.126	.254	.000	.955
Exc	-.177	-.254	-.413	-.773	-.995	.076	-.359	-.955	.000
Sums	2.323	.421	-1.712	-5.891	-5.421	3.427	3.262	-.259	3.850
Means	.258	.047	-.190	-.655	-.602	.381	.362	-.029	.428
Means + .655	.913	.701	.464	.000	.052	1.035	1.017	.626	1.081

Table 8

p Matrix of Incentive Systems

for High School Athletes (n = 214)

Incentives	C	S	Agg	Ind	Pow	Aff_f	Aff_g	Suc	Exc
C	___	.48	.27	.32	.26	.37	.48	.44	.78
S	.52	___	.30	.37	.28	.47	.41	.56	.77
Agg	.73	.70	___	.61	.38	.68	.71	.76	.85
Ind	.68	.63	.39	___	.35	.58	.63	.65	.83
Pow	.74	.72	.62	.65	___	.74	.70	.79	.88
Aff_f	.63	.53	.32	.42	.26	___	.66	.63	.80
Aff_g	.52	.59	.29	.37	.30	.34	___	.53	.82
Suc	.56	.44	.24	.35	.21	.37	.47	___	.78
Exc	.22	.23	.15	.17	.12	.20	.18	.22	___

Table 9

$\underline{z}$ Matrix of Incentive Systems

for High School Athletes ($\underline{n}$ = 214)

Incentives	C	S	Agg	Ind	Pow	Aff_f	Aff_g	Suc	Exc
C	.000	-.051	-.613	-.468	-.644	-.332	-.051	-.151	.773
S	.051	.000	-.525	-.332	-.583	-.076	-.228	.151	.739
Agg	.613	.525	.000	.280	-.306	.468	.554	.707	1.037
Ind	.468	.332	-.280	.000	-.386	.202	.232	.386	.955
Pow	.644	.583	.306	.386	.000	.644	.525	.807	1.175
Aff_f	.332	.076	-.468	-.202	-.644	.000	.413	.332	.842
Aff_g	.051	.228	-.554	-.332	-.525	-.413	.000	.076	.916
Suc	.151	-.151	-.707	-.386	-.807	-.332	-.076	.000	.773
Exc	-.773	-.739	-1.037	-.955	-1.175	-.842	-.916	-.773	.000
Sums	1.537	.803	-3.878	-2.009	-5.070	-.681	.553	1.535	7.210
Means	.171	.089	-.431	-.223	-.563	-.076	.061	.171	.801
Means + .563	.734	.653	.132	.340	.000	.488	.625	.734	1.364

Table 10

p Matrix of Incentive Systems

for College Athletes (n = 117)

Incentives	C	S	Agg	Ind	Pow	Aff_f	Aff_g	Suc	Exc
C	___	.67	.28	.34	.24	.28	.43	.56	.85
S	.33	___	.20	.32	.23	.26	.21	.50	.75
Agg	.72	.80	___	.72	.46	.65	.62	.87	.92
Ind	.66	.68	.28	___	.26	.48	.50	.66	.86
Pow	.76	.77	.54	.74	___	.74	.74	.93	.92
Aff_f	.72	.74	.35	.52	.26	___	.65	.61	.82
Aff_g	.57	.79	.38	.50	.26	.35	___	.69	.89
Suc	.44	.50	.13	.34	.07	.39	.31	___	.77
Exc	.15	.25	.08	.14	.08	.18	.11	.23	___

Table 11

z Matrix of Incentive Systems

for College Athletes (n = 117)

Incentives	C	S	Agg	Ind	Pow	Aff_f	Aff_g	Suc	Exc
C	.000	.440	-.583	-.413	-.707	-.583	-.177	.151	1.037
S	-.440	.000	-.842	-.468	-.739	-.644	-.807	.000	.675
Agg	.583	.842	.000	.583	-.101	.386	.306	1.127	1.406
Ind	.413	.468	-.583	.000	-.644	-.051	.000	.413	1.081
Pow	.707	.739	.101	.644	.000	.644	.644	1.476	1.406
Aff_f	.583	.644	-.386	.051	-.644	.000	.386	.280	.916
Aff_g	.177	.807	-.306	.000	-.644	-.386	.000	.496	1.227
Suc	-.151	.000	-1.127	-.413	-1.476	-.280	-.496	.000	.739
Exc	-1.037	-.675	-1.406	-1.081	-1.476	-.916	-1.227	-.739	.000
Sums	.835	3.365	-5.132	-1.097	-6.361	-1.830	-1.371	3.204	8.487
Means	.093	.363	-.570	-.122	-.707	-.203	-.152	.356	.943
Means + .707	.800	1.070	.137	.585	.000	.503	.554	1.063	1.650

χ^2 (28) = 113.15, $p < .05$; youth sport athletes--.054, χ^2 (28) = 43.58, $p < .05$; high school athletes--.031, χ^2 (28) = 50.73, $p < .05$; and college athletes--.041, χ^2 (28) = 60.71, $p < .05$.

