

Running head: SELF-ESTEEM

SELF-ESTEEM:  
THE EXPERIENCE OF  
ATTENTION DEFICIT HYPERACTIVITY DISORDER (ADHD) ADOLESCENTS

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A THESIS  
SUBMITTED IN PARTIAL FULFILMENT OF THE REQUIREMENTS  
FOR THE DEGREE OF  
MASTER OF EDUCATION

FACULTY OF EDUCATION  
LAKEHEAD UNIVERSITY  
THUNDER BAY, ONTARIO

December 1999

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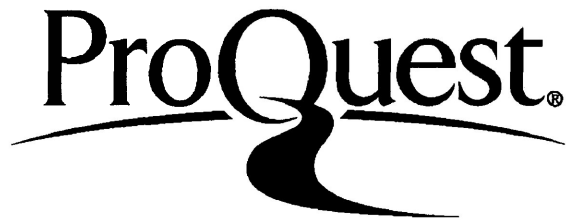
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## Abstract

This study examines the levels of self-esteem of 10 attention deficit hyperactivity disorder (ADHD) Grade 8 adolescents. It researches, through an examination of the existing literature and the means of statistical analyses, the relationship among levels of self-esteem and student experiences of ADHD. Two sample sizes were used.  $N_1$  (10) is the total size of the sample. These 10 adolescents' scores were used to calculate the mean,  $\bar{z}$  scores, and variance.  $N_2$  (8) represents the adolescents whose results were used to calculate the  $\bar{z}$  scores for the total score and the six clusters. The results of  $N_1$  and  $N_2$  are compared to the normative population provided by Piers (1984) of  $N = 485$ . Even though the terms self-esteem and self-concept are used interchangeably throughout this paper, the focus of the researcher is to determine levels of self-esteem because self-concept is too broad in scope for the purposes of this research study. Levels of self-esteem are determined by using the Piers-Harris Children's Self-Concept Scale (Piers). The scale is referred to as the Piers-Harris in this study. Six aspects of self-esteem were studied through six cluster scores: behaviour, intellectual and school status, physical appearance and attributes, anxiety, popularity, and happiness and satisfaction. The hypotheses formulated by this researcher, inextricably linking ADHD and self-esteem, are supported by the research results. Taking into account the implication of small sample sizes and recognizing the robust nature of the tests used, this research demonstrates the relationship between ADHD and self-esteem.

## Acknowledgements

My gratitude is extended to my thesis advisor, Dr. Daniel Klassen, for his ideas, insights, and enthusiasm during the development of this thesis. I would also like to thank Dr. Doug Thom and Dr. Juanita Epp for their assistance in the completion of this thesis by being members of the thesis committee.

I am also grateful to the participating students and parents who took the time to complete the questionnaire and other research documentation. I would also like to thank the parents who invited me into their homes to interview their children.

I appreciate the assistance from the staff of the local school board, especially the principals, secretarial staff, and teachers who took time from their busy schedules to make the necessary arrangements for me to meet with the participants of this study.

Finally, I wish to thank the following people for their input and support during the writing of this thesis: Dr. John Jamieson for his help to analyze the statistics reported in this thesis; my copy editor, Barb Elwert, for her suggestions and comments; my parents, Len and Brenda Schutte, for supporting all of my educational endeavours, and for taking care of Jonathon and Brenden while I worked on this document; and to my husband John, whose support is greatly appreciated. Without his assistance and encouragement, this thesis would not have been completed.

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## CHAPTER 1

### Introduction

This thesis examines levels of self-esteem and the experiences of adolescents who have been identified as having attention deficit hyperactivity disorder (ADHD). To effectively investigate levels of self-esteem and ADHD adolescents, one must research self-esteem and its relationship to, and role in, the lives and developmental experiences of ADHD adolescents.

Traditional statistical means were utilized fully recognizing the implication of small samples and the errors that may emerge. The quantitative method was used with the possibility that further support to the relationship between ADHD and self-esteem could be found, at the same time recognizing the robust nature of the tests used.

A healthy sense of self-esteem is a basic human need (Branden, 1971; Epstein, 1985). McGee (1998) stated that self-esteem is "the feeling of significance [that] is crucial to man's emotional, spiritual and social stability and is the driving element within the human spirit" (p. 11). Self-esteem is a personal judgement of worthiness and competence that is expressed in the attitudes that individuals hold toward themselves. It is a subjective experience that individuals convey to others by verbal reports, written reports, and other expressive behaviours (Coopersmith, 1967; Mruk, 1995). Therefore, self-esteem occupies a central role in individuals' lives as a motivational force, both consciously and otherwise (Mruk; Ross, 1992).

Adolescents are going through "a critical period of human development manifested at the biological, psychological, and social levels of integration, of variable onset and duration but marking the end of childhood and setting the foundation for



maturity" (Eisenberg, 1965, p. 131). During this phase, adolescents are also searching for a sense of personal identity (Erikson, 1963, 1968). Eisenberg stated that "although a rich, fulfilling adolescence provides the best groundwork for a successful adulthood, such an outcome is not automatic" (p. 131).

ADHD, as defined by the American Psychiatric Association's Diagnostic and Statistical Manual of Mental Disorders (4th ed., [DSM-IV], 1994), is a neurobiologically based developmental disability estimated to affect between 3% and 5% of the school-aged population (Fowler, 1994; Yaden, 1994). Children with ADHD often experience the greatest difficulties in school because the demands for impulse control, motor control, and attention are necessary for successful achievement. ADHD does not prevent children from learning, but it does impede their academic performances (Conner, 1994; Yaden).

Although students with ADHD appear insensitive, resistant, bossy, and aggressive in social situations, they usually suffer from low self-esteem (Weiss & Trokenberg Hechtman, 1993). These two researchers reported that 40% to 60% of the ADHD adolescents they interviewed reported low self-esteem.

ADHD adolescents must successfully deal with the experiences of being teenagers and of having to manage the symptoms associated with ADHD (Barkley, 1990; Wender, 1987). During this phase of life, these adolescents' levels of self-esteem are continuing to be formed and shaped (Wagner, 1975). This thesis examines the interplay and relationship between ADHD adolescents and their levels of self-esteem.

This study provides documented research that will assist ADHD adolescents, their parents, and their teachers to further understand the connection between ADHD

and self-esteem. Research needs to continue examining the relationship between ADHD and levels of self-esteem in order to assist ADHD adolescents.

## **Statement of the Research Question and Hypotheses**

### **Research Question**

What is the relationship between adolescents with ADHD and their levels of self-esteem?

### **Hypotheses**

1. Overall, ADHD students have lower levels of self-esteem than do other students.
2. The mean behaviour cluster score of the ADHD participants of this study is lower than the mean of other students.
3. The mean intellectual and school status score of the ADHD participants of this study is slightly lower than the mean of other students.
4. The mean popularity cluster score of the ADHD participants of this study is lower than the mean of other students.

## CHAPTER 2

### Literature Review

Wylie (1974) stated, "It has recently become widely fashionable and acceptable to write about such hypothetical constructs as self-esteem without seriously attempting to define terms" (p. 316). This literature review outlines the major ideas and theories surrounding the definition and development of self-concept and self-esteem. It also discusses the difference between self-concept and self-esteem. It concludes with information and studies about ADHD adolescents.

#### A Brief History of Self-Esteem

Ross (1992) stated that "strictly speaking, there is no such thing as the self, at least not in scientific psychology" (p. 1). He emphasized that "the self is not an entity" (p. 1). Thus, for the purposes of this paper, the word self is clarified in meaning either by the hyphenated term self-esteem or by context.

The search for the understanding of the conception of self began with early civilizations. The Greeks, as exemplified by Socrates and Plato, equated the conception of self with the soul. During the Middle Ages, Christian writers such as St. Augustine and Pope Gregory explored the self of God, as well as the relationship between the self of man and the self of God (Hattie, 1992). The noun self was first observed in English and German syntaxes about 1400 (Ross, 1992). Decartes (1596-1650) believed that people were defined by their thoughts, thereby relating the self to cognitive factors, whereas Locke (1632-1704) emphasized that one's self-concept was revealed as a person encountered and dealt with a variety of experiences (as cited in Hattie).

During the 1700s, Hume (1711-1776) explained the self as a conglomeration of experiences and, therefore, believed that self-concept was derived from experiences; Kant (1724-1804) stated that one's self-concept may not be congruent with one's true or actual self (as cited in Hattie, 1992).

In the 1800s, Mill (1808-1873) believed that the memory of self and the present self are inseparable components that impact self-concept simultaneously (as cited in Hattie, 1992).

William James (1890) defined self as "a stream of consciousness of all that I call mine" (as cited in Hattie, 1992, p. 15). He claimed that the self is composed of four parts: the body, the social self, the spiritual self, and the pure ego. He reported a connection among self-esteem, values, success, and competence, and he realized that success can increase self-esteem. He also claimed that self-esteem could be quite constant (as cited in Mruk, 1995).

From the early 1900s to the present, the concept of self has been widely investigated. Cooley (1902) applied the principle of the looking glass to cognition of self. The element of the looking glass is the ability of the person to see oneself through the reactions of others and for others to assess and react to the person as an individual of worth.

Mead (1934) believed that "when the I speaks, the me listens. The I gives the sense of freedom and of initiative. Taken together, the I and the me constitute a personality as it appears in social experience" (p. 177). According to Mead, the development of self is essentially a social process occurring in these two

distinguishable phases. Without these two phases, there cannot be conscious responsibility and "nothing novel in experience" (Mead, pp. 177-178).

### **Psychotherapists and the Concept of Self**

Freud (1923/1961) claimed that there are three components to the self: the ego, the superego, and the id. The id endeavours to gain pleasure and to avoid pain by operating from instinct. The superego conveys expectations to the person. The ego is the link between the id and the superego. His psychoanalytical theory included the unconscious as an aspect of self. Neo-Freudians incorporated Freud's ideas into their literature and research.

Adler (1927) viewed the self as "the screening, organizing, and guiding mechanism mediating between man and his environment" (as cited in Ziller, 1973, p. 134). Adler emphasized consciousness and control, claiming that humans are capable of planning and guiding their actions with full awareness of the implications for self-realization.

Sullivan (1953) claimed that any theory involving self-concept must take into consideration individuals' relationships with other people.

White (1963) believed that self-esteem has its foundation in efficacy. He claimed that self-esteem has two sources: an internal source (one's accomplishments) and an external source (affirmation from others). He also separated self-esteem from self-love. To him, self-esteem involves respect from self and others associated with the appreciation of real abilities or achievements, but self-love does not. Self-esteem is thus acquired as the result of a developmental process (White).

Jacobson (1964) believed that self-esteem is dependent on achievement.

### **Behaviourists and Self-Esteem**

Ross (1992) stated that the question of validity of self-reports is the reason why most North American psychologists avoided studying self-related topics for approximately 40 years during the time period when behaviourism was the favoured approach.

Skinner (1974) considered the self to be "a locus, a point at which many genetic and environmental conditions come together in a joint effect" (p. 168). He also stated that humans differ from animals mainly because they are aware of their own existence and inevitable death.

Mahoney and Thorensen (1972) stated that individuals can become aware of the controlling variables that influence particular behaviours and that they can alter these behaviours by controlling the necessary variables.

Bandura (1977, 1986) referred to the process of self-concept development through the modelling of behaviours and attitudes of significant others as one of identification. He believed that individuals internalize the standards for self-reinforcement observed in others. He also expounded a systematic theory of self based on self-efficacy.

### **Sociocultural Approach to Understanding Self-Esteem**

Some researchers, such as Hyman (1942), Newcombe (1950), and Sherif and Sherif (1969), placed an emphasis on reference groups and membership groups as determinants of self-concept and self-esteem.

