# CHILDREN'S EVALUATIONS OF RISK-TAKING, SOCIAL COMPETENCE, AND ATHLETIC COMPETENCE

By

LESLIE K. SCHWARZ

Bachelor of Arts
State University of New York at Binghamton
Binghamton, New York
1992

Master of Science
Oklahoma State University
Stillwater, Oklahoma
1993

Submitted to the Faculty of the
Graduate College of the
Oklahoma State University
in partial fulfillment of
the requirements for
the degree of
DOCTOR OF PHILOSOPHY
December, 1997

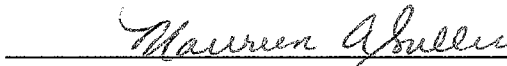
CHILDREN'S EVALUATIONS OF RISK-TAKING,

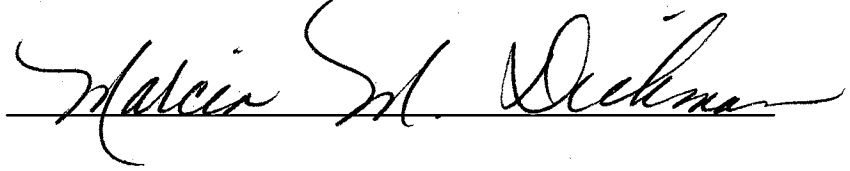
SOCIAL COMPETENCE, AND

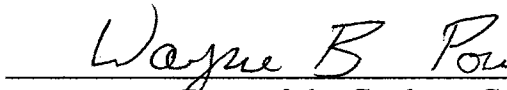
ATHLETIC COMPETENCE

Thesis Approved:

Thesis Adviser







Dean of the Graduate College

ACKNOWLEDGEMENTS

I would like to express my appreciation to my dissertation advisor, Dr. Richard Potts, for his inspirational energy, guidance and encouragement. I would also like to thank the other members of my committee, Dr. Maureen Sullivan, Dr. Larry Mullins, and Dr. Marcia Dickman, for their valuable input into this research. Appreciation goes to Dr. James Price for his assistance with the statistical design of the study. I would like to thank Rachel Kung, Jamie Phillips, and Shannon Skeen for their help with the data collection process. Additionally, I extend thanks to the Pawnee Elementary School for providing me with the opportunity to conduct my project at their facility and to work with their students. Finally, I would like to thank my parents for their love and support throughout the entire graduate experience.

TABLE OF CONTENTS

LIST OF TABLES AND FIGURES

# CHAPTER I

## INTRODUCTION

Unintentional injury is the leading cause of death in childhood (Coppens & Gentry, 1991; Garbarino, 1988; Rodriguez, 1990). Children's injuries are so frequent that they have become a costly societal burden; each year, sixteen million children require emergency room medical treatment because of injuries. These injuries ultimately cost close to $100 billion annually in productivity losses and medical costs (Rodriguez, 1990). To address this issue, several researchers have recently focused on the development of injury prevention programs (Baker, O'Neill, & Karpf, 1984). A large proportion of injuries in children are associated with physical risk-taking behavior; this link between risk-taking and injury has been documented in several studies (Peterson, Gillies, Cook, Schick, & Little, 1994; Matheny & Fisher, 1984; Rodriguez, 1990), although little is known about specific mechanisms which facilitate risk-taking.

The concept of risk-taking encompasses a complex process involving behavior which has both the probability of reward as well as the possibility of a negative outcome, such as injury. While some risk-taking behaviors may be motivated by instrumental goals, such as accomplishment, other behaviors may be motivated by an intrinsic reward, the "rush" one obtains from varied and novel experiences (Zuckerman, 1979a).

Although children's physical risk-taking behavior is positively correlated with

childhood injury, this behavior has not been extensively addressed in most community injury prevention programs, which instead focus primarily on altering the environment to safeguard children from encountering risks (Garbarino, 1988). Many government safety programs employ passive strategies to prevent injury to children, such as requiring seat belts in cars and child-proof caps on medication bottles (Haddon, 1974; McIntire, 1977; Rivera & Mueller, 1987). Some safety programs have targeted behaviors of children other than risk-taking, such as saying "no" to strangers to avoid assault (Poche, Brouwer, & Swearington, 1981). As these types of programs are quite costly, and funded with taxpayers' money, it is hoped that these programs are effective. However, children's injuries have not been significantly impacted by these programs (Pless, 1978), perhaps due to neglect of other important factors related to risk-taking behaviors. To date, there is a scarcity of programs focusing on regulation of children's risk-taking behavior as it relates to physical injuries. Thus, scientific attention to basic psychological processes associated with injury resulting from physical risk-taking behavior is warranted, given that this a significant problem among children. A better understanding of this phenomenon will contribute to the development of new and effective injury prevention programs.

Several factors, biological and environmental, have been linked to unintentional injury, which may also be related to risk-taking behavior in children, including high activity level (Matheny, 1988), a sensation seeking personality trait (Zuckerman, 1979a; Horvath & Zuckerman, 1993), impulsivity, inattentiveness,

boredom, anger (Schulzinger, 1956), extraversion, aggression, lack of self-control (Manheimer & Mellinger, 1967), and lack of parental supervision (Garbarino, 1988; Matheny, 1988). Low socioeconomic status (Matheny, 1988), expectations of injury (Peterson, Gillies, Cook, Schick, & Little, 1994), distorted perceptions of danger (Sheehy & Chapman, 1986), and a low level of causal reasoning and cognitive development (Coppens, 1986) are also associated with unintentional injury, and possibly, risk-taking behavior in children.

Injury is a likely negative and painful consequence of risk-taking; however, many children are not deterred from this behavior even after sustaining an injury (Manheimer & Mellinger, 1967). Children who engage in risk-taking behavior and subsequently endure injuries often continue to take physical risks. Thus, from a behavioral perspective, it is likely that risk-taking is maintained via complex motives, because it is counterintuitive that children would continue behaviors which result in only negative outcomes. Assuming that risky behavior has both positive and negative consequences, it is possible that children consider both costs and benefits of their actions and that these appraisals influence future behavior (Jessor, 1991). Among children who engage in risk-taking, it is likely that the benefits of risk-taking outweigh the costs. Thus, for some children, or most children in certain circumstances, risk-taking may have benefits which overshadow or negate the possible negative consequences. Additionally, it may be that children are not aware of a connection between risk-taking and injury, but may be only aware of positive

consequences.

One possible benefit of risk-taking for children may be the acceptance and social approval of peers, with resulting higher social status. Gaining peer approval through conformity to standards acceptable to peers becomes extremely important for school age children. Risk-taking may be perceived as a desirable behavior, and securing peer approval is important to children and an integral part of their social development (Hartup, 1983; Hartup & Moore, 1990). Therefore, if risk-taking is a means of gaining popularity, it may be socially reinforced by peers, and achievement of high social status may become one motivation for risk-taking. Likewise, if risk-taking is socially reinforced, it may be perceived as a means to popularity. Peers provide each other with models for a vast array of behaviors, including, perhaps, physical risk-taking. Hence, risk-taking behavior could be encouraged by peers through various mechanisms.

It has been established that children respond to each other in powerful and socially reinforcing ways which serve to modify various behaviors (Hartup, 1983). Physical risk-taking may be perpetuated by the children's peer culture through social learning, and particularly within the boys' peer culture, as a correlate of social acceptance. Boys have been noted to have higher rates of activity, risk-taking, and injuries than do girls (Matheny, 1988). Additionally, boys may place themselves in more at-risk environments for injury and also may engage in higher rates of risky behavior than their female peers (Potts, Martinez, & Dedmon, 1995). In general,

however, popular children who are risk-takers may influence others to do the same. Conformity and peer pressure are powerful social forces (Brown, Lohr, & McClenahan, 1986); thus, if risk-taking is valued by children, it is logical that rates of risk-taking would be high. High rates of risk-taking would likely be followed by an increase in injuries. Additionally, because of their focus on the reward of popularity, children may ignore the physical dangers of risk-taking. It follows that some portion of childhood injury may be the result of social reward for risky behavior that is actually beyond the physical skill level of many children. Unfortunately, attempting to achieve popularity in this dangerous manner places children at risk for serious physical injury.

A notion has been put forth that risk-taking is perceived as a positive attribute in general society (Teger & Pruitt, 1967), and at least some risk-taking is expected for adaptive social functioning. The perception of risk-taking as positive is cause for concern due to the link between physical risk-taking and injury in children. To date, however, few studies have examined the role of physical risk-taking behavior in popularity for children. Other behavioral characteristics, such as social competence and athletic competence, have been found to be related to popularity in children (Adler, Kless, & Adler, 1992; Berndt & Das, 1987; Buchanan, Blankenbaker, & Cotten, 1976; Coie & Dodge, 1988; Frentz, Gresham, & Elliott, 1991). Thus, the main goal of the present study was to investigate the social value of physical risk-taking to children, relative to the value placed on social competence and athletic

competence. These characteristics were used as a comparison against which to gauge the relative social value of physical risk-taking.

A second purpose of this study was to examine individual differences in desirability of risk-taking by investigating the presence of a "matching principle." Individuals differ in their level of risk-taking; some children seek out risks while others avoid them (Bromiley & Curley, 1992). Evidence suggests that individuals who engage in deviant behavior seek each other out as friends because they share similar interests (Galambos & Silbereisen, 1987). It has also been established that similarity of attitudes and values is a strong predictor of both initial attraction (Byrne, 1971) and lasting friendships (Newcomb, 1961). The level of a child's risk-taking may influence which peers he or she seeks out as friends; e.g. a child with a low level of risk-taking may be more likely to befriend other children who are also low risk-takers. Similarly, children who are high in risk-taking may become friends with each other on this basis. A matching principle (Singleton & Asher, 1979), which asserts that similarity between individuals is an important basis for friendship, will be tested to determine if children rate as desirable, peers with levels of risk-taking similar to their own.

Results of this study may have a significant influence on further research and the future direction of injury prevention programs. Knowledge about the potential positive value of risk-taking will enable programs to target this behavior in children. If risk-taking is highly valued, it may be important to provide education about the

dangers of risk-taking. Additionally, the desirability of risk-taking may be countered by programs designed to make risk-taking look entirely negative. An example might be the development of public service announcements similar to the ones addressing drug use in children and adolescents, portraying children resisting and rejecting risk-taking behaviors by depicting them as undesirable, i.e. "just say no to dangerous physical risk-taking."

This paper will describe a study in which the social value of physical risk-taking to elementary school children is investigated. In the next section, a review of the literature in the areas of peer socialization influences, peer relations and social status and their relation to physical risk-taking behavior in children is presented. The literature section is followed by a statement of the goals and hypotheses of the study. Next, the methodology employed by the study is described in detail, including demographic information of the sample and the measures used. Results of data analysis are presented in the following section. Finally, a discussion of the results, including applied implications and limitations of the study, is presented.

# CHAPTER II

# REVIEW OF THE LITERATURE

## Mechanisms of Peer Socialization and Influence

In the elementary school years, children with similar goals form peer groups (Hartup, 1983). These groups are important for fostering the development of a sense of identity and belonging among age cohorts and comprise the peer culture (Corsaro, 1985). Peer groups develop unwritten rules or customs by molding and influencing behavior of others through various mechanisms, including positive reinforcement, punishment, and modeling (Hartup, 1983). Research has demonstrated that friendly, attentive and considerate behaviors tend to be returned by peers, thus, positively reinforcing those behaviors (Charlesworth & Hartup, 1967; Leiter, 1977). General socialization processes often involve modeling, in which children learn through copying the behavior of others; this process operates similarly within the peer group (Perry & Bussey, 1979). Peer reinforcement and modeling are powerful in that they act as catalysts for changes in behavior (Strain, 1977). If a certain behavior is perceived as desirable by a group of children, it will be positively reinforced whenever it occurs, and consequently, its occurrence will increase in the future. Therefore, desirable behaviors can be shaped and increased by peers, as popularity is strongly and positively related to conformity to peer norms (Brown, Lohr, & McClenahan, 1986).

Conformity and peer pressure are clear forces at work among children, and

may affect the frequency of risk-taking in a particular peer group. Groups influence the behavior of the members within them; with regard to risk-taking behavior of various forms, group interaction can influence individuals to take greater risks than they would independently, called the "risky shift" (Wallach, Kogan, & Bem, 1962). When a member of a group realizes that he/she has acted more cautiously than others in the group, he/she will change his/her behavior to match the group (Brown, 1965; 1986). Researchers have interpreted the risky shift to mean that risk-taking is perceived as positive in our society and is valued more than caution (Clark & Prolisko, 1979). The risks referred to in this research are not necessarily physical risks, however; thus, the present study may demonstrate whether this concept may be generalized to pertain to different types of risk-taking.

Another common view among researchers is that individuals who know that others will be aware of their actions are more likely to take greater risks, implying that this behavior may have social value. Risk-takers may be viewed as able to handle conflicts without fear. Those who take no risks are perceived as fearful, and those who take large risks as fearless. Typically, it is more desirable to be known as fearless than fearful; therefore, people may take risks in groups to gain status. This may be especially true for males, as fearlessness is consistent with stereotypical male qualities such as strength and bravery. Thus, risk-taking may be highly socially valued for males (Dahlback, 1990). Popular children in a peer group who value risk-taking may encourage other children, especially boys, to engage in risky behaviors

and to act as models for these dangerous behaviors. A higher rate of risk-taking may result, possibly leading to a higher frequency of injuries.