Significant chi squares indicated that the assumptions of the Thurstonian (1927) Case V model were violated, especially the postulated unidimensionality of the psychological continuum. Chi-square analyses raised doubts about the credibility of the Case V postulates for the current data. The scaled values of the incentive systems (Tables 3, 5, 7, 9, and 11) were derived from a procedure in which equality of discriminal dispersions was assumed. In cases where the empirical and theoretical proportions are found to be significantly different, it has been suggested that stimuli be scaled using the Case III model (Edwards, 1957). The Case III model does not assume equality of discriminal dispersions, but instead utilizes the discrepancies to scale the stimuli values.

Discriminal dispersions of the incentive systems for each group were calculated, and corrected z matrices were derived. The discriminal dispersions of incentive systems for male, female, youth sport, high school, and college athletes can be seen in Tables 12, 14, 16, 18, and 20, respectively. Corrected z matrices, along with revised scaled values of the incentives for male, female, youth sport, high school, and college athletes are presented in Tables 13, 15, 17, 19, and 21.

Figure 1 displays the unidimensional relationship among the nine incentive systems for male and female athletes separately. Figure 2 represents the spatial relationships of the incentives systems for youth sport, high school, and college athletes, each along their respective single continuum.

Table 12

Discriminal Dispersions of Incentive Systems

for Male Athletes

Incentives	Discriminal Dispersions
Achievement (Exc)	1.378
Achievement (Suc)	.721
Affiliation (Aff_f)	1.079
Affiliation (Aff_g)	.857
Aggression (Agg)	1.107
Curiosity (C)	.698
Independence (I)	.975
Power (P)	1.231
Sensory (S)	.953

Table 13

Corrected z Matrix of Incentive Systems

for Male Athletes (n = 199)

Incentives	C	S	Agg	Ind	Pow	Aff_f	Aff_g	Suc	Exc
C	.000	.301	-.435	-.528	-.867	-.260	.056	.360	1.356
S	-.300	.000	-.767	-.600	-.601	-.073	-.326	.397	1.184
Agg	.435	.767	.000	.223	-.421	.638	.392	1.066	1.619
Ind	.528	.600	-.223	.000	-.399	.680	.466	.744	1.680
Pow	.867	.601	.421	.399	.000	.720	.459	1.363	1.998
Aff_f	.260	.073	-.638	-.680	-.720	.000	.244	.466	1.020
Aff_g	-.056	.326	-.392	-.466	-.459	-.244	.000	.493	1.487
Suc	-.360	-.397	-1.066	-.744	-1.363	-.466	-.493	.000	.907
Exc	-1.356	-1.184	-1.619	-1.680	-1.998	-1.020	-1.487	-.907	.000
Sums	-.018	1.086	-4.719	-4.076	-6.828	-.025	-.689	3.982	11.251
Means	-002	.121	-.524	-.453	-.759	-.003	-.077	.442	1.250
Means + .759	.761	.879	.234	.306	.000	.756	.682	1.201	2.009

Table 14

Discriminal Dispersions of Incentive Systems for Female Athletes

Incentives	Discriminal Dispersions
Achievement (Exc)	1.032
Achievement (Suc)	.698
Affiliation (Aff_f)	.876
Affiliation (Aff_g)	.713
Aggression (Agg)	1.307
Curiosity (C)	.984
Independence (I)	1.146
Power (P)	.946
Sensory (s)	1.398

Table 15

Corrected $\underline{z}$ Matrix of Incentive Systems

for Female Athletes ($\underline{n}$ = 190)

Incentives	C	S	Agg	Ind	Pow	Aff_f	Aff_g	Suc	Exc
C	.000	-.087	-1.562	.926	-1.358	-.621	-.183	.703	.874
S	.087	.000	-1.233	-.747	-1.482	-.406	-.563	-.236	1.013
Agg	1.562	1.233	.000	.577	-.494	.798	1.053	.954	1.800
Ind	.926	.747	-.577	.000	-.957	.071	.413	.376	1.412
Pow	1.358	1.482	.494	.957	.000	1.169	1.179	1.123	2.633
Aff_f	.621	.406	-.798	-.071	-1.169	.000	.779	.132	1.042
Aff_g	.183	.563	-1.053	-.413	-1.179	-.779	.000	-.126	1.101
Suc	.703	.236	-.954	-.376	-1.123	-.132	.126	.000	1.292
Exc	-.874	-1.013	-1.800	-1.412	-2.633	-1.042	-1.101	-1.292	.000
Sums	4.566	3.567	-7.483	-2.411	-10.395	-.942	.703	.228	11.167
Means	.507	.396	-.831	-.268	-1.155	-.105	.189	.025	1.241
Means + 1.155	1.662	1.551	.324	.887	.000	1.050	1.344	1.180	2.396

Table 16

Discriminal Dispersions of Incentive Systems

for Youth Sport Athletes

Incentives	Discriminal Dispersions
Achievement (Exc)	1.212
Achievement (Suc)	.733
Affiliation (Aff_f)	.841
Affiliation (Aff_g)	.813
Aggression (Agg)	.852
Curiosity (C)	.890
Independence (I)	.649
Power (P)	1.668
Sensory (S)	1.342

Table 17

Corrected z Matrix of Incentive Systems

for Youth Sport Athletes (n = 58)