Rosenberg (1965) defined self-esteem as "a positive or negative attitude toward a particular object, namely, the self" (p. 30). He concluded that high self-esteem implies that one views one's self with respect and as a person of worth. Nevertheless, one does not stand in awe of one's self nor expects others to do so. In contrast, low self-esteem implies self-rejection, self-dissatisfaction, self-contempt, and a lack of respect for the observed self.

### **Merging the Views of Behaviourism and Psychotherapy**

Allport (1955) merged the views of behaviourism and neo-Freudianism to create a list of eight senses of the proprium, each of which relates to different definitions of the self. The proprium is defined by Allport as "all aspects of personality that make for inward unity" (p. 40).

Rogers (1959, 1961, 1989) claimed that each person strives to truly become an individual and not merely conform to others' expectations.

### **Self-Concept and Self-Esteem**

Snygg and Coombs (1959) regarded self-concept in terms of cognitive appraisals, whereas Hattie (1992) definitively stated that "self-concepts are cognitive appraisals" (p. 38) and believed that the development of self-concept is entwined with

knowledge about self. Hattie also claimed that emotions come from cognitive appraisals.

Emphasis is put on the individual as an appraiser if self-concept is based on cognitive appraisals. Hattie (1992) noted that cognitive appraisals are grounded in beliefs instead of knowledge.

The self-knowledge a person has is not of the factual type, for example, "I am shorter than my mother." The knowledge of self is less factual in that the knowledge may be incorrect or correct in distinct situations and may include some degree of appraisal. Knowledge of this type is more similar to stating, "I believe, I value, or I claim to know" (Hattie, 1992, p. 38). In this case, one's actions are based on what one believes to be true. Although knowledge claims are involved in determining self-concept, it does not follow that the more knowledgeable a person is, the more one is aware of oneself or that one has higher self-concept or self-esteem (Hattie).

Raimy (1975) stated that the main components of self-concept are the convictions, beliefs, and notions one has about oneself. Hattie (1992) stated "the major components of self-concept are our descriptions of ourselves" (p. 42).

According to James (1890), people are less concerned about providing explanations about themselves and are more concerned about making choices. People can be seen as trying to impose some sort of order and coherence in situations they find themselves to be part of. Individuals need to extract some meaning from experiences so that they can understand and anticipate events, thereby exercising some control in life. People accomplish this "by making choices--choices about how to interpret events, choices among alternative courses of actions, and choices among evaluations of



actions" (James, p. 56). Therefore, scales such as the Piers-Harris Children's Self-Concept Scale (Piers, 1984) can be effective tools for measuring self-concept because they allow individuals to reflect on their own choices.

Hattie (1992) claimed that if expectations in a certain area or task are high and that if the resulting accomplishments low, self-concept will probably decrease. Conversely, if expectations are low, then low achievement has little effect on self-concept.

Soares and Soares (1969) argued that when individuals are presented with particular expectations, they live up to those expectations. They studied the self-perceptions of 514 students in Grades 4 to 8 and concluded that if the children did not attain the standards set by teachers and parents, then the children were more likely to experience lower levels of self-esteem.

Schwarzer, Jerusalem, and Lange (1982) examined the impact of streaming students into low-track and high-track schools to determine the effect on their levels of self-esteem. Their research indicated that "self-evaluation is based on one's perceived rank within a limited framework of reference. The suggestion is that expectations alter to live up to achievement and, as a consequence, there are positive impacts on self-concept" (as cited in Hattie, 1992, p. 44).

Rokeach (1968) believed that values are the greatest element of human conduct. He stated, "Once a value is internalized, it becomes a standard or criterion for judging action, for developing and maintaining attitudes toward relevant objects and situations [as well as for] morally judging one's self and others comparing self with others" (p. 60).

In a similar manner, Duval and Wicklund (1972) claimed that self-evaluations are based on standards or "mental representations of correct behaviour, attitudes, and traits [that each person possesses]" (p. 3).

### **Link Between Self-Concept and Self-Esteem**

Commitment is a key link between self-concept and self-esteem. Hattie (1992) claimed that individuals' self-concepts are relative to what they consider to be important and not necessarily to their actual capabilities or knowledge.

Consider the following example: I am a poor baker, especially when I try to make pies. However, this is not important because I am content to have the local bakery do my baking. In this case, my self-esteem is not affected. It is only when certain aspects of self-concept are deemed important that there will be effects on an individual's beliefs. Self-esteem relates to the belief that areas of the self, or behaviours that one aspires to, are deemed to be worthwhile.

This understanding of self-esteem is congruent with Rawl's 1971 theory of justice. He claimed that people have a sense of their own value and a belief that goals are worth carrying out. These claims are grounded in the Aristotelian principle that "people enjoy the exercise of their realized capacities and this enjoyment increases the more the capacity is realized, or the greater its complexity" (as cited in Hattie, 1992, p. 54).

Hattie (1992) stated that capabilities are not the main aspect in determining self-esteem because they are only a function of the value placed on them. Thus, the second part of Rawl's 1971 theory relates to the confidence one has in being able to reach

goals. Hattie summarized Rawl's 1971 and James's 1890 ideas surrounding self-esteem by stating, "To have high self-esteem implies both that we consider aspects of our life as important and that we have the confidence to fulfil our expectations" (p. 54).

Hattie (1992) claimed that various aspects of self-concept are more prominent and that self-esteem is related to the prominence of these dimensions and is entwined with an individual's sense of worth. An individual's sense of worth may be formed from many aspects: physical appearance, academic capability, loving family relationships, or a friendly personality. Therefore, it precludes that all persons can have high self-esteem. However, "it is not clear if all individuals can achieve equally high self-esteem since society places greater value on some activities that some of its members can never accomplish" (Hattie, p. 56).

### **The Development of Self-Concept and Self-Esteem**

Hattie (1992) stated:

The development of self-concept has been written about quite extensively, with the majority of authors placing an emphasis on the influences of early childhood and social interactions. However, there are a limited number of longitudinal studies which limit the claims of the development of self-concept. (p. 118)

Rosenberg (1979) concluded that "self-pictures" are established early in life and that these images create the sense of self.

Dickstein (1977), Erickson (1963), Jacobson (1964), and Mead (1934) adhered to stage theories to describe the development of self-concept. Erickson claimed that

children need to proceed through eight stages: trust versus mistrust, autonomy versus shame, initiative versus guilt, industry versus inferiority, identity versus role diffusion, intimacy versus isolation, generativity versus stagnation, and ego integrity versus despair. Each stage has a goal that needs to be accomplished before children can successfully move to the next stage.

Wagner (1975) reported that there are three components to self-esteem. He reported that a person needs to have feelings of belongingness, worthiness, and competence in order to develop a strong sense of being somebody. He described belongingness as "an awareness of being wanted and accepted, of being cared for and enjoyed" (p. 33).

### **The Link Between Self-Esteem and Behaviour**

Previous studies demonstrated a link between self-esteem and behaviour. Mruk (1995) stated that "as early as 1965, virtually every major study, theory, or article on self-esteem notes, finds, or discusses a link between self-esteem and anxiety"(p. 77). Mruk also reported that self-esteem is related to "substance abuse/dependence (which includes both drugs and alcohol) and social deviance (especially delinquency and antisocial behaviour)" (p. 79)

Mruk (1995) went on to note:

Our self-esteem depends upon the degree of worthiness and competence with which we comport ourselves in regard to the challenges of life; [however,] our ability to behave as worthy and competent persons is also influenced by the level and quality of our self-esteem. (p. 61)

Mruk (1995) observed four types of self-esteem in his research and created a matrix to demonstrate the four types of self-esteem which individuals can exhibit (see Figure 1). He believed that "behaviour becomes patterned by developmental processes over time so that individuals eventually take one self-esteem path more often than the three others" (p. 138). Mruk understood these four "forms of self-esteem as types because each combination acts as a paradigm for self-esteem-related perception, experience and behaviour" (p. 138)

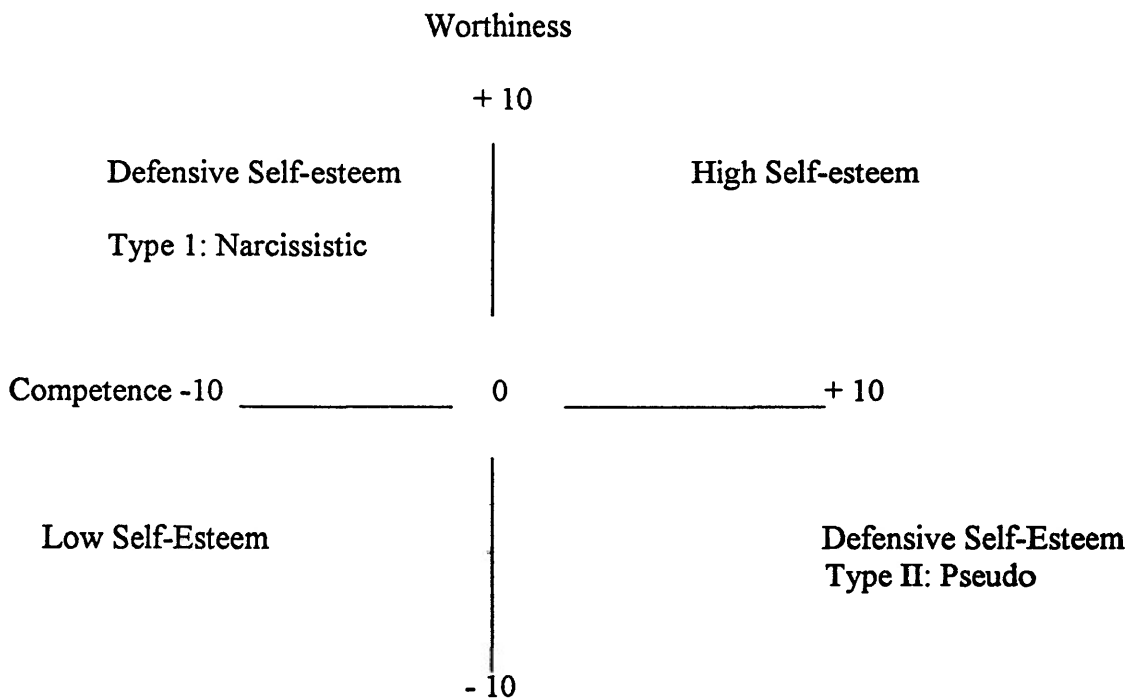


Figure 1. Basic types of self-esteem. (adapted from c. Mruk, 1995, Self-Esteem Research, Theory and Practice, p.138)

To further explain his model of "basic types of self-esteem", Mruk (1995) explained that "a history of high competence plus high worthiness logically results in

high self-esteem" (p. 139). Individuals with high self-esteem have "an abiding sense of positive worth and ability [that] protects them from the trials and tribulations of life" (p. 139). Conversely, Mruk reported that low self-esteem involves deficiencies in both competence and worthiness. Such double-edged vulnerability is especially powerful in term of being victimized by self, others and the world" (p. 139).

Rogers (1959) noted that individuals who felt the least able to attain their goals have difficulty accepting and developing relationships with the others around them. He believed that the regard that one receives from others can either be conditional or unconditional. Conditional regard is based on meeting others' criteria or standards in order to be accepted. Individuals may have conditional regard for themselves that leads to defensiveness in social situations. Thus, individuals who have low self-esteem experience difficulties in social situations and in interpersonal relationships.

Gergen (1971) stated that the evidence suggests that self-esteem and esteem for others are correlated. He reported that "persons low in self-esteem are less prone to influence others and more inclined to be influenced" (p. 90).

Burns (1980) and Ellis and Harper (1977) found that individuals who have low self-esteem are more likely to be depressed.

The most prevalent way of explaining the connection between self-esteem and behaviour, and vice versa, is to demonstrate it as some type of self-fulfilling prophecy (Mruk, 1995). Learning-theory-based self-esteem researchers such as Coopersmith (1967) tended to focus on the dynamics of reinforcement, whereas humanistically oriented self-esteem specialists such as Frey and Carlock (1989) concluded that "individuals tend to reinforce their self-esteem by adjusting perceptions to conform

with perceived self-esteem. People with high self-esteem tend to manifest success, while people with low self-esteem tend to manifest failure--the picture of oneself becomes a self-fulfilling prophecy which one often feels incapable of reversing" (as cited in Mruk, 1995, p. 81).