Popularity may be identified by the manner in which peers react to each other. Children who act counter to norms or rules of the peer group are punished by neglect or rejection and may become unpopular; essentially, these children are not allowed into the social group (Achenbach & Edelbrock, 1981; Coie, 1990; Dodge, 1983). Peers tend to behave either neutrally or positively towards popular children, however (Masters & Furman, 1981). Additionally, changes in the quality of friendships have been shown to vary with the amount of prosocial or aggressive behavior perceived by peers (Berndt & Das, 1987). In order to be popular, rules set by popular leaders must be followed, which establishes a custom of conformity. Given that popular children influence behavior of peers, and engaging in certain behaviors will result in popularity, popularity and behavior appear to be reciprocal processes.

In short, children influence each other's behavior through mechanisms such as modeling, punishment and reinforcement. Physical risk-taking is a behavior which may be influenced by these processes. Desirable behaviors are shaped by peers, and those who display desirable behaviors of the peer group become popular. Therefore, if risk-taking is a desirable behavior, the frequency of risk-taking may increase, likely leading to an increase in children's injuries.

Theories of Risk Taking

In general, there is a scarcity of theories which specifically address childhood

physical risk-taking behavior. Adolescents, however, are statistically overrepresented in every category of risk-taking behavior; during this developmental period, there is a significant increase in risky or "reckless" behavior (Arnett, 1992). As a result, substantial research on risk-taking has focused on the period of adolescence. Models of risk-taking designed to understand adolescent behavior are perhaps relevant for younger children as well. Risk-taking behaviors in both children and adolescents are likely to be strongly influenced by peers, as popularity is important at both stages (Brewer & Crano, 1994; Hartup, 1983). Although the particular risks taken in childhood and adolescence are qualitatively different, both sets of behaviors may result in serious injury. In this section, three conceptual theories of adolescent risk-taking will be presented with an emphasis on influential peer factors.

Problem Behavior Theory is a model developed by Jessor and Jessor (1977) in which risk-taking is perceived as learned behavior which is functional and goal directed. Risk-taking, or problem behavior, is related to a trait of unconventionality, reflecting an unwillingness to abide by societal norms and values. According to this theory, peers serve an important socializing role, which includes tolerating deviant behavior and serving as models for problem behavior. Deviant behavior such as rejecting societal pressures and values is often viewed positively by young peers; thus, peers encourage conformity to their own norms, which may include risk-taking, through peer pressure.

Problem behavior may not always constitute negative outcomes; Jessor's

(1977) theory also addresses positive consequences which may be related to the perpetuation of risk-taking. Individuation is a fundamental human need (Harter, 1990) just as is gaining the approval of peers. Engaging in risk-taking may foster attainment of developmental goals, such as a sense of autonomy, mastery, and, most pertinent to the present study, peer acceptance (Jessor, 1991). In the process of individuating and gaining independence and autonomy, children often feel invulnerable; thus, to them, risky behaviors are not perceived as resulting in negative consequences, but rather, serve to develop a sense of self and independence. Social development involves two opposing processes: individuation and socialization. At the same time that children learn to become more independent and distance themselves from society, they also begin to assimilate and incorporate ideas about societal standards (Harter, 1990). Behaving independently may sometimes be at odds with conforming to norms or rules, which may cause a conflict within the individual (Fischhoff, 1992). Accordingly, it follows that engaging in risk-taking behaviors is merely part of normal exploratory social development and serves to fulfill meaningful goals, which may include independence as well as identification with peers (Jessor, 1987).

Other models of adolescent risk-taking view such behavior as partially or wholly motivated by internal personality traits or dispositions (Zuckerman, 1979a). Sensation seeking is a trait characterized by the "need for varied, novel, and complex sensations and experiences, and the willingness to take physical and social risks for

the sake of such experiences" (p. 10). Individuals with a high level of sensation seeking have a need for high levels of external stimulation and have a low tolerance for boredom. Peers with similar sensation seeking tendencies may foster the development of risk-taking behaviors in others. To illustrate, if individuals high in sensation seeking befriend other peers with the same interests, they will likely mutually reinforce risk-taking behaviors in each other. Hence, risk-taking may serve to increase self-esteem and acceptance from other risk-taking peers. Additionally, the thrill resulting from risk-taking may overshadow any possible physical risks. This idea is similar to views expressed by Jessor (1987), in that risk-taking may be a normal part of the developmental process that is influenced by peers.

A third model with a contemporary view of risk-taking as developmentally healthy, normative and adaptive for identity formation and experimentation with different lifestyles (Baumrind, 1991; Petersen, 1988) is proposed by Arnett (1992; 1994; 1995). Contributors to reckless behavior addressed in this model include socialization influences, including peers, family, the media, schools, neighborhoods, community, the legal system, and the cultural belief system, as well as psychosocial and environmental influences such as aggressiveness, adolescent egocentrism, the "personal fable" (Elkind, 1967), and sensation seeking (Zuckerman, 1979a; 1979b; 1990). Arnett (1995) also views peer influences as significant and powerful predictors of risk-taking behavior, especially with regard to reckless or rebellious behavior. Children high in sensation seeking or risk-taking may become friends and

influence each other's behavior of this sort. In a group of friends, the individual highest in sensation seeking may become the leader in directing reckless behavior for the group (Ozeran, 1973). These individuals are more likely to be approved of and considered popular by the group as reflected by their election to leader status. Because of the emphasis on conformity, socialization of peers tends to be narrow, meaning it is characterized by clear expectations, responsibilities, and consistency in negative consequences for deviation from social standards (Arnett, 1995); certain behaviors, which may be labeled as "cool," are expected in order to gain acceptance. Other "uncool" or "nerdy" behaviors may easily earn rejection from peers. Therefore, other children who desire popularity may see that those who engage in risk-taking are the popular ones, and they may follow suit.

It is widely accepted among researchers in the area of adolescent risk-taking that peer influences, among other psychosocial and biological factors, are significant predictors of these behaviors. Adolescents are emotionally vulnerable as they undergo developmental changes both physically and cognitively, giving the peer group increased power as they struggle to form individual identities. Risk-taking behavior may be one way that individuals may find acceptance and self-definition within the peer culture. Younger children are influenced by peers as well, through modeling, reinforcement and punishment. It is likely that these mechanisms also mediate risk-taking in younger children, although the value of risk-taking in young children's peer groups is not well-researched. Peer influences may have positive effects such as

gaining acceptance for an individual within a group; however, within the context of risk-taking, these influences have potentially negative outcomes, such as serious injury. Little research has been conducted to investigate peer influences on risk-taking within this age group. The present study was designed to explore the social value of children's physical risk-taking. In the next section, literature in the area of the significance of peer relations and social status in children will be briefly reviewed.

Peer Relations and Social Status

As mentioned previously, positive peer relations are vital to a child's healthy development. Children who are liked and respected by peers often achieve high social status and popularity. Popular children are easily identifiable, primarily by their number of friends; they are liked and sought out by more peers than are other children (Hartup, 1983). These popular children have the power to set norms for the peer group. Therefore, if risk-taking was valued by popular children, they would encourage this behavior, which would likely result in a higher frequency of injuries.

Children's social status has been measured using various methods, including peer nominations, peer ratings, and observational methods. Peer nominations are a common method of gaining information about both popular and rejected children in which each child, for example, chooses three classmates that he or she likes most as well as three classmates he or she likes least (Coie & Dodge, 1983). A social preference score is generated by subtracting the number of "liked least" nominations from the number of "liked most" nominations. Overall social impact is determined by

calculating the sum of the total number of both positive and negative nominations. Another method of measuring social status is peer ratings, which have been found to be superior to peer nominations with regard to reliability and validity. Children receive a list of classmates and are asked to rate the desirability of playing with each child on an interval scale (Terry & Coie, 1991). With this method, social status is determined by the taking the average of all the ratings received from classmates for each child. A third technique used to assess social status is direct observation, in which naturally occurring interactions between children are observed. Behaviors observed may include how many times a particular child displays to others and/or receives positive social responses, such as cooperation, sharing, initiating conversation or play, etc. This method provides direct information about which children are the popular ones, or are liked by the greatest number of peers (Adler, Kless, & Adler, 1992).

Several factors, both static and behavioral, have been investigated as determinants of popularity. Research has revealed a positive relationship between popularity and a number of nonbehavioral factors, including physical attractiveness, (Adams & Crane, 1980; Coie, 1990; Hartup, 1983; Langlois & Stephan, 1977; Zakin, 1983), commonness of a child's first name (Putallaz & Gottman, 1981), and birth order (Hartup, 1983). Behavioral traits have been linked to popularity as well; these include academic competence, social skills (Hartup, 1983), athletic ability (Adler, Kless, & Adler, 1992; Boivin & Bégin, 1989; Coie, Dodge, & Kupersmidt,

1990), social knowledge and reasoning (Buzzelli, 1992), amount of prosocial or aggressive behavior (Coie & Kupersmidt, 1983; Dodge, 1983), prosocial problem solving strategies (Musun-Miller, 1993), rough and tumble play (Pellegrini, 1989), appreciation and production of humor (Martin & Lefcourt, 1983) and positive family relations (Henggeler, Edwards, Cohen, & Summerville, 1991). Children also tend to choose peers as friends who are similar to themselves in various respects. For example, race is a strong determinant of friendship formation; children tend to become friends with same-race peers and seldom form cross-race friendships (Singleton & Asher, 1977; 1979).

Of these factors, innate characteristics such as physical attractiveness seem to play a primary role in determining social status. However, evaluation of physical attractiveness may be influenced by other personality characteristics; one study found that children with high athletic or academic ability were rated as more attractive (Felson & Bohrnstedt, 1979). Behavioral characteristics, however, unlike innate traits, can be modified, and thus are of greater research interest in the domain of peer relations and social status. For example, social skills training is a widely used intervention for modifying rejected children's inappropriate or aggressive behaviors in order to foster their acceptance by peers and increase their social functioning (Beirman, 1986; Ladd, 1981; Mize & Ladd, 1990).

Characteristics important for popularity have been found to depend, in part, on gender. For example, boys' social status may be affected more by active or

behavioral traits, such as "coolness" (good self-presentation skills) and toughness (defiance of authority and challenging rules), than by passive or static traits. Both coolness and toughness may be associated with risk-taking, as boys may be tempted to engage in physically unsafe activities in order to break pre-existing rules and develop a favorable reputation among peers. Conversely, girls' status may be more affected by static characteristics such as socioeconomic status and physical attractiveness (Adler, Kless, & Adler, 1992) than it is by active characteristics. Adler and colleagues found that in their sample, popularity of girls was affected by behavioral characteristics as well, but not to the extent that they influenced popularity of boys. These findings are consistent with those of Rogosch and Newcomb (1989) who also discovered that children who conformed to traditional gender roles were more likely to be popular than those who displayed stereotypical traits of the opposite gender.

Social competence and athletic competence are two specific behavioral factors which have been found to be positively associated with popularity in children (Adler, Kless, & Adler, 1992; Berndt & Das, 1987; Buchanan, Blankenbaker, & Cotten, 1976; Coie & Dodge, 1988; Frentz, Gresham, & Elliott, 1991). The impact of these characteristics may vary among individuals and between boys and girls. Specifically, each of these factors may be significantly associated with peer acceptance for all children; however, the importance of each factor may differ between the genders. In this study, the value of risk-taking was assessed relative to social competence and athletic competence, in order to determine the relationship between risk-taking and

popularity. The following sections present a brief overview of the literature and also address modes of measurement in each area.

Social Competence. Social competence is a strong and multifaceted behavioral predictor of popularity. It is well established that popular children display more socially skilled behaviors and have fewer behavior problems than rejected children (Frentz, Gresham, & Elliott, 1991; Stuart, Gresham, & Elliott, 1991). Compared to other children, popular children are less aggressive and lonely, and display more problem solving skills and social and friendship skills (Baker, Barthelemy, & Kurdek, 1993). These children are more highly skilled at being able to initiate and maintain social interactions (Kennedy, 1990). Popular children are found to be more cooperative and to have greater leadership ability (Coie & Dodge, 1988; Dubow & Cappas, 1988). Abilities such as communication skills and social knowledge, role taking, providing constructive criticism and support to peers, and expressing feelings positively are skills found to be important for boys' popularity. Popular girls' social skills tend to include the ability to persuade others and to form elite social groups through negative tactics such as gossiping, spreading rumors, bossiness and meanness (Adler, Kless, & Adler, 1992).

Social competence has been measured using several methods. One method, called the Revised Class Play (Masten, Morison, & Pellegrini, 1985) involves children imagining that they are directors of a play. Children are asked to cast classmates into various positive roles (a good leader) and negative roles (picks on

other kids). The theoretical basis for this method is that children will cast peers into roles which are consistent with each peer's level of social skill. Results yield both positive and negative reputation scores. Teacher ratings on standardized scales have also been employed to assess social competence (Frentz, Gresham, & Elliott, 1991; Pellegrini, Masten, Garmezy, & Ferrarese, 1987; Stuart, Gresham, & Elliott, 1991). These scales involve rating several items related to social competence on Likert-type scales. A third method of assessing social competence is through child self-report instruments. The Perceived Competence Scale for Children (Harter, 1982) is such an instrument which measures competence in several areas, including the social domain, and has been used in several studies (Boivin & Bégin, 1989; Henggeler, Edwards, Cohen, & Summerville, 1991; Tanaka & Westerman, 1988).

Thus, literature in the area of social competence reveals that it is an integral factor associated with popularity. Several methods have been used to measure social competence, including child self-report and teacher report methods. Social competence, along with athletic competence, will be one of the factors compared to risk-taking in this study in order to determine the relative value of these characteristics to children.

Athletic Competence. In recent years, participation in sports by children has increased; almost half of all children between the ages of 6 and 18 are involved in an extracurricular athletic activity (Martens, 1986). One of the goals of development of skill in sports for children of both genders is the achievement of popularity

(Lewthwaite & Piparo, 1993). In fact, research has found that athletes are more likely to be popular than other children (Adler, Kless, & Adler, 1992; Boivin & Bégin, 1989; Buchanan, Blankenbaker, & Cotten, 1976).