Incentives	C	S	Agg	Ind	Pow	Aff_f	Aff_g	Suc	Exc
C	.000	.082	-.718	-1.051	-1.660	.062	.306	-.507	.266
S	-.082	.000	-.571	-1.054	-.769	.786	.399	.078	.459
Agg	.718	.571	.000	-.593	-1.038	.771	.759	.199	.612
Ind	1.051	1.054	.593	.000	-.548	1.361	1.333	.630	1.063
Pow	1.660	.769	1.038	.548	.000	1.640	1.498	1.173	2.052
Aff_f	-.062	-.786	-.771	-1.361	-1.640	.000	.147	-.141	-.112
Aff_g	-.306	-.399	-.759	-1.333	-1.498	-.147	.000	-.278	.524
Suc	.507	-.078	-.199	-.630	-1.173	.144	.278	.000	1.352
Exc	-.266	-.459	-.612	-1.063	-2.052	.112	-.524	-1.352	.000
Sums	3.220	.754	-1.999	-6.537	-10.378	4.726	4.196	-.198	6.216
Means	.358	.084	-.222	-.726	-1.153	.525	.466	-.022	.691
Means + 1.153	1.511	1.237	.931	.427	.000	1.678	1.619	1.131	1.844

Table 18

Discriminal Dispersions of Incentive Systems

for High School Athletes

Incentives	Discriminal Dispersions
Achievement (Exc)	1.435
Achievement (Suc)	.705
Affiliation (Aff_f)	.738
Affiliation (Aff_g)	.738
Aggression	1.041
Curiosity (C)	.877
Independence (I)	.989
Power (P)	1.460
Sensory (S)	1.017

Table 19

Corrected z Matrix of Incentive Systems

for High School Athletes (n = 214)

Incentives	C	S	Agg	Ind	Pow	Aff_f	Aff_g	Suc	Exc
C	.000	-.068	-.834	-.619	-1.097	-.380	-.058	-.170	1.300
S	.068	.000	-.764	-.471	-1.037	-.096	-.287	.187	1.300
Agg	.834	.764	.000	.402	-.549	.597	.707	.889	1.839
Ind	.619	.471	-.402	.000	-.681	.249	.410	.469	1.665
Pow	1.097	1.037	.549	.681	.000	1.054	.859	1.308	2.405
Aff_f	.380	.096	-.597	-.249	-1.054	.000	.431	.339	1.359
Aff_g	.058	.287	-.707	-.410	-.859	-.431	.000	.078	1.478
Suc	.170	-.187	-.889	-.469	-1.308	-.339	-.078	.000	1.236
Exc	-1.300	-1.300	-1.839	-1.665	-2.405	-1.359	-1.478	-1.236	.000
Sums	1.926	1.100	-5.483	-2.800	-8.990	-.705	-.506	1.864	2.582
Means	.214	.122	-.609	-.311	-.999	-.070	-.056	.207	1.398
Means + .999	1.213	1.121	.390	.688	.000	.921	1.055	1.206	2.397

Table 20

Discriminal Dispersions of Incentive Systems

for College Athletes

Incentives	Discriminal Dispersions
Achievement (Exc)	1.397
Achievement (Suc)	.620
Affiliation (Aff_f)	1.096
Affiliation (Aff_g)	.752
Aggression (Agg)	1.124
Curiosity (C)	.846
Independence (I)	.940
Power (P)	1.125
Sensory (S)	1.101

Table 21

Corrected $\underline{z}$ Matrix of Incentive Systems

for College Athletes ($\underline{n}$ = 117)

Incentives	C	S	Agg	Ind	Pow	Aff_f	Aff_g	Suc	Exc
C	.000	.611	-.820	-.522	-.995	-.807	-.200	.158	1.693
S	-.611	.000	-1.324	-.678	-1.163	-1.001	-1.076	.000	1.201
Agg	.820	1.324	.000	.854	-.161	.606	.414	1.447	2.521
Ind	.522	.678	-.854	.000	-.944	-.074	.000	.465	1.820
Pow	.995	1.163	.161	.944	.000	1.012	.871	1.897	2.522
Aff_f	.807	1.001	-.606	-.074	-1.012	.000	.513	.353	1.627
Aff_g	.200	1.076	-.414	.000	-.871	-.513	.000	.484	1.947
Suc	-.158	.000	-1.447	-.465	-1.897	-.353	-.484	.000	1.129
Exc	-1.693	-1.201	-2.521	-1.820	-2.522	-1.627	-1.947	-1.129	.000
Sums	.822	4.652	-7.825	-1.613	-9.565	-2.757	-1.909	3.675	14.460
Means	.098	.517	-.869	-.179	-1.063	-.306	-.212	.408	1.607
Means + 1.046	1.161	1.580	.193	.884	.000	.756	.851	1.471	2.669