In his research on self-esteem, Mruk (1995) recognized that the cognitive approach to self-esteem understands that the self-fulfilling prophecy is created by information-processing mechanisms such as feedback, circularity, and self-regulation. Cognitive ways of characterizing the self-fulfilling connections between self-esteem and behaviour include consistency formulation, namely, the ideas that people are more likely to accept information from the environment that is consistent with their self-schemas (Campbell & Lavalley, 1993); self-serving biases and self-handicapping (Blaine & Crocker, 1993); and circular relationships (Baumeister, 1993).

Bednar, Wells, and Peterson (1989) claimed that "feedback is a special type of information that can describe, evaluate, or influence performance: in our case, human behaviour" (p. 91). Therefore, "self-esteem is connected to behaviour as a very important feedback based on whether we cope (deal effectively with the challenges of life) or avoid (turn away from making an honest attempt at dealing with our problems)" (Mruk, 1995, p. 81).

Because such feedback is a component of self-regulation, individuals attempt to keep it as stable as possible. Thus, success or failure in dealing with the challenges of life is fed back as vital information. This feedback allows individuals to have self-knowledge, as well as a certain degree of competence and worthiness, or incompetence and unworthiness, depending on the type of feedback.

Jackson (1984) stated:

The meaning of a phenomenon like self-esteem, then, is more than a mere "function" of its constituents. It seems to reside in an irreducible pattern of experience and conception in a person's life. Any attempt to understand self-esteem must give recognition to this irreducible pattern. (p. 6)

Mruk (1995) summarized that "the relationship between self-esteem and any one behaviour is a weak one quantitatively" (p. 82). He stated:

The problem lies in searching for lineal causality in the first place, especially since self-esteem competes with many other similar variables, like personality or identity, to create behaviour. In other words, the link between self-esteem and behaviour is not necessarily simply weak. It can be that the significance of self-esteem may lie in the fact that it is connected to many kinds of behaviour associated with competence and worthiness and to the fact that it is constantly active. (p. 82)

Urbanska (1991) referred to the findings of the California Task Force to Promote Self-Esteem in her research. She stated, "the boosting of self-esteem [is correlated] with the reduction of crime, drug use, and other antisocial activities" (p. 52). According to Urbanska, a high level of self-esteem can "help one live responsibly and ward off the lures of crime, violence, substance abuse, teen pregnancy, child abuse, chronic welfare dependency, and educational failure" (p. 52). Authors such as



Branden (1988), Canfield and Siccone (1993), McMillan, Singh, and Simonetta (1994) and McGee (1998) created strategies and methodologies that the authors claim assist in raising the levels of self-esteem of individuals.

### **ADHD and Self-Esteem**

Campbell, Endman, and Bernfeld (1977) showed that hyperactive children between the ages of 6 and 8 have lower self-esteem in comparison to non-ADHD children.

Brumback and Weinberg (1977) found that the hyperactive children they researched had concomitant depression.

Weiss and Trokenberg Hechtman (1993) stated that ADHD children obtain poor academic achievement at both the elementary and secondary school levels. They noted that "the effects of this underachievement are very serious and manifest themselves in poor self-esteem and lower final occupational status" (p. 42) for the ADHD individual. They list three possible reasons for poor academic results:

1. The main symptoms of ADHD--hyperactivity, poor attention span, and impulsivity--interact to impair academic achievement.
2. Correlates of the hyperactive syndrome seen in many hyperactive children include small decrements of overall IQ, more subtest variability on IQ tests, poor cognitive strategies and impulsive cognitive style, motor clumsiness, disorganization, specific learning disabilities, and hyperactives' worse performance on tasks done in a group versus an individual setting.
3. Secondary symptoms resulting from the aforementioned include poor

motivation; the accumulated dearth of what should have been, that is, the failure of past learning; and mood depression.

Weiss and Trokenberg Hectman (1993) reported that their clinical impressions of the participants in a controlled follow-up study of adolescent hyperactives was that the participants had markedly low self-esteem. They stated, "Many had very low expectations of any success in the future, thus lacking ambition, and this hopelessness often prevented them from making any real efforts" (p. 150).

### **ADHD Children's Peer and Teacher Relationships**

Weiss and Trokenberg Hechtman (1993) stated that "all workers who have systematically investigated the hyperactive child's peer relationships have concluded that this is a serious area of difficulty which begins before the school years but manifests itself most poignantly in elementary and secondary school" (p. 44). These researchers also reported that hyperactive children do not respond correctly to social cues, experience difficulty taking turns and losing in games, and are often bossy or irritable if they do not get their own way. They concluded, "Hyperactive children in elementary school show aggressive interactions [and that] poor social relationships may and probably do arise from the variety of behavioural problems of the hyperactive child which are unacceptable to peers, siblings, parents, and teachers" (p. 45).

Campbell et al. (1977) reported that hyperactive children in elementary school receive more negative feedback from teachers. This study also suggested that the influence of a hyperactive child in a classroom might result in teachers interacting more negatively with all of the children in the class.

### **ADHD and Adolescents**

Offer (1967, 1969) studied a group of 103 adolescents by using repeated interviews, psychological tests, self-rating scales, and family studies, as well as a follow-up study for 4 years into young adulthood. His studies concluded that normal adolescents of that decade showed little of the turmoil that was described by Hall (1904).

Offer, Rutter, Graham, Chadwick, and Yule (1976) described adolescence as "a phase of human development which has a potential for conflict and turmoil, but is likely to be gone through without gross external [problems]" (as cited in Weiss & Trokenberg Hechtman, 1993, p. 51).

Weiss and Trokenberg Hechtman (1993) referred to Erikson's 1963 theory of personality development to provide an understanding of "how hyperactives fare in adolescence" (p. 51). Erikson claimed that industry versus inferiority was the normal developmental stage of the school-aged child. He stressed the importance of both the child's readiness for school in terms of resolution of previous developmental crises and the necessity for the child to experience a positive school environment. Weiss and Trokenberg Hechtman stated that "often by Grades 1 and 2, there is evidence of impairment of self-esteem [of the ADHD child] presumably because of the experience of failure in so many areas and the resulting criticism" (p. 52).

Huessy and Cohen (1976) evaluated and followed 501 children attending Vermont schools by utilizing a teacher questionnaire. The questionnaire examined social maturity, academic performance, general attitudes and behaviour, and neuromuscular development. Initially, the children in the lowest 20% of academic

achievers were considered hyperactive by their teachers. When these children were tracked in Grade 9, 70% had severe antisocial behaviour and learning problems. This study confirmed the theoretical concept that the behavioural and academic problems of hyperactive adolescents are preceded by these same difficulties in elementary school.

Mendelson, Johnson, and Stewart (1971) interviewed the mothers of 83 adolescents who had been identified 2 to 5 years prior as having the hyperactive child syndrome. The mothers reported that 25% were in special classes, 2% were in training schools, and 2% were in psychiatric facilities. They also reported that 26% had histories of antisocial behaviour, and that 70 to 80% of the participants in the original study were still experiencing problems of restlessness and distractibility.

The mothers reported that 54% of the adolescents had low self-confidence, 42% believed that they were failures in school, 57% felt that they were disliked, 51% participated in frequent fighting, and 46% were described as loners without friends. From the feedback of the mothers, Mendelson et al. (1971) determined that the hyperactive adolescents had poor self-esteem and social problems.

Stewart, Mendelson, and Johnson (1973) interviewed the 83 adolescents (mean age 13.4 years) whose mothers had participated in the study reviewed previously. Two thirds of the adolescents stated that they were quick tempered and that they fought and lied frequently; 62% claimed that they were disgusted with themselves. From these interviews, the researchers concluded that 40% to 60% of the hyperactives experienced low levels of self-esteem. The participants agreed with their mothers' reports on them from the 1971 study except in their relationships with their peers and teachers. In these areas, the adolescents denied there were any problems.

Blouin, Bornstein, and Trites (1978) compared a control group of 22 adolescents who had been identified as having school difficulties, but not hyperactivity, 5 years earlier to a group of 23 adolescents who had been identified 5 years previous as being hyperactive. The findings showed that the hyperactive adolescents had more conduct problems, were more impulsive, and reported using alcohol more frequently than did the control group.

A 5-year follow-up study of 91 hyperactive adolescents, as reported by Weiss and Trokenberg Hechtman (1993), was the first prospective study to investigate hyperactive adolescents. Children who had been admitted to the study 5 years earlier (1962-1965) were between 6 and 12 years of age and exhibited the following characteristics:

- demonstrated restlessness and poor concentration both at home and at school.
- had a Wechsler Intelligence Scale for Children (WISC) IQs (Full Scale) above 85.
- were not psychotic, borderline psychotic, or epileptic, and were not suffering from cerebral palsy.
- lived at home with at least one parent.

(Weiss and Trokenberg Hechtman, p. 55)

The study started with 101 participants, and the children in the study took part in drug testing. Weiss and Trokenberg Hechtman (1993) stated, "At that time, DSM-III was not in use, but in retrospect, it is our impression that all our subjects had ADD(H) and that the majority had some degree of associated conduct problems" (p. 55).

The 91 remaining participants in the 5-year follow-up study were 11 to 16 years of age (mean age 13.4 years) and "had therefore probably not yet reached the age of peak risk for adolescent difficulties" (Weiss & Trokenberg Hechtman, 1993, p. 55). The evaluators of the participants found the adolescents to be "immature and to have difficulty maintaining goals" (Weiss & Trokenberg Hechtman, p. 56). The researchers also stated that the individuals became sad during the interview "as they recounted their failures and lack of plans for a future" (p. 56) and that they showed "clear evidence of low self-esteem" (p. 56).

The adolescents' academic records demonstrated that they had failed more grades and had obtained lower scores on all subjects on their report cards when compared to matched normative controls in the same classroom. The participants continued using impulsive styles rather than reflective styles on cognitive tasks and did not improve on tests of intelligence. Twenty-five percent of the participants had engaged in antisocial behaviour.

To research the clinical impression of the researchers in the aforementioned study, Hoy, Weiss, Minde, and Cohen (1978) researched a group of 15 hyperactive adolescents and 15 matched controls. The two groups had a mean IQ of 108, a mean social class of 3.5, and a mean age of 14.7 years. Self-esteem was measured using the Davidson and Lang Checklist (Davidson & Lang, 1960).

Hoy et al. (1978) found that the hyperactive participants reported self-esteem in the predicted direction (lower than controls); however, only two of the measures reached statistical significance (Ziller Self-Other total score and the "pleased with self" item). The hyperactive adolescents reported themselves closer to "unsuccessful,

unhappy, failing and cruel people than did the controls" (Hoy et al., as cited in Weiss & Trokenberg Hechtman, 1993, p. 151).

The hyperactive group had the same total score on the checklist as did the control group; however, the hyperactive group rated themselves as "more unkind, more noisy, and more of a nuisance, but also more valuable than the control" group (Hoy et al., as cited in Weiss & Trokenberg Hechtman, 1993, p. 151). Although the hyperactive group reported spending more time alone or with younger children than the control group, there was no difference in the reported number of friends. Career aspirations between the two groups were not significantly different.

These two findings were different from the clinical impressions reported in the Weiss et al.'s 1971 study (as cited in Weiss & Trokenberg Hechtman, 1993); however, Hoy et al. (1978) felt that the specific tests of self-esteem supported the clinical impression that hyperactives had a somewhat lower self-concept than did the normative population. On the other hand, Weiss and Trokenberg Hechtman stated that the differences may be due to the use of the mothers' reports from the adolescents' friends versus the participants' own reports, as measured by Hoy et al.

