An Investigation of the Relationship Between

Playfulness and Self-Esteem

by

Susan Semanic-Lauth

Dissertation submitted to the Faculty of the
Virginia Polytechnic Institute and State University
in partial fulfillment of the requirements for the degree of

DOCTOR OF PHILOSOPHY

in

Family and Child Development

APPROVED:

Cosby S. Rogers, Chair

Janet K. Sawyers

Shirley C. Farrier

Mark J. Benson

Robert B. Frary

April, 1990

Blacksburg, Virginia

AN INVESTIGATION OF THE RELATIONSHIP BETWEEN

PLAYFULNESS AND SELF-ESTEEM

by

Susan Semanic-Lauth

Committee Chairman: Cosby S. Rogers

Family and Child Development

(ABSTRACT)

Playfulness, externality, self-perceptions, IQ, first-grade readiness, and selected demographic variables were studied in a sample of 93 first and second grade children. Playfulness and externality were obtained from teacher ratings on the Child Behaviors Inventory and self-perceptions were obtained via child interviews using Harter and Pike's (1984) Pictorial Scale of Perceived Competence and Social Acceptance for Young Children. Neither playfulness nor externality correlated significantly with any of the following self-perception scales: (a) cognitive competence, (b) peer acceptance, (c) physical competence, and (d) maternal acceptance. Pearson correlation coefficients reflected a significant

but low relationship between IQ (measured via the Block Design and Vocabulary subtests of the Wechsler Intelligence Scale for Children-Revised) (r = .26, p < .05) and Playfulness. A significant but low correlation was also found between Playfulness and social status (r = .26, p < .05). A principal components factor analysis, followed by varimax rotation yielded a four factor solution. Factor 1 was comprised of cognitive variables (IQ and first-grade readiness). Factor 2 was comprised of the self-perception subscales. Factor 3 was Externality and Factor 4 loaded heavily for gender. Examination of the final communality estimate indicated that playfulness contributed little to the total variance and should be interpreted as a measure of a trait which is independent of cognitive functioning, self-perceptions, externality, gender and age.

Acknowledgments

The work that is necessary to complete a graduate program is challenging to various facets of one's life. While a graduate student, a number of people have helped me to meet and deal with these challenges both personally and professionally. My thanks to my friend and personal advisor, Monica Janas and to Saul and Teresa Harris for all of their support. My very special thanks to my chairperson, Cosby Rogers for her valuable help and enthusiasm. I also thank my father, John Semanic and my sister, Elaine Baker and her family for their help in so many ways.

My daughter, Anna, has been a constant source of joy and inspiration to me during this time. My husband, John Lauth, has also been my best friend and staunchest supporter. To both of them I give all of my love and thanks.

It is to the memory of my mother, Anne Hnottavange Semanic, who taught me to reach for the sun, that I lovingly dedicate this work.

Table of Contents

Abstract..... ii

Acknowledgements..... iii

Table of Contents..... v

Chapter 1: Introduction..... 1

Chapter 2: Literature Review..... 4

Theories of Play..... 4

Playfulness..... 17

Self-Esteem..... 19

Issues in the Study of Self-esteem..... 20

Summary Review of Literature..... 24

Chapter 3: Methodology..... 26

Population and Sample 26

Proceedure..... 29

Instruments..... 30

Wechsler Intelligence Scale

for Children-Revised..... 30

The Pictoral Scale of Perceived Competence and

Social Acceptance for Young Children..... 32

Child Behaviors Inventory..... 35

Results..... 39

Descriptive Data..... 40

Bivariate Correlations..... 50

Factor Analysis..... 53

Analysis of Variance..... 58

Discussion..... 59

References..... 64

Appendix 1..... 79

Appendix 2..... 83

Appendix 3..... 86

Appendix 4..... 88

Appendix 5..... 90

Vita..... 92

Introduction

How play affects a child's development has been a controversial topic for years (Rogers & Sawyers, 1988). Some consider play to be "developmentally trivial and educationally irrelevant" (Rubin, 1980). Based on the notion that play has little to do with the development of adult behaviors others argue that play has no value (Rogers & Sawyers, 1988). Yet, play appears to be the only human capability or trait that integrates all of the aspects of human behavior (Rogers & Sawyers, 1988). The most significant characteristic of play may be its ability to bring together the body, the mind, and the spirit (Levy, 1978). Vandenberg (1985) argued that play then, may be seen as the essence of what it means to be human. Carl Rogers (1961) considered the self the most important aspect of psychological growth. In his view, development concerned one's ideas of the self and the world and a healthy self-concept was the result of development. To Rogers (1961) play was also the essence of what it means to be alive.

Self-esteem "...is generally considered to be a highly favorable personal atribute...and its general importance to a full spectrum of human behaviors remains virtually uncontested" (Bedner, Wells, & Peterson, 1989) (p.1). Harter (1988) stated that "practioners have come to appreciate the fact that a positive self-image is central to adaptive functioning and everyday happiness of the individual" (p.1). The lack of a healthy and positive sense of self conversely then, can be seen as a warning sign of a dysfunctional personality (Bednar et al., 1989). For these reasons, it is of interest to study the factors that contribute to positive and negative evaluations of the self.

Self-esteem may be seen as being comprised of competence, acceptance, and appearance (Harter, 1983). Play behavior has been demonstrated to contribute to competence which in turn enhances self-esteem. This increases confidence which then promotes further competence. If self-esteem is the goal then dispostions that enhance opportunities to achieve this goal are of interest to those concerned with optimizing development of the human potential. This research was designed to

investigate the relationship between playfulness, self-esteem, and intelligence. Specifically, this study will investigate teacher ratings of children's playfulness and children's self-reports of their esteem.

CHAPTER 2

Review of Literature

Play

The literature which is pertinent to the present study includes theoretical and empirical work on the meaning and value of play (in particular, the disposition of playfulness) as well as the research on the value, definition, and measurement of self-esteem.

Theories of Play

The underlying assumptions and foci of theories of play have paralleled historical trends in the understanding of human behavior and development. Early theories of play fell into four distinct categories: (a) the surplus energy theory (Schiller, 1952), (b) the relaxation and recreation theory (Lazarus, 1883), (c) practice theory (Groos,1898,1901), and (d) the recapitulation theory (Hall,1920). In spite of the intrinsic appeal of the early theories, little empirical evidence is available to

substantiate them. Later theories focused on emotional and cognitive values of play and those studies have provided more evidence for the functional role of play in development (Rogers & Sawyers, 1988; Rubin, Fein, & Vandenberg, 1983).

The theories of Freud (1959,1961) and Erikson (1950) focused on the emotional purposes of play. Freud (1959, 1961) believed that the period of play in childhood was brief and ended with the onset of rational thought processes and ego development. Play was then replaced by the ego with more socially realistic and acceptable activities. Freud (1959, 1961) believed the purpose of play was wish fulfillment and mastery of traumatic events (1959). Erikson (1950) addressed the mastery aspect of Freud's theory. According to Erikson a child can become a master over objects and arrange them so that they can imagine themselves as the master of their life situations. According to his view, play provides a safe environment that allows children to deal with various experiences by devising model situations through which to master reality by experimentation and planning (Erikson, 1950).

Accordingly, the compulsive repetition of traumatic events enables players to cope and be masters, rather than passive victims, of life events.

An interest in the role of play in cognition and language characterized the theories of Berlyne (1969, 1966), Piaget (1951 / 1962), Vygotsky (1933), Bateson (1955, 1956), and Sutton-Smith (1966, 1967, 1976), among others.

Berlyne (1960, 1966) introduced an arousal theory based on behavioral learning theory which was later applied to play. According to Berlyne's (1960, 1964, 1966, 1969) theory, an organism seeks to maintain an optimal level of arousal. If stimulation falls below this level, the organism must participate in a stimulus-seeking activity (diverse exploration) which decreases arousal by increasing stimulation. According to Berlyne, play would stop when an optimum level of arousal is reached.

Both Piaget (1951 / 1962) and Vygotsky (1933) were concerned with the role of play in cognitive development. Piaget (1951 / 1962) viewed play as a child's way of assimilating the reality of the world to the child's

current level of understanding. According to Piaget (1951 / 1962) play represents a disequilibrium in which assimilation dominates accommodation. In justifying his definition of play, Piaget listed six criteria for play which had been proposed in the literature: (a) play is an end itself, (b) it is spontaneous, (c) it is pleasurable, (d) it lacks organization, (e) play is free from conflict, and (f) play is characterized by overmotivation. However, he criticized each and concluded that no single criterion was comprehensive. He proposed the dominance of assimilation over accomodation as the only necessary criterion for play. According to Piaget play reflects the child's current level of development.

Vygotsky (1933), lecturing on the role of play in the development and function of higher mental processes, postulated that mental structures are made of tools and signs. Tools are objects one uses to act upon the environment indirectly, whereas signs are a form of mediated activity that also act in an indirect manner on the environment. According to Vygotsky (1933), things are "objects of action" in infancy but, as the higher mental processes develop, things become "objects of thought". Therefore, practical actions are transformed into mental

operations. This separation of meaning from object and action is brought about by play (Vygotsky, 1933). In Vygotsky's view then, play makes a significant contribution to development.

Bateson (1955, 1956) linked metacommunicative features of play to the components of communication which allow for abstraction. In order to play, one must have awareness of the fact the he/she is communicating.

Sutton-Smith (1966, 1967, 1976) viewed play as a means to explore new behaviors and ideas. In his view, play contributes to the development of divergent thinking, role flexibility, and a sense of autonomy. Empirical research has indeed demonstrated a relationship between play and creativity (Dansky & Silverman, 1973, 1975; Sutton-Smith, 1968). In fact Kogan (1983) hailed the play-creativity link as one of the most promising findings of the decade.

In Jerome Bruner's (1976a) view, play minimizes the consequences of learning and of one's actions in a low risk situation. Play also allows one to try combinations of behavior that, under stress, would never be tried.

According to Bruner then, play serves a functional role in development and contributes to adult competence (Bruner, 1972).