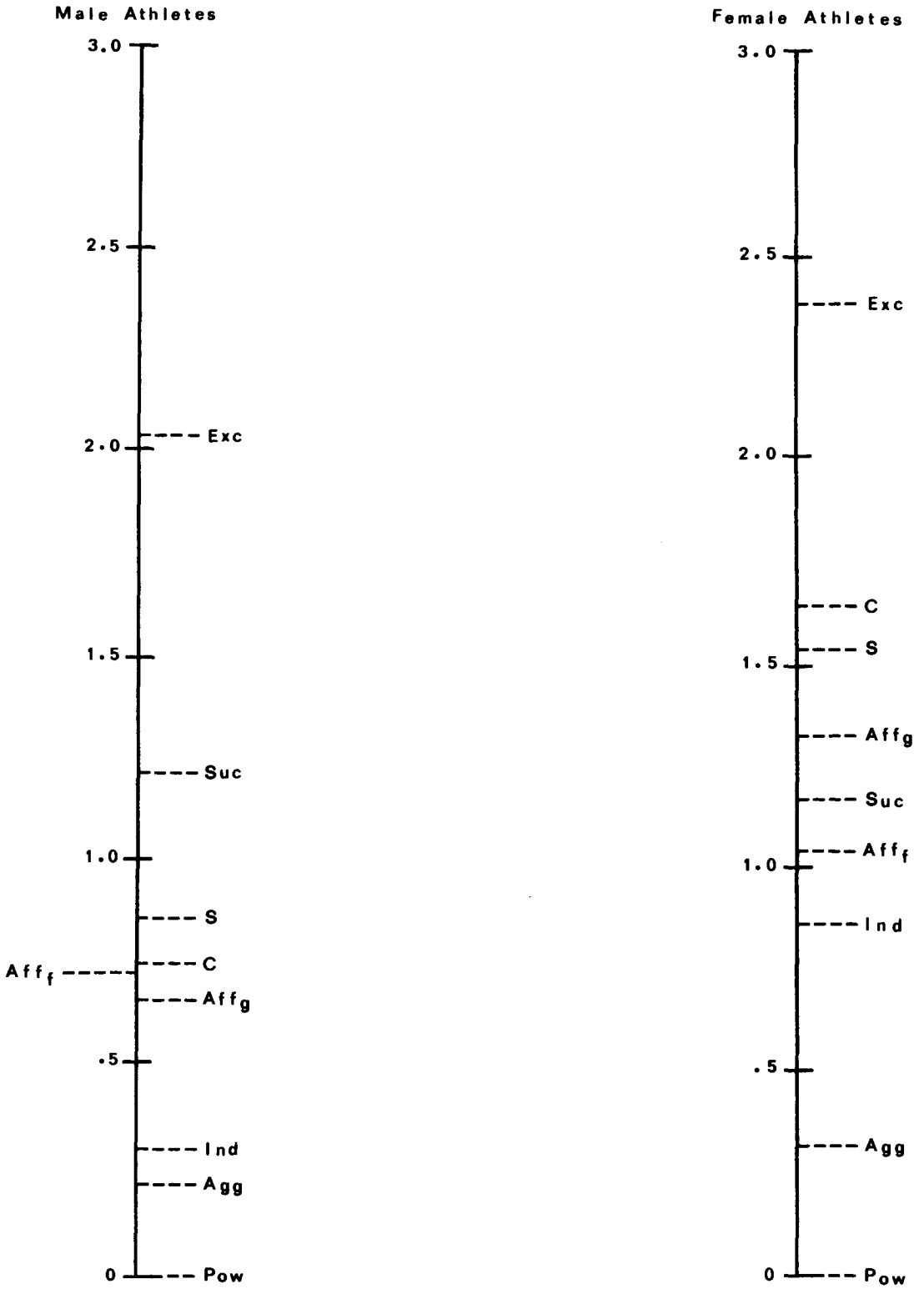

Figure 1. Spatial relationship of incentive systems for male and female athletes.