Weiss and Trokenberg Hechtman (1993) summarized the outcomes of the previously mentioned studies, as well as the research carried out by Ackerman, Dykman, and Peters (1977), and Satterfield, Hoppe, and Schell (1982). They concluded:

1. The symptoms of the original syndrome (hyperactivity) had diminished in most of the adolescents. The problems reported more frequently for ADHD

adolescents included discipline problems, antisocial acts, poor school performance, and poor peer relationships.

2. Low self-esteem, poor school performance, and poor peer relationships characterized all adolescent outcome studies that examined these problems. (p. 57)

Barkley (1990) researched a group of 158 hyperactive children and 81 normal children between the ages of 4 and 12 for an 8-year period. He concluded that his findings were consistent with other adolescent outcome studies (Blouin et al., 1978; Weiss and Trokenberg Hechtman, 1993) in that "hyperactive children to be at substantially higher risk for negative outcomes in the domains of psychiatric, social, legal, academic, and family functioning than a control group of normal children followed concurrently" (p. 120). He also reported that hyperactive adolescents had smoked more cigarettes or marijuana than controls, and were more likely to use alcohol than the controls.

### Summary

The literature on ADHD and self-esteem reported a variety of conclusions. Campbell et al. (1977) reported that hyperactive children aged 6 to 8 years have lower self-esteem than other children. In the studies that she participated in, Weiss and her colleagues reported that the mothers of ADHD children believed that their children experienced low self-esteem (as cited in Weiss & Trokenberg Hechtman, 1993). The clinical impression of the researchers was that ADHD children had lower levels of self-esteem than other children and adolescents. However, Hoy et al. (1978) reported no



statistical difference between 15 ADHD adolescents and a matched control group in the area of self-esteem.

This paper assists in clarifying the various reports and studies about ADHD adolescents and their levels of self-esteem. It provides statistical evidence that examines the impressions of researchers and parents of ADHD adolescents who reported that 40% to 60% of ADHD adolescents seem to experience low self-esteem. It adds to the body of knowledge about the levels of self-esteem and ADHD in adolescents.

## CHAPTER 3

### Research Design

#### Participants

Ten participants ( $N_1 = 10$ ) took part in this research. They were selected using the following criteria:

- They were formally identified as ADHD.
- They were the appropriate age.
- They were willing to fully cooperate in this research, as demonstrated by their signing the consent form (see Appendix A).
- The researcher had the consent of each participant's parent or guardian, as shown by the parent or guardian signing the consent form (see Appendix B).

As per the information in the Abstract,  $N_1$  refers to the total number of participants who took part in this study.  $N_2$  refers to the eight participants whose total raw scores on the Piers-Harris Children's Self-Concept Scale (Piers, 1984) are considered to be acceptable.

Nine of the participants were male, and one was female. The mean age of the participants was 13.6 years ( $M = 13.6$  years).

#### The Self-Esteem Scale

The Piers-Harris Children's Self-Concept Scale (Piers, 1984) is the research instrument used in this study. It is an:

80-item, self-report questionnaire designed to assess how children and adolescents feel about themselves. The construction and use of the Piers-Harris are based on the belief that individuals hold a relatively consistent

view of themselves, which develops and stabilizes during childhood.

(Piers, p. 1)

The developers of the scale believed that children reveal key aspects of their self-concept by responding positively or negatively to a series of "simple, declarative statements" (p. 43). This author believes that the scale relates meaningfully to other aspects of children's personalities and can predict future behaviour.

Piers (1984) stated:

From a global perspective, the term self-concept refers to a person's self-perceptions in relation to important aspects of life. Although shaped by biological and cultural factors, these perceptions are formed primarily through the interaction of the individual with the environment during childhood, and by the attitudes and behaviours of others. (p. 43)

The perceptions one has developed are based on self-evaluative attitudes (cognitions) and feelings (affects) that have significant organizing functions and that also help to motivate behaviour. One's self-concept may change over time due to environmental or developmental changes, or because of changes in priorities or values. However, these changes usually do not occur quickly or are due to "isolated experiences or interventions" (Piers, 1984, p. 43).

The participants' responses on the questionnaire were scored to evaluate both general and specific dimensions of their levels of self-esteem. An overall assessment of their levels of self-esteem was reflected in three summary scores: a total raw score, a percentile score, and an overall stanine score. Conversions to normalized T-scores are also provided.

The Piers-Harris (Piers, 1984) has been applied to a variety of populations. Schauer (as cited in Piers) gave the Piers-Harris and the Self-Esteem Inventory (Coopersmith, 1967) to a group of children with IQs above 125 and to a group of children with IQs below 125. The generated data demonstrated that the children with IQs above 125 had higher levels of self-esteem than did the children with IQs below 125.

Murray (1978) gave the Piers-Harris (Piers, 1984) to a group of dyslexic students ( $N = 104$ ) and to a control group ( $N = 104$ ). The differences between the two groups were identified by measures of self-concept, behaviour problems, and anxiety.

Shaw, Levine, and Belfer (1982) used the Piers-Harris (Piers, 1984) to compare the self-esteem of students with learning disabilities and gross motor delays to that of students with learning disabilities. The statistics showed that the students with learning disabilities and gross motor delays had lower self-esteem in comparison to the students with learning disabilities.

In his discussion on gender differences in self-concept, Hattie (1992) reported Piers's 1984 conclusion that although there are gender differences in self-esteem, "these effect sizes are low [and that] no significant differences in overall self-concept are indicated" (p. 146).

### **Test-Retest Reliability**

Studies to determine the test-retest reliability of the Piers-Harris (Piers, 1984) have spanned from 14 days to one year. The studies included individuals ranging in age from 6 to 15. Researchers also gathered data from individuals in mixed ethnic

groups and from different social strata. The studies included the learning disabled, the chronically ill, the normative population, the mentally challenged, and the emotionally disturbed. The reliability coefficients of these studies ranged from .42 to .96. The reliability coefficient of .42 was obtained from individuals at a "school for the handicapped [who were identified as] mentally retarded-emotionally disturbed" (Piers, p. 54).

### **The Potential of Random Responding**

The Inconsistency Index is designed to detect random response patterns to the Piers-Harris (Piers, 1984). The scale is based on the supposition that certain pairs of responses are inconsistent, contradictory, or statistically unlikely. Records of participants who give many inconsistent responses are more likely to be invalid than records with few or no such contradictory responses.

### **Internal Consistency**

Internal consistency is a measure of the average correlation among the items within a test. The reliability coefficient-coefficient alpha, or Kuder-Richardson formula (K-R 20) if the items are dichotomous, establishes a lower limit to the reliability of the test. Therefore, high correlation coefficients are desirable (Piers, 1984). Piers calculated an internal consistency .88 to .93, by using the K-R 20 for the various subpopulations from a normative sample of 297 Grade 10 students. Franklin, Duley, Rousseau, and Sabers (1981) and Smith and Rogers (1978) also found similar, high internal consistency reliabilities.

## **Validity**

**Content validity.** Piers (1984) stated, "An attempt was made at the outset to build content validity into the scale by defining the universe to be measured as the areas in which children reported qualities that they liked or disliked about themselves" (p. 57).

**Relationship to other self-concept measures.** The relationship of the Piers-Harris (Piers, 1984) with other self-concept instruments was reported in the manual. The correlation of the Piers-Harris (Piers) to other instruments ranges from .32 to .85. The Coopersmith Self-Esteem Inventory (Coopersmith, 1959) and the Pier-Harris (Piers) have the highest correlation at .85. This inventory resembles the Piers-Harris both in format and in age range.

The Piers-Harris (Piers, 1984) was selected for use in this study because it demonstrates "persistence and significance [is] reasonably well standardized [and] has proven itself useful in self-esteem enhancement programs," according to Mruk (1995, p. 83).

Hattie (1992) also recommended the Piers-Harris (Piers, 1984) as an excellent method of assessing self-esteem of children. Ross (1992) claimed that the Piers-Harris demonstrates a "rare instance [of] the procedure of avoiding circularity in factor analysis by obtaining from a large and representative sample answer to open-ended interview questions that have to do with self-esteem" (p. 111).

### **The Ethics Advisory Committee**

The Ethics Advisory Committee at this researcher's university received the necessary documentation to approve the recruitment of participants for this study. After 6 months of initially providing the committee with the required information and then editing the documents as needed, approval was given for this study to continue.

To obtain the participants for this research, the local board of education was contacted. As required by the board, a plan of the study was submitted to the superintendent responsible for research. The principal of every eligible elementary school was contacted by fax or by e-mail to state that the researcher had received permission to contact the principals in order to recruit participants and to gather data for this study.

The Ethics Advisory Committee at the university decided that the two cover letters (see Appendices A and B) that provided information to the parents and participants about the study were to be printed on the school board's letterhead; the two consent forms (see Appendices C and D) were to be printed on the university's letterhead. Because this researcher required the permission of a parent or a legal guardian of each adolescent, the information letters required the signature of each principal involved in order to guarantee the anonymity of the identified ADHD adolescents.

### **Procedure for Obtaining Participants**

Twenty-four public schools were contacted to determine if there were any potential participants, that is, identified ADHD Grade 8 students at that school and if

this researcher could have access to them. At 20 schools, messages were left with the office staff requesting the principal to contact the researcher; two principals were contacted with the initial phone call. It took 6 weeks to speak directly with the 22 principals involved. Each principal was asked: Do you have any ADHD Grade 8 students at your school? If a positive response was received, then the second question was asked: Will you allow this researcher to send home with potential study participants a package containing two information letters and two consent forms in order for these students to participate in this research? Of the 24 schools that were contacted, 8 schools did not have eligible students, 3 principals did not provide access to eligible students at 3 schools, and 13 principals allowed eligible students to take home the information packages.

A time was arranged at the 13 schools with the principals for the information packages to be dropped off by the researcher. This process began on May 6, 1999, and concluded on June 21, 1999. Once the packages were delivered to the schools, the researcher telephoned the schools every 3 to 7 days to determine the status of the potential participants.

Within a week of having the packages, two principals and one teacher contacted this researcher to indicate that the consent forms had been signed and to arrange times to administer the questionnaire to a total of four individuals. The other principals or teachers were contacted on a regular basis to determine the status of the eligible students and to encourage general support for this research initiative.

Eventually, 14 potential participants at 10 schools reported to their principals or teachers that they would not participate in the study. Three individuals returned the



consent forms to their respective schools in order to engage in this study. One mother whose child was at home gave permission for her child to participate in the study. By mid-June, a total of eight individuals completed the questionnaire through school contacts. Two individuals learned about the study through conversations with this researcher and decided to participate in this study.

Each participant was assigned a number, one through 10, by the researcher before completing the questionnaire. All references to the participants are made through these numbers. Thus, confidentiality is ensured.

### **Procedure for Gathering Data from Participants**

Participants were given the Piers-Harris Children's Self-Concept Scale (Piers, 1984) questionnaire, a pencil or pen, and an eraser. As directed by the criteria in the scale, testing took place in a well-lit room that was reasonably free of distractions. Participants were provided with hard writing surfaces and comfortable chairs. The administrator stated:

Here are a set of statements that tell how some people feel about themselves. Read each statement and decide whether or not it describes the way you feel about yourself. If it is like you, circle the word "yes" next to the statement. If it is not like you, circle the word "no." Answer every question, even if some are hard to decide. Do not circle both "yes" and "no" for the same statement. Remember that there are no right or wrong answers. Only you can tell me how you feel about yourself, so I

hope you will mark each statement the way you really feel inside. (Piers, p. 7)

There was no time limit to complete the scale; however, most of the adolescents finished the questionnaire in 15 minutes. Once the participants had completed the scale, they were reminded to check their answer sheets to ensure that they had completed all of the items. The questionnaires were then submitted to the administrator.

Eight of the participants completed the questionnaire individually, whereas 2 finished it in a small group. According to Piers (1984), test score results are not affected by group size.