The theories discussed thus far, represent two primary foci, emotional and cognitive, each of which is described in terms of its functional role. Rogers and Sawyers (1988) have critized researchers whose only interest in play is for its functional role in some specific domain. Rather, these authors suggest that the criteria that characterize play are criteria which also define a quality existence. They proposed that play should be valued as an end in itself rather than valued solely as a means toward some other goal. A similar view was expressed by Vandenberg (1985) who wrote that

> .....the importance of play and fantasy are not to be found in their indirect stimulation of cognitive skills and problem solving. Rather, play and fantasy are central features of what it means to be human, and problem solving skills are a spin-off of the ability to imagine. (p.6)

Other theorists have referred to play in terms of its relationship to quality of life. For example, Csikszentmihayli (1979) described play in terms of a cognitive-emotional state characterized by the following features: (a) concentration, (b) immediate feedback, (c) noncontradictory goals, (d) time distortion, (e) personal influence, and (f) loss of personal caring about the end results. The combination of all of these traits were labeled as the "flow" state (Csikzentmihayli, 1979). The title of Csikszentmihayli's (1989) recent book The Optimum Experience, conveys the notion that the flow state is a condition in which individuals function at the peak of their capacity or, in Maslow's (1971) terminology, achieve self-actualization. Bruner (1976b) referred to the Godkin Lectures at Harvard in 1973 in which Erikson reported on a 30-year follow-up of children studied earlier and stated that the

> ...ones with the most interesting and fulfilling lives were the ones who had managed to keep a sense of playfulness at the center of things. (p.17)

Erikson's (cited in Bruner, 1976) use of the term "playfulness" places the focus on the dispositional aspect of behaviors, including work. Similarly, Csikszentmihayli (1975) described the existence of the flow state in the work / study situation. Francis Thompson (1965), in the film, To Be Alive, portrayed the essence of play and documented the joy of living experienced by those who bring love and creativity to their work. In other words, work can be play and the disposition is the defining criterion for playfulness.

Definition of Play

There are a number of views on the concept of play with no complete agreement on a definition. In fact, some have suggested that "...scholars should declare a moratorium on defining play." (Schechner, 1988, p. 3).

However, after a thorough review of the literature on play, Rubin, Fein, and Vandenberg (1983) provided the following definition:

> ...a behavioral disposition that occurs in describable and reproducable contexts and is manifest in a variety of observable behaviors. (p. 698).

Play Behaviors

Defining play in terms of behavior has resulted in classifications of the behavior. Piaget (1962) defined three types of play: (1) practice play which characterizes the play of infants, (2) symbolic play which emerges during the preoperational stage, and (3) games with rules. Smilansky (1968) added to Piaget's level, constructive play, which she believed developed after pretense and before games. Some definitions of play involve other behavior categories as motion, language, or interactions (Rubin et al., 1983). Other classifications include that of Rubin, Maioni, and Hornung (1976) who used multiple classifications of the cognitive aspects of play and social behavior, and Hutt (in press) who differentiated between ludic and epistemic behaviors.

Context for Play

Play when defined as context reflects what a certain culture holds to be play (Rubin et al., 1983). In research this generally means the presence of various components such as toys, peers, or other interesting materials, knowledge that the child may do what they want with these items, non-intrusive adults, and a safe,comfortable environment. Care is also taken that the children are not sick, tired, or hungry. The atmosphere must be friendly and children must feel comfortable and safe. In other words, the child must feel psychologically safe in order to play. The importance of psychological security has been demonstrated by Matas, Arend, and Sroufe (1978) who found that securely attached children were able to feel free to explore their environment, a behavior which is known to contribute to competence. In the present study, psychological security was assumed to be a requisite condition to support the play disposition. Psychological security was assumed to exist in children who reported high levels of self-worth.

Disposition of Play

Rubin et al. (1983) defined the disposition of play: (a) play is intrinsically motivated; (b) play is free of external rules; (c) play is conducted as if the activity were real; (d) play focuses on the means not the end; (e) play is organism dominated; and (f) play requires active involvement. According to the dispositional criteria, some play behaviors are playful in nature while others are not. Rubin et al. (1983) distinguished the play disposition according to motivational source, orientation to goals, degree of domination by stimuli, degree of nonliterality, and degree of active involovement. The hallmark of play is that the behavior is not dominated by appetitive drives, compliance with social demands or other factors external to the behavior. The concept of intrinsic motivation allows a distinction between play and other behaviors leading to a goal external to the behavior. In play there is attention to means (not the ends) with the goals of play being self-imposed. The goals can vary and so the behavior is, in this sense, spontaneous. Play is not stimulus-dominated but is organism-dominated and it may follow exploration (Hutt, 1966). In play the child imposes meaning and behavior to an internal locus of control. The criterion of

nonliterality restricts play to behavior referred to as pretense and eliminates a variety of sensorimotor activities that are self-contained actions completed for their own sake. A criterion of freedom from external rules serves to distinguish play from games with rules which generally eliminate the flexibility that characterizes play. The final criterion, according to Rubin et al. (1983) is active involvement. This requires that the child be actively engaged in the activity and differentiates play from boredom and inactivity.

Krasnor and Pepler (1980) suggested that four criteria combined to define play: flexibility, positive affect, intrinsic motivation, and nonliterality. Although all criteria might not be met simultaneously, they proposed that the more these four criteria were present, the more a behavior would be regarded as play. Smith and Vollstedt (1985) conducted a study on the relationship between play and the various criteria outlined by Krasnor and Pepler (1980) as well as the six dispositional criteria discussed by Rubin et al. (1983). There was some overlap between the two models and three criteria from Rubin et al. (1983) were discarded as being similiar to the other criteria or as being too inclusive to be a useful predictor of play

behavior. The five criteria finally selected by Smith and Vollstedt (1985) were: intrinsic motivation, positive affect, nonliterality, means/ends, and flexibility (Smith & Vollstedt, 1985). Subjects were asked to view tapes, to rate behaviors of nursery school children, and to select episodes described as play behavior. The results indicated that even untrained observers can agree on what behaviors can be called play as well as on the five criteria used (Smith & Vollstedt, 1985). No one criterion was found to predict play with certainty, although nonliterality implied a judgment of play in 91% of the episodes, providing the most confident judgment. Means/ends did not appear to add to the accuracy of judgments based on the other three criteria. If the observers judged that any combination of two of the traits of nonliterality, positive affect, and flexibility occurred, an implied judgment of play was made in over half of the episodes rated. This suggests that play is viewed as enjoyable, flexible, and that it is characterized by pretense. Further, it provides evidence that play is definable and measurable.

Playfulness

The term playfulness implies a state, trait, or personality disposition that is characterized by the criteria for the disposition of play. A number of psychologists have postulated that playfulness may be a personality trait in children (Rubin, Fein, & Vandenberg, 1983). Lieberman (1965) defined playfulness as physical, social, and cognitive spontaneity, the manifestation of a sense of humor, a joyful manner, curiosity, novelty-seeking activities, and emotional expressiveness. Lieberman (1965) used teacher ratings of classroom behaviors of kindergarten children and found a high correlation between scores of physical, social and cognitive spontaneity, joy, and a sense of humor. She concluded that these factors were the components of playfulness. Further research by Singer and Rummo (1973) also defined playfulness as imaginativeness, emotional expressiveness, a sense of humor, curiosity, openess, novelty-seeking acitivities, and communication. Studies by Singer and Singer (1978) and Singer, Singer, and Sherrod (1980) found that a playfulness factor was able to be identified by analyzing behavioral data instead of teacher ratings as had been done previously.

Singer (1978, 1980) used the factor-analysis of behavioral data and found that children who rated highly on playfulness were also rated as having positive affect, more physically active, more verbal, and as having a higher degree of social and imaginative play.

Most research on play has focused on play behaviors and / or the context in which they occur. Only a few studies have focused on the dispositional aspects of play. An interest in defining play according to its dispositional features lead to the development of the Child Behaviors Inventory of Playfulness (Rogers & Moore, 1985) and studies of its psychometric properties (Hawkins, 1987; Rogers et al., 1990; Semanic-Lauth, 1987).

The present study was designed to determine whether a relationship existed between the playful disposition and the presence of a psychologically safe context which should be reflected in judgments of high self-worth or self-esteem.

Self-esteem

Definition of Esteem

William James (1890 / 1963) defined self-esteem as the ratio of one's successes to one's potentialities and this ratio constitutes a critical part of how the self is evaluated. Cooley (1902) defined self-esteem as an incorporation of the attitudes that the individual believes others hold about the self. James (1890 / 1963) and Cooley (1902) both recognized the impact of affect that resulted from evaluation of the self as an important element in self-esteem. Epstein (1973) also emphasized the role of affect in self-esteem and contended that one of the major roles of an individual's self-theory is to maintain self-esteem and to maximize a balance between pain and pleasure.

Harter (1985) proposed that the self represents reflected appraisals of significant others. Our perceived regard of others directly impacts on global regard for the self. The self is what we imagine others think of us, of our physical appearance, our deeds, and our character. For the purposes of this study, esteem will be defined by the

model proposed by Harter (1978, 1981, 1983, 1987) that emphasizes the importance of global judgments of esteem or self-worth along with the evaluation of competency in specific domains.

Issues in the Study of Esteem

Harter (1983) identified four issues in the study of self-esteem. These are: (a) real versus ideal self-esteem; (b) self-esteem versus self-confidence; (c) global self-esteem versus differentiated evaluation; and (d) self-esteem versus hierarchical organization of its dimensions.

An examination of the discrepancy between the real versus ideal self originated with James (1890) and later appeared in the clinical literature as a way to determine maladjustment (Rogers & Dymond, 1954). This view was later challenged and the discrepancy was seen as an index of maturity (Achenbach & Zigler, 1963; Katz & Zigler, 1967; Katz, Zigler, & Zalk, 1975; Zigler, Balla, & Watson, 1972).

Rosenberg (1979) also made a distinction between the idealized image and "committed image" or the one that is taken seriously.

A distinction has also been made between self-esteem and self-confidence (Dickstein, 1977; Rosenberg, 1979). The level of self-confidence may be unrelated to self-esteem (Harter, 1978). Rosenberg (1979) defined self-confidence as believing that one can overcome obstacles and successfully master challenge. Dickstein (1977) defined self-confidence as carrying off a task or fostering a role. In contrast, self-esteem refers to the regard one has for the self as a person (Harter, 1988).

The issue of global self-esteem versus differentiated evaluation is concerned with whether self-esteem actually has a global nature or if it has many components of evaluation. Both James (1890) and Cooley (1902) postulated that global self-esteem exists along with evaluations of specific behaviors.

