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A Meta-Analytic Review of Self-Esteem and Self-Concept Interventions: Implications for School-Based Interventions

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A META-ANALYTIC REVIEW OF SELF-ESTEEM AND SELF-CONCEPT INTERVENTIONS: IMPLICATIONS FOR SCHOOL-BASED INTERVENTIONS

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CHAPTER I

INTRODUCTION

Self-esteem research has been prevalent since William James first defined the self in 1890 (Hattie, 1992). Since this time, the development of a healthy sense of self has been believed to be essential for optimal functioning.

Theoretically, connections are believed to exist between feelings and perceptions about the self (self-concept/self-esteem) and behavior. For example, Erikson (1950), Rogers (1951), and Sullivan (1953) all incorporate the need for a high sense of self-worth as crucial to healthy development and as an impetus for behavior. Various psychodynamic theorists also place an importance on the self in understanding the development of psychopathologies. Cognitive-behavioral theorists, as well, associate behavior or action with thought, believing that the way an individual thinks about him/herself will influence his/her behavior (Selman, Schorin, Stone & Phelps, 1983). In these models, deviations from the normal development of a sense of self are also associated with psychopathologies.

Empirically, self-esteem has been linked to numerous behavioral, academic, and psychological outcomes (Marsh & Gouvernet, 1989). For example, both positive self-concepts and high self-esteem have been linked to positive social and interpersonal relations (Gurney, 1986). Self-esteem has been repeatedly identified as a buffer to external stressors, providing higher levels of coping (Shirk, 1988; Gurney,

1986). As well, self-esteem has been correlated with academic achievement in children, proving to be predictive of later school performance and socio-emotional adjustment (Delugach, Bracken, Bracken & Schicke, 1992).

Conversely, low self-esteem has been correlated with a wide range of negative adjustment, including higher rates of teenage pregnancy, alcohol, drug abuse, juvenile delinquency, suicide, loneliness, depression, social anxiety, and alienation (Blascovich & Tomaka, 1991; Lipka & Brinthaupt, 1992). Low self-esteem has also been found to have a mediating effect on mood and motivation in children, with such children having less motivation to engage in age-appropriate activities and having more depressed mood levels (Shirk, 1988).

Based on these connections, then, it is not surprising that self-esteem and self-concept are often a part of psychotherapeutic interventions. Increasingly, self-esteem and self-concept interventions have also become more common aspects of classroom- and school-based programs. These programs are appealing for several reasons. Theoretical and empirical support implicate positive self-esteem in children as a comprehensive panacea for preventing a wide range of behavioral, emotional, and social problems. Such programs have the potential to reach a large number of children if applied on a classroom or school-wide basis, and, the interventions can be applied efficiently if they are incorporated into the curriculum and/or taught by classroom teachers.

This study attempted to evaluate the effectiveness of interventions, school-based and non-school-based, at changing self-esteem and self-concept via a meta-analysis.

Factors hypothesized to be significant moderators of successful interventions were analyzed to determine the extent to which they predicted effectiveness. Findings from the meta-analysis were used to provide implications for school-based self-esteem/self-concept interventions.

To determine possible moderators of effect interventions, this paper explored the constructs of self-concept and self-esteem, including theoretical models, mediators and correlates of these constructs. Development of self-concept/self-esteem and measurements used in self-esteem interventions were also discussed. Particular attention was paid to those factors that had implications for changing self-esteem.

CHAPTER II

REVIEW OF RELATED LITERATURE

Definition and Construct of the Self

Despite recognition of the importance of self-esteem/self-concept to healthy human functioning and its prominence in research, these constructs are rather elusive. In fact, one of the most difficult aspects of self-concept and self-esteem research has been simply defining self-concept and self-esteem. Byrne (1984) concluded that "there is no clear, concise, universally accepted operational definition of self-concept." The same can be said for the definition of self-esteem. A multitude of terms and definitions exist for both self-concept and self-esteem. For example, self-concept has also been called self, self-estimation, self-identity, self-image, self-perception, self-consciousness, self-imaginary, and self-awareness. Self-esteem has been interchangeably used with the terms self-regard, self-reverence, self-accepting, self-respect, self-worth, self-feeling, and self-evaluation. Further adding to the confusion are a multitude of related, but different, "self" terms, including self-actualization, self-control, self-confidence, self-complacency, and self-knowledge (Hattie, 1992).