### **Significance**

The  $z$  test was applied to the means of the total raw scores of the questionnaire and to the means of the scores of the six cluster scales. The  $z$  test shows how many standard deviation (SD) units the sample mean lies away from the mean of the sampling distribution. The critical for  $p = 0.05$  is  $\pm 1.96$ .

The variance of the six cluster scores was calculated by using Fisher's ratio (F) to determine significance. The standard deviations provided by Piers (1984), which were based on a total sample of 485 (N = 485), was applied to complete the calculations. For the degrees of freedom (df) for F(9, 484), the critical values of Fisher's ratio for the analysis of variance (ANOVA) are 1.93 for  $p = .05$  and 2.50 for  $p = .01$  (Pfeiffer & Olson, 1981).

## CHAPTER 4

### Analyses and Findings

#### Data Analysis and Significance

The total raw scores of the Piers-Harris Children's Self-Concept Scale (Piers, 1984) were calculated, and then percentile, stanine, and T-scores were determined by using the data provided by the manual (see Table 1).

Table 1

#### Individual Participants' Scores on the Piers-Harris Children's Self-Concept Scale

<u>Participants</u>	<u>Raw Score</u>	<u>Percentile</u>	<u>Stanine</u>	<u>T-score</u>
1	65	82	7	59
2	62	74	6	56
3	64	79	7	58
4	48	36	4	46
5	70	93	8	65
6	9	1	1	25
7	46	31	4	45
8	72	95	8	67
9	49	38	4	47
10	39	18	3	41
Means	52.4	54.7	5.2	50.9

The z score was calculated for a two-tailed test with a significance level of  $p = .05$ . Thus, the critical values of z is  $z^* = 1.96$  (see Table 2).

Table 2

Results of z Scores Including the Comparison of Mean Cluster and Total Scores for Normative Population and the ADHD Group

Scale	Normal Group		ADHD Group		
	<u>M</u>	<u>SD</u>	<u>M</u>	<u>Z<sub>1</sub></u> (N <sub>1</sub> = 10)	<u>Z<sub>2</sub></u> (N <sub>2</sub> = 8)
Behaviour	11.44	3.22	10.3	-1.12	-1.26
Intellectual and School Status	11.62	3.57	10.3	-1.17	-1.68
Physical Appearance and Attributes	8.31	3.05	7.7	-.63	-1.45
Anxiety	9.54	3.11	9.6	.06	-1.29
Popularity	8.27	2.70	6.7	-1.84	-2.5**
Happiness and Satisfaction	8.05	2.04	7.5	-.85	-1.63
Total	56.04	11.79	52.4	-.7	-1.99*

Note. Based on a sample of 485 public school children (Piers, 1984, p. 51) and 10 ADHD Grade 8 adolescents.

\* $p < .05$ .

\*\* $p < .01$

To compare variance, Fisher's ratio was applied to the raw total score. The critical value for  $F$  at  $df$  (9, 484) with an alpha level of .05 was 1.93 and 2.5 for an alpha level of .01 (see Table 3).

Table 3

ANOVA Comparison of Mean Cluster and Total Scores for the Normative Population and the ADHD Group

Scale	Normal Group		ADHD Group		
	<u>M</u>	<u>SD</u>	<u>M</u>	<u>SD</u>	<u>F</u>
Behaviour	11.44	3.22	10.3	2.98	1.17
Intellectual and School Status	11.62	3.57	10.3	2.9	.95
Physical Appearance and Attributes	8.31	3.05	7.7	3.53	.95
Anxiety	9.54	3.11	9.6	3.56	1.56
Popularity	8.27	2.70	6.7	3.96	2.18*
Happiness and Satisfaction	8.05	2.04	7.5	2.05	2.25*
Total	56.04	11.79	52.4	14.2	1.86

Note. Based on a sample of 485 public school children (Piers, 1984, p. 51) and 10 ADHD Grade 8 adolescents.

\* $p < .05$ .

The same calculations were completed for the six cluster scores: behaviour, intellectual and school status, physical appearance and attributes, anxiety, popularity, and happiness and satisfaction (Piers, 1984). Each of the six cluster scores is discussed in this chapter, and the summary of the calculated scores is reported in Tables 4 through

### **Significance of the Total Score**

According to Piers (1984), scores of 70 or greater may reflect "faking" and should be interpreted "cautiously." Therefore, to determine the significance of this research, these two scores are excluded. As mentioned previously, two sample sizes were used.  $N_1 = 10$  represents the total number of individuals who participated in this research, and  $N_2 = 8$  represents the eight participants whose total raw scores are considered to be in the acceptable range on the questionnaire. The calculated mean of the eight total scores ( $N_2 = 8$ ) is 47.75. Using the mean provided by Piers ( $M = 56.04$ , and  $SD = 11.79$ ), the calculated  $z$  is -1.99, which is greater than  $z = 1.96$ . (see Table 2). This indicates that the ADHD adolescent participants in this study experience lower levels of self-esteem than does the normative population described by Piers ( $N = 485$ ).

### **Limitations**

The Piers-Harris Children's Self-Concept Scale (Piers, 1984) is intended to be used as a screening instrument. Individual scores can be further investigated through the use of "clinical interviews, peer nominations, and observation of the child in a variety of situations" (Piers, p. 4). Therefore, individual scores will not be given to the adolescents or to the parents or guardians, and the data will be examined as a conglomerate.

Because the "intent of the scale is not particularly disguised, the scores are subject to conscious and unconscious distortions by children, usually in the direction of more socially desirable responses" (Piers, 1984, p. 5). The norms for the Piers-Harris

are based on data from one Pennsylvania school district; however, "studies suggest that these findings generalize to the more diverse school population" (Piers, p. 5).

Traditional statistical means were utilized fully recognizing the implication of small samples and the errors that may emerge.

### **Statistical Analyses**

Piers (1984) reported that "the single most reliable measure for the Piers-Harris, and the one with the best research support, is the total score" (p. 37). The total score has a range of 0 to 80 and reflects the number of individual items that are responded to in the direction of positive self-concept. Therefore, a high total score on the scale indicates a high level of self-esteem; in contrast, lower scores correspond with a lower self-concept (see Table 1).

Piers (1984) stated that the percentile scores reflected the percentage of individuals in the normative sample who achieved scores lower than the individuals whose scores were being evaluated. Average scores were between the 31st and 70th percentiles; however, the normal values for determining significant deviation from the mean ( $\pm 1$ ) corresponded to the 16th and 84th percentiles, respectively.

Stanines are standard scores ranging from 1 to 9, with a mean of 5 and a standard deviation of 2. Piers (1984) reported that for the Piers-Harris, the stanines were based on a transformed distribution that has been normalized to take into account the negative skewness in the distribution for the normative sample. Piers stated that "stanines should generally be used to interpret the cluster scores" (p. 38).

T-scores have a mean of 50 and a standard deviation of 10. For the results of the Piers-Harris (Piers, 1984), "a deviation of one standard deviation unit or more below

the mean should be regarded as a serious indicator of low self-esteem" (Piers, p. 37). However, "significant positive deviations [in score] may reflect either a very high self-concept or a need to appear supremely self-confident or a lack of critical self-evaluation" (Piers, p. 22).

### **Descriptive Analysis of Participants' Total Scores**

**T-Scores over 65.** Piers (1984) stated that total scores that deviate 1.5 or more standard deviation units in a positive direction need to be "interpreted cautiously" (p. 33). This corresponds to a T-score of  $> 65$  or a total raw score of 70 or greater. "Significant positive deviations may reflect either a very high self-concept or a need to appear supremely self-confident or a lack of critical self-evaluation" (Piers, p. 33). Some of the participants in the study may have participated in "faking" on the questionnaire in a deliberate attempt to distort their answers in order to produce a given effect. According to Piers, "Faking good is the tendency to distort answers in what is felt to be a positive direction and is frequently associated with the term social desirability" (p. 33).

This research had two total raw scores of 70 and 72 that correspond to 65T and 67T (see Table 1). Because these scores were greater than 1.5 standard deviation units away from the mean, it must be assumed that these individuals may want to appear self-confident or that they lacked critical self-evaluation. According to Piers (1984), these scores indicate that these two individuals consider themselves to be more valuable than the normative population. This finding is consistent with the research of Hoy et al. (1978). However, these participants' scores were below the normative scores in the



behaviour scale, which is consistent with Hoy et al.'s study and one of the hypotheses of this research.

**T-scores of 55 to 60.** Three scores are slightly above average, with raw scores of 62, 64, and 65, that corresponded to total scores of 56T, 58T, and 59T. The questions dealing with physical appearance and popularity were answered very positively by this group. This corresponds with Hoy et al.'s 1978 research in which hyperactive individuals rated themselves as more valuable than the control group.

**T-scores of 45 to 55.** Average total T-scores for the Piers-Harris (Piers, 1984) range from 45 to 55. Two participants had total raw scores of 46 and 48 that corresponded to T-scores of 45T and 46T. The results of the two average scores and the three slightly above average scores are consistent with the findings reported by Hoy et al. in their 1978 study of 15 adolescent hyperactive participants whose total test scores were the same as a matched control group without hyperactivity.

**T-scores of 44 or less.** Piers (1984) stated that low scores on the Piers-Harris generally reflect low self-esteem. One participant had a T-score of 41, and another individual had a T-score of 25, which is considered to be very much below average.

### **Analyses of the Cluster Scores**

The means, z test scores, and ratios were calculated for each cluster score. The Fisher's ratio and the calculation of the mean were applied to all of the participants' scores so that these calculations were performed on N<sub>1</sub> = 10. The z test was applied for both N<sub>1</sub> = 10 and N<sub>2</sub> = 8. The results of these calculations are summarized in Table 2.

**Behaviour.** This cluster reflects the extent to which the child admits or denies

problematic behaviours (Piers, 1984; see Table 4). A low or moderately low score on the behaviour scale suggests acknowledged behavioural difficulties.

Table 4

Behaviour - Raw Scores, Percentiles, Stanines, and T-Scores

<u>Participants</u>	<u>Raw Score</u>	<u>Percentile</u>	<u>Stanine</u>	<u>T-Score</u>
1	7	9	2	36
2	11	32	4	45
3	14	65	6	54
4	11	32	4	45
5	12	40	4	47
6	4	3	1	31
7	14	65	6	54
8	11	32	4	45
9	14	65	6	54
10	5	5	2	33
Means	10.3	34.8	3.9	44.4

The calculated mean for all ten scores was 10.3, which was lower than the mean 11.44. This indicates that the participants in this study experience lower levels of self-esteem in the cluster of behaviour than did the normal population provided by Piers (1984;  $N = 485$ ).

The calculated  $z$  score for  $N_1 = 10$  was -1.12, whereas the  $z$  score for  $N_2 = 8$  was -1.26. Both numbers were negatively skewed and indicate a tendency for the individuals to experience lower levels of self-esteem than the reported normative population. However, these results are not statistically significant.

The calculated  $F$  to examine ANOVA for  $N_1 = 10$  was 1.17, which is less than 1.93 and, therefore, not statistically significant.

**Intellectual and School Status.** This cluster reflected the participants' self-assessment of their abilities with respect to intellectual and academic tasks, as well as general satisfaction with school and future expectations (see Table 5). Piers (1984) claimed:

A low score on this scale suggests specific difficulties with school-related tasks. In children with a record of low academic achievement or a history of learning or behavioural problems in school, this negative self-evaluation may reflect an internalization of the low appraisal of others or a lack of investment in doing well academically. This lower self-concept on academic tasks may or may not be compensated for by more positive self-concepts in other areas. (p. 39)

Table 5

**Intellectual and School Status - Raw Scores, Percentiles, Stanines, and T-scores**

<u>Participants</u>	<u>Raw Score</u>	<u>Percentile</u>	<u>Stanine</u>	<u>T-Score</u>
1	13	60	5	52
2	12	49	5	50
3	14	70	6	55
4	7	12	3	38
5	12	49	5	50
6	2	1	1	24
7	9	24	4	43
8	15	81	7	59
9	10	30	4	45
10	9	24	4	43
Means	10.3	40	4.4	45.9

The mean of the 10 total scores was 10.3. The mean of the normal population, as provided by Piers (1984;  $N = 485$ ) was 11.62. Therefore, the mean calculated for

this research was lower than the mean for the normative population. It demonstrates that the ADHD participants in this study experience lower self-esteem than did the normative population in the domain of intellectual and school status.