Coopersmith (1967) defined four dimensions of self-evaluation: competence, virtue, power, and significance. Harter (1983) included the dimensions of

competence (physical and cognitive), social acceptance, and a sense of control over one's life in an effort to isolate several self-evaluative dimensions. However, Coopersmith (1967) held to the global nature of self-esteem. He concluded that preadolescent children make little distinction regarding their self-worth in various areas of experience or, the distinctions are made in the framework of general evaluation of worthiness. Rosenberg (1978) contended that both concepts, global self-esteem and domain specific components, should be retained, an approach which is consistent with the more recent work of Harter (1983). Rosenberg (1965,1979) conceptualized global self-esteem as a unidimensional construct and found correlates of global self-esteem to include: interpersonal insecurity, depressive affect, anxiety, and psychosomatic symptoms.

The hierarchical organization of the dimensions involved in self-evaluation is found in several theories, some of which suggest a model of self-concept with some implications for self-esteem. For example, Epstein (1973) proposed a hierarchical arrangement of axioms regarding the self. Self-esteem was proposed as a construct with subcategories under it: general competence, power, moral self-approval, and love worthiness. Two broad categories

of academic and non-academic self-concepts with subdivisions within the non-academic self-concept were proposed by Shavelson, Hubner, and Stanton (1976). L'Ecuyer (1981) proposed a model in which self-esteem is a substructure of the adaptive self which includes: (a) feelings of personal worth, and (b) competence.

Although various researchers interested in self-esteem have focused on different dimensions and varied levels of specificity, the four dimensions identified by Coopersmith (1967) and Epstein (1973), along with the construct of global self-esteem provide a foundation on which to build a comprehensive developmental theory of self-esteem (Harter, 1983). Harter (1983, 1987, 1988) is an integration of the unidimensional theme in self-concept, as in Coopersmith (1967), and the multi-dimensional perspective of Mullins and Laird (1971), L'Ecuyer (1981), Shavelson, Hubner, and Stanton (1976), and Marsh, Barnes, Cairns, and Tidman (1984). Harter's model (1983) "underscores" the importance of the global judgment of self-esteem as well as the importance of the evaluation of the domain specific competencies. This then enables one to determine the

relationship that exists between the specific competencies and global self-worth. It is for this reason that Harter's model is best suited for use in this study.

Summary Review of Literature

There have been numerous and varied theories of play. Each theory reflects its historical placement and many of the early theories are more philosophical in nature. Later theories focused more on the the function of play in a child's life. The playful disposition is thought to contribute to a quality exsitence (Erikson, cited in Bruner, 1976). However, due to the difficulty in defining the term play, the dispostion of playfulness also has been difficult to define. Exceptions to this are measures developed by Lieberman (1965), Singer (1978,1980), and most recently by Rogers and her collegues (Rogers & Moore, 1985; Rogers et al., 1990).

Literature reviews of self-esteem indicate that various dimensions of self-esteem have been given different amounts of importance by researchers. Harter (1978, 1982) included the dimensions of competence (physical and cognitive), social acceptance, and a sense of control over one's life.

Self-esteem is the value or worth that a person places on these domains. It is important then to study the global judgments of self-esteem, that is the general regard an individual hold's for the self as a person as well as the evaluation of domain-specific competencies in order to determine the relationship that possibly exists between them.

Since self-esteem is regarded as an indicator of mental health (Bedner et al., 1989; Harter, 1988) and since Rubin et al. (1983) proposed that, in order to play, the context must be psychologically safe, the present study sought to determine whether self-esteem is related to the tendency toward playfulness in children.

METHODOLOGY

Population and Sample

The superintendent of a Southwestern Virginia school district was contacted to request participation of the schools in the Child Development Project. Permission was granted and two schools were recommended due to their large student populations. The principals of these two elementary schools, when contacted, gave their permission for participation in this study. First and second grade teachers in these schools who had five or more years of teaching experience were invited to participate. They were told that their responses would be confidential and that their participation was strictly voluntary. Sixteen teachers were contacted and fourteen of them (9 first grade and 5 second grade) agreed to participate by rating children on the Child Behaviors Inventory of Playfulness.

A random sample of five children of each gender (as well as an alternate of each gender) was selected from the class list of each participating teacher. Parents of the randomly selected children were contacted by letter

(Appendix A) to solicit their child's participation in the Child Development Project at Virginia Tech. The letter stated that each child would be given an individual vocabulary and a perceptual-motor assessment and that a survey would also be given to the child. The letter indicated that the teacher would rate the child's school behaviors and that the child's Metropolitan Readiness Test scores would be obtained from school records. The following information was also obtained: (a) gender of the child, (b) age of child, (c) child's grade in school, (d) occupational status of the parent, and (e) intact vs. single parent family. Parents were also assured that all information regarding children in the study would be kept stricly confidential.

After the first letter, parents of 91 children gave permission for their child to participate in this project. A second letter was sent home as a reminder, and nine more participants were recruited. Of the 98 participants, five dropped out due to illness or scheduling difficulties. The telephone number for one of these children had been disconnected and attempts to contact them by mail were unsuccessful. Seven letters from the initial mailing were returned by the post office since there were no forwarding

addresses on file. One first-grade child could not be contacted because, as of October, she had been placed back in kindergarten. Twenty parents denied permission for their children to participate. Two of these parents indicated that they had discussed this project with the child and that the child did not wish to take part. One parent indicated that they were too busy outside of school hours, and another felt that her child did very poorly on tests compared to his actual ability and would not be a good participant for that reason.

The final sample (N = 93) was comprised of 28 first grade boys, 30 first grade girls, 18 second grade boys, and 17 second grade girls whose parents gave permission for their participation. The children were from two predominately white, middle-class elementary schools located in Montgomery County, Virginia. Twelve of the children came from single-parent homes (11 mother-only homes, 1 father-only home). Six of the children had repeated kindergarten. IQ scores of the sample ranged from 74-144 (M = 110, SD = 15.85).

Parents granting permission for their child to participate in the study were then contacted by telephone to arrange a time for testing. Most testing took place on Saturdays from September 30, 1989 to December 3, 1989 in the Child Development Lab at Virginia Tech. Six home visits were also made to obtain data for children who could not come to the Lab School due to scheduling or transportation limitations.

Proceedure

Four undergraduate students were recruited from a Human Development class at Virginia Tech to assist with data collection. They attended a three hour training session on the administration of the two subpests of the WISC-R and of the self-perception scale (Harter & Pike, 1984). Training included practice scoring although actual scoring of all items was done by the principal investigator. These students were also observed via two-way mirrors during their administration of these insturments.

Each child was tested individually in a private room. Each session lasted approximately 30 minutes. The self-perception scales were administered first, followed by the Block Design and Vocabulary subtests of the WISC-R.

At the end of the first six weeks of school, October 13, 1989, the participating teachers received copies of the Child Behaviors Inventory (CBI) (Appendix D), and a code sheet with instructions. The completed CBI's were to be placed in a specially marked envelope in the school office and were picked up on Friday, November 3, 1989.

Instruments

Wechsler Intelligence Scale for Children-Revised

The Wechsler Intelligence Scale for Children-Revised (WISC-R) is a test of general intelligence and has been established as a useful diagnostic tool in the area of educational assessment (Wechsler, 1974). Two subtests from the WISC-R, Vocabulary and Block Design were adiministered as a part of this study. These subtests were selected because they have the highest correlations with the full scale IQ score over a wide range and also have consistently

high reliabilities (Sattler, 1982). Vocabulary and Block Design are also considered to be a good screening combination (Kilian & Hughes, 1978).

Reliability coefficients for individual Verbal and Performance subtests, using the split-half technique, were calculated by Wechsler (1974). Reliability coefficients for Vocabulary at ages 6 1/2 and 7 1/2 were reported to be .74 and .70 respectively. For Block Design at ages 6 1/2 and 7 1/2 they were .80 and .82 respectively (Wechsler, 1974). The correlation of the Vocabulary subtest with the Verbal score was .80 at age 6 1/2 and .82 at age 7 1/2, whereas the correlation with the Full Scale score was .73 at age 6 1/2 and .74 at age 7 1/2 (Wechsler, 1974).The correlation of the Block Design subtest with the Performance score was .80 at ages 6 1/2 and 7 1/2, and the correlation with the Full Scale score is .74 at age 6 1/2 and .75 at age 7 1/2 (Wechsler, 1974).

The Metropolitan Readiness is a test designed to measure first- grade readiness in the areas of: (a) auditory skills (beginning sound recognition and sound-letter correspondance; (b) visual skills (matching and locating

patterns); (c) language (school language and listening); (d) quantitative (concepts and operations; and (e) pre-reading skills.

The Pictorial Scale of Perceived Competence and Social Acceptance for Young Children

Young children are incapable of making judgments about their self-worth (Harter, 1987, 1988). This skill appears to emerge in middle childhood (Harter, 1987, 1988). Young children do, however, possess a sense of self-worth or self-esteem but, they are not able to verbalize it (Harter, 1988). A young child seems to "exude" this sense of self-esteem which is manifested in certain behaviors that are in their repertoire (Haltiwinger, 1989).

In spite of the inability of children to make relable judgments of over-all worth, it has been demonstrated that children 4 to 7 years old are capable of making reliable judgments about the domains of cognitive competence, physical competence, behavioral conduct, and social acceptance (Harter & Pike, 1984) so long as the domains are depicted in pictures as concrete and observable behaviors (Harter, 1988).

The Pictorial Scale of Perceived Competence and Social Acceptance for Young Children was devised by Harter and Pike (1984) and is a downward extension of the Perceived Competence Scale for Children (Harter, 1982). There are two versions of this scale, one for kindergartners and one for first and second graders. The first and second grade version was used in this study. Each version taps these four domains: cognitive competence, physical competence, peer acceptance, and maternal acceptance. There are six items on each subscale.

There are several possible sources children appear to base their ratings of themselves on: (a) social comparison, (b) comparison to past performance, (c) comparison to the ideal self, and (d) feedback from significant others (Harter, 1988). Children can also make judgments about the social-emotional support they receive from others when the content involves the judgment of specific and observable behaviors (e. g. reading stories or caring about feelings) (Harter, 1987).

On The Pictorial Scale of Perceived Competence and Social Acceptance for Young Children (Harter & Pike, 1984), the cognitive competence subscale includes reading,

writing, and arithmetic skills. The physical skills domain includes swinging, skipping, running, and jumping rope. Peer acceptance includes items about friends, sharing toys, and others sitting next to you. The maternal acceptance domain includes items such as does mom read to you, play with you, and talk to you (Harter & Pike, 1984). The picture plates are bound separately with a set for girls and a set for boys. The activities are identical with the gender of the target child being the only difference. Each item is scored on a four point scale. A score of four indicates the most competent or accepted. A score of one indicates the least competent or accepted.