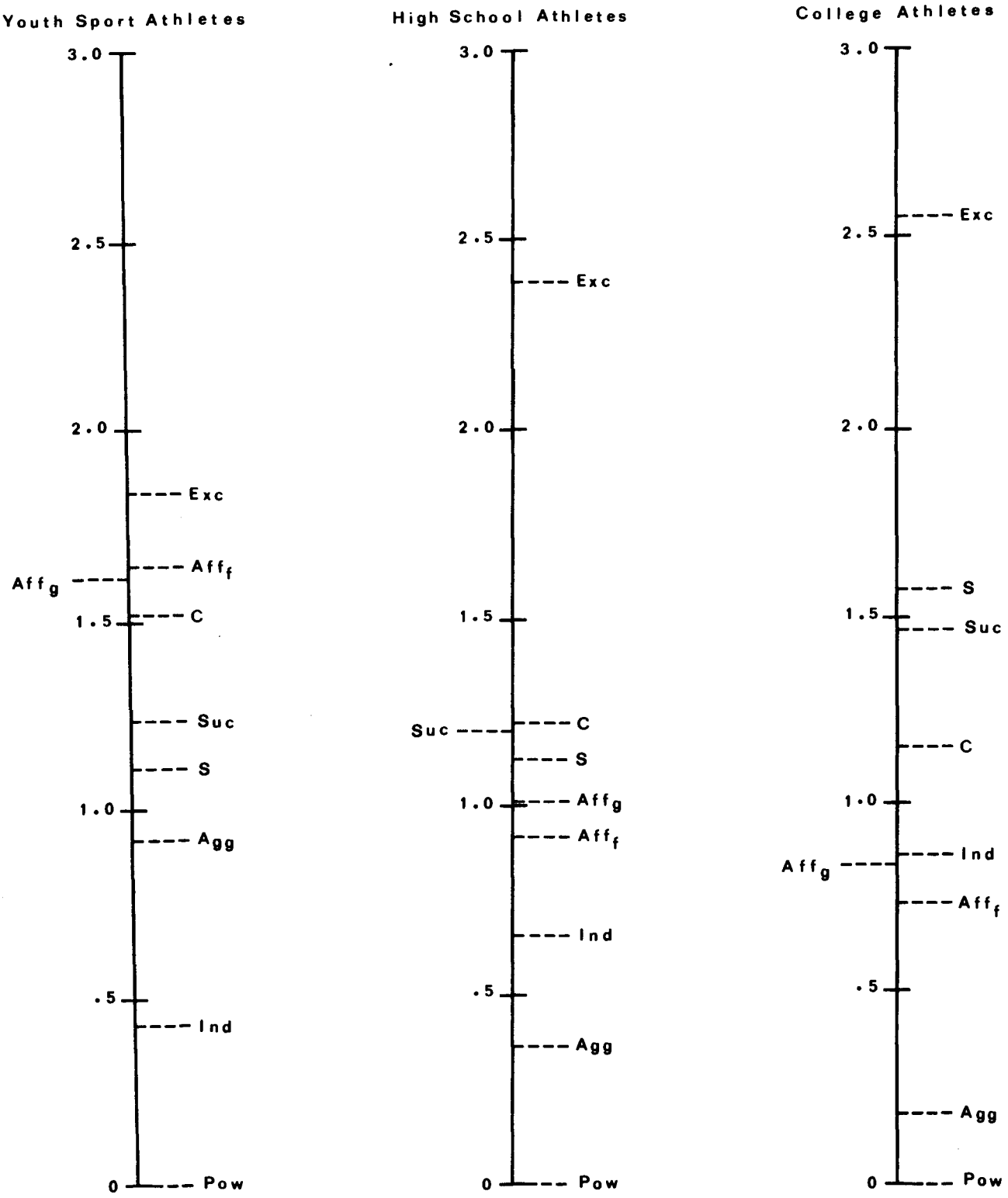

Figure 2. Spatial relationship of incentive systems for youth sport, high school, and college athletes.

Within-groups Coefficients of Agreement

The agreement among members' comparative judgments in each group was assessed by Kendall's (1948) coefficient of agreement (u). The greater the departure from complete agreement (i.e., dissimilarity of judgments), the smaller the value of (u). If u is any positive value whatsoever, then there is a certain amount of agreement among the judges (Edwards, 1957). Kendall's test of significance for u is based upon the chi-square distribution.

For male athletes, Kendall's u = .154 (possible range -.01 to 1.0). Male athletes revealed significant agreement in their comparative judgments, χ^2 (37) = 1146.03, $p < .05$. Kendall's u for female athletes, (.231, possible range -.01 to 1.0) also indicated significant agreement in their comparative judgments, χ^2 (37) = 1627.53, $p < .05$.

Youth sport, high school, and college athletes also indicated significant agreement in their comparative judgments: youth sport athletes (u = .170, possible range -.02 to 1.0), χ^2 (38) = 399.45, $p < .05$; high school athletes (u = .168, possible range .00 to 1.0), χ^2 (37) = 1340.55, $p < .05$; and college athletes (u = .243, possible range -.01 to 1.0), χ^2 (37) = 1067.69, $p < .05$.

Commonality of Incentives for Sex and Age Groups

Spearman rank-order correlation, r_s = .84, between male and female athletes' ranking of the incentive systems revealed high commonality between the sexes. Both males and females judged excellence as their main incentive for participation in sport. This finding led to the acceptance of Hypothesis 1: The achievement incentive (excellence), "to be the best I can be", will be the most important for both male and female athletes across all age groups.

Hypothesis 2, which stated that power and aggression incentives will be

more salient for male than for female athletes across all age groups, was rejected. Power and aggression incentive systems were ranked equally low for both male and female athletes.

The greatest sex difference occurred on the success incentive, which was ranked second most salient for male athletes yet only fifth most salient for female athletes. Hypothesis 3, which stated that the desire to win (success) will be more important for male than for female athletes across all age groups, was accepted. Affiliation statements (Aff_f and Aff_g) were not judged more salient by female than by male athletes.

There was fairly high commonality of incentives between youth sport and high school athletes, $r_s = .70$, and high school and college athletes, $r_s = .89$. The rank order-order correlation, $r_s = .48$, between youth sport and college athletes of the incentive systems revealed limited commonality between these two groups, even though excellence was judged as the most salient incentive by youth sport, high school, and college athletes. The largest discrepancy occurred on the affiliation incentives (Aff_f and Aff_g), which were judged more salient by youth sport than by high school athletes, and more salient by high school than by college athletes. Hypothesis 4, which stated that the affiliation incentive (to be with my friends) will be more salient for younger than for older athletes, was accepted. Power and aggression statements were ranked low across all age groups.