Such inconsistencies and vagueness in the definitions of terms make any attempt to understand, study, predict, and influence the self a challenging task at best. Various theoretical models have been proposed, nonetheless, in an attempt to explain the

constructs of self-esteem and self-concept. These models are based on empirical findings and theoretical conceptualizations of the self, as well as historical concepts about the self. Therefore, this section provides both a brief description of the historical context of self-concept and self-esteem and a description of current theoretical models. Lastly, this section discusses the stability or changeability of self-concept and self-esteem, as this is relevant to determining important factors of successful interventions.

Historical context of self

Early philosophers, from Socrates to Mill, were primarily interested in knowing what the self was. Cognitions -- one's memories of his or her experiences and the unique perspective that one brought to these experiences -- were considered important, in that they were the tool by which a person could perceive him/herself (Elliot, 1986).

Early psychologists later attempted to explain how humans come to know themselves (Hattie, 1992). William James, the first of these early psychologists, conceptualized four dimensions of the self (material self, social self, spiritual self, and pure ego), organized hierarchically such that humans first come to understand their material self, progressing upwards towards understanding the pure ego. The remnants of a hierarchical model can still be seen in current models (e.g., Shavelson, Hubner & Stanton, 1976).

Cooley focused on the role of others by proposing the "looking-glass view" of self-concept, in which others, in their reactions towards us (real or imagined), are

believed to play an important role in how we perceive ourselves (Hattie, 1992). Mead, along with reference and role group theorists, expanded this idea and emphasized the importance of self-evaluation and social comparison in the development of self-concept. Numerous other theorists, including and James (1890) and Skinner (1963, 1974) have recognized the distinction between the "objective world" and the "private world" of the individual, and the key role that the "private world" and its organization plays in how an individual perceives him or herself (Hattie, 1992).

Theories of self-concept/self-esteem

In the early 1960's, self-esteem and self-concept were thought to be unidimensional (Byrne, 1984). Self-concept and self-esteem were perceived as the sum total of how an individual perceives, thinks, and feels about him/herself (Coopersmith, 1967). Empirical support for this model comes from Coopersmith's (1967) sample of 10-12 year olds who showed no differentiation between school, family, peer, and global self-esteem. Though his measure (Coopersmith Self-Esteem Inventory, 1967) is still one of the most commonly used today, a unidimensional theory of self-concept and self-esteem is generally not accepted due to flaws in research supporting the theory, conceptual inadequacies in the model, and contradictory empirical support (Harter, 1983).

Instead, most self-concept and self-esteem theorists today subscribe to a multi-dimensional theory, in which self-concept and self-esteem are composed of many different facets. There is also some consensus as to the definition of these constructs

(Cook, 1987). In general, self-concept is believed to refer to the cognitions or perceptions that an individual has of him/herself, including his/her skills, traits, and abilities. Self-esteem, on the other hand, is viewed as an affective component, referring to the evaluation the individual has of him/herself, including an evaluation of the importance of the different facets of his/her self-concept (Cook, 1987).

Little else, though, is agreed upon. Three types of multi-dimensional theories are described below: taxonomic, hierarchical, and compensatory theories. Each type conceptualizes the structure of self-concept, self-esteem, and their dimensions differently.

Taxonomic theories conceptualize a general self-concept or self-esteem composed of dimensions that are independent from each other and from the general concept. Empirical evidence for these models is generally based on findings in which variance of global levels of self-concept or self-esteem are unaccounted for by the subdimensions (e.g., Rosenberg, 1979).

Various theorists (Harter, Hattie, Epstein and Coopersmith, 1982; Hattie, 1992) originally proposed taxonomic models of self-concept and self-esteem, with relatively similar dimensions of general competency, moral self-approval, power, acceptance, and global self-concept or self-esteem (Harter, 1983). Though viewed as independent from each other, each dimension was theorized to have a hierarchical component. Power, for example, is composed of issues of control and self-determination. Moral worth includes the domains of self-control and self-regulation. Competence consists of cognitive, social, and physical control and abilities, and acceptance (also called

love, significance, or worthiness of love, depending on the theorist) includes the feeling of love and acceptance by significant others. Some of these dimensions are even further broken down. For example, acceptance is broken down into acceptance by groups of significant others, i.e. peers, family, parents (Harter, 1983).

In recent years, however, theorists have begun to question the logic that the lack of an empirically-supported relationship presumes independence, and have begun to wonder if these findings are more indicative of a lack of understanding of the construct.