Intercorrelations between teachers and child ratings were reported by Harter and Pike (1984). All correlations between teacher and child ratings were moderately weak: .37 for cognitive competence, .30 for physical competence, and very low (.06) for social acceptance (Harter & Pike, 1984). Self-perceptions were not found to vary by age or by gender (Wigfield, Blumenfeld, Yoon, & Freedman-Doan, 1989). The within-scale reliability for the Harter's scale, all 24 items, was reported to be in the mid to high 80's. Validity was examined in several forms. The reasons the children gave for their self-perceptions were found to be

plausible, suggesting that the ratings are valid. Harter and Pike (1984) stated that this instrument may be useful in predicting motivations, behaviors, and/or emotional reactions of interest. This can allow one then to examine the extent to which mood and energy level function as mediators of behaviors that lead to the development of new skills, to determine the domains which best serve to predict mediators and behaviors of interest, and to determine the accuracy of a child's judgment (Harter & Pike, 1984).

Child Behaviors Inventory

The Child Behaviors Inventory is a Likert-type scale comprised of 30 items. Developed by Rogers and Moore (1985), the items represent the six dipositional traits of play outlined by Rubin et al. (1983). In developing this trait-rating scale, sixteen scholars in the field of play were asked to contribute items that they thought would represent these criteria for playfulness (Moore, 1985). Five scholars responded and the items they contributed were compiled into the first version of the Child Behaviors Inventory (Moore, 1985). To evaluate content validity, this scale was then sent to sixteen other scholars known

for their research in the area of play. These scholars were asked to rate each item on a scale from 1 (not at all well) to 5 (very well) for its ability to assess the intended criterion. Eight scholars responded. Items which achieved a mean rating of 3.5 or higher were retained and redundant questions were eliminated. The revised scale had 31 items to assess the six criteria of playfulness plus three items to indicate construct validity (Moore, 1985). Only the items measuring the six criteria are included in the final score. Items were randomly ordered and printed as a Likert-type scale with possible ratings on each item from 1 (very uncharacteristic) to 5 (very characteristic) of the child. Seven negatively stated items are reversed in coding so as to weight higher scores in the direction of playfulness. Playfulness scores range from 23 (low playfulness) to 115 (high playfulness). Externality scores range from 7 (low external orientation) to 35 (high external orientation).

A factor analysis was completed in order to determine the structure of the scale (Rogers, Moore, Frary, & Impara, 1990). Two principle factors emerged. Factor 1: Playfulness, is comprised of 23 of the original items, and Factor 2: Externality, comprised of 7 of the original

items. The Externality factor appears to be a measure of the tendency to be affected by various factors in the environment (Rogers, 1988).

Cronbach Alpha coefficients ranged from .81 to .94 for Factor 1: Playfulness and from .62 to .72 for Factor 2: Externality (Rogers et al., 1990).

Item and subscale means and standard deviations were also reported by Rogers et al., (1990). The means for the individual items for Factor 1: Playfulness ranged from 3.44 to 4.49 when rated by mothers. The means for the individual items on Factor 2: Externality ranged from 2.65 to 3.65 when rated by mothers and from 2.83 to 3.26 when rated by teachers. Standard deviations indicated moderate variability. Subscale means and standard deviations were positively skewed, as were the item means (Rogers et al., 1990).

Interrater reliability was examined by Rogers et al. (1990) in five samples. When all samples were combined correlations between 316 pairs of teachers were $\underline{r} = .60$ ($\underline{p} \leq .001$) for Playfulness and $\underline{r} = < .42$ ($\underline{p} < .001$) for Externality. Correlations between 71 pairs of mothers and

fathers were lower than the ones between teachers for Playfulness but higher for Externality. Correlations between 418 mothers versus teachers were r = .12 (p <.05) for Playfulness and r = .11 (p < .05) for Externality. Construct-related validity was demonstrated for Factor 1: Playfulness and Factor 2: Externality through teacher ratings and independent observations (Hawkins, 1987). The Child Behaviors Inventory of Playfulness does appear to be a valid and reliable instrument for measuring the disposition of play in children. The items that were selected for the revised scale have been judged to have content validity and be easy for an untrained observer to use (Rogers et al., 1990).

Chapter 4

Results

The purpose of this study was to investigate the relationships among playfulness, self-perceptions, IQ, first-grade readiness, and selected demographic variables. Playfulness scores were obtained from ratings made by fourteen teachers (9 first grade and 5 second grade) who rated 93 first and second grade children on the Child Behaviors Inventory of Playfulness (CBI) (Rogers & Moore, 1985). This 30-item trait-rating scale assesses the teacher's perceptions via reports of how characteristic (1 = very uncharacteristic to 5 = very characteristic) each behavior of the child being rated is of children's playfulness and externality (external orientation to the environment). Harter's Pictorial Scale of Perceived Competence and Social Acceptance for Young Children (Harter & Pike, 1984) was used to assess self-perceptions. IQ was measured by the Vocabulary and Block Design subtests of the Wechsler Intelligence Scale for Children-Revised (WISC-R) (Wechsler, 1973). Metropolitan Readiness Test scores were available and obtained from the

school records of 61 children in the sample. Finally, the following demographic data were collected: (a) gender of the child, (b) age of the child, (c) child's grade in school, (d) occupational status of the parent, and (e) intact vs. single parent family.

Descriptive Data

Child Behaviors: Playfulness and Externality:

The Child Behaviors Inventory yields scores on two factors which were established via factor analysis on previous research (Rogers et al., 1990). Playfulness is obtained by summing ratings on each of 23 items in that scale (Table 1). The potential range of summed scores on Playfulness is 23 to 115. Results in the present study yielded an actual range of 55 to 109 (M = 80.57, SD =13.53). Externality contains seven items, thus yielding a possible sum ranging from 7 to 35. The actual range in the present sample was 8 to 35 (M = 20.11, SD = 5.07).

TABLE 1

Items on Factor 1: Playfulness and Factor 2: Externality on the Child Behaviors Inventory.

Subscale, Number, and Item

Playfulness:

1. Always has ideas of things to do
4. Explores different ways
6. Invents new games
9. Uses things in own way
11. Enjoys learning new skills
12. Works well on his/her own
13. Enjoys doing things with no purpose
14. Has fun doing things and doesn't wory how well they turn out
15. Gets involved in activity and is hard to get to quit
16. Starts activities for own enjoyment
17. Pretends alot
19. Plays eagerly
20. Plays intently
21. Invents variations on stories
22. Displays exuberance much of the time
23. Rearranges situations to come up with novel ones

Table 1: Continued

24. Creates own way to do things

25. Has a sense of humor

26. Is imaginative

27. Uses toys/objects in unusual ways

28. Finds unusual things to do with common objects

29. Identifies with many characters

30. Gets involved and forgets what is going on

Externality:

2. Uses props in typical ways

3. Once goal is reached, stops

5. Needs reinforcement to continue activities

7. Asks many questions about what to do

8. Seeks aproval frequently

10. Looks to others to tell him/her what to do

18. Uses toys/objects in way they were designed to be used

Internal consistency reliability estimates for each factor were computed via Cronbach's Alpha. The results were: (a) .93 for Playfulness, and (b) .74 for Externality.

Self-Perceptions: Harter's self-perception measure contains four scales: (a) cognitive competence, (b) peer acceptance, (c) physical competence, and (d) maternal acceptance. Each scale contains six items rated from 1 (low) to 4 (high), and the mean scores represent the scale scores. Means, standard deviations, and ranges for each scale are summarized in Table 2. Internal consistencies for each of the Harter self-perception scales were computed via Cronbach's Alpha and ranged from .57 to .77 (Table 3). No standardized scores are available for the self-perception scores and therefore, children in the present sample cannot be classified as having either high or low esteem. However, examination of the frequency distribution indicates that the subjects tended to rate themselves in the upper levels of the possible range, reflecting high levels of self-perceptions on cognitive competence, peer acceptance, and physical competence. However, several children reported low levels of maternal acceptance, i.e. 67 children had mean scores of 2.8 or below on the maternal acceptance scale. These children

TABLE 2

Means, Standard Deviations and Ranges for the Pictorial Scale of Perceived Competence and Social Acceptance in Young Children. (N = 93)

Scale	Mean	SD	Range
Cognitive Competence	3.3	.5	1.5 to 4.0
Peer Acceptance	3.0	.5	1.7 to 4.0
Physical Competence	3.4	.4	1.9 to 4.0
Maternal Acceptance	2.5	.6	1.5 to 3.8

TABLE 3

Cronbach's Alpha Index of Internal Consistencey for the Pictorial Scale of Perceived Competence and Social Acceptance for Young Children.

Scale	Cronbach's Alpha
Cognitive Competence	.77
Peer Acceptance	.66
Physical Competence	.57
Maternal Acceptance	.67

generally gave low responses to the item that asked them to respond as to how often their mothers read to them. The majority of these children, especially the second graders indicated that they now read to themselves and that their mother enjoyed listening to them read. In a few instances, the children replied that only their dad read to them because their mother was not at home at bedtime. Two other items that generated low responses on this scale dealt with being able to eat at other children's homes and being allowed to sleep overnight at a friend's house. In most cases when the children responded with a low score, it was because of scheduling or transportation difficulties. This was confirmed during informal discussions with the parents. Therefore, relatively low mean scores on the maternal acceptance scale may not be valid indicators of maternal acceptance and that issue should be addressed in future studies.

Intelligence: The sum of the Block Design and Vocabulary subscales of the Wechsler Intelligence Scale for Children-Revised was used as a measure of intelligence. The IQ scores obtained by children in this study reflected a relatively high intelligence level for

the sample as a whole, with scores ranging from 74 to 144 (M = 110.76, SD = 15.85) The distribution of scores via Wechsler classifications is shown in Table 4. Scores had reasonable variance and were symmetrically distributed.

First Grade Readiness: The Metropolitan Readiness Test of first grade readiness contains five subtests: (a) auditory skills, (b) visual skills, (c) language skills, (d) quantitative skills, and (e) pre-reading. The scores recorded for the purposes of this study were the stanines obtained on each subtest. Fifty-six of the 61 children had scores available only for the quantitative and pre-reading subtests. Means, standard deviations, and ranges for each subtest are summarized in Table 5. An examination of the frequency distributions indicates that the majority of the subjects' scores fell at or above the 6th stanine.

TABLE 4

IQ Distribution According to Wechsler Classifications

Range	Classification	Frequency
70 - 79	Borderline	2
80 - 89	Low Average	8
90 - 109	Average	34
110 - 119	High Average	20
120 - 129	Superior	20
130 and above	Very Superior	9

N = 93

M = 110.76

SD = 15.85

TABLE 5

Means, Standard Deviations, and Ranges for the Metropolitan Readiness Test.