Chapter 5

DISCUSSION OF RESULTS

A discussion of the results concluded from this investigation is presented in the chapter. This study was initiated in an attempt to assess the hierarchical structure of athletes' incentive systems across age and sex. Male and female athletes were compared as to their reasons for participation in sport, and commonalities of incentive systems across age groups were also examined.

Sex Differences in Incentive Systems

Spearman rank-order correlation between male and female athletes' ranking of the incentive systems revealed high commonality between the sexes, $r_s = .84$. Excellence was judged twice as salient as the next highest incentive for participation in sport by both sexes. These results are consistent with the expectations of Alderman (1976), and the findings of Alderman (1978) and Reis and Jelsma (1978). In these two latter studies both males and females were highly, and equally, concerned with playing well. Excellence was one of the strongest and most consistent incentives for participation in sport. That is not surprising, because it has been argued that achievement is probably the master incentive operating in sport (Alderman, 1976).

The greatest sex difference occurred on the success incentive (winning is important), which was more salient for males than females. Males ranked success as the second most salient reason for their participation in sport, yet it was only ranked fifth in importance for females. This finding is consistent with those found by Reis and Jelsma (1978), in whose study males scored higher than females on all questions dealing with competition and winning. Deaux's (1976) review of the achievement motivation literature

related to sex differences offers an interpretation for this current finding. Deaux reported that there is a high fear of success in women if they anticipate negative consequences for their success. If, in the past, women have been criticized more than praised for doing well in a "masculine" situation, then they may choose to avoid successful performance in that situation in the future. In other words, if women have received criticism for successful competition in sport in the past, they will not be as likely to strive for success in sport in the future.

However, this may not apply to all women. Corbin (1979) reported that champion athletes are motivated to perform for reasons which are principally competitive. Both champion and nonchampion males are motivated by competitive attitudes. Women nonathletes do not hold these competitive feelings. It might be that champion women athletes have put aside social perceptions about the appropriateness of competing in sport and have decided to seek success in the sports setting. The females used in the present study were not champion athletes, which may explain their comparatively low ranking of the success incentive. Perhaps the females in this study were still influenced by social norms which inform women that success in sport is less appropriate.

Aggression and power incentives were ranked equally low for both male and female athletes. Power was the lowest ranked incentive for both males and females and aggression was ranked the seventh most salient incentive for males and the eighth most salient for females. This finding was different from those reported in the literature. Alderman (1970) found soccer and water polo players to rank catharsis (sport provides the release of tension precipitated by frustration--aggression) first as their reason for participation in sport. Reis and Jelsma

(1978) found males to score higher than females on questions dealing with beating one's opponents. Perhaps there is a difference in results because of the nature of the sports compared. This current study used baseball, softball, and track, which are, for the most part, nonaggressive in nature. These sports may not have provided the best data with which to test the aggression and power hypothesis. Reis and Jelsma (1978) tested both contact and noncontact sports (basketball, lacrosse, tennis, and swimming), and Alderman's (1970) data pertained to soccer and water polo, two fairly aggressive sports. Perhaps using different sports would have revealed sex differences on aggression and power incentives, although Alderman (1978) found aggression to be viewed as unimportant for both male and female athletes.

Affiliation statements (be with friends; be part of a group) revealed no differences between the sexes. Reis and Jelsma (1978) found the more participative elements in sport--interacting and working with other team members in preparation and competition (affiliation)--to be the most salient factor for women's participation. Alderman (1978) reported affiliation to be a major incentive operating in athletes 11-18 years old and found them to be motivated by the affiliation incentive regardless of sex. Alderman's research (1978) utilized youth sport and high school athletes. If his sample were to be expanded to include college athletes, there appears to be no good reason to expect a sex difference for affiliation in the older group either.

Age Differences in Incentive Systems

Spearman rank-order correlation revealed a fairly high commonality of incentives between youth sport and high school athletes, $r_s = .70$, and high school and college athletes, $r_s = .89$. However, there was limited commonality

between youth sport and college athletes, r_s = .48.

Excellence was judged as the most important incentive system by youth sport, high school, and college athletes. This finding agrees nicely with Alderman (1978) and Sapp and Haubenstricker (1978), who reported that excellence was one of the strongest and most consistent sport incentive system for participants aged 11-18. It appears a major reason children are involved in sport is to improve their skill levels in those sports. Reis and Jelsma (1978) found similar results for college athletes. These athletes were also extremely concerned with playing well. Excellence would appear to be the master incentive for athletes' participation in sport across youth sport, high school, and college athletes.

The largest break from commonality occurred on the affiliation incentive. Younger athletes place more importance on sport participation because their friends are involved than do high school athletes, and high school athletes place slightly more importance on affiliation than college athletes. Affiliation (to be with friends) was ranked as the second most important incentive for youth sport athletes. Alderman (1978) reported affiliation as being one of the strongest and most consistent incentives for children involved in sports. Sapp and Haubenstricker (1978) also found that participation because their friends were involved was a major reason for children to join sports programs.