In their study of factors related to popularity, Buchanan, Blankenbaker and Cotten (1976) administered a questionnaire to a sample of 802 elementary school children which included questions concerning the importance of athletic ability to each child, nominations of the most athletic children in the class, nominations of the most popular children in the class, and a ranking of attributes which would be important for popularity. Results indicated that athletes were rated as more popular than non-athletes, especially when rated by boys. Boys also believed that being athletically skilled was the most important for achieving popularity. This finding is consistent with results of the study conducted by Adler and colleagues (1992), in which high athletic ability was found to be vital for boys' popularity. In fact, athletic ability in this study had a greater impact on popularity than any other factor, including physical attractiveness, on social status. Most boys had a serious interest in athletics even if they were not as skilled as other children; however, it was skill which differentiated the popular from the unpopular boys (Adler, Kless, & Adler, 1992).

Another study resulted in a similar finding, that children without high athletic ability were not likely to be rated as popular in a sample of 222 elementary school children (Boivin & Bégin, 1989). Peer nominations were used to assess social status, and athletic competence was assessed as part of a global competence assessment,

using the Perceived Competence Scale (Harter, 1982). Other research on children's social relationships has revealed a positive relationship between athletic competence and popularity as well (Miller & Gentry, 1980).

Research in the area of athletic competence has found that for some children, especially boys, athletic skill is strongly linked to popularity. Several methods have been used to measure athletic competence, including rating scales and peer nominations. Athletic competence will be assessed and included as a factor in this study in order to distinguish risk-taking inherent in athletic contexts from other physical risk-taking.

Relative Value of Social and Athletic Competence. Social competence and athletic competence may differ in their importance for popularity; interestingly, research in this area often produces conflicting information. Results of the study conducted by Boivin and Bégin (1989) support the concept that athletic competence may be more fundamental for gaining popularity than social skills for both boys and girls. Additionally, Zakin (1983) found that some children preferred athletic children to socially skilled children as friends. However, in that study, socially skilled children were perceived as more popular than athletically skilled children. Results illustrated that children sought out as friends by some are not always the same children perceived as popular. For example, a child lacking the behaviors or attributes necessary for popularity may befriend another child similar to himself/herself or more "in his/her league" while still admiring other children's

popularity and realizing they are not likely prospects for friendship. Thus, social skills were more vital for popularity than athletic skill. It may be that the unpopular children lacked social skill but were athletically skilled, and thus, rated other athletic children as desirable friends.

Research has found gender differences in the relative importance of social competence and athletic competence. Adler and colleagues (1992) found that while athletic competence was the most desirable trait for boys, this was not true for girls, who were more likely to be popular if they excelled in academics. Although social skills played a role in social status, it was lesser in importance than athletics in this study, for both genders. Similarly, Buchanan and colleagues (1976) found that athletics alone were most important to boys, while girls felt that excelling in academics and athletics were equally important. Given that more value is placed on athletic skill for boys' popularity than it is for girls', it is likely that risk-taking, also involving active, physical activity, is more significant for boys than for girls.

In review, an array of both behavioral and nonbehavioral traits has been found to impact popularity of children to various degrees. Social status has its roots in the formation of children's peer groups, which determine which traits are valued and which are not. Valued traits are shaped by peers through modeling and reinforcement; popular children are those who demonstrate a high level of the traits valued by the peer group. Two of the most powerful known factors influencing popularity of children include social competence and athletic competence. As athletic

competence has been shown to have a greater impact on popularity of boys than of girls (Adler, Kless, & Adler, 1992; Buchanan, Blankenbaker, & Cotten, 1976), risk-taking may also be more important for boys than for girls because it often involves active, physical behaviors, which is consistent with behaviors expected of the stereotypical male (Block, 1983; Frisch, 1977; Langlois & Downs, 1980; Smith & Lloyd, 1978). Thus, it was speculated that boys will value risk-taking in peers more than girls, given that active pursuits are emphasized in boys' socialization. The primary goal of this study was to evaluate the relative importance of risk-taking to both boys and girls in comparison to social and athletic competence.

It has also been documented that similarity is an important consideration in the formation of friendships (Singleton & Asher, 1977; 1979). Children tend to seek out others of their same age, race and gender for friendships; this similarity may extend to behavioral traits as well, such as social competence, athletic competence and most significantly, physical risk-taking. It is likely that a child high in risk-taking would tend to seek out other high risk-takers as friends, while a low risk-taker would seek out other low risk-takers as friends. It is also likely that risk-taking behavior has a significant influence on social status; engaging in risky behaviors may earn positive recognition from the peer group. Little research relevant to this area has been conducted, however. Thus, a second goal of this study was to investigate the validity of the matching principle for physical risk-taking with an elementary school population.

# CHAPTER III

## STATEMENT OF THE PROBLEM

Much of the literature on risk-taking focuses on the period of adolescence (e.g. Arnett, 1992; 1994; 1995; Zuckerman, 1979a; 1979b; Jessor, 1987). Younger children take risks as well, although to date, this population has been neglected in this area of study. The social value of physical risk-taking in childhood has not been adequately researched. Present knowledge in the area of risky behavior in young children is that their behaviors may differ from those of adolescence; however, both types may be manifestations of the same mechanisms. For example, reckless driving and unprotected sex are activities not likely to occur before puberty, for most children. Risk-taking at younger ages takes a different form; climbing trees, riding bicycles down steep hills, and swimming in deep water may be typical risky behaviors engaged in by an elementary school child. However, there is a scarcity of research in the area of correlates and social consequences of risk-taking in elementary school children.

The primary goal of the present study is to determine if elementary school children place a positive value on physical risk-taking behavior in comparison with social and athletic competence attributes. To accomplish this, the value of risk-taking in children was investigated by examining the role of children's ratings of desirability of hypothetical peers. A risk-taking characteristic of the hypothetical peers was compared to social and athletic competence characteristics to determine the relative

value placed on these behaviors by children. Social competence is a factor which has already been established as having a positive relationship with social status and will serve as a characteristic for comparison with risk-taking. Athletic competence was also investigated, as it has been found to have an association with popularity as well. Additionally, it may have been useful to distinguish risk-taking inherent in the context of sports activities from other physical risk-taking behavior unrelated to sports.

A second purpose of the study was to examine individual differences in desirability of peer characteristics. Specifically, a matching principle was investigated to ascertain whether, when judging potential friends, children seek out peers with levels of risk-taking similar to their own. If this matching principle existed, a child high in risk-taking would be more likely to rate highly another child also high in risk-taking, than a child low in risk-taking. Similarly, a low risk-taker would rate other low risk-takers as more desirable than high risk-takers. This concept was investigated through correlations of actual levels of the children's risk-taking, social competence and athletic competence with children's ratings of the desirability of hypothetical peers with varying levels of risk-taking, social competence and athletic competence.

Three related outcomes to this study were anticipated. First, it was hypothesized that risk-taking behavior and popularity would have a curvilinear relationship; that is, a moderate level of risk-taking would be valued most and would be more predictive of a high level of popularity than very low or very high levels of risk-taking behavior. This type of relationship has been demonstrated with academic

competence in boys (Adler, Kless, & Adler, 1992), and it was speculated that risk-taking may have a similar relationship with popularity. It was not known if the range of risk-taking measured in this study represents a range that includes inordinate risk which may be negatively perceived. Present knowledge about the value of risk-taking suggests a positive linear relationship in which the higher the level of risk-taking, the more positively it is perceived. There may be a maximum value of risk beyond which these behaviors would be perceived as socially undesirable, however. It was possible that the levels of risk-taking assessed by this study went beyond the maximum positive value, as perceived by children. Thus, a moderate level of risk-taking was likely to be the most desired, as it was likely that children reluctant to take any risks and children extremely high in risk-taking would both be perceived negatively and would not be rated as desirable.

A second hypothesis was that children will rate other children with levels of risk-taking similar to themselves as desirable. It has been noted in the literature that children seek similarity in friendships; children tend to seek out as friends others of their same age, gender, race, and those who share similar interests (Hartup, 1983; Kandel, 1978; Newcomb, 1961; Singleton & Asher, 1977, 1979). Thus, significant correlations were expected between scores of the children in the areas of risk-taking, social competence and athletic competence and their desirability ratings of hypothetical peers with similar levels of these same characteristics. Such a correlation would support the notion of a matching principle in that children can

recognize hypothetical peers with characteristics similar to themselves and perceive these peers as the most desirable for friendship.

Finally, gender differences were expected as well for the optimal level of risk-taking for popularity; it was speculated that boys would value a higher level of risk-taking than will girls. The reason for this difference may lie in socialization influences, which include family and the media; boys are encouraged to be more physically active than girls, for whom passivity is emphasized (Frisch, 1977; McArthur & Eisen, 1976; Smith & Lloyd, 1978; Sternglanz & Serbin, 1974; Tauber, 1979).

Results of this study may positively impact future research and injury prevention programs. Risk-taking behavior in children will be more easily targeted once knowledge is possessed about the social value of this behavior. If risk-taking is highly valued, as is expected, future programs may focus on both education about the dangers of risk-taking and the portrayal of risk-taking as socially undesirable in order to neutralize the positive value of this behavior.

# CHAPTER IV

# METHOD

## Participants

All children in the in the third, fourth and fifth grades of a local elementary school (approximately 150 children) were asked to participate in the study and were given consent forms to be signed by their parents. Both boys and girls were encouraged to participate in the study. Signed consent forms were returned by 46% of those solicited; 69 children, 33 girls and 36 boys, returned signed consent forms were verbally invited to participate. All of these children agreed to participate, and consequently, were included in the study.

The participants ranged in age from 8 to 11 years with a mean of 9.4 years. The majority of the participants were White (78%); the ethnicity of the remaining subjects was as follows: approximately 12% were Native American, 6% were Hispanic, 3% were African-American, and 1% were Asian-American. Two-parent households comprised 80% of the sample. With regard to education of the parents, approximately 4% had not completed high school, 28% graduated from high school, 33% completed some college, and 32% obtained a college degree. The remaining 3% of the parents did not report their level of education.

## Measures

Hypothetical Peer Rating Measure. In order to obtain information concerning the value of risk-taking, social competence, and athletic competence as perceived by

the child participants, a measure was administered in which children rated the desirability of playing with hypothetical peers by making preference ratings. This measure depicted various pictorial scenes of a target peer who was associated with three attributes (risk-taking, social competence, and athletic competence); each attribute was depicted as having a high, medium or low level. An example of a target peer is one who was shown climbing the highest branches of a tree and is playing with fire (high physical risk-taking), surrounded by one or two smiling children and one nonsmiling child (medium social competence), and receiving one fifth place ribbon (low athletic competence). The purpose of this arrangement was to facilitate preference ratings in which the attributes most salient to the participants are revealed.

Physical risk-taking by the target peer was represented pictorially by two components; climbing a tree and playing near a barbecue grill. High risk-taking was portrayed by a child climbing the highest branches of the tree and also playing with a burning stick on the grill. Medium risk-taking was portrayed by a child climbing moderately high in the tree and standing near the flaming grill, and low risk-taking was portrayed by a child standing at the base of the tree and looking up into the branches, and standing several feet away from the grill.

The social competence attribute was portrayed by three smiling and/or nonsmiling children with the target peer, in order to depict how well the target peer was able to get along with others. High social competence was represented by three smiling children, medium social competence portrayed two smiling children and one

nonsmiling child, and low social competence was represented by three nonsmiling children.

Finally, athletic competence was also illustrated with pictorial components. High athletic competence was portrayed by a child running a race ahead of the other runners and also surrounded by three first place trophies; medium athletic competence was represented by a child running a race in the midst of other runners, with one first, one second and one third place ribbon; and low athletic competence was portrayed by a child running the race behind the other runners along with one fifth place ribbon.

There were three levels of each of the three attributes, i.e., physical risk-taking, social competence, and athletic competence. This produces 27 possible combinations of these hypothetical target peer attributes; for example, high risk-taking, high social competence, high athletic competence; or high risk-taking, high social competence, medium athletic competence. For the purposes of this study, however, only six of the possible 27 combinations were used, which were those unique combinations in which one attribute was high, the second was medium, and the third was low. For example, one of these combinations would contain high risk-taking, medium social competence, and low athletic competence. Combinations with two or more of the attributes at the same level were excluded. For example, a hypothetical peer with medium risk-taking, medium social competence, and high athletic competence was not included, as both risk-taking and social competence

would reflect the same (medium) level. These six combinations were chosen in order to facilitate the participants' ability to discriminate among the target peers' attributes and presumably, make clear preference ratings. Additionally, this subset of all possible combinations was chosen for the sake of brevity, and with consideration for the limited attention span and interest of the participants. A pictorial representation of the three attributes for one of the hypothetical peers is presented in Appendix A.

Target peers with these six chosen combinations of attributes were drawn and photocopied onto sheets of $8^1/_2$" x 11" white paper. The target peers were presented to children in pairs, in order to obtain preference ratings. There were 15 possible pairings of the six target peers. However, the only pairings used in this study were those six in which levels of each attribute were different for each peer in the pair. For example, a pair of target peers could contain one peer with high risk-taking, medium social competence, and low athletic competence, while the other peer displayed medium risk-taking, low social competence, and high athletic competence. In other words, none of the levels of the three attributes were the same across the target peers in the pair. There were six unique pairs in which this arrangement of noncorresponding levels of each attribute was possible. This arrangement of six unique pairs of target peers was repeated once for each participant, resulting in a total of 12 pairs of hypothetical peers. Thus, children made 12 preference ratings for each of 12 pairs of same-gender target peers. For each pair of target peers presented, the participants were asked to indicate with which target peer in the pair they would most

like to play.