Subtest	N	M	SD	Range
Auditory	56	6.32	1.74	2 - 9
Visual	56	7.07	1.83	3 - 9
Language	56	6.34	1.98	1 - 9
Quantitative	61	7.11	1.70	3 - 9
Reading	61	6.89	1.80	3 - 9

Bivariate Correlations

Pearson product moment correlation coefficients were calculated to examine the bivariate relationships among the variables in the study. Examination of the table of intercorrelations revealed that of the 136 coefficients, 41 were significant at the $p < .05$ level (Appendix E). Six of these were intercorrelations among the four esteem scales, ranging from $r = .25$ to $r = .58$. Ten were intercorrelations among the readiness scales and ranged from $r = .53$ to $r = .83$. Five represented correlations between IQ and readiness, and five represented correlations between SES and readiness. Four of the readiness scales correlated with grade and ranged from $r = .21$ to $r = .31$. Of the remaining coefficients, those that were of interest to this study were very low, ranging from $r = .26$ to $r = .32$.

Child Behaviors Inventory and Self-Perceptions: Self-perceptions were expected to correlate positively with Playfulness and negatively with Externality. However, no significant correlations existed between Playfulness and any of the four self-perceptions scales(Table 6). Coefficients ranged from $r = -.01$, $p = .89$ between

TABLE 6

Pearson Correlation Coefficients Among Playfulness, Externality, IQ, SES, Self-Perception, and First-Grade Readiness

Variable	N	Playfulness
Externality	93	-.27
IQ	93	.26
SES	71	.27
Cognitive Competence	93	.05
Peer Acceptance	93	-.01
Physical Competence	93	-.14
Maternal Acceptance	93	-.08
Auditory	56	.18
Visual	56	.05
Language	56	.30
Quantitative	61	.12
Reading	61	.09

Playfulness and peer acceptance to r = -.14, p = .19 between Playfulness and physical competence. Child Behaviors Inventory scores on Externality also yielded very low correlations with self-perception scores, ranging from r = .01, p = .89 between Externality and peer acceptance to r = -.14, p = .17 between Externality and cognitive competence.

Child Behaviors Inventory and Intelligence: A low but significant correlation was found between Playfulness and IQ (r = .26, p = .01), indicating that about 7% of the variance is shared between those two variables. Externality and IQ also yielded a low but significant negative correlation (r = -.30, p = .01).

Child Behaviors Inventory and First Grade Readiness: Playfulness and the language subtest of the Metropolitan yielded a low but significant correlation (r = .30, p = .06). No other Metropolitan Readiness subtests were significantly correlated to either Playfulness or Externality (Table 6).

Child Behaviors Inventory and Demographic Variables: Scale 1: Playfulness and social status yielded a low but significant correlation (r = .27, p = .03), indicating a slight tendancy for children of higher status to be rated as more playful. No other demographic varaibles (gender of the child, age of the child, etc.) were significantly related to either Playfulness or Externality.

Demographic Variables: Socioeconomic status and IQ were significantly correlated (r = .40) in the present sample, a finding that is congruent with the literature (Sattler, 1982). Gender was correlated with self-perceptions of Physical Competence, r = .32, p = .002, indicating that girls perceived themselves as more competent physically than did boys. However, the low coefficient reflects a small amount of shared variance.

Factor Analysis

Factor analysis was used to establish the existence of a smaller number of constructs underlying the playfulness, externality, self-esteem, IQ, and demographic variables. The matrix of intercorrelations among all of the variables

was subjected to a principal components extraction of roots which yielded four eigenvalues greater than one. The four corresponding factors accounted for 67% of the variance. A varimax rotation was performed on the first four columns of the factor matrix. Table 7 shows the varimax-rotated matrix for the first four factors. Inspection of this matrix reveals that Factor 1 had substantial loadings for the cognitive variables. The loading for intelligence was .58. Each scale of the Metropolitan Readiness Test also heavily loaded on Factor 1 (range = .77 for Language to .97 for Reading). Factor 2 contained substantial loadings for each of the four the self-esteem variables (Cognitive Competence = .63; Peer Acceptance = .82; Physical Competence = .69; and Maternal Acceptance = .77). Factor 3 contained the heaviest loading for Externality (.73). Playfulness also loaded on Factor 3 but only by virtue of its correlation (r = -.27) with Externality, which is in itself probably the result of using a scale constructed on the basis of maternal responses to obtain ratings from teachers. The Playfulness and Externality scores in this study were computed by summing items which clearly loaded on those separate factors in the Rogers et al. (1990) study in which mothers rated their children's behaviors. With

TABLE 7

Summary of Factor Analysis: Varimax Rotation

Variable	Factor 1	Factor 2	Factor 3	Factor 4
SEX	.19	.12	-.01	.85
SES	.68	.17	.20	.00
AGE	.25	-.09	.62	.41
IQ	.58	.02	-.44	-.24
COGNITIVE COMPETENCE	.26	.63	-.06	-.41
PEER ACCEPTANCE	-.06	.82	-.04	-.02
PHYSICAL COMPETENCE	.05	.69	.22	.38
MATERNAL ACCEPTANCE	-.16	.78	-.02	.13
PLAYFULNESS	.19	-.07	-.56	.03
EXTERNALITY	-.19	.00	.73	.15
AUDITORY	.82	.17	-.00	.01
VISUAL	.85	-.06	.06	.13
LANGUAGE	.77	.02	-.15	-.05
QUANTITATIVE	.85	-.05	-.19	.07
READING	.97	-.01	-.04	-.00

mothers as raters, the correlations between Playfulness and Externality were very low (r = -.12, $p < .01$) in the Rogers et al. work and in a subsequent study by Harris (1989) (r = -.13). However, data based on teacher's ratings in the Rogers et al. study yielded a stronger correlation (r = -.37, $p < .001$) between Playfulness and Externality. That correlation was attributable to items which, in a rotated varimax matrix, loaded on both the playfulness and externality factors. Apparently the teacher-based ratings in the present study reflected similar sources of variance. Indeed, examination of the item correlations in this study showed that Item 7 on the Externality scale ("works well on his / her own") correlated with Externality, r = .47 and with Playfulness, r = -.46. Further, the sixth item on the Playfulness scale ("uses toys / objects only in the way they were designed to be used") correlated -.42 with the total Externality score and .48 with the total Playfulness score.

Since Externality had the heaviest loading on factor 3, and since Playfulness loaded weakly on Factor 3 and did so partially because of an artifact of using the Playfulness and Externality scales with a sample which differed from

the sample on which the scales were constructed. Factor 3 appears to measure Externality. Factor 4 appears mainly to reflect gender of the child with a loading of .85.

Communality for the playfulness variable was only .36 compared with communalities ranging from .53 to .94 for the remaining 14 variables. Since playfulness is only legitimately correlated, however weakly, with IQ in the present study, and since playfulness did not load on Factor 1 it seems reasonable to conclude that the factor structure does not account for playfulness, i.e. it does not appear to be strongly related to any of the underlying variables in this study. The artifactual correlation between playfulness and externality accounts for the playfulness loading on Factor 3. Therefore, it may be concluded that the playfulness factor of the CBI measures a trait or set of behaviors that operate independently of cognitive functioning, esteem, externality, and gender.

Analysis of Variance

Since curvilinear realtionships and / or interactions could not be detected via Pearson correlations, a series of 2 x 2 crossed analysis of variance (ANOVA) designs were computed with play as the dependent variable. The independent variables were: (a) IQ, (b) gender, (c) age, (d) externality, (e) esteem (sum of the the four esteem varaibles), and (f) readiness (mean of the available stanines). IQ, age, and externality were dichotomized via a median split. The sample was approximately balanced for gender (46 males, 47 females) via sampling procedures. Because they are known to be related, IQ and readiness were not used simultaneously as independent variables. All other possible pairings were tested for interactions, e.g., IQ and Externality, IQ and esteem. Main effects were not of interest in these analyses, since they had been accounted for by the bivariate correlations. No significant interactions were found ($p > .05$).

Chapter 5

Discussion

Results demonstrated no substantial relationships among self-esteem, externality, playfulness, IQ, and selected demographic variables. Where significant relationships existed, they were low, an indication that each variable represents a seperate entity. Low positive correlations were found between playfulness and the following variables: (a) IQ, (b) the Language subtest of the Metropolitan Readiness Test, and (c) socioeconomic status. Playfulness also yielded a significant but low negative relationship to externality that occurred with teacher ratings but, which was probably due to an artifact of scale construction (see Results, p. 52 for an explanation). However, neither playfulness nor externality were significantly correlated with gender, age, grade, family structure or any of the four components of self-esteem.

The lack of any meaningful relationship between self-perception and either playfulness or externality indicates that these traits operate independently, i.e. a perception of high self-worth can be achieved with or without a playful disposition. Likewise, the dependent behaviors measured by the externality factor do not deter the development of a positive self-evaluation. This result also provides further support for the existence of playfulness as a measurable personality trait which is distinct from other dimensions of the self.

A correlation beween playfulness and IQ has been found in some previous studies linking play and creativity (Lieberman, 1965; Truhon, 1983; J. K. Sawyers (personal communication, April 10, 1990)). However, Harris (1989) found no significant relationship between Playfulness and IQ among 4- year olds. Due to a small number of IQ scores obtained in that sample (n = 35), however, the conclusion was tentative. The present study, with a larger sample (N = 93) yielded a small positive relationship between IQ and Playfulness. Significant but low correlations between cognitive functioning (IQ and readiness) and playfulness, suggested a slight tendency for children of higher

cognitive functioning to be rated as more playful. However, the low coefficient reflects only a small amount of shared variance. Further analysis provided evidence that playfulness and IQ are separate traits.

The low but significant correlation between playfulness and socioeconomic status suggests a slight tendency for higher SES children to be more playful. This finding is in contrast to Harris (1989) who found no significant relationship between playfulness and socioeconomic status. The small sample number of subjects for whom SES was available in both the Harris study (n = 65) and the present study (n = 56) and their conflicting results suggest that this relationship warrants further study.