Many children choose to participate in sport because of the affiliation incentive attached to participation (Alderman, 1976). Children seek affiliation because of strong drives toward self-evaluation. Membership in groups offers an opportunity for evaluation in the absence of external, absolute criteria. These comparisons provide children with information as to their worth and how valuable their capacities are. Once social evaluative anxiety is reduced, friendship may

become less important for a child's participation in sport. These strong affiliation incentives are major determinants of a child's initial participation in competitive sports programs. As children grow older and develop self-confidence, affiliation incentives become less salient and are replaced by stronger, more relevant incentives, such as those related to achievement. In other words, when children are young they place a strong emphasis on affiliation as a means of gaining social acceptance, self-worth, and information on their own skill level. As children get older they find other means of evaluating their own performance and place less emphasis on social acceptance.

While the affiliation incentives become less salient as athletes become older, independence becomes slightly more salient. This ties in with the assertion that as children grow older they place less emphasis on information received from others in a group and place more importance on their own evaluation. As children mature they seem more likely to be involved in sports for themselves (independence) rather than because their friends participate.

Curiosity and sensory incentives remain fairly consistent across all age groups. This is in contrast to Alderman (1976), who speculated that in sport the curiosity incentive probably does not persist as other motives take over and become more salient. Once a sport is discovered and curiosity is satisfied, the sport will have to have other attractions. This was not the case in the present study, where youth sport, high school, and college athletes continue to see sport as providing thrills, excitement, and new stimuli throughout their years of participation. Although many high school and college athletes have been involved in their particular sports for a number of years, they still find them to be exciting and stimulating. If sport did not provide these incentives,

perhaps the athletes would not have maintained their participation for so many years. Alderman (1978) combined the curiosity and sensory incentive and labeled the composite incentive stress--the excitement, tension, pressure, and pure action sport can provide. In his study of youth athletes, stress incentives ranked a consistent third, behind affiliation and excellence. It is important to note that one of the reasons children initially become involved in sport continues to be a reason for athletes' participation even after they have been involved in the sport for a number of years. These athletes continue to find excitement, thrills, and new things in sport, and these factors contribute to their reasons for participation.

Chapter 6

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS FOR FURTHER STUDY

Summary

This study assessed the hierarchical structure of athletes' incentive systems across age and sex. A Sport Motivation Preference Scale (SMPS) was developed to assess the degree to which each of nine incentive statements were important for athletes. Data were scaled according to Thurstone's (1927) law of comparative judgment in order to determine whether male and female athletes participate in sports for similar reasons. Commonalities in incentives among youth sport, high school, and college athletes were also examined.

Members (N = 389) of various male and female youth sport, high school, and college sports teams from the central New York area served as subjects. Scaled values of the incentive systems were derived and compared for male, female, youth sport, high school, and college athletes. Spearman rank-order correlations revealed fairly high commonalities of incentives between male and female athletes, youth sport and high school athletes, and high school and college athletes. There was less commonality of incentives between youth sport and college athletes.

Excellence was judged to be the most salient incentive for both males and females, and across all age groups. Success was more important for males (ranked second) than for females (ranked fifth). Power and aggression incentives were ranked equally low for both male and female athletes, and there were no significant differences in the importance of affiliation for participation in sport.

Youth sport athletes ranked affiliation (to be with friends) as the second

most important reason for their participation in sport. Affiliation was ranked sixth in importance for high school athletes and seventh most salient for college athletes. Participation in sport because their friends are involved seemed to be a major incentive operating in youth sport, but appeared to become less important when athletes participated in high school and college sports.

Conclusions

The following conclusions were formulated from the results of this study:

1. Excellence (to be the best I can be) seems to be the major reason for athletes' participation in sport. This result was consistent across ages and sexes.

2. Success (winning is important) is a more salient incentive for male athletes than for female athletes.

3. In noncontact sports, aggression and power are the least important reasons for participation by both males and females.

4. Affiliation (participation because my friends participate) is one of the most salient incentives for youth sport athletes, but it decreases in importance as athletes mature.

Recommendations for Further Study

1. Conduct a similar study using different sports, such as basketball, soccer, and lacrosse, in order to better explore aggression and power incentives across age and sex.

2. Develop a Coach Motivation Preference Scale to compare the incentives of coaches with the incentives of their athletes.

3. Investigate the incentives of athletes on successful teams versus those on less successful teams.

4. Compare sex differences in incentive systems for elite athletes.

5. Investigate differences in incentive systems for team versus individual sports.

Appendix A

SPORT MOTIVATION PREFERENCE SCALE

This questionnaire consists of 9 statements that describe reasons why people participate in sport. I am interested in finding out which reasons are important to you. To make your task easier, these 9 descriptive statements will be presented in pairs. Your task is to read each pair of statements and then decide which of the two statements reflects more your reason for playing sports. There will be 36 paired decisions for you to make.

Here is an example:

_____I like to try new things

_____I like to be part of a group

Read the statements and then place a check (✓) in the space beside one of the two statements that best reflects your reason for playing sports. Sometimes both statements will appeal to you, sometimes neither statement will appeal to you, and sometimes only one statement will appeal to you. In all cases please make a best choice for each pair of statements.

HERE IS THE LIST OF STATEMENTS THAT YOU WILL SEE IN THE QUESTIONNAIRE. SOME EXAMPLES THAT MIGHT ASSIST YOU WITH THE MEANING OF EACH STATEMENT HAVE BEEN PROVIDED.