The  $z$  scores were  $-1.17$  for  $N_1 = 10$  and  $-1.68$  for  $N_2 = 8$ . Both of these results showed that the ADHD individuals' scores were skewed negatively, demonstrating that they have lower self-esteem in the area of intellectual and school status than did the normative population; however, these scores are not statistically significant.

The results of Fisher's ratio for  $N_1 = 10$  was  $0.95$ , which is not statistically significant.

**Physical appearance and attributes.** This cluster consisted of 13 items and demonstrated the adolescents' attitudes about their physical characteristics, leadership abilities, and abilities to express ideas (Piers, 1984). The outcome of the individuals' scores in this area is diverse and ranges from stanine scores of 1 through 9 (see Table 6).

The calculated mean of the ten scores is  $7.7$ . The mean for the normative population provided by Piers (1984;  $N = 485$ ) was  $8.31$ . Thus, the students who participated in this study have a lower mean score in the area of physical appearance than did the normative population.

The  $z$  score for  $N_1 = 10$  was  $-0.63$ , and the score for  $N_2 = 8$  was  $-1.457$ . These results were skewed negatively and indicate a tendency for these adolescents to have lower levels of self-esteem with respect to appearance and physical attributes when compared to the normative population (1984;  $N = 485$ ). However, these scores are not statistically significant.

The measurement of variance was 1.6 for  $N_1 = 10$ , which is toward 1.93, but this result is not statistically significant.

Table 6

Physical Appearance and Attributes - Raw Scores, Percentiles, Stanines, and T-Scores

<u>Participants</u>	<u>Raw Score</u>	<u>Percentile</u>	<u>Stanine</u>	<u>T-Score</u>
1	13	97	9	69
2	11	84	7	60
3	9	60	5	53
4	4	11	2	37
5	11	84	7	60
6	0	1	1	23
7	7	36	4	46
8	12	91	8	64
9	6	25	4	43
10	4	11	2	37
Means	7.7	50	4.9	49.2

**Anxiety.** According to Piers (1984), the answers to this cluster of questions reflect general emotional disturbance and dysphoric mood. The scores in this area showed a high degree of variance (see Table 7).

Table 7

Anxiety - Raw Scores, Percentiles, Stanines, and T-Scores

<u>Participants</u>	<u>Raw Score</u>	<u>Percentile</u>	<u>Stanine</u>	<u>T-Score</u>
1	13	90	8	63
2	12	81	7	59
3	13	90	8	63
4	12	81	7	59
5	12	81	7	59
6	0	1	1	24
7	6	18	3	41
8	13	90	8	63
9	5	11	2	38
10	10	58	5	52
Mean	9.6	60.1	5.6	52.1

Statement number 79 on the survey states, "I cry easily." The participants' responses were 60% in agreement with this statement. The normative response to this statement, as indicated by Piers (1984;  $N = 485$ ) is 18% in agreement. This Pearson product-moment correlation relates to anxiety ( $r = .46$ ).

The mean of the raw score of the 10 participants for this cluster was 9.6 and was higher than the mean for the normative population ( $N = 485$ ,  $M = 9.54$ ) by .06. This tends to demonstrate that there is no difference in the experience of anxiety for the participants in comparison to the normative population. However, the mean of the raw score for the eight participants ( $N_2 = 8$ ) was 8.86; this result is lower than the mean of 9.54.

The z score for  $N_1 = 10$  was .06 and -1.29 for  $N_2 = 8$ . The score for  $N_2 = 8$  demonstrates a tendency for ADHD individuals to experience more anxiety than the

normative population because this score was skewed negatively. However, these results are not statistically significant.

The calculated  $F$  was 1.56 for  $N_1 = 10$  and is toward 1.93; however, it is not statistically significant.

**Popularity.** The items in this cluster reflected the adolescents' evaluations of their popularity with classmates, their ability to make friends, and their being chosen to participate in games (see Table 8).

Table 8

Popularity - Raw Scores, Percentiles, Stanines, and T- Scores

<u>Participants</u>	<u>Raw Score</u>	<u>Percentile</u>	<u>Stanine</u>	<u>T-Score</u>
1	11	86	7	61
2	9	52	5	51
3	10	69	6	55
4	10	69	6	55
5	11	86	7	61
6	0	1	1	23
7	0	1	1	23
8	9	52	5	51
9	5	13	3	39
10	2	4	1	29
Means	6.7	43.3	4.2	44.8

The calculated mean of the raw scores was 6.7 and was much lower than the mean of the normative population ( $N = 485$ ,  $M = 8.27$ ).

When the  $z$  test was applied, this researcher found significant deviations from the normative population at alpha levels of .05 and .01. The  $z$  score for  $N_1 = 10$  is -1.84.

The result for  $N_1 = 10$  was only -.12 away from the significance level of  $\pm 1.96$ . The result for  $N_2 = 8$  is -2.5 and is significant at an alpha level of .01.

The calculated  $F$  was 2.18 and is, therefore, significant at an alpha level of .05. The degree of variance for the ADHD participants in the area of popularity is significantly greater than that of the normative population ( $N = 485$ ).

In the experience of popularity, as described by Piers (1984), the participants in this study reported statistically significant lower levels of self-esteem than the normative population ( $N = 485$ ) and had a statistically significant degree of variance.

**Happiness and Satisfaction.** This cluster of items explores a general feeling of being happy as an individual, being easy to get along with, and being generally satisfied with life (see Table 9).

Table 9

**Happiness and Satisfaction - Raw Scores, Percentiles, Stanines, and T-Scores**

<u>Participants</u>	<u>Raw Score</u>	<u>Percentile</u>	<u>Stanine</u>	<u>T-Score</u>
1	10	90	8	63
2	8	56	5	52
3	9	72	6	56
4	8	56	5	52
5	10	90	8	63
6	0	1	1	19
7	8	56	5	52
8	10	90	8	63
9	5	20	3	42
10	7	39	4	47
Means	7.5	57	3.2	50.9



The individual responses on this cluster tended to be varied. Three of the adolescents had responses of a stanine of 8, which were significantly more than 2 stanines greater than the mean of 5. Two of the individuals had stanine scores of 1 and 3, which were significantly below the mean. The other responses were between 5 and 6.

The mean of the raw score of the 10 participants for happiness and satisfaction was 7.5, which was lower than the mean of 8.05 for the normative population provided by Piers (1984;  $N = 485$ ).

The  $z$  score for  $N_1 = 10$  was  $-.853$ , and  $-1.63$  for  $N_2 = 8$ . These scores indicate that ADHD adolescents reported lower levels of self-esteem than did the normative population provided by Piers (1984;  $N = 485$ ) because the scores are skewed negatively. Although these scores approach a level of significance, they are not statistically significant.

The calculated  $F$  score was 2.25; this result is statistically significant at an alpha level of .05. Therefore, there is a greater variance in the experience of happiness and satisfaction, as defined by Piers (1984;  $N = 485$ ), than the normative population.

### Summary

This research applied traditional statistical means, fully recognizing the implication of small samples and the errors that may emerge. The  $z$  test results for the total raw scores of the Piers-Harris Children's Self-Concept Scale (Piers, 1984) when applied to all 10 participants is  $-.7$ . This result is skewed negatively and points in the direction of the conclusion that the participants experience lower self-esteem than the

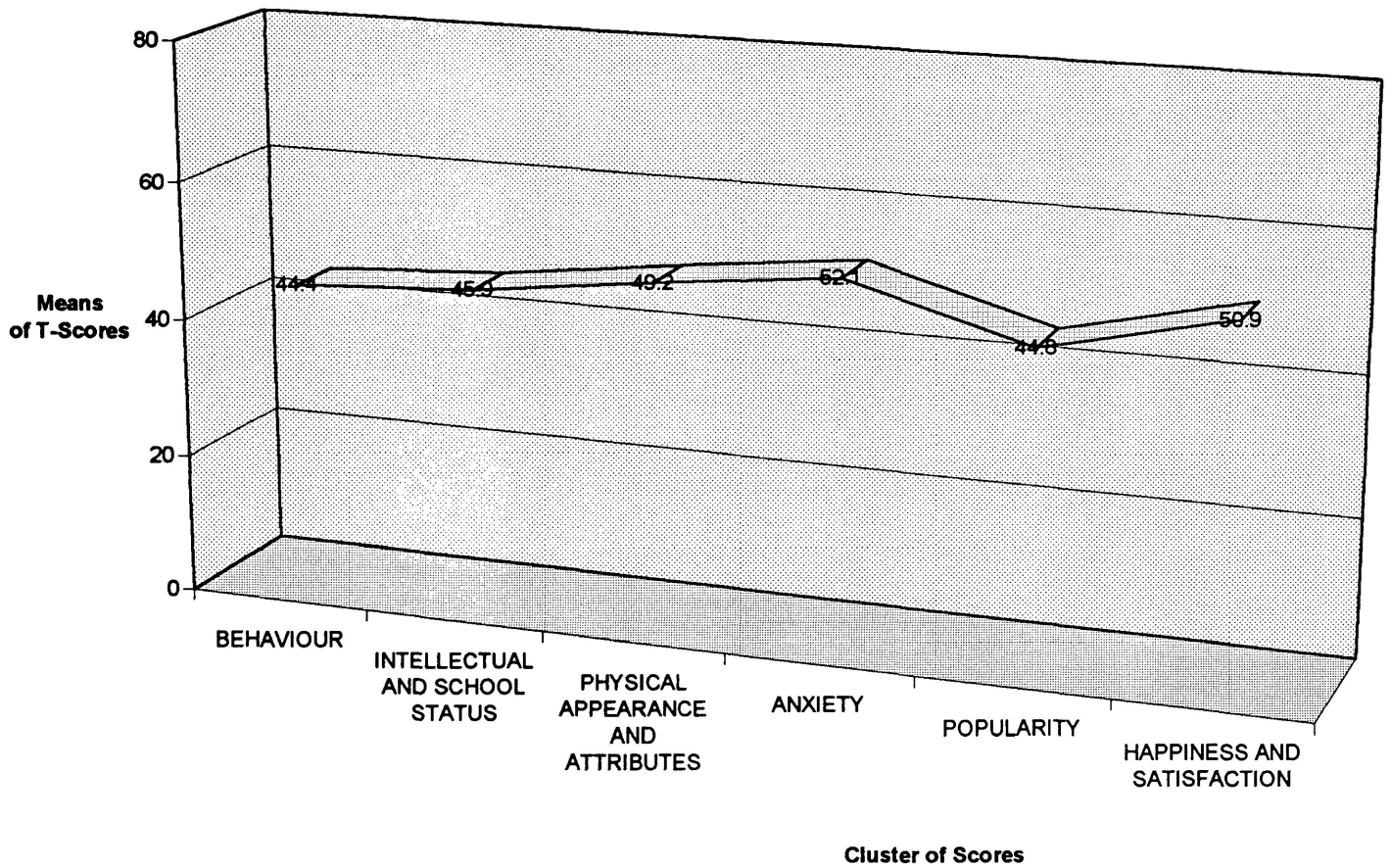
normative population provided by Piers; however, this calculation is not statistically significant. However, when the two questionable scores (70 for participant 5 and 72 for participant 8) are removed from the calculation, the resulting  $z$  score is -1.99; this result is statistically significant. Therefore, this research statistically demonstrates that ADHD Grade 8 participants reported lower self-esteem than did the normative population (Piers,  $N = 485$ ).