Participants' responses were recorded as 1=preferred and 0=nonpreferred for the target peers in each pair. In the pairing scheme, each target peer was presented and rated four times, and the total preference score for a target peer was the sum of the four ratings. Thus, possible scores for the hypothetical peer ratings for each unique attribute and level combination ranged from 0 to 4. A score of 0 would indicate that a particular target peer was never preferred, while a score of 4 would indicate that a target peer was preferred every time it was presented. The pairs of target peers which were presented to the participants appear in Table 1. Also, Table 2 shows two subject simulations and derivation of scores using this procedure. A standard script was used to describe and present the hypothetical peer rating measure, and is included in Appendix B.

Although this specific hypothetical peer measure is unique to this study, similar methods have been employed in other research (Kafry, 1982; Musun-Miller, 1993; Zakin, 1983). These studies have found measures using hypothetical peers to have solid reliability (90-99%) and validity. The construction of this measure was based on the use of logical constructs and was geared towards the capabilities of the participants, given their developmental level. A majority of the children could be classified as being in Piaget's stage of concrete operations in terms of cognitive development (Piaget, 1967); therefore, it was thought that the use of pictures to illustrate concepts investigated in the study would yield best results. A forced choice

format was employed in order to foster maximum variability in preference scores, so that the effects of preference for different levels of each attribute could be clearly demonstrated. As this method is fairly new, further validation in future studies is warranted.

Participant Popularity Ratings. Popularity of each participating child was assessed using a peer rating system. Each child was presented with a list of same gender classmates who were participating in the study, and was asked to rate how much they liked to play with each classmate, using a 9-point Likert-scale. A rating of 1 was anchored with the statement "not at all," the midpoint of 5 was anchored with "sometimes yes, sometimes no," and a rating of 9 was anchored with "almost all the time." An individual child's score was the mean of all ratings assigned to him or her by the other participating children. Previous research has shown the method of same-gender peer ratings to have superior reliability and validity in comparison with other popularity measures, such as peer nominations (Asher, Singleton, Tinsley, & Hymel, 1979; Cowen et al., 1983; Terry & Coie, 1991).

Participant Athletic Ratings. Athletic competence of each participant was assessed using teacher ratings; a similar method has been used in previous research and was found to have good reliability and validity (Boivin & Bégin, 1989). The elementary school physical education teacher rated the overall athletic skill of each participant on a 10-point Likert scale ranging from 1=poor athletic performance to 10=excellent athletic performance. Children's enjoyment of athletics was also rated

by the physical education teacher on a 1 to 10 scale where 1=little or no enjoyment of athletics, and 10=high enjoyment of athletics. The teacher was instructed to rate the children in comparison to the other same-gender children in their classes.

Parents of the participants were also asked to rate aspects of their children's athletic activities, using the Athletic Activities Questionnaire, developed specifically for the purposes of this study. This parent report measure assessed each child's athletic participation and enjoyment of athletics. Parents of the participants were asked to list each extra-curricular athletic activity in which their child was involved. Additionally, each participant's interest in and enjoyment of athletics were evaluated on a 5-point interval scale, in which 1=little or no interest in or enjoyment of athletics, and 5=high interest in and enjoyment of athletics.

Participant Physical Risk-Taking. The typical level of physical risk-taking behavior of each child was assessed by a parent report questionnaire, the Injury Behavior Checklist (IBC; Speltz, Gonzales, Sulzbacher, & Quan, 1990). This instrument contains 24 items concerning each child's injury-relevant behaviors, such as running into the street, climbing on furniture and jumping down stairs. Parents were asked to rate the frequency of each behavior on a 5-point scale: 0=not at all, 1=very seldom (has happened once or twice), 2=sometimes (about once a month), 3=pretty often (about once a week), and 4=very often (more than once a week). The IBC total score is the sum of the 24 items; scores can range from 0 to 96. Speltz and colleagues (1990) reported that internal consistency reliability of this measure, as

calculated with Cronbach's alpha, resulted in inter-item correlations which ranged from -.01 to .65 with a mean of .23 ($\alpha$=.87). Test-retest reliability for IBC total scores was .81 ($p < .01$). Convergent and construct validity of this measure have also been evaluated and found to be good (Speltz, Gonzales, Sulzbacher, & Quan, 1990). Previous research using this measure has also demonstrated significant positive correlations with teacher, peer and self-reported measures of children's risk-taking behavior as well as injuries received (Potts, Martinez, & Dedmon, 1995; Speltz et al., 1990).

Participant Injury History. The Injury History Questionnaire (Potts, Martinez, & Dedmon, 1995) was used to obtain information from parents concerning the lifetime history of actual injuries sustained by each participating child, as well as demographic information (see Appendix E). Occurrences of injuries including broken bones, concussions, burns, poisoning, animal bites and electric shock were assessed. Parents were asked to indicate the frequency of each type of injury and whether any injury required medical treatment.

Procedure

The Injury Behavior Checklist, the Injury History Questionnaire, and the Athletic Activities Questionnaire, together with a parental consent form, were sent home from school with each potential participating child. Parents were asked to complete this measure and return it to school with their child's signed consent form. All children with signed parental consent forms were verbally invited to participate in

an interview session with an experimenter during school hours. Each session lasted approximately 25 minutes and involved the administration of the measures involving ratings of hypothetical peers and peep nominations. Four female experimenters were trained in administration of each of the measures, using standard scripts, and each experimenter interviewed a random subset of the participants. Before administration of the hypothetical peer rating measure, children were asked to identify the different levels of each attribute to confirm their understanding of the measure. Teacher ratings of athletic competence were solicited from a physical education teacher who was familiar with each child's athletic competence. Upon completion of each individual testing session, each child was debriefed with a short discussion of safety principles and encouraged to seek an adult in any situation in which they are unsure of their safety. All experimental procedures conformed to guidelines established by the American Psychological Association (1992) for research with human subjects. In addition, the study was approved by the Institutional Review Board for research with human subjects.

# CHAPTER V

# RESULTS

## Analysis of Preference Ratings

The purpose of the primary analysis was to test the hypothesis that children differentially preferred hypothetical peers as a function of levels of each attribute of those target peers. Because each participant was presented with 12 trials, each participant had 12 opportunities to make a preference rating, and the total preference scores always summed to 12 across trials for each participant. Thus, this arrangement created a condition of singularity, and resulted in no variance when testing main effects for any between-group factors, which collapsed across the trial factor. Another constraint on the variance from the interaction of attribute and level was that high preference scores associated with one attribute determined low scores on another. A method chosen for testing preference effects in a less constrained manner was to eliminate this interdependency by excluding preference rating scores for the medium levels of each attribute in analyses and comparing only high and low levels. Thus, a 3 (attribute type: risk-taking, social competence, athletic competence) x 2 (attribute level: high, low) x 2 (gender) design was employed to determine these effects on peer preference ratings.

Significance levels for all analyses were set at $p < .05$. Repeated measures analyses of variance (ANOVAs) were conducted in order to examine the preference scores associated with high versus low levels of the three attributes (risk-taking, social

competence and athletic competence). Attribute and level served as the within-group independent variables, gender was a between-group independent variable, and the preference ratings of the hypothetical peers served as the dependent variable in all analyses. Only the interaction of attribute and level with gender and main effects for level of risk-taking was testable due to the interdependency of the hypothetical peer rating measure. Preliminary analyses revealed no significant experimenter effects; thus this variable was excluded from main analyses.

Analyses revealed a significant interaction effect between attribute and level, indicating that children discriminated among both type and level of the attributes presented to them, $F(2,122)=171.75$, $p<.001$. The results of the interaction are presented in Figure 1. Preference ratings for levels of each attribute are presented in Table 3. Dunn's one-tailed post-hoc tests, conducted to control for family-wise error, revealed significant differences between preferences for high social competence and high risk-taking $t(122)=30.47$, $p<.05$, between high athletic competence and high risk-taking $t(122)=19.99$, $p<.05$, and between high social competence and high athletic competence $F(2,122)=10.48$, $p<.05$. Thus, high social competence was most preferred, followed by high athletic competence, and least preferred was high risk-taking.

A second hypothesis was that preference ratings for the risk-taking attribute would have a curvilinear relationship with level; that is, medium levels were expected to be most preferred, while high and low levels of this attribute were expected to be

less preferred. A separate analysis was conducted for the physical risk-taking attribute alone, in order to examine hypothesized differences among the preferences for all three levels of this attribute. In this analysis, preference ratings for high risk-taking (RT) targets were compared with ratings for medium and low RT targets.

A separate ANOVA conducted among the three levels of risk-taking revealed a main effect of level, $\underline{F}(2,122)=231.89$, $\underline{p}<.001$. Table 4 demonstrates this main effect. Dunn's one-tailed post-hoc tests were conducted to control family-wise error. Results revealed significant differences between preference ratings for low and medium risk-taking, $\underline{t}(122)=13.64$, $\underline{p}<.05$, and also between medium and high risk-taking, $\underline{t}(122)=21.40$, $\underline{p}<.05$. These differences indicate that within risk-taking, participants discriminated among the different levels and showed the strongest preferences for low RT, intermediate preferences for medium RT, and lowest preferences for high levels of this attribute. Therefore, the hypothetical curvilinear pattern of preference was not found.

Because of the interdependency of the preference ratings, the overall results did not specifically reveal if the pattern was a result of preference for high social competence or if it was due to a rejection of high risk-taking. In order to determine which attributes were the most influential in preference ratings, means for each attribute combination, i.e., those associated with each target peer, were examined. Of the six different target peers, the two peers described as low risk-taking (combinations 5 and 6; refer to Table 1) were most highly preferred ($\underline{M}=3.71$,

SD=0.67 and M=2.99, SD=0.90, respectively). The next highest preferred were combinations 3 and 4, both of which represented medium-risk taking (M=2.83, SD=0.91 and M=1.61, SD=1.00, respectively). Finally, combinations 1 and 2, which displayed high levels of risk-taking, were least preferred (M=0.68, SD=.85 and M=0.19, SD=0.49, respectively). Thus, patterns of preference ratings more closely corresponded to levels of risk-taking than to levels of social competence or athletic competence. That is, the two most preferred combinations contained low risk-taking, those with intermediate preference scores contained medium risk-taking, and the two least preferred combinations contained high risk-taking.

Combinations 5, 6, and 3, the first, second and third most preferred combinations, also contained either high or medium levels of social competence, indicating that this attribute was salient to the participants as well. Combinations 5 and 3 contained high social competence and combination 6 depicted medium social competence. The other combination containing medium social competence was combination 1, which also displayed high risk-taking, and was ranked fifth in order of preference. Levels of athletic competence did not seem to closely correspond to preference ratings. Although there were significant differences between means for the athletic competence attribute, that effect was small compared to the influence of social competence and physical risk-taking on preference ratings.

Analysis of Participant Characteristics and the Matching Principle

Another purpose of the study was to test a matching hypothesis; specifically,

that children's own characteristics would affect their preference ratings of the target peers. In order to test the matching principle, information was gathered regarding characteristics of the participants themselves, so that it could be compared with the participants' preference ratings for those same attributes. See Table 5 for means and standard deviations of participant characteristics. The Injury Behavior Checklist (IBC), reflecting parent-reported risk-taking, allowed for a possible total score of 96. Participants' actual scores on this measure ranged from 0 to 86 with a mean of 18.96 (SD=14.74); most scores were within the range of 0 to 48 with the exception of an outlier with a score of 86. These findings are consistent with other research using this measure (Speltz, Gonzales, Sulzbacher, & Quan, 1990). Significant age differences were revealed on the total IBC scores, with younger children (ages 8-9 years) scoring higher than older children (ages 10-11 years), $t(67)=2.15$, $p<.05$, which may indicate that younger children are either engaging in more risky behaviors, or that this scale does not assess the types of risky behaviors in which older children engage. Examination of gender differences in the participants' characteristics revealed significant differences as well for IBC total scores, with boys scoring higher than girls, $t(57)=-2.04$, $p<.05$. Finally, there were significant differences in scores based on ethnicity; white children reportedly had fewer injuries which required medical treatment ($M=0.87$, $SD=1.08$) than did non-white children ($M=1.67$, $SD=1.35$).

The Injury History Questionnaire provided information about both the

frequency of injuries experienced by the participants as well as the number of these injuries which required medical treatment. The frequency of injuries reported ranged from 0 to 11 with a mean of 2.07 (SD=2.12). Injuries which required medical treatment ranged from 0 to 4 with a mean of 1.04 (SD=1.18). There were no age differences in the frequency of injuries or the number of injuries which required medical treatment, $t(67)=0.24$, n.s.; $t(67)=1.51$, n.s., respectively. There were also no significant gender differences for frequency of injuries or for injuries which required medical treatment, $t(55)=-1.33$, n.s.; $t(67)=0.11$, n.s., respectively.

Peer rated popularity scores had a possible range of 1 to 9; obtained scores ranged from 1.88 to 9.00 with a mean of 5.80 (SD=1.59). No significant age differences were revealed for this measure, $t(63)=-.94$, n.s.. Additionally, there were no gender differences in popularity ratings for this sample, $t(63)=.87$, n.s..