Harter (1983), whose initial theory was taxonomic, acknowledges this ambiguity, and has more recently begun to evaluate the relationships among the different dimensions of self-esteem, moving toward an integrated model in which a general level of self-esteem is composed of four dimensions (competence, power/control, moral worth, and acceptance), which are, in turn, made up of subdomains. Though the relationships that Harter (1983) proposes appear to have a hierarchical component, she has been reluctant to "cast them" as such. Instead, she acknowledges that a relationship among the dimensions seems plausible, but that the structure remains unclear at this point (Harter, 1983). She also allows for the notion that structure may vary developmentally or idiographically (Harter, 1985a).

Hierarchical models of self-concept have been proposed by others (Shavelson, et al., 1976; Song and Hattie, 1984). Shavelson et al. (1976) proposed the earliest of these models in which general self-concept, at the apex of the model, is divided into an academic and nonacademic dimension (Harter, 1983; Marsh & Gouvernet, 1989).

These second-order dimensions are further divided into sub-dimensions. Academic self-concept is broken down into particular content areas (e.g., English, math, etc.) and non-academic self-concept is broken down into physical, social, and emotional self-concept. Within each third-order component, there are further divisions. For example, physical self-concept is made up of physical ability and physical appearance; social self-concept breaks down into peer relations and relations with significant others (Marsh & Gouvernet, 1989).

Song and Hattie's (1984) model is a modified version of the above, breaking apart non-academic self-concept into two second-order factors of social and presentation self-concept. Instead of subdividing academic self-concept into particular subject areas, Song and Hattie (1984) divided it into achievement, ability, and classroom self-concept.

Both models have received some empirical support. Multi-trait multi-method analyses and factor analyses have supported Shavelson et al.'s (1976) model by finding evidence for discriminant validity of academic and non-academic self-concept and loadings of the subdimensions onto both second-order factors (Hattie, 1992). A 0.39 correlation between the two dimensions has been interpreted as suggesting their relative independence, yet indicating a relationship to a general, higher-order self-concept (Hattie, 1992). Song and Hattie's (1984) model has received similar factor analytic support as Shavelson's.

Finally, a compensatory theory of self-concept has been proposed. This theory conceptualizes the dimensions of the self-concept to be inversely related. Based on

findings of a bipolar relationship between second-order dimensions, Marx and Winne (1980) propose a compensatory model of self-concept in which low levels of a specific self-concept are compensated for by higher status on another level. They believe that this allows the self-concept to maintain a maximal level despite low-levels of specific self-concepts (Hattie, 1992).

Critics (Hattie, 1992; Shavelson, Bolus, and Keesling, 1983), however, have noted that evidence for this model comes from a few consistent findings among many contradictory ones. For example, Hattie (1992) contends that re-analysis of Marx and Winne's (1980) data has supported a hierarchical model, rather than a compensatory one.

It seems, then, that theories of self-concept and self-esteem have moved from unidimensional to multi-dimensional conceptualizations. Those models receiving the strongest empirical support (e.g. Harter, 1985a; Shavelson et al., 1976; Song & Hattie, 1984) are multi-dimensional theories in which subdimensions are interrelated yet retain some independence.

However, while it appears that recent theories have come to some consensus regarding these constructs, findings are far from conclusive. A diversity of emphases in research programs has been reflected in the diversity of findings (Harter, 1983). In addition to proposing different structures, for example, many of the theories described above have focused on different sets of dimensions. As well, some theories (e.g. Marx & Winne, 1980; Shavelson et al., 1976; Song & Hattie, 1984) have focused on self-concept, while others (e.g., Coopersmith, 1967; Harter, 1983) are strictly models

of self-esteem. Such disparities create a sense of confusion and vagueness for both those who research the field of self-esteem and self-concept and those who attempt to apply it.

Such disparities also made it difficult to discuss specifically the processes and characteristics of self-concept and self-esteem. However, some characteristics and processes, particularly the stability and mediating properties are essential for understanding self-esteem and self-concept and for evaluating interventions. Thus, empirical evidence will be discussed in the following sections in an attempt to integrate these findings into a coherent picture that will be useful for this evaluation.

Stability/Changeability of Self-Concept and Self-Esteem

The self-concept is believed to be relatively stable. Numerous test-retest reliabilities have shown levels of self-esteem to remain stable over as long as a three-year period (Harter, 1983). Underwood, Froming & Moore (1980) have found self-concept to remain stable during mood fluctuations. Furthermore, the consistency of behavior in individuals is seen as further support for the existence of self-concept and its stability (Gurney, 1986).