When applied to the total raw scores for 10 participants, the calculated one-way ANOVA determined by  $F$  is 1.86. To be statistically significant at an alpha level of .05, with  $df(9, 484)$ , the calculated value of  $F$  must be greater than the critical value of  $F$ , that is  $F = 1.93$ . The difference between the calculated value of  $F$  and the critical value of  $F$  is .07. This result shows that there is a high degree of variance between the scores of ADHD adolescents and the normative population; however, the calculated  $F$  for the participants of this study is .07 away from being statistically significant.

The six calculated  $z$  score outcomes for  $N_2 = 8$  are skewed negatively, which statistically demonstrates that the ADHD Grade 8 participants experience lower self-esteem than does the normative population. Five out of six of the  $z$  test results for the six cluster scales are skewed negatively for  $N_1 = 10$  and statistically demonstrate that the ADHD participants in this study experience lower self-esteem in all areas except anxiety (refer to the data in the aforementioned subsection on anxiety for a summary).

The  $z$  score for the cluster popularity for  $N_2 = 8$  is significantly below the normative population ( $N = 485$ ) at an alpha level of .01. The calculated  $F$  for the popularity cluster is also significant with an alpha level of .05. The  $F$  for the happiness and satisfaction cluster is 2.25 and is significant at an alpha level of .05.

**Means of T-Scores for the Six Clusters**



**Figure 2.** The means of the cluster scores for the ADHD Grade 8 participants ( $N_1 = 10$ ).

## CHAPTER 5

### Conclusion

The statistical results from the data provided by the Grade 8 adolescents ( $N_1 = 10$ ) who completed the questionnaire from the Piers-Harris Children's Self-Concept Scale (Piers, 1984) demonstrate that these individuals have lower levels of self-esteem and lower means scores than the normative population provided by Piers in her 1984 study ( $N = 485$ ). Therefore, the four hypotheses of this study are confirmed because the Grade 8 ADHD participants ( $N_1 = 10$ ) have lower means than the normative population as provided by Piers for the total score and for the cluster scores: behaviour, intellectual and school status, physical appearance and attributes, popularity, and happiness and satisfaction. For the subpopulation of eight participants ( $N_2 = 8$ ), the means of the raw scores and the aforementioned cluster scores, as well as the cluster score for anxiety, were lower than the means scores of the normative population provided by Piers.

The purpose of this paper is to demonstrate the relationship between ADHD and self-esteem. Traditional statistical means were utilized fully recognizing the implication of small samples and the errors that may emerge. The quantitative method was used with the possibility that further support for the relationship between ADHD and self-esteem could be found, at the same time recognizing the robust nature of the tests used.

Each of the four hypotheses stated at the beginning of this paper is addressed. All four hypotheses are confirmed.

1. The first hypothesis is confirmed because the calculated mean for the total raw score for the 10 participants ( $N_1 = 10$ ) is 52.4, and this mean is less than the mean

score of 56.04 for the normative population ( $N = 485$ ) provided by Piers (1984). The mean score of the total raw score for the eight participants ( $N_2 = 8$ ), is 47.75, which is lower than the mean that was provided by Piers. The mean given by Piers is 56.04 and represents the mean for the sample of 485 students ( $N = 485$ ). Therefore, the calculated mean of the total scores that is based on the results from the 10 participants is lower than the mean of the raw score provided by Piers. This result indicates that the ADHD participants in this study experience lower self-esteem than did the individuals in the sample reported by Piers.

When the  $z$  test was applied to the mean of the total raw score ( $M = 47.75$ ) for the eight participants ( $N_2 = 8$ ), and to Piers's 1984 reported mean of the total raw score ( $M = 56.04$ ) for the sample consisting of 485 individuals ( $N = 485$ ), the calculated  $z$  was -1.99. This result is statistically significant because it is less than - 1.96. It demonstrates that the level of self-esteem experienced by the ADHD group is significantly lower than the level of self-esteem experienced by other students as reported by Piers.

2. The second hypothesis is confirmed. The calculated mean of the ADHD participants for the behaviour cluster scores is 10.3 for the 10 participants ( $N_1 = 10$ ), and the mean of the eight participants ( $N_2 = 8$ ) for this cluster is 10. Both of these calculated means for the behaviour cluster are lower than the mean for the behaviour cluster that was reported by Piers (1984) for her sample population ( $N = 485$ ), that is, the mean of 11.44. These data demonstrate that the ADHD participants of this research study have a lower mean on the behaviour cluster than did the students as reported by Piers.

3. The third hypothesis is confirmed. The calculated mean of the raw score for the intellectual and school status cluster of the 10 ADHD participants ( $N_1=10$ ) is 10.3 and the mean for this cluster of the eight participants ( $N_2 = 8$ ) is 9.5. The mean provided by Piers (1984) for the intellectual and school status cluster for her reported sample ( $N = 485$ ) is 11.62 . The ADHD group's mean score on the intellectual and school status cluster is lower than the mean of this cluster on other students in the cluster of intellectual and school status.

4. The fourth hypothesis is confirmed. The calculated mean of the popularity cluster score of the ADHD group ( $N_1 = 10$ ) is 6.7, and the mean of the ADHD subgroup ( $N_2=8$ ) is 5.86. As reported by Piers (1984), the mean of popularity cluster of the normative sample ( $N = 485$ ) is 8.27. The mean of the ADHD group is much lower than is the mean of the normative population. Therefore, the ADHD participants experience a lower level of self-esteem in the popularity cluster than did the other students as reported by Piers.

The calculated  $z$  of -2.5 of the ADHD subpopulation ( $N_2 = 8$ ) is statistically significant at  $p < .01$  for a two-tailed test with an alpha level of 2.5. This result shows that the ADHD subpopulation ( $N_2 = 8$ ) has significantly lower self-esteem in the area of popularity than did the normative sample provided by Piers (1984;  $N = 485$ ).

Several interesting results from this research need to be discussed. The total score and five out of six calculated  $z$  scores for the ADHD group of 10 individuals ( $N_1 = 10$ ) are negatively skewed. This result indicates that the ADHD group has a lower level of self-esteem than did the normative population as defined by Piers (1984;  $N = 485$ ). All the  $z$  scores of the subpopulation of eight ADHD participants ( $N_2 = 8$ ) are

negatively skewed. The largest  $z$  score is  $-1.26$ , and this shows that the calculated scores lie toward the region of rejection. Two of the calculated  $z$  scores are statistically significant: the total score and the popularity cluster scores.

The ANOVA of the total score and the six cluster scores is calculated using the Fisher's ratio between the ADHD group ( $N_1 = 10$ ) and the sample provided by Piers in her study (1984;  $N = 485$ ). At a level of significance of  $\underline{p} = .05$ , and  $\underline{df} (9, 484)$ , the calculated  $\underline{F}$  ratio must be 1.93 or more to be significant. Two results are significant: the happiness and satisfaction cluster ( $\underline{F} = 2.25$ ), and the anxiety cluster ( $\underline{F} = 2.18$ ). The variance of the total score for the ADHD group of 10 participants demonstrates a high degree of variance because this result is 1.86 ( $\underline{F} = 1.86$ ). This result is only .07 away from being significant.

The sample reported by Piers (1984), upon which the norms for the cluster scales are based, had "485 public school children (248 girls and 237 boys), including 279 elementary school, 55 junior high school, and 151 senior high school students" (p. 50). The ADHD group for this research consisted of 10 students (1 girl and 9 boys) with a mean age of 13.6 years.

The study by Hoy et al. (1978) researched the levels of self-esteem of 15 hyperactive adolescents and a group of matched controls with a mean age of 14.7 years. "The authors found that [the] results of all self-esteem measures were in the predicted directions, namely, with the hyperactives being lower than the controls; however, only two of these measures reached statistical significance " (as cited in Weiss & Trokenberg Hechtman, 1993, p. 151). According to Hoy et al., the hyperactive participants reported being less pleased with themselves than were the control

participants, and the hyperactives ranked themselves as being more noisy, more unkind, and more of a nuisance than did the control individuals. Weiss and Trokenberg Hechtman reported that Hoy et al. "felt that the specific test of self-esteem supported the clinical impression [as found by Weiss] that hyperactives had a somewhat lower self-concept" (p. 151).

In contrast to Hoy et al.'s 1978 research, the results of the total raw score for the subpopulation of ADHD participants  $N_2 = 8$  is significant. Using the  $z$  test, this researcher found that the total score of the Piers-Harris (Piers, 1984) and the popularity cluster for the subpopulation ( $N_2 = 8$ ) are both significantly below the normative sample scores ( $N = 485$ ). The Fisher's ratio determined that ADHD has a significant degree of variance on the popularity and happiness and satisfaction clusters.

As previously mentioned, the results of low levels of self-esteem are well documented. Some of the effects of low self-esteem include an increase in the occurrence of depression (Burns, 1980; Ellis & Harper, 1977); difficulties in social interactions and relationships (Gergen; Rogers, 1959); and a greater influence from others, especially peers (Gergen, 1971); anxiety, social deviance, and use of drugs and alcohol is higher than in the normative population. In general, a person with low self-esteem is victimized by self, others and the world (Mruk, 1995). Clearly, adolescents who experience low self esteem and suffer with ADHD are in double jeopardy. They consider themselves to be social and academic misfits and failures.

Researchers such as, Barkley (1990), Weiss and Trokenberg Hechtman (1993), and Wender (1987) have demonstrated the consequences ADHD on the lives of



adolescents. Barkley stated that "poor school work, social difficulties with peers, problems relating to authority (especially at school), and low self-esteem" (p. 122) are the main concerns of ADHD adolescents. These authors also reported the higher use of cigarettes, marijuana, and alcohol by ADHD adolescents than by non-ADHD adolescents, and higher rates of antisocial behaviour than in the normative population.

This research demonstrates that the ADHD Grade 8 participants of this study have lower levels of self-esteem than does the normative population. It confirms the findings of Barkley (1990), Weiss, Minde, Werry, Douglas and Nemeth (1971), as well as other researchers mentioned in this paper, whose research demonstrated that ADHD adolescents experience difficulties in the development of their levels of self-esteem. This supports the research of Wender (1987) and Barkley (1990) who concluded that ADHD adolescents require special services in school and that parents need support from trained professionals to understand and to effectively raise these adolescents.

These researchers, along with many of the others mentioned in the literature review, emphasize the need for each individual to have a healthy sense of self-esteem. The research examining the ADHD Grade 8 participants in this study demonstrates that they experience lower self-esteem than do other students. It is essential that parents and teachers of understand the experiences of ADHD adolescents and their relationship to adolescents' self-esteem.

### **Recommendations**

1. That the local board provide workshops or inservice training for its teachers to provide them with information and strategies to support the development of a healthy sense of self-esteem for students.
2. That the parents of ADHD adolescents have access to information and educational opportunities that will help them to learn and to develop coping strategies that will increase the self-esteem of their children.
3. That the Piers-Harris Self-Concept Scale (Piers, 1984) be administered to ADHD students who are at risk of experiencing low self-esteem. The results of this questionnaire could then be used to assist ADHD students to develop the area of their self-esteem that is deemed to be low.
4. That the local board create a support group for ADHD adolescents and provide appropriate educational opportunities and information for the purpose of increasing these students' self-esteem.
5. That the findings of Barkley (1999) and Yaden (1994) be implemented so that ADHD Grade 8 students have access to special education services or to a counsellor. As of 1999, the local board of education has guidance counsellors for students in Grade 9 only.

There are some excellent resources available to parents and teachers of ADHD adolescents with respect to self-esteem and learning. Reference materials, such as the work by Sloane, Assadi, and Linn (1988, 1989), that explain various ideas and methods to assist the ADHD learner, are available to parents and teachers.