Teacher ratings of athletic competence (including skill and enjoyment) could range from 1 to 10. Participants' actual scores for athletic skill ranged from 3 to 8 with a mean of 6.42 (SD=1.10) for athletic skill, and scores for enjoyment of athletics ranged from 3 to 10 with a mean of 7.94 (SD=1.70). Enjoyment of athletics was rated by parents as well, on a 1 to 5 scale; participants' actual scores ranged from 1 to 5 with a mean of 4.00 (SD=1.08). Age differences in athletic competence were revealed; older children were rated as having significantly more athletic skill, $t(64)=-2.00$, $p<.05$, and also as getting more enjoyment from athletics than younger children, as rated by both parents and the physical education teacher,

$t(64)=-4.30$, $p<.001$; $t(64)=-2.65$, $p<.01$, respectively. No significant gender differences were found in skill in or enjoyment of athletics as rated by the physical education teacher or parents $t(64)=-0.58$, n.s.; $t(64)=-1.47$, n.s.; $t(64)=-0.23$, n.s., respectively. These parent ratings were significantly correlated with physical education teacher ratings. The correlation of athletic skill as rated by the physical education teacher with parent-rated athletic enjoyment was .36 ($p<.01$), while the correlation of athletic enjoyment as rated by the physical education teacher with athletic enjoyment as rated by parents was .53, ($p<.01$). Therefore, only the physical education teacher ratings were chosen for inclusion in further analyses over the parent ratings, because the two sets were correlated, and also because scores from the physical education teacher were consistent with regard to rater, unlike the ratings from each participant's parents.

According to the matching principle hypothesis proposed in this study, it was expected that the risk-taking, social competence and athletic competence attributes of the participants themselves would correspond to their preferences for the hypothetical peers. Correlations were conducted between participants' actual levels of risk-taking, social competence and athletic competence and their ratings of the hypothetical peers, in order to test this matching principle. These correlations yielded nonsignificant results. Because some research has indicated that boys may value physical risk-taking while girls do not (Ingersoll & Orr, 1989), separate analyses were conducted for each gender. Again, no significant correlations were found. Thus, no support was found

for the matching hypothesis (see Table 6).

Exploration of the relationships among these characteristics of the participants, however, did uncover significant relationships. Analyses revealed a negative correlation between scores obtained on the Injury Behavior Checklist and the peer ratings the participant received ($r=-0.26$, $p<.02$). That is, children who were rated as higher risk-takers by their parents received lower peer popularity ratings. This is consistent with the pattern of results obtained from the hypothetical peer ratings, in which high risk-taking behavior was least preferred. The negative correlation between IBC scores and popularity ratings suggests that children prefer to associate with other children who do not display risk-taking behavior.

# CHAPTER VI

## DISCUSSION

The primary purpose of this study was the investigation of the value children place on three peer attributes: risk-taking, social competence, and athletic competence. Differences among preference ratings for levels of each attribute were significant. Results of preference ratings for different levels of the attributes revealed that lower levels of risk-taking received higher preference ratings, whereas the pattern was opposite for social competence and athletic competence, in which higher levels of these attributes were preferred. These findings were contrary to the hypothesis that a moderate level of physical risk-taking would be preferred in peers. Instead, the lower the level of risk-taking, the more highly was this attribute valued. Therefore, there was a negative linear relationship between level of risk-taking and preference scores. This outcome indicates that in this sample of children, it is likely that risk-taking behavior is inversely related to popularity, and may in fact be a deterrent to making friends. If risk-taking is viewed from a stance of safety, participants showed a high preference for depictions of safety (low risk-taking) and low preferences for target peers displaying unsafe behavior, such aq high and medium levels of risk-taking.

Additional support for the unpopularity of physical risk-taking lies in the significant inverse correlation between participants' own risk-taking (the IBC score) and popularity ratings by their peers. This indicates that children who themselves engage in a high level of risky behavior are less popular than those who engage in

low levels of risky behavior. Therefore, physical risk-taking behavior was negatively correlated with popularity. These findings contrast with research on risk-taking in adolescence, in which this behavior is usually conceptualized as being positively associated with popularity (Arnett, 1995; Jessor, 1991). Some empirical studies have also found a positive relationship between high risk-taking in adolescence and positive peer relations. In a longitudinal study, Maggs, Almeida, and Galambos (1995) found that adolescents who reported higher risk-taking also reported feeling more accepted by peers than did low risk-takers. This effect of increased acceptance became stronger as the participants in the study grew older. Thus, it appears that although there may be a positive correlation between risk-taking and popularity in adolescents, that relationship is reversed for elementary school age children.

These developmental changes in perceptions of risk-taking between childhood versus adolescence may be due to various differences such as level of moral reasoning and sensation seeking. For example, developmental differences in moral reasoning may be a factor in the inverse relationship between risk-taking and popularity in this sample. Younger children perceive safety rules as having greater significance than adolescents do, not necessarily because they agree with the reasons behind rules, but simply because rules are meant to be followed. Thus, peers who take risks are "breaking rules" (Ast, 1995). Another mechanism relates to the relative influence of adults versus peers. Young children assimilate information about safety from authority figures such as parents and teachers, to whom they look for guidance and as

models of behavior. As children enter adolescence, the peer group gains increasing influence as teens attempt to establish independence through rebellion against parental and societal norms (Arnett, 1995). Risk-taking behavior is usually not condoned by authority figures, which may make it more attractive to adolescents, whereas younger children are more concerned with pleasing authority figures. Thus, younger children would be more likely than adolescents to view risk-taking in a negative light. However, the peer group is influential in childhood as well; thus, it is possible that the low incidence of risk-taking behavior in this sample is due to either punishment or lack of reinforcement of this behavior.

Another developmental difference between children and adolescents which may account for the difference in the value of risk-taking is the emergence of sensation seeking, which, according to cross-sectional developmental studies, peaks in adolescence (Zuckerman, 1990). Lower need for novelty and complexity of experiences in childhood may account for the lack of endorsement of physical risk-taking at this age. In adolescence, perhaps partly due to higher levels of sensation seeking, risk-taking may be more rewarding, and consequently, acquire a positive social value.

The finding that social competence was highly valued at high levels is consistent with previous research (Coie & Dodge, 1988; Frentz, Gresham, & Elliott, 1991; Hartup, 1983). Social competence is a notable influence on popularity in children. Children are drawn to other peers who are socially skilled and are able to

interact well with others. In this study, social ability seemed to take precedence over athletic ability and risk-taking for both genders. This finding points to the importance of this trait for success with peers and interpersonal relationships.

Athletic competence also played a role in preference ratings, although the effect was not as powerful as that for social competence, indicating that athletic competence held less salience for the participants. Results are consistent with previous research which has found athletic competence to be positively related to popularity (Adler, Kless, & Adler, 1992; Boivin & Bégin, 1989; Coie, Dodge, & Kupersmidt, 1990). Lower preferences for athletic competence may also be due to limits of the measure used. The strength of the preferences for high social competence and for low risk-taking may have resulted in little variance remaining for preferences for athletic competence, due to the interdependence of preferences for each characteristic.

The findings of this study suggest a provocative developmental difference in peer acceptance of risk-taking. While risk-taking does appear to be a vehicle for gaining popularity in adolescence, younger children do not value this behavior. Instead, social and athletic competence are seen as more attractive characteristics, consistent with previous research.

A secondary purpose of this study was investigation of a matching principle which states that individuals tend to prefer to affiliate with others who are similar to themselves. This analysis yielded nonsignificant results for risk-taking, indicating that

even high risk-takers rejected risk-taking in peers. This may be due to a universal rejection of this characteristic based on socially desirable responding. Similarly, social competence is likely universally desirable, and these universal preferences may override personal preferences.

Another hypothesis concerned gender differences in preference ratings. It was predicted that boys would value a higher level of risk-taking than girls, due to socialization factors, which encourage greater risk-taking in boys as compared to girls. These differences were not found; thus, it is likely that the overall very low preference for risk-taking behavior may have obscured any possible gender effects. The only significant gender difference was that boys' scores were higher than girls' on the Injury Behavior Checklist, replicating previous findings that boys engage in more physical risk-taking than girls (Potts et al., in press). However, both genders stated low preferences for risk-taking; thus, this demonstrates an interesting contradiction between stated preference and actual behavior. This finding may be associated with the participants' level of development; specifically, they may not have yet developed an awareness of their own behavior; thus their actual behavior may be different than their stated preferences in others.

Given that there was little evidence of social endorsement of risk-taking, one must question the possible motivation for engaging in these behaviors. Perhaps a lack of self-control as well as naiveté concerning one's physical limitations contributes to risk-taking behaviors among children of elementary school age. Due to limited

experience with pain and other negative consequences, young children may not be deterred from engaging in risk-taking. Personality factors such as sensation seeking may also play a significant role (Zuckerman, 1979b). Additionally, high energy levels and curiosity in children may lend themselves to physical exploration which may result in injury. Further study is warranted to explore these possibilities.

Interpretation of results of preference ratings, as well as the matching principle hypothesis, may be limited by a few methodological factors. First, the method used to gather information about preferences for the three characteristics did not allow for a large amount of variability. A high rating of one characteristic essentially resulted in a low rating for another. Perhaps a method of individual ratings on a Likert-type scale for each characteristic, rather than dichotomous preference ratings for one of a pair, may provide more latitude for variability of preferences for the characteristics.

Secondly, given that the experimenters were adults, one explanation for the low preference of risk-taking may have been that participants felt obligated to provide certain types of responses to an authority figure even if these were not the children's true inclinations. Participants were informed that there were no right or wrong answers, and that their responses would be confidential, in order to reduce this demand characteristic. However, some participants offered spontaneous comments related to the importance of safety over risk, such as "You can get hurt doing risky things like that." These responses, in addition to results which demonstrated a negative correlation between risk-taking behaviors and popularity, suggest a strong

belief in the importance of acting safely, which may have influenced the low preference ratings for physical risk-taking behaviors. The children in the study were likely at a developmental level in which rules are rigidly adhered to simply because rules are always "right."

A third limitation of the study is due to the voluntary nature of participation in the study, which resulted in inherent selectivity of the sample. The response rate was 46%, given that 69 out of 150 children and parents who were asked to participate gave their consent. Thus, there may be some significant differences between those who chose to participate and those who did not. These differences may have affected findings of the study, which places restrictions on the generalizability of the results.

Future research should continue to address physical risk-taking in other populations, including schools with more diversity in terms of demographics, in order to obtain a sample more representative of the country. A sample employing a wider age range may be desirable as well, in order to explore the possibility of a developmental trend which reveals the reversal of the value of risk-taking at older ages. Additionally, it may be beneficial to use multiple measures to assess risk-taking behavior to ensure that all possible types of this behavior are addressed. Although the results of this study contrast with other research in the area of risk-taking, childhood injury remains a significant societal problem and merits further investigation as it relates to risk-taking, due to research which has found an association between these two variables.

References

Achenbach, T.M., & Edelbrock, C.S. (1981). Behavioral problems and competencies reported by parents of normal and disturbed children aged four to sixteen. Monographs of the Society for Research in Child Development, 46, (Serial No. 88).

Adams, G.R., & Crane, P. (1980). An assessment of parents' and teachers' expectations of preschool children's social preference for attractive or unattractive children and adults. Child Development, 51, 224-231.

Adler, P.A., Kless, S.J., & Adler, P. (1992). Socialization to gender roles: Popularity among elementary school boys and girls. Sociology of Education, 65, 169-187.

American Psychological Association. (1992, Dec.). Ethical Principles of Psychologists and Code of Conduct. American Psychologist, 47, 1597-1611.

Arnett, J. (1992). Reckless behavior in adolescence: A developmental perspective. Developmental Review, 12, 339-373.

Arnett, J. (1994). Sensation seeking: A new conceptualization and a new scale. Personality and Individual Differences, 16, 289-296.

Arnett, J. (1995). The young and the reckless: Adolescent reckless behavior. Current Directions in Psychological Science, 4, 67-71.

Asher, S.R., Singleton, L.C., Tinsley, B.R., & Hymel, S. (1979). A reliable sociometric measure for preschool children. Developmental Psychology, 15, 443-

444.

Ast, M.E. (1995). Preschool children's conceptualization of safety and moral rules. Unpublished doctoral dissertation, Oklahoma State University.

Baker, A.K., Barthelemy, K.J., & Kurdek, L.A. (1993). The relation between fifth and sixth graders' peer-rated classroom social status and their perceptions of family and neighborhood attributes. Journal of Applied Developmental Psychology, 14, 547-556.

Baker, S.P., O'Neill, B., & Karpf, R.S. (1984). The injury fact book. Lexington, MA: D.C. Heath.

Baumrind, D. (1991). The influence of parenting style on adolescent competence and substance use. Journal of Early Adolescence, 11, 56-95.

Berndt, T.J., & Das, R. (1987). Effects of popularity and friendship on perceptions of the personality and social behavior of peers. Journal of Early Adolescence, 7, 429-439.

Beirman, K.L. (1986). Process of change during social skills training with preadolescents and its relationship to treatment outcome. Child Development, 57, 230-240.

Block, J. (1983). Differential premises arising from differential socialization of the sexes: Some conjectures. Child Development, 54, 1335-1354.

Boivin, M., & Bégin, G. (1989). Peer status and self-perception among early elementary school children: The case of the rejected children. Child Development,

60, 591-596.

Brewer, M.B., & Crano, W.D. (1994). Social Psychology. St. Paul, MN: West Publishing Company.

Bromiley, P., & Curley, S.P. (1992). Individual differences in risk-taking. In J.F. Yates, (Ed.), Risk Taking Behavior (pp. 87-132). Chichester, England: John Wiley & Sons.

Brown, B.B., Lohr, M.J., & McClenahan, E.L. (1986). Early adolescents' perceptions of peer pressure. Journal of Early Adolescence, 6, 139-154.

Brown, R. (1965). Social Psychology. New York: The Free Press.

Brown, R. (1986). Social Psychology: The Second Edition. New York: The Free Press.

Buchanan, H.T., Blankenbaker, J., & Cotten, D. (1976). Academic and athletic ability as popularity attributes in elementary school children. Research Quarterly, 47, 320-325.

Buzzelli, C.A. (1992). Popular and rejected children's social reasoning: Linking social status and social knowledge. The Journal of Genetic Psychology, 153, 331-342.