Despite evidence for its stability, though, Gergen (1965, 1969, 1970, 1982) contends that self-concept can be changed. Social appraisals of others, self-observation, role-playing, social comparison, and reviewing past memories are purported to change self-concept. In addition, the more specific the dimension of self-concept, the easier it is thought to influence change (Hattie, 1992). Hattie (1992) believes that more general levels of self-concept are more stable, while specific

dimensions can change frequently with or without changing the more general levels.

Hattie (1992) believes these findings also demonstrate the role that self-concept can play as a catalyst for behavior change. That is, our behavior is often determined by "scripts" of learned behavior patterns, though certain events can cause an individual to change. The self-concept, the part of the individual that sets goals and evaluates behavior, can be motivated to change by certain events. Hattie (1992) notes that work by Bandura (1982, 1986) suggests the types of situations in which one's self-concept is most likely to influence behavior: when discrepancies exist between self-concept and behavior, during socially disruptive situations, during examination of past behaviors, when receiving disconfirmation, when one believes he or she ought to act in a certain manner, when being evaluated by others, and when one's behavior is of great importance.

In contrast, work by Argyle (1978) and Jones and Pittman (1982) find evidence that self-concept is very unlikely to influence behavior when behavior is very "scripted" or is highly task-oriented, during expressive or emotional behavior, and when curiosity is the motivator.

Overall, then, it appears that the constructs of self-concept and self-esteem have received a great deal of theoretical and empirical attention. Though there continues to be a number of different schools of thought regarding their conceptualization, recent advances have shown some commonalities. Increasingly, self-concept is thought to be multi-dimensional, to include an evaluative component, to have some idiographic tendencies, and to be highly influential of an individual's behavior. In addition, it is

believed to be relatively stable, though not incapable of changing, particularly along developmental lines.

In the next section, the ways in which both self-concept and self-esteem mediate behavior will be explored. Understanding these connections, particularly their relevance to changing and/or promoting positive self-concept and self-esteem will be important in interventions changing these constructs.

Mediators of and Behavior Mediated By Self-Concept and Self-Esteem

Several pathways are believed to be important in understanding both self-concept and self-esteem. These pathways influence the development of and changes in self-concept or self-esteem, define the relationship between self-concept and self-esteem, and provide implications for the influence of these constructs on behavior. Understanding how these pathways putatively work, then, seems essential for evaluating and developing self-esteem interventions.

Cognitive appraisals, i.e. self-concept, come about as the result of confirmatory and disconfirmatory messages received by an individual (Hattie, 1992). Confirmation and disconfirmation of behavior, feelings, and thoughts result from the interaction of messages received by both the environment (e.g. social evaluations, cultural influences) and the individual (e.g. self-evaluations, beliefs, locus of control). Empirical findings offer some clues as to how these messages may be processed.

Shrauger and Schoeneman (1979) have found that the potency of messages relates to the "consistency of feedback, favorableness of opinion, candidness of evaluator,

perceived motive, and number of evaluators" (Hattie, 1992, p.53). Hattie (1992) has found that the most influential messages are those that come from significant others.

Confirmation and disconfirmation are also believed to create different responses in the individual. Hattie (1992) cites numerous studies (e.g. Coopersmith, 1967; Jones & Berglas, 1978; Kelley & Stahelski, 1970; Snyder and Canton, 1980) that show evidence that confirmation helps to preserve and enhance the self-concept, while disconfirmation tends to be involved in changing the self-concept. It is believed that some people minimize, distort, or suppress either confirmatory or disconfirmatory messages, while others maximize them (Hattie, 1992). Further support for this notion comes from research findings that those with low self-concept react strongly to disconfirmation, though the correlational nature of this research makes it difficult to pinpoint causality (Hattie, 1992).

(Dis)confirmatory messages, once received, must be organized and integrated into a coherent, meaningful self-concept. This is thought to occur through several different processes: self-complexity, self-verification, self-consistency, self-enhancement, and affect (Harter, 1983; Hattie, 1992).

Self-complexity includes the structural complexity of the self-concept and its unity, i.e. the degree of independence, dependence, or centrality of the attributes (Jolley & Mitchell, 1982; Zajonc, 1960). Generally, it is thought that those with more complex self-concepts have more positive and stable self-concepts, or, at least, are able to maintain a more positive self-concept after receiving negative feedback (Hattie, 1992). Linville (1985) found individuals with less complex self-concepts to experience more

fluctuations in their affect towards themselves than those with more complex self-concepts, exhibiting a drop in affect following failure and a greater increase in affect following a success. The process by which the self-concept becomes more complex is believed to be a developmental one (Harter, 1983; Hattie, 1992) and will be discussed in a later section.