A significant but low correlation between Externality (external-orientation to the environment) and Playfulness was also found. Children who had high Externality scores tended to be characterized as using props in a typical fashion, ending play when a goal is achieved, needing reinforcement in order to continue activities, asking many questions about what to do, and seeking approval frequently. The direction of the correlation indicated that children who appear to be more dependent upon

environmental factors tended to be less playful. However, examination of the results from the Comprehensive Questionnaire Analysis Program indicated that the shared variance could be due to two scale items," works well on his / her own", and" uses toys / objects only in the way they were designed to be used," which have high correlations with both scales. Therefore, playfulness and externality can be viewed as separate traits which are correlated due to an artifact of scale use, that is, using a scale constructed on the basis of maternal ratings to obtain the teacher ratings used in the present study. This finding must be in view of the fact that the CBI ratings were completed by teachers in the present study. In a study by Harris (1989), mothers completed the CBI ratings. The correlation between playfulness and externality in that sample was not significant (r = -.13) In Rogers, et al.(1990), the correlation between playfulness and externality was very low (r = -.12, n = 467).

The results of this study indicate that playfulness is a measurable distinct personality trait in children and that individual differences in this trait are measurable. It would appear that playfulness is a quality inherent in the

child that is not dependent upon self-perception, cognitive functioning, age, or gender. The finding in the present study, that playfulness is not related to age or grade in school, is congruent with previous research (Harris, 1989; Rogers et al., 1990) and provides further support for the postulation that playfulness is attributable to individual differences. Longitudinal research is needed to describe patterns of developmental variation across the life-span.

REFERENCES

Achenbach, T., & Zigler, E. (1963). Social competence and self- image disparity in psychiatric and non-psychiatric patients. Journal of Abnormal and Social Psychology, 67,197-205.

Bateson, G. (1955). A theory of play and fantasy. Psychiatric Research Reports, 2, 39-51.

Bateson, G. (1956). The message "This is play." In B. Schaffner (Ed.), Group Processes (pp. 145-151). New York: Josiah Macy.

Bednar, R.L., Wells, M.G., and Peterson, S.R. (1989). Self- esteem: Paradoxes and innovations in clinical theory and practice. Washington, D.C.: American Psychological Association.

Berlyne, D.E. (1960). Conflict, arousal and curiosity. New York: McGraw-Hill.

Berlyne, D.E. (1964). Emotional aspects of learning. Annual Review of Psychology, 15, 115-142.

Berlyne, D.E. (1966). Curiosity and exploration. Science,153, 25-33.

Berlyne D.E. (1969). Laughter, humor and play. In G. Lindzey & E. Aronson (Eds.), The handbook of social psychology (Vol. 3). (pp. 795-852). Reading, MA: Addison-Wesley.

Bruner, J.S. (1976a). Introduction. In J.S. Bruner, A. Jolly, & K. Sylva (Eds.), Play: Its role in development and evolution (pp13-24). New York: Basic Books.

Bruner, J.S. (1976b). Nature and uses of immaturity. In J.S. Bruner, A. Jolly, & K. Sylva (Eds.), Play - its role in development and evolution (pp. 28-64). New York: Basic.

Cooley, C.H. (1902). Human nature and the social order. New York: Charles Scribner's and Sons.

Coopersmith, S. (1959). A method for determining types of self- esteem. Journal of Abnormal and Social Psychology, 59, 87-94

Coopersmith, S. (1967). The antecedents of self-esteem. San Fransisco: W.H. Freeman.

Csikszenmihayli, M. (1979). The concept of flow. In B. Sutton- Smith (Ed.). Plat and learning. New York: Gardner Press.

Dickstein, E. (1977). Self and self-esteem: Theoretical foundations and their implications for research. Human Development, 20, 129-140.

Drummond, R.J. & McIntire, W.G., (1977). Evaluating the factor structure of "self concept" in children: A cautionary note. Measurement and Evaluation in Guidance, 9, 172-176.

Epstein, S. (1973). The self-concept revisited of a theory of a theory. American Psychologist, 28, 405-416.

Epstein, S. (1981). The unity principle versus the reality and pleasure principles, or the tale of the scorpion and the frog. In M.D. Lynch, A.A. Norem-Hebeisen, & K. Gergen (Eds.), Self- concept: Advances in theory and research. Cambridge, MA: Ballinger.

Erikson, E.H. (1950). Childhood and society. New York: Norton.

Freud, S. (1959). Creative writers and daydreaming. In J. Strackey (Ed.), The standard edition of the complete psychological works of Sigmund Freud (Vol.9). London: Hogarth.

Freud, S. (1961). Beyond the pleasure principle. New York: Norton.

Groos, K. (1898). The play of animals. New York: Appleton.

Groos, K. (1901). The play of man. New York: Appleton.

Hall, G.S. (1920). Youth. New York: Appleton.

Haltiwanger, J. (April, 1989). Behavioral referrents of presented self-esteem in young children. Poster presented at the biennial meetings of the Society for Research in Child Development, Kansas City, KS.

Harris, T. T. (1989). Temperament and the disposition to play: Sources of shared variance. Unpublished doctoral dissertation,Virginai Polytechnic Institute and State University, Blacksburg, Virginia.

Harter, S. (1978). Effectance motivation reconsidered: Toward a developmental model. Human Development, 1, 34-64.

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

Harter, S. (1983). Developmental perspectives on the self-system. In E.M. Hetherington (Ed.), Socialization, Personality and social development: (Vol. 4): Handbook of child psychology (pp. 275- 386). New York: Wiley.

Harter, S. (1987). Causes, correlates, and the functional role of global self-worth: A life-span perspective. In J. Kolligran & R. Sternberg (Eds.), Perceptions of competence and incompetence across the life-span. New Haven, CT: Yale University Press.

Harter, S. (1988). Issues in the assessment of the self-concept of children and adolescents. In A. La Greca (Ed.), Childhood assessment: Through the eyes of a child. New York: Allyn & Bacon, in press.

Harter, S., & Pike, R. (1984). The pictorial scale of perceived competence and social acceptance for young children. Child Development, 55, 1969-1982.

Hawkins, M.R. (1987). Construct-related validity of the Child Behaviors Inventory of Playfulness in Children. Unpublished manuscript, Virginia Polytechnic Institute and State University, Blacksburg, VA.

Hutt, C. (1966). Exploration and play in children. In J.S. Bruner, A. Jolly & K. Sylva (Eds.), Play - It's role in development and evolution. (pp. 202-215). New York: Basic Books.

James, W. (1974). Psychology. New York: Fawcett (originally published, 1890).

Katz, P., & Zigler, E. (1967). Self-image disparity? A developmental approach. Journal of Personality and Social Psychology, 5, 186-195.

Katz, P.A., Zigler, E., & Zalk, S.R. (1975). Children's self- image disparity: The effects of age, maladjustment, and action- thought orientation. Developmental Psychology, 11, 546-550.

Kilian, J.B., & Hughes, L.C. (1978). A comparison of short forms of the Wechsler Intelligence Scale for Children - Revised in the screening of gifted referrals. Gifted Child Quarterly,22, 111-115.

Krasnor, L.R., & Pepler, D.J. (1980). The study of children's play: Some suggested future direction. In K.H. Rubin (Ed.), New directions for child development: Children's play (pp. 85-95). San Francisco: Jossey-Bass.

Lazarus, M. (1883). Die reize des spiels. Berlin: Ferd, Dummlers Verlagsbuchhandlung.

L'Ecuyer, R. (1981). The development of the self-concept through the life span. In M.D. Lynch, A.A. Norem-Heveisen & K. Gergen (Eds.), Self Concept: Advances in theory and research. Cambridge, Mass.: Ballinger.

Levy, J. (1978). Play behavior. New York: Wiley

Lieberman, J.N. (1965). Playfulness and divergent thinking: An investigation of their relationship at the kindergarten level. The Journal of Genetic Psychology, 107, 219-224.

Lieberman, J.N. (1977). Playfulness: Its relationship to imagination and creativity. New York: Academic Press.

Marsh, H.W. (1984). Relationships among dimensions of self- attribution, dimensions of self-concept and academic achievements. Journals of Educational Psychology, 76, 1291-1308.

Marsh, H. W. (1987). The hierarchical structure of self-concept: An application of hierarchical confirmatory factor analysis. Journal of Educational Measurement, 24, 17-39.

Marsh, H. W., Barnes, J., Cairns, L., & Tidman, M. (1984). Self-description questionnaire: Age and sex effects in the structure and levle of self-concept for preadolescent children. Journal of Educational Psychology, 76, 940-956.

Maslow, A.H. (1971). The farther reaches of human nature.New York: Viking Press.

Matas, L., Arend, R. A., & Sroufe, L. A. (1978). Continuity of adaption in the second year: The relationship between quality of attachment and later competence. Child Development, 49, 547-556.

Moore, A.J., & Rogers, C.S. (1985, November). Childrearing practices related to playfulness and type-A behavior in children. Paper presented at the meeting of the National Council on Family Relations, Dallas, TX.

Moore, A.J. (1985). Childrearing practices related to playfulness and type-A behavior in children. Doctoral dissertation, Virginia Polytechnic Institute and State University, 1985.

Patrick, G.T.W. (1916). The psychology of relaxation. Boston: Houghton-Mifflin.

Piaget, J. (1962). Play, dreams and initation in childhood (C. Gattegno & F.M. Hodgson, Trans.). New York: Norton. (Original work published in 1951).

Rogers, C.R. (1961). On becoming a person. Boston: Houghton- Mifflin.

Rogers, C., & Dymond, R. (1954). Psychotherapy and personality change. Chicago: University of Chicago Press.

Rogers, C.S. (1988, March). Measuring playfulness: Development of the child behaviors inventory of playfulness. Paper presented at the biennial meeting of the Southwestern Society for Research in Human Development, New Orleans, LA.

Rogers, C.S., & Moore, A.J. (1985, April). Playfulness as a disposition: The development of a trait rating instrument for use with children. Paper presented at the meeting of the Virginia Home Economics Association, Richmond, VA.

Rogers, C.S., Moore, A.J., Impara, J., and Frary, R., (1990). The development of the child behaviors inventory of playfulness in children. Manuscript submitted for publication.

Rogers, C.S. & Sawyers, J.K., (1988). Play in the lives of children. Washington D.C.: NAEYC.

Rosenberg, M. (1965). Society and the adolescent self-image. Princeton: Princeton University Press.

Rosenberg, M. (1979). Conceiving the self. New York: Basic

Rubin, K.H. (1982). Early play theories revisited: Contribution to contemporary research and theory. In D.J. Pepler & K.H. Rubin (Eds.), The play of children: Current theory and research (pp. 4-14). Basel: Karger.