Researcher need to examine more innovative methods of increasing the levels of self-esteem of ADHD adolescents in order to determine which strategies may be the most effective. For example, researchers such as McMillan, Singh and Simonetta (1994) questioned some of the more recent methods used by teachers and parents in an attempt to develop adolescents' self-esteem. In 1999, there are a variety of books and methodologies claiming to assist in the development of higher levels of self-esteem among adolescents. Researchers need to study these methods and to determine the most effective ones for teachers and parents of ADHD adolescents that will to assist the ADHD adolescents to develop healthy, positive, and productive levels of self-esteem.

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## **APPENDICES**

## Appendix A

Dear Parent/Guardian:

I am pleased that a graduate student in the Faculty of Education, Tammi DeGiacomo, is interested in researching the level of self-esteem of children with Attention-Deficit/Hyperactivity Disorder (ADHD). Since your child has been identified as having ADHD and is the appropriate age for this study, I am inviting him or her to participate in this research.

The purpose of this study is to add to the existing information about the relationship between self-esteem and ADHD. Some research has shown that individuals with ADHD often have low self-esteem. To investigate this claim, several ADHD students have been asked to participate in this study to further determine if there is a relationship between ADHD and self-esteem. The pencil and paper test that will be used for this study has been shown to be a reliable questionnaire for determining the level of self-esteem of adolescents. The data collected from all of the individual questionnaires will be confidential.

The benefit of being a part of this study is that each participant will play an active part in adding to the information about ADHD and self-esteem. Such information will assist parents, educators and adolescents living with ADHD to gain further insight and information about the experience of ADHD adolescents. Generally, this research will add to the existing body of information about ADHD.

In order to determine the level of self-esteem of your child, he or she will be asked to complete a pencil and paper questionnaire which assesses how children and adolescents feel about themselves. The test will take about 20 minutes to finish and will be given at a time that is most convenient to you and your child.

All information that is gathered during this assessment will remain confidential. The final results of this study will be made available to you upon request. The data collected from this study will be stored for 7 years at Lakehead University. A final copy of this thesis will be at the Chancellor Patterson Library after September 1999.

I look forward to your participation in this exciting research endeavour. If you have any questions concerning this study, please contact the school at \_\_\_\_\_. The supervisor of this research is Dr. Dan Klassen. If your child is going to be a part of this research, please send your completed consent form to the school as soon as possible. Once your consent form is received by the school, Tammi DeGiacomo will contact you in order to make further arrangements for your participation.

Sincerely,

The Principal of the School

## Appendix B

Dear Student:

I am pleased that a graduate student at Lakehead University is interested in learning about self-esteem and the experience of grade 8 students who have Attention Deficit/Hyperactivity Disorder (ADHD). One way of gathering information about level of self-esteem and ADHD is to ask grade 8 ADHD students to share their knowledge and ideas through the use of a questionnaire. Since you are in grade 8 and have ADHD, I am inviting you to be a part of this exciting research.

The study will examine level of self-esteem and ADHD by having each participant fill out a questionnaire that assesses how adolescents feel about themselves. This pencil and paper survey will take about 20 minutes to finish and will be done at a time that is suitable to you and your parent. Your answers on the questionnaire will be an important part of this study.

The benefit of being a part of this research is that the information that you will give on the questionnaire will help teachers, parents and others to better understand what it is like to be in grade 8 and to live with ADHD. This research will add to the present information about ADHD.

All information that is gathered during this study will be confidential. A summary of the results from all of the students' answers on the questionnaire will be prepared and made available to you and your parent(s) upon request. The data collected from this study will be stored for 7 years at Lakehead University in the form of a thesis. A completed copy of the thesis will be at the Chancellor Patterson Library after September 1999.

I look forward to your involvement in this interesting study. The supervisor of this research is Dr. Dan Klassen. Please complete and return your consent form today to your school. Once I have received your consent form, Mrs. DeGiacomo will contact you in order to make arrangements for participating in the research.

Sincerely,

The Principal of the School

## Appendix C

**My signature on this form indicates that my son or daughter will participate in a study by Tammi DeGiacomo, a graduate student at Lakehead University, on the level of self-esteem of grade 8 students identified as having Attention-Deficit/Hyperactivity Disorder (ADHD).**

**I have received an explanation about the nature of the study and its purpose. I know that the data collected from this study will be stored for seven years.**

**I understand the following:**

- 1. My child is a volunteer and can withdraw from the study at any time.**
- 2. There is no danger of physical or psychological harm to my son/daughter.**
- 3. The data provided by my child will remain confidential.**
- 4. I will receive a summary of the project, upon request, following the completion of the project.**

\_\_\_\_\_  
**Signature of Parent**

\_\_\_\_\_  
**Date**

Appendix D

My signature on this form indicates that I agree to participate in a study by Mrs. T. DeGiacomo, on ATTENTION DEFICIT/HYPERACTIVITY DISORDER AND LEVEL OF SELF-ESTEEM and it also shows that I understand the following:

• I am a volunteer and can withdraw at any time from the study.

- There is no risk of physical or psychological harm.

The data I give will be confidential.

My parents and I will receive a summary of the project, upon request, following the completion of the project.

I have been given an explanation about this study, its purpose, and procedures. I have the consent of my parents.

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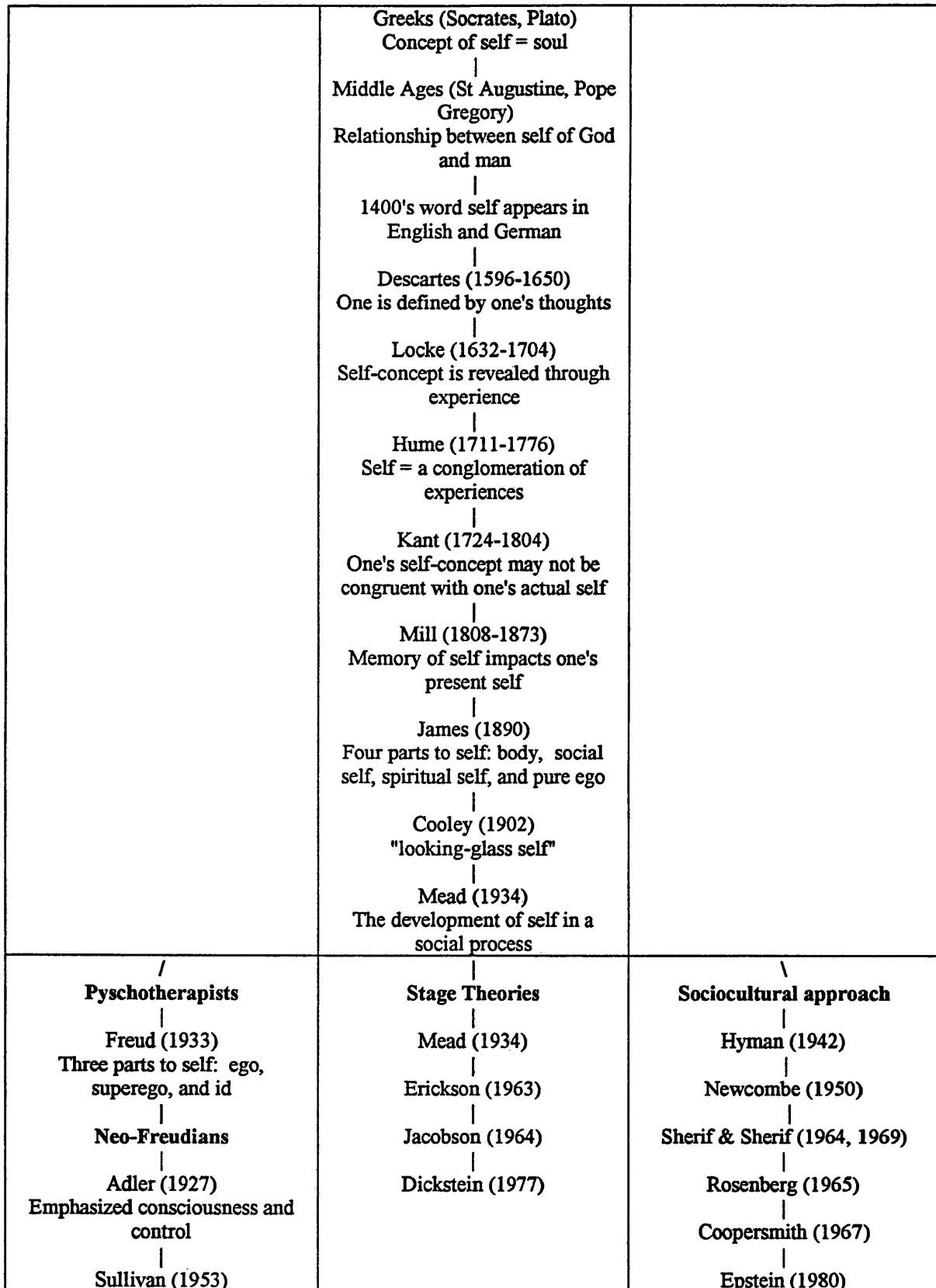
Signature of the Participant

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Date



Appendix E - Chart of Self-Esteem Researchers



<p>Self-concept theories must include one's relationships</p> <p> </p> <p>White (1963)</p> <p>Self-esteem has two sources - internal and external</p> <p> </p> <p>Branden (1969)</p> <p>Snygg and Combs (1959)</p> <p>Self-esteem = cognitive appraisals</p> <p> </p> <p>Jacobson (1964)</p> <p>Self-esteem is dependent on achievement</p>		<p><b>Behaviourists</b></p> <p> </p> <p>Bandura (1960, 1969, 1986)</p> <p>"Identifications"</p> <p> </p> <p>Skinner (1971, 1974)</p> <p>Self= genetics &amp; environment</p> <p> </p> <p>Mahoney &amp; Thorensen (1972)</p> <p>Control variables to change behaviour</p>
	<p><b>Merging views of Psychotherapy and Behaviourism</b></p> <p> </p> <p>C.R. Rogers (1950, 1989)</p> <p> </p> <p>Allport (1961)</p> <p> </p> <p>Soares and Soares (1965)</p> <p> </p> <p>Rokeach (1968)</p> <p>Values</p> <p> </p> <p>Rawl (1971)</p> <p>Theory of justice</p> <p> </p> <p>Duval and Wickland (1972)</p> <p> </p> <p>Raimy (1975)</p> <p> </p> <p>Rosenberg (1979)</p> <p> </p> <p>Schwarzer, Jerusalem &amp; Lange (1982)</p> <p> </p> <p>Hattie (1992)</p> <p> </p> <p>Ross (1992)</p> <p> </p> <p>Mruk (1995)</p>	

<p>Self-concept theories must include one's relationships</p> <p> </p> <p>White (1963)</p> <p>Self-esteem has two sources - internal and external</p> <p> </p> <p>Branden (1969)</p> <p>Snygg and Combs (1959)</p> <p>Self-esteem = cognitive appraisals</p> <p> </p> <p>Jacobson (1964)</p> <p>Self-esteem is dependent on achievement</p>		<p><b>Behaviourists</b></p> <p> </p> <p>Bandura (1960, 1969, 1986)</p> <p>"Identifications"</p> <p> </p> <p>Skinner (1971, 1974)</p> <p>Self= genetics &amp; environment</p> <p> </p> <p>Mahoney &amp; Thorensen (1972)</p> <p>Control variables to change behaviour</p>
	<p><b>Merging views of Psychotherapy and Behaviourism</b></p> <p> </p> <p>C.R. Rogers (1950, 1989)</p> <p> </p> <p>Allport (1961)</p> <p> </p> <p>Soares and Soares (1965)</p> <p> </p> <p>Rokeach (1968)</p> <p>Values</p> <p> </p> <p>Rawl (1971)</p> <p>Theory of justice</p> <p> </p> <p>Duval and Wickland (1972)</p> <p> </p> <p>Raimy (1975)</p> <p> </p> <p>Rosenberg (1979)</p> <p> </p> <p>Schwarzer, Jerusalem &amp; Lange (1982)</p> <p> </p> <p>Hattie (1992)</p> <p> </p> <p>Ross (1992)</p> <p> </p> <p>Mruk (1995)</p>	