Byrne, D. (1971). The attraction paradigm. New York: Academic Press.

Charlesworth, R., & Hartup, W.W. (1967). Positive social reinforcement in the nursery school peer group. Child Development, 38, 993-1002.

Clark, A.W., & Prolisko, A. (1979). Social-role correlates of driving

accidents. Human Factors, 21, 655-659.

Coie, J.D. (1990). Toward a theory of peer rejection. In S.R. Asher & J.D. Coie (Eds.), Peer rejection in childhood (pp. 365-401). New York: Cambridge University Press.

Coie, J.D., & Dodge, K.A. (1983). Continuities and changes in children's social status: A 5-year longitudinal study. Merrill-Palmer Quarterly, 29, 261-282.

Coie, J.D., & Dodge, K.A. (1988). Multiple sources of data on social behavior and social status in the school: A cross-age comparison. Child Development, 59, 815-829.

Coie, J.D., Dodge, K.A., & Kupersmidt, J. (1990). Peer group behavior and social status. In S.R. Asher & J.D. Coie (Eds.), Peer rejection in childhood (pp. 17-59). New York: Cambridge University Press.

Coie, J.D., & Kupersmidt, J. (1983). A behavioral analysis of emerging social status in boy's groups. Child Development, 54, 1400-1416.

Coppens, N.M. (1986). Cognitive characteristics as predictors of children's understanding of safety and prevention. Journal of Pediatric Psychology, 11, 189-202.

Coppens, N.M., & Gentry, L.K. (1991). Video analysis of playground injury-risk situations. Research in Nursing and Health, 14, 129-136.

Corsaro, W.A. (1985). Friendship and peer culture in the early years. Norwood, NJ: Ablex.

Cowen, E.L., Pederson, A., Babigianai, H., Izzo, L.D., & Trost, M.A. (1983). Long-term follow-up of early detected vulnerable children. Journal of Consulting and Clinical Psychology, 41, 438-446.

Dahlback, O. (1990). The social value of risk-taking. European Journal of Social Psychology, 20, 531-535.

Dodge, K. (1983). Behavioral antecedents of peer social status. Child Development, 54, 1386-1399.

Dubow, E.F., & Cappas, C.L. (1988). Peer social status and reports of children's adjustment by their teachers, by their peers and by their self-ratings. Journal of School Psychology, 26, 69-75.

Elkind, D. (1967). Egocentrism in adolescence. Child Development, 38, 1025-1034.

Felson, R., & Bohrnstedt, G. (1979). Are the good beautiful or are the beautiful good? The relationship between children's perceptions of ability and perceptions of physical attractiveness. Social Psychology Quarterly, 42, 386-392.

Fischhoff, B. (1992). Risk-taking: A developmental perspective. In J.F. Yates, (Ed.), Risk Taking Behavior (pp. 133-162). Chichester, England: John Wiley & Sons.

Frentz, C., Gresham, F.M., & Elliott, S.N. (1991). Popular, controversial, neglected, and rejected adolescents: Contrasts of social competence and achievement differences. Journal of School Psychology, 29, 109-120.

Frisch, H.L. (1977). Sex stereotypes in adult-infant play. Child Development, 48, 1671-1675.

Galambos, N.L., & Silbereisen, R.K. (1987). Substance abuse in West German youth: A longitudinal study of adolescents' use of alcohol and tobacco. Journal of Adolescent Research, 2, 161-174.

Garbarino, J. (1988). Preventing childhood injury: Developmental and mental health issues. American Journal of Orthopsychiatry, 58, 25-45.

Haddon, W. Jr. (1974). Strategy in preventive medicine: Passive vs. active approaches to reducing human wastage. Journal of Trauma, 14, 353-354.

Harter, S. (1982). The perceived competence scale for children. Child Development, 53, 87-97.

Harter, S. (1990). Adolescent self and identity development. In S.S. Feldman & G.R. Elliot (Eds.), At the threshold: The developing adolescent (pp. 352-387). Cambridge, MA: Harvard University Press.

Hartup, W.W. (1983). Peer Relations. In P.H. Mussen (Ed.), Handbook of Child Psychology (pp. 103-196). New York: John Wiley & Sons.

Hartup W.W., & Moore, S.G. (1990). Early peer relations: Developmental significance and prognostic implications. Early Childhood Research Quarterly, 5, 1-17.

Henggeler, S.W., Edwards, J.J., Cohen, R., & Summerville, M.B. (1991). Predicting changes in children's popularity: The role of family relations. Journal of

Applied Developmental Psychology, 12, 205-218.

Horvath, P., & Zuckerman, M. (1993). Sensation seeking, risk-appraisal, and risky behavior. Personality and Individual Differences, 14, 41-52.

Ingersoll, G.M., & Orr, D.P. (1989). Behavioral and emotional risk in early adolescents. Journal of Early Adolescence, 9, 396-408.

Jessor, R. (1987). Problem behavior theory, psychosocial development, and adolescent problem drinking. British Journal of Addiction, 82, 331-342.

Jessor, R. (1991). Risk behavior in adolescence: A psychosocial framework for understanding and action. Journal of Adolescent Health, 12, 597-605.

Jessor, R., & Jessor, S.L. (1977). Problem behavior and psychosocial development: A longitudinal study of youth. New York: Academic Press.

Kafry, D. (1982). Sensation seeking of young children. Personality and Individual Differences, 3, 161-166.

Kandel, D.B. (1978). Similarity in real life friendship pairs. Journal of Personality and Social Psychology, 36, 306-312.

Kennedy, J.H. (1990). Determinants of peer social status: Contributions of physical appearance, reputation, and behavior. Journal of Youth and Adolescence, 19, 233-244.

Ladd, G.W. (1981). Effectiveness of a social learning method for enhancing children's social interaction and peer acceptance. Child Development, 52, 171-178.

Langlois, J.H., & Downs, A.C. (1980). Mothers, fathers and peers as

socialization agents of sex-typed play behaviors in young children. Child Development, 51, 1237-1247.

Langlois, J.H., & Stephan, C. (1977). The effects of physical attractiveness and ethnicity on children's behavioral attributions and peer preferences. Child Development, 48, 1694-1698.

Leiter, M.P. (1977). A study of reciprocity in preschool play groups. Child Development, 48, 1288-1295.

Lewthwaite, R., & Piparo, A.J. (1993). Goal orientations in young competitive athletes: Physical achievement, social-relational, and experiential concerns. Journal of Research in Personality, 27, 103-117.

McArthur, L.Z., & Eisen, S.V. (1976). Television and sex-role stereotyping. Journal of Applied Social Psychology, 6, 329-251.

McIntire, M.S. (1977). Safety packaging: A model for successful accident prevention. Pediatric Annals, 6, 706-708.

Maggs, J.L., Almeida, D.M., & Galambos, N.L. (1995). Risky business: The paradoxical meaning of problem behavior for young adolescents. Journal of Early Adolescents, 15, 344-362.

Manheimer, D.I., & Mellinger, G.D. (1967). Personality characteristics of the child accident repeater. Child Development, 38, 491-513.

Martens, R. (1986). Youth sport in the USA. In M.R. Weiss & D. Gould (Eds.), Sport for children and youths (pp.27-34). Champaign: IL. Human Kinetics.

Martin, R.A., & Lefcourt, H.M. (1983). Sense of humor as a moderator of the relation between stressors and moods. Journal of Personality and Social Psychology, 45, 1313-1324.

Masten, A.S., Morison P., & Pellegrini, D.S. (1985). A revised class play method of peer assessment. Developmental Psychology, 21, 523-533.

Masters, J.C., & Furman, W. (1981). Popularity, individual friendship selection, and specific peer interaction among children. Developmental Psychology, 17, 344-350.

Matheny, A.P. Jr. (1988). Accidental Injuries. In D.K. Routh, Handbook of Pediatric Psychology, (pp. 108-134). New York: Guilford Press.

Matheny A.P. Jr., & Fisher, J.E. (1984). Behavioral perspectives on children's accidents. In M.L. Wolraich & D.K. Routh (Eds.), Advances in developmental and behavioral pediatrics (Vol. 5). Greenwich, CT: JAI Press.

Miller, N., & Gentry, K.W. (1980). Sociometric indices of children's peer interaction in the school setting. In H.C. Foot, A.J. Chapman, and J.R. Smith, (Eds.), Friendship and Social Relations in Children. Chichester, England: Wiley.

Mize, J., & Ladd, G.W. (1990). A cognitive-social learning approach to social-skill training with low-status preschool children. Developmental Psychology, 26, 388-397.

Musun-Miller, L. (1993). Social acceptance and social problem solving in preschool children. Journal of Applied Developmental Psychology, 14, 59-70.

Newcomb, T.M. (1961). The acquaintance process. New York: Holt, Rinehart & Winston.

Ozeran, B.J. (1973). Sensation seeking as a predictor of leadership in leaderless, task-oriented groups. Master's thesis, University of Hawaii.

Pellegrini, A.D. (1989). What is a category? The case of rough-and-tumble play. Ethology and Sociobiology, 10, 331-341.

Pellegrini, D.S., Masten, A.S., Garmezy, N., & Ferrarese, M. (1987). Correlates of social and academic competence in middle childhood. Journal of Child Psychology and Psychiatry, 28, 699-714.

Perry, D.G., & Bussey, K. (1979). The social learning theory of sex differences: Imitation is alive and well. Journal of Personality and Social Psychology, 37, 1699-1712.

Petersen, A.C. (1988). Adolescent development. Annual Review of Psychology, 39, 583-607.

Peterson, L., Gillies, R., Cook, S.C., Schick, B., & Little, T. (1994). Developmental patterns of expected consequences for simulated bicycle injury events. Health Psychology, 13, 218-223.

Piaget, J. (1967). Six Psychological Studies. New York: Vintage.

Pless, J. (1978). Accident prevention and health education: back to the drawing board? Pediatrics, 62, 431-435.

Poche, C., Brouwer, R., & Swearington, M. (1981). Teaching protection to

young children. Journal of Applied Behavioral Analysis, 14, 169-176.

Potts, R., Martinez, I.G., & Dedmon, A. (1995). Childhood risk-taking and injury: Self-report and informant measures. Journal of Pediatric Psychology, 20, 661-668.

Potts, R., Martinez, I.G., Dedmon, A., Schwarz, L.K., DiLillo, D.K., & Swisher, L. (in press). Cross-validation of the Injury Behavior Checklist in a school-age sample. Journal of Pediatric Psychology.

Putallaz, M., & Gottman, J.M. (1981). Social skills and group acceptance. In S.R. Asher & J.M. Gottman, (Eds.), The Development of Children's Friendships, (pp. 116-149). New York: Cambridge University Press.

Rivera, F., & Mueller, B. (1987). The epidemiology and causes of childhood injuries. Journal of Social Issues, 43, 13-31.

Rodriguez, J.G. (1990). Childhood injuries in the United States: A priority issue. American Journal of Diseases of Children, 144, 625-626.

Rogosch, F.A., & Newcomb, A.F. (1989). Children's perceptions of peer reputations and their social reputations among peers. Child Development, 60, 597-610.

Schulzinger, M.S. (1956). The accident syndrome. Springfield, IL: Thomas.

Sheehy, N.P., & Chapman, A.J. (1986). Accidents, perceptions of danger, and the social context: A conceptual analysis. Journal of Community Psychology,

14, 307-314.

Singleton, L.C., & Asher, S.R. (1977). Peer preferences and social interaction among third-grade children in an integrated school district. Journal of Educational Psychology, 69, 330-336.

Singleton, L.C., & Asher, S.R. (1979). Racial integration and children's peer preferences: An investigation of developmental and cohort differences. Child Development, 50, 936-941.

Smith, C., & Lloyd, B. (1978). Maternal behavior and perceived sex of infant: Revisited. Child Development, 49, 1263-1266.

Speltz, M.L., Gonzales, N., Sulzbacher, S., & Quan, L. (1990). Assessment of injury risk in young children: A preliminary study of the Injury Behavior Checklist. Journal of Pediatric Psychology, 15, 373-383.

Sternglanz, S.H., & Serbin, L.A. (1974). Sex role stereotyping in children's television programs. Developmental Psychology, 10, 710-715.

Strain, P.S. (1977). An experimental analysis of peer social initiation on the behavior of withdrawn preschool children: Some training and generalization effects. Journal of Abnormal Child Psychology, 5, 445-455.

Stuart, D.L., Gresham, F.M., & Elliott, S.N. (1991). Teacher ratings of social skills in popular and rejected males and females. School Psychology Quarterly, 6, 16-26.

Tanaka, J.S., & Westerman, M.A. (1988). Common dimensions in the

assessment of competence in school-aged girls. Journal of Educational Psychology, 80, 579-584.

Tauber, M.A. (1979). Sex differences in parent-child interaction styles during a free-play session. Child Development, 50, 981-988.

Teger, A.I., & Pruitt, D.G. (1967). Components of group risk taking. Journal of Experimental Social Psychology, 3, 189-205.

Terry, R., & Coie, J.D. (1991). A comparison of methods for defining sociometric status among children. Developmental Psychology, 27, 867-880.

Wallach, M.A., Kogan N., & Bem, D.J. (1962). Group influence on individual risk taking. Journal of Abnormal and Social Psychology, 65, 75-86.

Zakin, D.F. (1983). Physical attractiveness, sociability, athletic ability, and children's preference for their peers. The Journal of Psychology, 115, 117-122.

Zuckerman, M. (1979a). Sensation seeking: Beyond the optimal level of arousal. Hillsdale, NJ: Erlbaum.

Zuckerman, M. (1979b). Sensation seeking and risk-taking. In C.E. Izard (Ed.), Emotions in personality and psychopathology. New York: Plenum.