I like to try new things.

(Meaning: sport lets me try new activities; sport offers lots of new experiences for me)

I like to be part of a group.

(Meaning: sport gives me the opportunity to be with a group of people)

I enjoy the thrills.

(Meaning: exciting things happen in sport; playing sport makes me feel good)

I want to be the best I can be.

(Meaning: sport tests my ability; my performance is always or nearly always important to me)

I can express my aggressive nature.

(Meaning: sport lets me be rough; sport lets me shout at others; this does not mean just playing hard or being assertive)

I can be with my friends.

(Meaning: I choose to participate in those sports in which my friends participate)

I like to do things by myself.

(Meaning: sport gives me a chance to succeed or fail by myself)

I can control my opponents.

(Meaning: sport lets me dominate others; sport lets me show how powerful I am against others)

I want to be a winner.

(Meaning: the outcomes of games are always important to me)

Please provide the information requested below.

Age_____yrs. Sex M F (circle) Sport Team_____

How long have you participated in this sport? ____yr(s) at this school? ___yr(s)

Read each pair of statements and check (✓) your best choice.

____I can be with my friends

____I like to do things by myself

____I can express my aggressive nature

____I want to be a winner

____I want to be the best I can be

____I enjoy the thrills

____I like to be part of a group

____I can be with my friends

____I like to try new things

____I want to be a winner

____I enjoy the thrills

____I can control my opponents

____I like to do things by myself

____I can express my aggressive nature

____I like to try new things

____I can be with my friends

____I want to be a winner

____I like to do things by myself

____I like to try new things

____I like to be part of a group

____I want to be a winner

____I enjoy the thrills

____I like to do things by myself

____I like to try new things

____I want to be a winner

____I want to be the best I can be

____I enjoy the thrills

____I like to try new things

____I want to be the best I can be

____I can control my opponents

____I like to be part of a group

____I want to be a winner

____I like to do things by myself

____I like to be part of a group

____I like to try new things

____I want to be the best I can be

____I can be with my friends

____I can control my opponents

____I can express my aggressive nature

____I want to be the best I can be

____I can be with my friends

____I want to be a winner

____I want to be the best I can be

____I like to do things by myself

____I like to be part of a group

____I can express my aggressive nature

____I can control my opponents

____I like to do things by myself

____I enjoy the thrills

____I like to be part of a group

____I want to be a winner

____I can control my opponents

____I can express my aggressive nature

____I enjoy the thrills

____I can control my opponents

____I like to be a part of a group

____I can be with my friends

____I can express my aggressive nature

____I like to do things by myself

____I enjoy the thrills

____I can control my opponents

____I can express my aggressive nature

____I like to be part of a group

____I want to be the best I can be

____I enjoy the thrills

____I can be with my friends

____I can control my opponents

____I like to try new things

____I want to be the best I can be

____I can be with my friends

____I can express my aggressive nature

____I like to try new things

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Appendix B

PARENT INFORMED CONSENT FORM

I am a graduate student at Ithaca College working on my master's thesis. I am interested in the reasons why people participate in sport. Your son or daughter has been asked to be a subject in this study. Your child's participation would involve having him/her fill out a Sport Motivation Preference Scale, a questionnaire with 36 paired-choice decisions concerning reasons for participating in sport. It takes about 10 minutes to complete. Your child will remain completely anonymous, and all responses will be kept confidential. Participation in this study is voluntary. Your child may drop out at any time, even in the middle of answering the questionnaire.

The study and what it involves has been explained to your child. He/she has expressed a desire to participate, the coach has agreed to let me administer the questionnaire, and the study has been approved by the Human Subjects Committee at Ithaca College. Only if you prefer that your child not complete the questionnaire should you return this form. If you do not want your child to participate in this study, please sign below and have your child return it to the coach within 1 week. Your child will then be excluded from the study. If you have no objections, you need not reply.

Thank you for your cooperation.

_____I wish to have my child excluded from this study.

_____

(Please sign your name)

Appendix C

INFORMED CONSENT FORM

I am in the process of exploring the reasons why people participate in sport. I am asking you to be a subject in this study. A positive reply will indicate your willingness to complete a Sport Motivation Preference Scale. This questionnaire consists of nine (9) statements that describe why people participate in sport. These 9 statements will be presented in pairs. Your task is to read each pair of statements and then decide which of the two statements reflects more your reason for playing sports. There will be 36 paired decisions for you to make. The questionnaire should take only 5-10 minutes to complete.

The questionnaire will involve athletes of different ages competing in sport. Although the questionnaire asks for some personal information, e.g., age, sex, and sport, please be assured that no one will know how you answered on the questionnaire. Your responses will remain confidential and be seen only by the researcher. The questionnaire does not ask for name, therefore it is impossible to know who you are and how you responded. The responses will all be coded and the original answer sheets destroyed.

Participation in the study is completely voluntary. You may decide at any time during the study to drop out, even while in the middle of completing the questionnaire. Please participate in this study only if you want to do so. Indicate your decision below.

____Yes, I voluntarily choose to participate in this study.

_____

(Please sign your name

____No, I do not wish to participate in this study.

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