Rubin, K.H., Fein, G., & Vandenberg, B. (1983). Play. In E. M. Hetherington (Ed.), Socialization, personality and social development: (Vol.4): Handbook of child psychology (pp. 693- 774). New York: Wiley.

Sattler, J.M. (1982). Assessment of childrens intelligence and special abilities. Boston: Allyn & Bacon.

Schechner, R. (1988). Playing. Play & Culture, 1,, 3-19.

Schiller, F. (1954). On the aesthetic education of man. New Haven: Yale University Press.

Semanic-Lauth, S. (1987). Inter-rater relaibility of the Child Behaviors Inventory. Unpublished manuscript. Virginia Polytechnic Institute and State University. Blacksburg, VA.

Shavelson, R.J., Hubner, J.J., & Stanton, G.C. (1976). Self- concept: Validation of construct interpretations. Review of Educational Research, 46, 407-441.

Singer, D.G., & Singer, J.L. (August, 1978). Some correlates of imaginative play in preschoolers. Paper presented at the meeting of the American Psychological Association, Toronto.

Singer, D.G., & Singer, J.L. (September, 1980). Imaginative play in preschoolers: Some research and theoretical implications. Paper presented at the meeting of the American Psychological Association, Montreal.

Smilansky, S. (1968). The effects of sociodramatic play on disadvantaged preschool children. New York: Wiley.

Smith P.K., & Vollstedt, R. (1985). On defining play: An empirical study of the relationship between play and various play criteria. Child Development, 56, 1042-1050.

Spencer, H. (1873). Principles of psychology (Vol. 3; 3rd ed.). New York: Appleton.

Sutton-Smith, B. (1966). Piaget on play: A critique. Psychological Review, 73, 104-110.

Sutton-Smith, B. (1967). The role of play in cognitive development. Young Children, 22, 361-370.

Sutton-Smith, B. (1976). Current research and theory on play, games and sports. In T. Craig (Ed.), The humanistic and mental health aspects of sports, exercise and recreation. Chicago: American Medical Association.

Thompson, F. (Producer). (1965). To Be Alive[Film]. Racine, WI: Johnson's Wax.

Truhon, S. A. (1983). Playfulness, play, and creatvity: A path analytic model. The Journal of Genetic Psychology, 143, 19-28.

Vandenberg, B. (1985). Beyond the ethology of play. In C.C. Brown & A.W. Gottfried (Eds.), Play interactions: The role of toys and parental involvement in children's development (pp. 45- 52). Skillmen, NJ: Johnson & Johnson.

Vygotsky, L.S. (1967). Play and its role in the mental development of the child. Soviet Psychology, 12, 62-76.

Wechsler, D. (1974). The Wechsler Intelligence Scale for Children - Revised. New York: Psychological Corporation.

Wigfield, A., Blumenfeld, P., Yoon, K.S., & Freedman-Doan, C. (April, 1989). Gender and age differences in children's achievement self-perceptions during elementary school. Paper presented at the biennial meeting of the Society for Research in Child Development, Kansas City, KS.

Zigler, E., Balla, D., & Watson, N. (1972). Developmental and experimental determinants of self-image disparity in institutionalized and noninstitutionalized retarded and normal children. Journal of Personality and Social Psychology, 23, 81- 87.

Appendix A

Parent Letter

Consent Form

Followup Letter

COLLEGE OF HUMAN RESOURCES

VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY

Blacksburg, Virginia 24061-0416

DEPARTMENT OF FAMILY AND CHILD DEVELOPMENT (703) 231-4794 or 4795

Dear Parent(s):

Parents are among the most influential teachers a child ever has. Yet, parents and teachers have many questions about children's behavior and development. The Child Development Project at Virginia Tech is examining these topics and we invite you and your child to participate. This is a useful project and your child is very important to the success of this study.

Your child was randomly selected to be a part of this study. We do need your permission for your child to participate. We will ask your child's teacher to rate how characteristic some school behaviors are of your child. A brief survey will also be given to your child as well as a short evaluation of vocabulary and perceptual-motor development. We will also record each child's score from the Metropolitan Readiness Test. All information will be treated confidentially and can be identified only by a code number. When the project is over, we will share with you the results of the total project.

The superintendent Dr. Harold Dodge and the principal of Gilbert Linkous, Mr. Ray Van Dyke, have approved of this project. However, your permission for your child's participation is strictly voluntary.

The evaluations must be conducted outside of school hours according to Montgomery County School guidelines. The survey and evaluation will take approximately 30 minutes per child to administer. You will be contacted as soon as we receive your consent form in order to schedule a time for your child. The evaluations will be held at the Lab School in Wallace Hall on the Virginia Tech campus.

Please complete the enclosed consent form and return it in the enclosed stamped envelope by September 25, 1989 so that we know your child may participate. If you do not wish to give your permission please check the appropriate line on the consent form and return it also. If you have any questions, please do not hesitate to call us.

Sincerely yours,

Cosby S. Rogers

Cosby S. Rogers
Project Director
231-4793

Susan Semanic-Lauth

Susan Semanic-Lauth
Project Coordinator
961-3093

COLLEGE OF HUMAN RESOURCES

VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY

Blacksburg, Virginia 24061-0416

DEPARTMENT OF FAMILY AND CHILD DEVELOPMENT (703) 231-4794 or 4795

Consent Form

I have received an explanation of the Child Development Project. I understand that all information from the questionnaire, group survey, and vocabulary and perceptual-motor evaluations will remain strictly confidential.

_____ I give my permission for my child to participate in the Child Development Project.

_____ I do not give my permission for my child to participate in the Child Development Project.

Parent(s) Name(s): _____

Child's Name: _____

Child's Date of Birth: _____

Telephone Number: _____

Parent Signature: _____

_____

COLLEGE OF HUMAN RESOURCES

VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY

Blacksburg, Virginia 24061-0416

DEPARTMENT OF FAMILY AND CHILD DEVELOPMENT (703) 231-4794 or 4795

Date

Dear Parent(s):

Recently, we sent you a letter about the Child Development Project at Virginia Tech. If you have any questions concerning the project please do not hesitate to call us. It is very important that we hear whether or not you choose to give permission for your child to participate in this project.

Please complete the enclosed form and return it tomorrow to the school office. Thank you very much for your cooperation.

Sincerely yours,

Cosby S. Rogers
Project Director
231-4793 or 951-2657

Susan Semanic-Lauth
Project Coordinator
231-4793 or 961-3093

Appendix B

Teacher Letter

Consent Form

COLLEGE OF HUMAN RESOURCES

VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY

Blacksburg, Virginia 24061-0416

DEPARTMENT OF FAMILY AND CHILD DEVELOPMENT (703) 231-4794 or 4795

Date

Dear Teacher,

As a teacher you are one of the most influential people in lives of young children. You help to stimulate, encourage, and shape their behavior during the school day. Yet, as you well know, there are many unanswered questions concerning children's school behaviors. The Child Development Project at Virginia Tech is interested in answering some of those questions.

We are inviting experienced (5 or more years) first and second grade teachers at Margaret Beeks to participate by rating traits of ten children who will be randomly selected and whose parents agree for them to be rated. This information will be in the form of 31 items which you would rate as characteristic or uncharacteristic of the child. We expect this to take about five minutes per child.

Superintendent Harold Dodge and Carole Kivlighan have approved of this project. However, your participation is strictly voluntary. If you are willing to participate by rating ten children, please indicate this by returning the enclosed form to the principal's office by September 20, 1989. Thank you very much for your cooperation.

Sincerely yours,

Susan Semanic-Lauth

Susan Semanic-Lauth
Project Coordinator
961-3093

COLLEGE OF HUMAN RESOURCES

VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY

Blacksburg, Virginia 24061-0416

DEPARTMENT OF FAMILY AND CHILD DEVELOPMENT (703) 231-4794 or 4795

Teacher Consent Form

Please check off the appropriate line and return this to the office by September 20, 1989. Thank you.

_____ Yes, I wish to participate in the Child Development Project

_____ No, I do not wish to participate in the Child Development Project

NAME _____

SCHOOL _____ GRADE _____

SIGNATURE _____

Appendix C

The Pictorial Scale of Perceived Competence and Social Acceptance for Young Children

The Pictorial Scale of Perceived Competence and Social Acceptance for Young Children*
Individual Recording and Scoring Sheet, Form 1-2

Child's Name _____ Age _____ Gender: M F

Class/Grade _____ Teacher _____ Testing Date _____

Item Order and Description	Cognitive Competence	Peer Acceptance	Physical Competence	Maternal Acceptance
1. Good at numbers	1 ___			
2. Friends to play with		2 ___		
3. Good at swinging			3 ___	
4. Eats at friends				4 ___
5. Knows alot in school	5 ___			
6. Others share		6 ___		
7. Good at climbing			7 ___	
8. Mom takes you places				8 ___
9. Can read alone	9 ___			
10. Friends to play games with		10 ___		
11. Good at bouncing ball			11 ___	
12. Mom cooks favorite foods				12 ___
13. Good at writing words	13 ___			
14. Has friends on playground		14 ___		
15. Good at skipping			15 ___	
16. Mom reads to you				16 ___
17. Good at spelling	17 ___			
18. Gets asked to play by others		18 ___		
19. Good at running			19 ___	
20. Stays overnight at friends				20 ___
21. Good at adding	21 ___			
22. Others sit next to you		22 ___		
23. Good at jumping rope			23 ___	
24. Mom talks to you				24 ___
Column (Subscale) Total:	___	___	___	___
Column (Subscale) Mean: (Total Divided by 6)	_____	_____	_____	_____

Comments:

*Susan Harter and Robin Pike, University of Denver, 1983

Appendix D

Child Behaviors Inventory of Playfulness

Child #_____

Below are some statements describing some child behaviors. Please rate each item by circling a number on the continuum, with "1" being Very Uncharacteristic and "5" being Very Characteristic as they pertain to_____.