Zuckerman, M. (1990). The psychophysiology of sensation seeking. Journal of Personality, 58, 313-339.

Table 1

Combinations of Three Unique Levels of Attributes in Target Peers

| | Behavioral Attributes | | |
|---|---|---|---|
| Combinations | Risk-Taking | Social Competence | Athletic Competence |
| 1 | High | Medium | Low |
| 2 | High | Low | Medium |
| 3 | Medium | High | Low |
| 4 | Medium | Low | High |
| 5 | Low | High | Medium |
| 6 | Low | Medium | High |

Note. The six pairs of combinations with nonrepeating levels of each characteristic are as follows: 1-4, 2-3, 3-6, 4-5, 1-5 and 2-6. This set of six pairs was shown twice, resulting in 12 pairs of target peers, and thus, 12 hypothetical peer ratings for each participant.

Table 2

Subject Simulations with Hypothetical Peer Ratings

Hypothetical peers with high risk-taking (RT): 1,2 (See Table 1)
high social competence (SC): 3,5
high athletic competence (AC): 4,6

Pairs in which each characteristic is a different level between the two peers:

| | | |
|---|---|---|
| 1 and 4 | 3 and 6 | 1 and 5 |
| 2 and 3 | 4 and 5 | 2 and 6 |

In this pattern, each peer appears twice. Also, this pattern will be repeated, resulting in 2 trials of six pairs, for a total of 12 pairs. Therefore, each hypothetical peer will be shown a total of 4 times.

| Participant 1 | Hypothetical Peer | | | | | |
|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 |
| Trial 1 | | | | | | |
| 1st pairing | 1 | 1 | 0 | 0 | 0 | 1 |
| 2nd " | 1 | 1 | 0 | 1 | 0 | 0 |
| Trial 2 | | | | | | |
| 1st pair | 1 | 1 | 0 | 0 | 0 | 0 |
| 2nd pair | 0 | 1 | 1 | 1 | 1 | 0 |
| Totals | 3 | 4 | 1 | 2 | 1 | 1 |

Average scores (a higher number is more desirable):
High RT (Peers 1 and 2): 3 + 4 = 7/2 = 3.5
High SC (Peers 3 and 5): 1 + 1 = 2/2 = 1
High AC (Peers 4 and 6): 2 + 1 = 3/2 = 1.5

| Participant 2 | Hypothetical Peer | | | | | |
|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 |
| Trial 1 | | | | | | |
| 1st pair | 0 | 0 | 1 | 1 | 1 | 1 |
| 2nd pair | 0 | 1 | 0 | 1 | 0 | 0 |
| Trial 2 | | | | | | |
| 1st pair | 0 | 1 | 0 | 1 | 1 | 0 |
| 2nd pair | 0 | 1 | 1 | 0 | 1 | 0 |
| Totals | 0 | 3 | 2 | 3 | 3 | 1 |

Average scores:
High RT (Peers 1 and 2): 0 + 3 = 3/2 = 1.5
High SC (Peers 3 and 5): 2 + 3 = 5/2 = 2.5
High AC (Peers 4 and 6): 3 + 1 = 4/2 = 2

Table 3

Preference Ratings for Levels of Each Attribute

| Attribute | Parameters | |
|---|---|---|
| | Mean | Standard Deviation |
| Risk-Taking | | |
| High | .87 | 1.01 |
| Medium | 4.43 | 1.10 |
| Low | 6.70 | 1.20 |
| Social Competence | | |
| High | 6.54 | 1.17 |
| Medium | 3.67 | .98 |
| Low | 1.80 | 1.22 |
| Athletic Competence | | |
| High | 4.59 | 1.48 |
| Medium | 3.90 | .62 |
| Low | 3.51 | 1.43 |

Table 4

Main Effect for Level of Attribute

| | Parameters | | | | |
|---|---|---|---|---|---|
| Attribute | SS | DF | MS | F | Sig of F |
| Risk-Taking | | | | | |
| Within Cells | 232.47 | 122 | 1.91 | | |
| Level | 883.74 | 2 | 441.87 | 231.89 | .001 |
| Social Competence | | | | | |
| Within Cells | 235.64 | 122 | 1.93 | | |
| Level | 584.36 | 2 | 292.18 | 151.27 | .001 |
| Athletic Competence | | | | | |
| Within Cells | 299.31 | 122 | 2.45 | | |
| Level | 31.03 | 2 | 15.51 | 6.32 | .002 |

Note. The interdependency of the measure used results in nonsignificant between-group effects.

Table 5

Means and Standard Deviations for Participant Characteristics by Age and Gender

| Characteristics | Gender and Age | | | |
|---|---|---|---|---|
| | Female | | Male | |
| | Younger[a] | Older | Younger | Older |
| IBC Total Scores[b] | | | | |
| Mean | 18.06 | 12.07 | 25.45 | 17.29 |
| Standard Deviation | 9.08 | 10.59 | 18.87 | 14.24 |
| Popularity Ratings[c] | | | | |
| Mean | 5.63 | 6.43 | 5.67 | 5.57 |
| Standard Deviation | 1.67 | 1.27 | 1.72 | 1.60 |
| Athletic Skill[d] | | | | |
| Mean | 5.94 | 6.80 | 6.41 | 6.67 |
| Standard Deviation | 1.25 | 1.01 | 1.05 | 0.89 |

[a]"Younger" children were 8-9 years old; "older" children were 10-11 years old.

[b]IBC total scores had a possible range of 0 to 24.

[c]Popularity ratings had a possible range of 1 to 9.

[d]Ratings of athletic skill had a possible range of 1 to 10.

Table 6

Correlations of Participant Characteristics with Preference Ratings for Hypothetical Peers

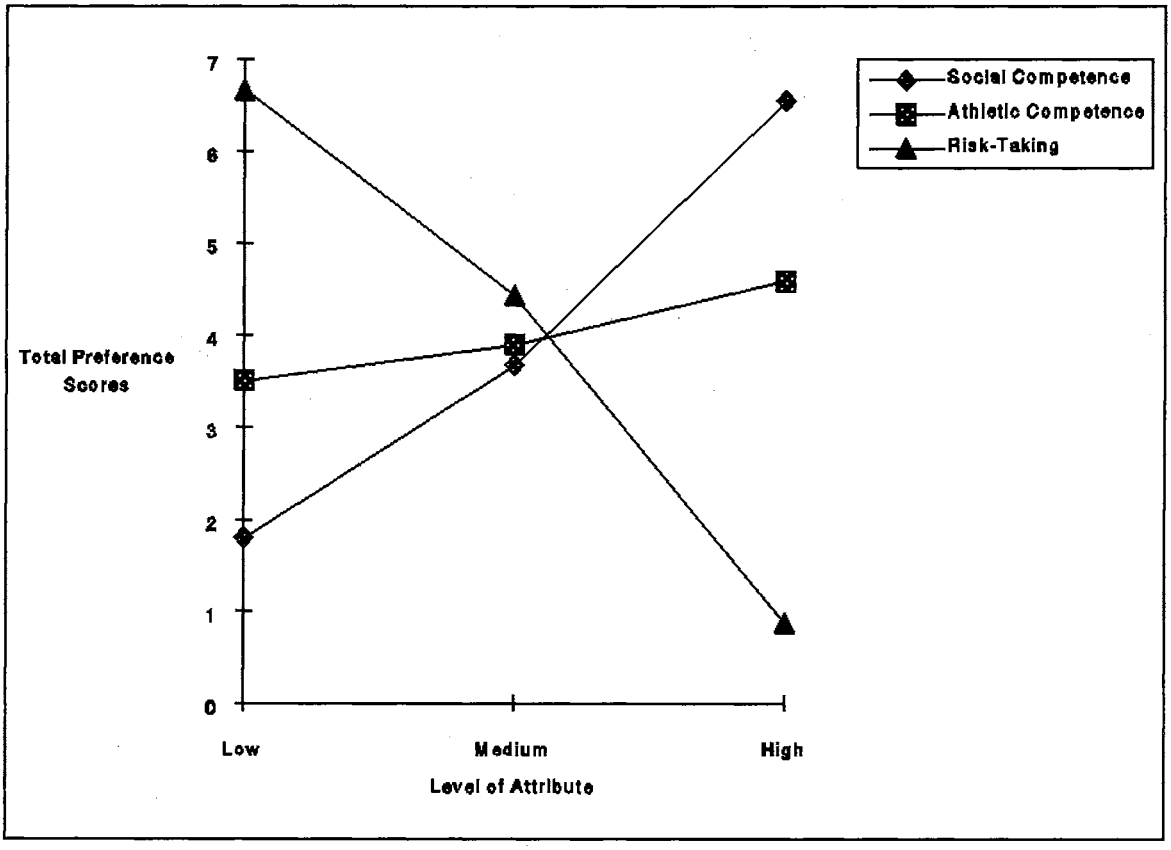
| | Participant Characteristics | | | | |
|---|---|---|---|---|---|
| Attribute | IBC Total Scores | Popularity Ratings | P.E. Rated Athletic Skill | P.E. Rated Athletic Enjoyment | Parent Rated Athletic Enjoyment |
| Risk-Taking | | | | | |
| High | .04 | -.03 | -.07 | .07 | .10 |
| | (69) | (65) | (66) | (66) | (66) |
| | n.s. | n.s. | n.s. | n.s. | n.s. |
| Medium | -.12 | -.17 | .09 | .03 | -.22 |
| | (69) | (65) | (66) | (66) | (66) |
| | n.s. | n.s. | n.s. | n.s. | .04 |
| Low | .08 | .17 | -.02 | -.08 | .12 |
| | (69) | (65) | (66) | (66) | (66) |
| | n.s. | n.s. | n.s. | n.s. | n.s. |
| Social Competence | | | | | |
| High | -.10 | .12 | -.05 | -.15 | -.06 |
| | (69) | (65) | (66) | (66) | (66) |
| | n.s. | n.s. | n.s. | n.s. | n.s. |
| Medium | .04 | .06 | -.09 | -.003 | .14 |
| | (69) | (65) | (66) | (66) | (66) |
| | n.s. | n.s. | n.s. | n.s. | n.s. |
| Low | .07 | -.17 | .12 | .14 | -.06 |
| | (69) | (65) | (66) | (66) | (66) |
| | n.s. | n.s. | n.s. | n.s. | n.s. |

Table 6 continued

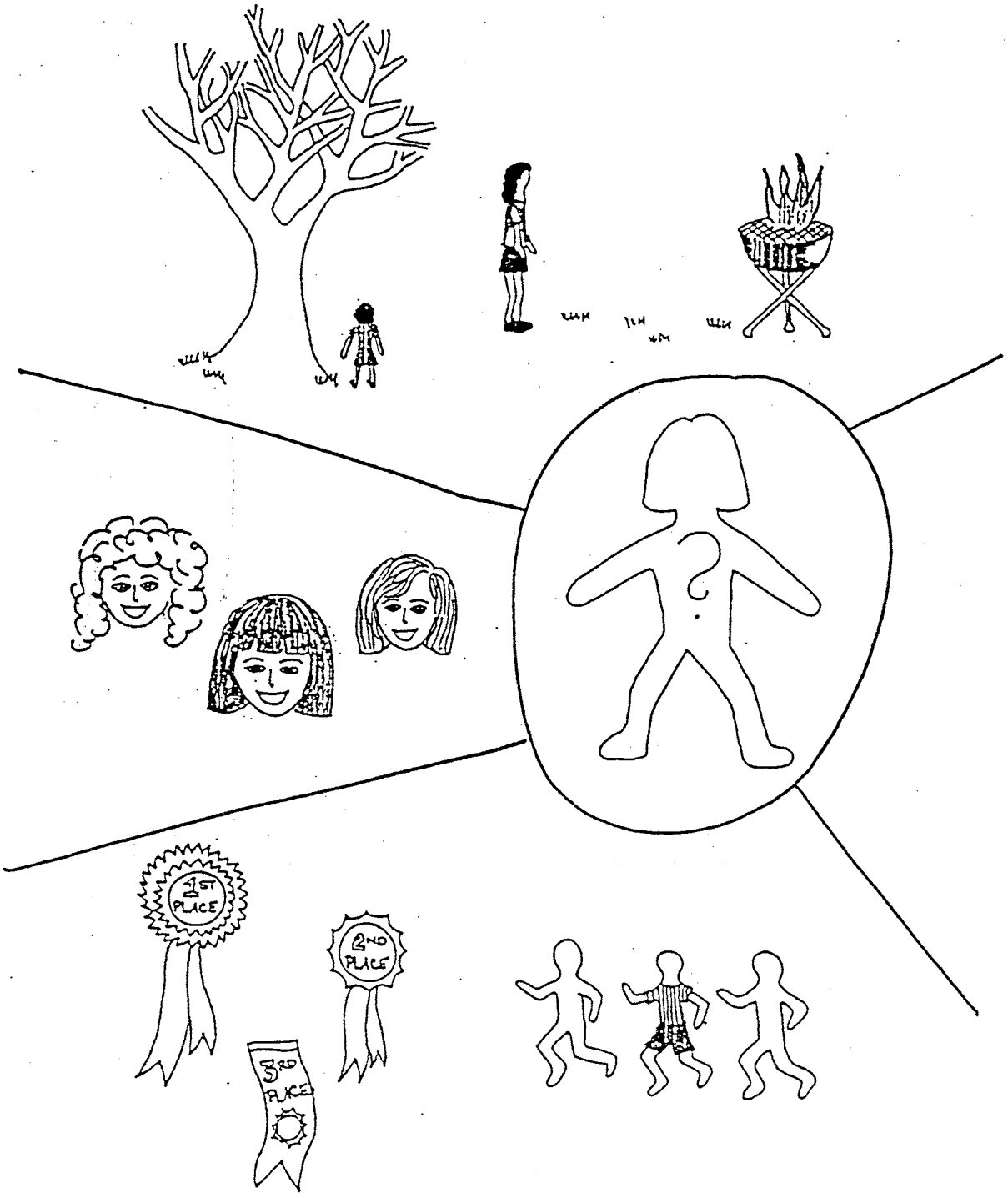
| | Participant Characteristics | | | | |
|---|---|---|---|---|---|
| Attribute | IBC Total Scores | Popularity Ratings | P.E. Rated Athletic Skill | P.E. Rated Athletic Enjoyment | Parent Rated Athletic Enjoyment |
| Athletic Competence | | | | | |
| High | .06 | -.07 | .09 | .07 | -.02 |
| | (69) | (65) | (66) | (66) | (66) |
| | n.s. | n.s. | n.s. | n.s. | n.s. |
| Medium | .16 | .19 | -.02 | -.05 | .16 |
| | (69) | (65) | (66) | (66) | (66) |
| | n.s. | n.s. | n.s. | n.s. | n.s. |
| Low | -.13 | -.01 | -.08 | -.05 | -.05 |
| | (69) | (65) | (66) | (66) | (66) |
| | n.s. | n.s. | n.s. | n.s. | n.s. |

## Figure Caption

Figure 1. Interaction among levels of the three attributes.


Social Competence
Athletic Competence
Risk-Taking
Total Preference Scores
7
6
5
4
3
2
1
0
Low
Medium
High
Level of Attribute

Appendix A: Sample Hypothetical Peer Rating Measure



## Appendix B: Script for Hypothetical Peer Rating Measure

All kids are different. Some kids like to do different things. Some kids like to do risky things; risky things are things that are a little dangerous where you might get hurt. For example, this kid is a high risk taker because he's climbing the highest branches of this tree, and he's holding a stick that he has caught on fire from the grill. This kid is a medium risk-taker because he's also climbing the tree but he's not as high as the other kid, and he's standing near the grill but not as close as the other kid and he doesn't have a stick on fire. This third kid is a low risk-taker: he is standing at the bottom of the tree, not even climbing it, and he is standing far away from the grill.

Another thing that makes kids different is how well they get along with other people. Some kids get along really well with others and have lots of friends, like this kid. Here are some of his friends who are smiling at him. Some kids get along ok with some kids but not with others. Here is a kid with someone who he gets along with and then some other people who he doesn't get along with so well. Then there are also kids who really don't get along with other kids at all. They are all frowning at him because they don't get along with him.

A third thing that makes kids different is how well they do in sports. Some kids are very good at sports and win lots of first place trophies from coming in first in events like relay races. Other kids do medium well at sports, and get a few first and second and third place ribbons in sports and races. Then there are some kids that are not good at sports at all, and they might just get one 5th place ribbon if they compete in a sport; so these kids usually come in last in races.

Now, imagine that there are two new kids coming to your school. They are moving here from somewhere else. Look at these two kids and I'll tell you what they're like: (explain each) Which one would you like to play with more?...(Score 1 or 0). Now pretend that there are two other kids moving here. Here's what they're like... I am going to keep showing you pairs of kids and I want you to tell me which kid you like better in each pair.

# Appendix C1: Teacher Ratings (Female)

We would like some information about interest and skill in athletics for some of the girls in your class. First, please rate the level of athletic ability of the following girls in your class, using the 1 to 10 scale below. In assigning ratings, please consider the athletic ability of each child **as compared to the to other girls in the class.**

Low athletic skill ----------> Average skill ----------> High athletic skill

1.....2.....3.....4.....5.....6.....7.....8.....9.....10

| | | |
|---|---|---|
| Little or no athletic skill, poor athletic performance | Average athletic skill, average performance | Excels at several athletic activities, outstanding performance |

Next, please rate each child's level of enjoyment of athletics, using the 1 to 10 scale below. Again, rate each child as compared to the other girls in your class.

Low enjoyment ----------> Average enjoyment ----------> High enjoyment

1.....2.....3.....4.....5.....6.....7.....8.....9.....10

| | | |
|---|---|---|
| Little or no enjoyment, must be persuaded to participate | Average enjoyment and participation in athletics | High enjoyment, always eager to participate in athletics |

| Name of child | Rating of athletic skill | Rating of athletic enjoyment |
|---|---|---|
| 1)_____ | _____ | _____ |
| 2)_____ | _____ | _____ |
| 3)_____ | _____ | _____ |
| 4)_____ | _____ | _____ |
| 5)_____ | _____ | _____ |
| 6)_____ | _____ | _____ |
| 7)_____ | _____ | _____ |
| 8)_____ | _____ | _____ |
| 9)_____ | _____ | _____ |
| 10)_____ | _____ | _____ |

# Appendix C2: Teacher Ratings (Male)

We would like some information about interest and skill in athletics for some of the boys in your class. First, please rate the level of athletic ability of the following boys in your class, using the 1 to 10 scale below. In assigning ratings, please consider the athletic ability of each child **as compared to the to other boys in the class.**

Low athletic skill ----------> Average skill ----------> High athletic skill

1.....2.....3.....4.....5.....6.....7.....8.....9.....10

| | | |
|---|---|---|
| Little or no athletic skill, poor athletic performance | Average athletic skill, average performance | Excels at several athletic activities, outstanding performance |

Next, please rate each child's level of enjoyment of athletics, using the 1 to 10 scale below. Again, rate each boy as compared to the other boys in your class.

Low enjoyment ----------> Average enjoyment ----------> High enjoyment

1.....2.....3.....4.....5.....6.....7.....8.....9.....10

| | | |
|---|---|---|
| Little or no enjoyment, must be persuaded to participate | Average enjoyment and participation in athletics | High enjoyment, always eager to participate in athletics |

| Name of child | Rating of athletic skill | Rating of athletic enjoyment |
|---|---|---|
| 1)_____ | _____ | _____ |
| 2)_____ | _____ | _____ |
| 3)_____ | _____ | _____ |
| 4)_____ | _____ | _____ |
| 5)_____ | _____ | _____ |
| 6)_____ | _____ | _____ |
| 7)_____ | _____ | _____ |
| 8)_____ | _____ | _____ |
| 9)_____ | _____ | _____ |
| 10)_____ | _____ | _____ |

## Appendix D: Injury Behavior Checklist

Please provide the following information concerning behaviors your child may sometimes show. Be assured that all of the information that you provide will be confidential and seen only by the researchers involved in this study. Please the 0-1-2-3-4 scale to indicate how often your child shows the behaviors listed below. Circle the appropriate number for each of the 24 items.

| | not at all | very seldom (1 or 2 times in all) | some-times (about once/ month) | pretty often (once/ week) | very often (more than once/ week) |
|---|---|---|---|---|---|
| 1. Runs out into the street | 0 | 1 | 2 | 3 | 4 |
| 2. Jumps off furniture or other structures | 0 | 1 | 2 | 3 | 4 |
| 3. Jumps down stairs | 0 | 1 | 2 | 3 | 4 |
| 4. Rides bike in unsafe areas | 0 | 1 | 2 | 3 | 4 |
| 5. Runs or bumps into things | 0 | 1 | 2 | 3 | 4 |
| 6. Falls down | 0 | 1 | 2 | 3 | 4 |
| 7. Plays with fire | 0 | 1 | 2 | 3 | 4 |
| 8. Puts fingers or objects near appliances or outlets | 0 | 1 | 2 | 3 | 4 |
| 9. Leaves the house without permission | 0 | 1 | 2 | 3 | 4 |
| 10. Refuses to use car seat (or belt) or to stay seated in car | 0 | 1 | 2 | 3 | 4 |
| 11. Plays with sharp objects | 0 | 1 | 2 | 3 | 4 |
| 12. Pulls/pushes over furniture or heavy objects | 0 | 1 | 2 | 3 | 4 |
| 13. Falls out window or down stairs | 0 | 1 | 2 | 3 | 4 |
| 14. Puts objects or nonfood items in mouth | 0 | 1 | 2 | 3 | 4 |
| 15. Gets scratches, scrapes, bruises during play | 0 | 1 | 2 | 3 | 4 |
| 16. "Takes chances" on playground equipment | 0 | 1 | 2 | 3 | 4 |
| 17. Tries to climb on top of furniture or cabinets | 0 | 1 | 2 | 3 | 4 |
| 18. Stands on chairs | 0 | 1 | 2 | 3 | 4 |
| 19. Explores places that are off limits | 0 | 1 | 2 | 3 | 4 |
| 20. Gets into dangerous substances | 0 | 1 | 2 | 3 | 4 |
| 21. Plays carelessly or recklessly | 0 | 1 | 2 | 3 | 4 |
| 22. Comes into contact with hot objects | 0 | 1 | 2 | 3 | 4 |
| 23. Behaves carelessly in or around water hazards | 0 | 1 | 2 | 3 | 4 |
| 24. Teases and/or approaches unfamiliar animals (e.g. dogs) | 0 | 1 | 2 | 3 | 4 |

## Appendix E: Injury History Questionnaire

In this section, we are interested in the types of injuries your child may have experienced. Please complete the chart below. Simply indicate which, if any, of the listed injuries your child has received, and if so, how many times it has occurred. Additionally, for the injuries experienced, please indicate how many times they needed treatment by a doctor.

| Type of injury | How many times has it occurred? | How may occurrences needed a doctor's treatment? |
|---|---|---|
| 1. broken bones | _____ | _____ |
| 2. muscle strain/sprain | _____ | _____ |
| 3. serious cut | _____ | _____ |
| 4. concussion | _____ | _____ |
| 5. burns (fire or chemical) | _____ | _____ |
| 6. poisoning | _____ | _____ |
| 7. animal bite | _____ | _____ |
| 8. water inhalation | _____ | _____ |
| 9. electric shock | _____ | _____ |
| 10. other (explain) _____ | _____ | _____ |

_____

_____

Next, we would like you to provide some information about your household which may also be relevant to children's judgements about risk, safety and injury.

1. Is yours a two-parent household? Yes___ No___

2. What level of education did you complete?
Some high school___ High school diploma___ Some college___ College degree___

3. If married, what level of education did your spouse complete?
Some high school___ High school diploma___ Some college___ College degree___

4. Child's date of birth (month/day/year): ____/____/____

5. How many younger brothers/sisters does your child have?___ Older ones?___

## Appendix F: Athletic Activities Questionnaire

Please list below any athletic activities your child participates in outside of school:

1._____

2._____

3._____

4._____

5._____

Using the 1 to 5 scale below, where 1=little or no enjoyment of athletics, and 5=high enjoyment of athletics, please indicate how much your child enjoys athletic activities:_____

Low level of enjoyment--->Average level of enjoyment--->High level of enjoyment

1.....2.....3.....4.....5

| | | |
|---|---|---|
| Little or no interest in athletics, must be persuaded to participate | Average interest and enjoyment of athletics | Thoroughly enjoys athletics, always eager to participate |

Thank you sincerely for providing this information. It will be treated in a completely confidential manner. Please have your child return this form to his/her teacher in the envelope provided.

# Appendix G: IRB Form

**OKLAHOMA STATE UNIVERSITY**
**INSTITUTIONAL REVIEW BOARD**
**HUMAN SUBJECTS REVIEW**

**Date:** 01-04-96 **IRB#:** AS-96-039

**Proposal Title:** CHILDREN'S EVALUATIONS OF RISK-TAKING, SOCIAL COMPETENCE, AND ATHLETIC COMPETENCE

**Principal Investigator(s):** Richard Potts, Leslie K. Schwarz

**Reviewed and Processed as:** Expedited

**Approval Status Recommended by Reviewer(s):** Approved

ALL APPROVALS MAY BE SUBJECT TO REVIEW BY FULL INSTITUTIONAL REVIEW BOARD AT NEXT MEETING.
APPROVAL STATUS PERIOD VALID FOR ONE CALENDAR YEAR AFTER WHICH A CONTINUATION OR RENEWAL REQUEST IS REQUIRED TO BE SUBMITTED FOR BOARD APPROVAL.
ANY MODIFICATIONS TO APPROVED PROJECT MUST ALSO BE SUBMITTED FOR APPROVAL.

---

Comments, Modifications/Conditions for Approval or Reasons for Deferral or Disapproval are as follows:

Provisions received and approved.

Signature: John K. Wyckoff Date: February 8, 1996

Chair of Institutional Review Board

2

# VITAE

Leslie K. Schwarz

Candidate for the Degree of

Doctor of Philosophy

Dissertation: CHILDRENS' EVALUATIONS OF RISK-TAKING, SOCIAL COMPETENCE, AND ATHLETIC COMPETENCE

Major Field: Psychology

Biographical:

Education: Graduated from Rockville High School, Rockville, Maryland in June 1988. Received a Bachelor of Arts degree in Psychology from the State University of New York at Binghamton, Binghamton, New York in May 1992, with a minor in History. Received a Master of Science degree in Psychology from Oklahoma State University, Stillwater, Oklahoma in July 1993. Completed the requirements for the Degree of Doctor of Philosophy in Clinical Psychology at Oklahoma State University in August 1997.

Experience: Provided services at the Psychological Services Center, Oklahoma State University, Stillwater, Oklahoma, August 1993-July 1994. Provided services at the Edwin Fair Community Mental Health Center, Stillwater, Oklahoma, July 1994-June 1996. Provided services at the Marriage and Family Clinic, Oklahoma State University, Stillwater, Oklahoma, June 1995-May 1996. APA-approved Clinical Internship, Albany Psychology Internship Consortium, Albany, New York, September 1996-August 1997.

Professional Memberships: American Psychological Association - Student Affiliate, New York State Psychological Association - Student Affiliate, Psychological Association of Northeastern New York - Student Affiliate.