		Very Uncharacteristic				Very Characteristic
1.	Always has ideas of things to do.	1	2	3	4	5
2.	Uses props in typical rather than unusual ways.	1	2	3	4	5
3.	Once goal is achieved, stops playing with the object/material.	1	2	3	4	5
4.	Explores different ways to accomplish the same end.	1	2	3	4	5
5.	Needs reinforcement to continue activities.	1	2	3	4	5
6.	Invents new games.	1	2	3	4	5
7.	Asks many questions about what to do.	1	2	3	4	5
8.	Seeks approval frequently.	1	2	3	4	5
9.	Uses things his/her own way.	1	2	3	4	5
10.	Looks to others to tell him/her what to do.	1	2	3	4	5
11.	Enjoys learning new skills.	1	2	3	4	5
12.	Works well on his/her own.	1	2	3	4	5
13.	Enjoys doing things even when there's no purpose.	1	2	3	4	5
14.	Has fun doing things without worrying how well they turn out.	1	2	3	4	5
15.	Gets so involved in activity that it is hard to get him/her to quit.	1	2	3	4	5
16.	Starts activities for his/her own enjoyment.	1	2	3	4	5
17.	Pretends a lot.	1	2	3	4	5
18.	Uses toys/objects only in the way they were designed to be used.	1	2	3	4	5
19.	Plays eagerly.	1	2	3	4	5
20.	Plays intently.	1	2	3	4	5
21.	Invents variations on stories such as different endings or new characters.	1	2	3	4	5
22.	Displays exuberance much of the time.	1	2	3	4	5
23.	Rearrange situations to come up with novel ones.	1	2	3	4	5
24.	Once the child has been shown how to do something, he/she creates his/her own way.	1	2	3	4	5
25.	Has a sense of humor.	1	2	3	4	5
26.	Is imaginative.	1	2	3	4	5
27.	Uses toys/objects in unusual ways.	1	2	3	4	5
28.	Finds unusual things to do with common objects.	1	2	3	4	5
29.	Identifies with many characters instead of playing the same role over again.	1	2	3	4	5
30.	Gets so involved in an activity that he/she forgets what is going on in the room.	1	2	3	4	5
31.	Is a playful child.	1	2	3	4	5

Grade_____ Boy_____ Girl_____ Teacher_____

Appendix E

Pearson Correlation Matrix

VARIABLE		GRADE	SEX	SOCIO-ECO STATUS	SINGLE PARENT	AGE	IQ	COGNITIVE COMPETENCE	PEER ACCEPTANCE	PHYSICAL COMPETENCE	MATERNAL ACCEPTANCE	PLAY	EXTERNALITY	AUDITORY	VISUAL	LANGUAGE	QUANTITATIVE	READING
GRADE	r	1.00	-0.03	0.16	0.03	0.78	0.15	0.19	-0.07	-0.06	-0.14	0.12	0.07	0.21	0.31	0.22	0.17	0.29
	p	0.00	0.77	0.17	0.75	0.00	0.16	0.07	0.50	0.57	0.17	0.24	0.49	0.11	0.02	0.10	0.18	0.02
	n	93	93	71	93	93	93	93	93	93	93	93	93	56	56	56	61	61
SEX	r	-0.03	1.00	0.04	-0.09	-0.15	-0.07	-0.07	0.08	0.32	0.11	0.15	0.05	0.16	0.22	0.06	0.11	0.16
	p	0.77	0.00	0.70	0.07	0.16	0.50	0.53	0.44	0.00	0.28	0.14	0.66	0.25	0.10	0.67	0.11	0.23
	n	93	93	71	93	93	93	93	93	93	93	93	93	56	56	56	61	61
SOCIO-ECONOMIC STATUS	r	0.16	0.04	1.00	0.15	0.00	0.40	0.12	0.20	0.15	0.13	0.27	0.15	0.53	0.50	0.44	0.59	0.64
	p	0.17	0.71	0.00	0.21	0.96	0.00	0.32	0.10	0.22	0.28	0.03	0.22	0.00	0.00	0.00	0.00	0.00
	n	71	71	71	71	71	71	71	71	71	71	71	71	48	48	48	51	51
SINGLE PARENT	r	0.03	-0.19	0.15	1.00	-0.17	0.30	0.09	0.06	-0.08	0.12	0.14	-0.34	0.16	0.11	0.12	0.09	0.18
	p	0.75	0.07	0.21	0.00	0.10	0.00	0.39	0.54	0.46	0.26	0.20	0.00	0.25	0.10	0.67	0.11	0.23
	n	93	93	71	93	93	93	93	93	93	93	93	93	56	56	56	61	61
AGE	r	0.78	-0.15	0.01	-0.17	1.00	-0.08	0.11	-0.06	-0.05	-0.17	-0.01	0.20	0.09	0.15	0.17	0.08	0.18
	p	0.00	0.16	0.96	0.10	0.00	0.44	0.31	0.59	0.64	0.10	0.93	0.05	0.51	0.26	0.22	0.54	0.16
	n	93	93	71	93	93	93	93	93	93	93	93	93	56	56	56	61	61
IQ	r	0.15	-0.07	0.40	0.30	-0.08	1.00	0.23	-0.01	-0.18	-0.03	0.26	-0.30	0.42	0.52	0.37	0.60	0.55
	p	0.16	0.50	0.00	0.00	0.44	0.00	0.02	0.94	0.08	0.74	0.01	0.00	0.00	0.00	0.00	0.00	0.00
	n	93	93	71	93	93	93	93	93	93	93	93	93	56	56	56	61	61
COGNATIVE COMPETENCE	r	0.19	-0.07	0.12	0.09	0.11	0.23	1.00	0.34	0.28	0.25	0.05	-0.14	0.37	0.09	0.09	0.16	0.23
	p	0.07	0.53	0.32	0.39	0.31	0.02	0.00	0.00	0.01	0.01	0.65	0.17	0.01	0.52	0.49	0.22	0.08
	n	93	93	71	93	93	93	93	93	93	93	93	93	56	56	56	61	61
PEER ACCEPTANCE	r	-0.07	0.08	0.20	0.06	-0.06	-0.01	0.34	1.00	0.43	0.58	-0.01	0.01	-0.00	-0.09	0.07	-0.08	-0.03
	p	0.50	0.44	0.10	0.54	0.59	0.94	0.00	0.00	0.00	0.00	0.89	0.90	0.98	0.51	0.61	0.55	0.84
	n	93	93	71	93	93	93	93	93	93	93	93	93	56	56	56	61	61
PHYSICAL COMPETENCE	r	-0.06	0.32	0.15	-0.08	-0.05	-0.18	0.28	0.43	1.00	0.43	-0.14	0.09	0.16	0.01	0.01	0.04	0.00
	p	0.57	0.00	0.22	0.46	0.64	0.08	0.01	0.00	0.00	0.00	0.20	0.37	0.23	0.93	0.96	0.75	0.99
	n	93	93	71	93	93	93	93	93	93	93	93	93	56	56	56	61	61
MATERNAL ACCEPTANCE	r	-0.14	0.11	0.13	0.12	-0.17	-0.03	0.25	0.58	0.43	1.00	-0.08	0.12	-0.03	-0.09	-0.11	-0.19	-0.16
	p	0.17	0.28	0.28	0.26	0.10	0.74	0.01	0.00	0.00	0.00	0.45	0.26	0.85	0.52	0.40	0.15	0.22
	n	93	93	71	93	93	93	93	93	93	93	93	93	56	56	56	61	61
PLAY	r	0.12	0.15	0.27	0.14	-0.01	0.26	0.05	-0.01	-0.14	-0.08	1.00	-0.27	0.18	0.05	0.30	0.12	0.20
	p	0.24	0.15	0.03	0.20	0.93	0.01	0.65	0.89	0.20	0.45	0.00	0.01	0.18	0.73	0.03	0.36	0.13
	n	93	93	71	93	93	93	93	93	93	93	93	93	56	56	56	61	61
EXTERNALITY	r	0.07	0.05	0.15	-0.34	0.20	-0.30	-0.14	0.01	0.09	0.12	-0.27	1.00	-0.12	-0.13	-0.30	-0.36	-0.22
	p	0.50	0.66	0.22	0.00	0.05	0.00	0.17	0.90	0.37	0.26	0.01	0.00	0.37	0.35	0.03	0.00	0.09
	n	93	93	71	93	93	93	93	93	93	93	93	93	56	56	56	61	61
AUDITORY	r	0.21	0.16	0.53	0.16	0.09	0.42	0.37	0.00	0.16	-0.03	0.18	-0.12	1.00	0.61	0.59	0.56	0.81
	p	0.11	0.25	0.00	0.23	0.51	0.00	0.01	0.98	0.23	0.85	0.18	0.37	0.00	0.00	0.00	0.00	0.00
	n	56	56	48	56	56	56	56	56	56	56	56	56	56	56	56	56	56
VISUAL	r	0.31	0.22	0.50	0.11	0.15	0.52	0.09	-0.09	0.01	-0.09	0.05	-0.13	0.61	1.00	0.53	0.69	0.83
	p	0.02	0.10	0.00	0.42	0.26	0.00	0.52	0.51	0.93	0.52	0.73	0.35	0.00	0.00	0.00	0.00	0.00
	n	56	56	48	56	56	56	56	56	56	56	56	56	56	56	56	56	56
LANGUAGE	r	0.22	0.06	0.44	0.12	0.17	0.37	0.09	0.07	0.01	-0.11	0.30	-0.30	0.59	0.53	1.00	0.66	0.79
	p	0.10	0.67	0.00	0.38	0.22	0.00	0.49	0.61	0.96	0.40	0.03	0.03	0.00	0.00	0.00	0.00	0.00
	n	56	56	48	56	56	56	56	56	56	56	56	56	56	56	56	56	56
QUANTITATIVE	r	0.17	0.20	0.59	0.09	0.08	0.60	0.16	-0.08	0.04	-0.19	0.12	-0.36	0.56	0.69	0.66	1.00	0.79
	p	0.16	0.11	0.00	0.51	0.54	0.00	0.22	0.55	0.75	0.15	0.36	0.00	0.00	0.00	0.00	0.00	0.00
	n	61	61	51	61	61	61	61	61	61	61	61	61	56	56	56	61	61
READ	r	0.29	0.16	0.64	0.18	0.18	0.55	0.23	-0.03	0.00	-0.16	0.20	-0.22	0.81	0.83	0.79	0.79	1.00
	p	0.03	0.23	0.00	0.17	0.16	0.00	0.08	0.84	0.99	0.22	0.13	0.09	0.00	0.00	0.00	0.00	0.00
	n	61	61	51	61	61	61	61	61	61	61	61	61	56	56	56	61	61

VITA

Susan Semanic-Lauth received her BS degree in education and her M.Ed. in School Psychology from Bowling Green State University in Bowling Green, Ohio. She was employed as a school psychologist in Ohio for five years.

While pursuing her doctoral studies in Child Development, Ms. Semanic-Lauth worked for the Mental Health Services of the New River Valley and later as a school psychologist for Montgomery County Schools. She also served as a graduate teaching assistant for the Human Development course for two years. Ms. Semanic-Lauth is currently residing in Lexington, Kentucky.