Self-verification is the process in which individuals tend to seek messages that confirm their own self-views. In a study by Swann, Pelham & Krull (1989), individuals remembered feedback consistent with their self-views more effectively and gave such feedback more credibility than disconcordant feedback.

The process of self-enhancement allows an individual to maintain a positive self-concept by attaching more importance to positive traits (Harter, 1988a). Hattie (1992) cites numerous studies (e.g., Brown, Collins & Schmit, 1988; Harter, 1988b; Jones, 1973; and Kaplan, 1975) that indicate that individuals with lower self-esteem tend to more vigorously engage in self-enhancement than individuals with already high self-esteem.

Self-consistency, the last mediational process, refers to the process by which individuals understand their behaviors and traits to be consistent over time. Some believe that individuals seek to understand their behaviors and traits in a consistent manner (e.g. Festinger's cognitive dissonance theory, 1957), while others (e.g. Maslow, 1954, 1962) believe that more actualized individuals understand themselves dichotomously.

Empirically, consistency of self-concept has been related to levels of self-esteem,

though the causal direction of this relationship remains unclear. Some research (e.g., Elliot, 1986; Stern, 1985) supports the idea that self-esteem, i.e. the feelings one has towards him or herself, leads to a consistent concept of the self, while others (Fitch, 1970) believe that a consistent self-concept, depending on whether it is positive or negative, leads to either low or positive self-esteem.

It is apparent from the above discussion that self-esteem plays a key role in the mediational processes of the self-concept. In addition, it is also believed to be a mediator between self-concept and behavior. Self-esteem, or the affect that an individual has towards him or herself, is believed to influence motivation, which, in turn is believed to influence behavior (Lipka & Brinthaupt, 1992).

The concept of self, then, seems to consist of a number of complex interrelationships and pathways. Theoretical and empirical support seems to have identified affect, cognition, consistency, complexity, integration, motivation, and, ultimately, behavior as key players in these pathways.

Correlates of Self-Concept and Self-Esteem

In addition to understanding the mediational pathways involved in self-concept and self-esteem, it is important to understand variables associated with these constructs for two reasons. First, because finding covariance between two variables is generally the first step to discovering the generative processes at work, correlational patterns involving self-concept and self-esteem may tell us more about how these constructs work. Secondly, interventions aimed at maintaining or enhancing self-concept need to account for the differential effects of any correlated variables present in their target

population.

Studies attempting to find correlational patterns with self-esteem or self-concept have generally focused on subject characteristics, academic achievement or other school-related variables, or psychological traits. Those receiving the most attention and having the most relevance for self-esteem interventions are discussed below.

Gender

Studies reporting significant gender differences in self-concept have generally found these differences to parallel sex-role stereotyping (Hattie, 1992; Marsh, 1989; Skaalvik, 1986). Males tend to report significantly higher self-concepts of physical abilities, competence, achievement, math, and appearance (Marsh, 1989; Wylie, 1989), while females tend to have higher self-concepts of sociability, interpersonal relations, verbal abilities, school satisfaction, honesty, and same-sex friends (Marsh, 1989). Skaalvik (1986) found gender differences to be non-significant for children younger than third grade, presumably because children of this age have not yet been as influenced by sex-role stereotypes (Marsh, 1989). These studies would also imply that cultural values (specifically cultural sex roles) may influence gender differences in self-esteem and self-concept (Skaalvik, 1986).

Studies evaluating differences between levels of total self-esteem and self-concept tend to favor males (Miller, 1979; Skaalvik, 1986). Such differences are particularly noted for males beyond third grade (Skaalvik, 1986) and parallel the belief of most self theorists that females have lower levels of self-esteem and self-concept (Miller, 1979). Such findings, however, have been disputed by Hattie (1992), who found that

scales used to measure "general" levels of self-concept or self-esteem really measure confidence or emotional self-concept. Furthermore, Miller (1979) noted that only half of the studies he reviewed found significant differences in overall self-concept or self-esteem for males and that the other half were non-significant.

Socio-economic status

Wylie's (1979) review of studies relating self-concept and self-esteem to socio-economic status (SES) found "contradictory, weak, and null" results (Hattie, 1992, p.182). For example, studies (Smith, Zingale & Coleman, 1978; Soares & Soares, 1969) have been unable to find evidence that SES is related to self-concept, with the exception of one study (Harter, 1983) that found higher SES to be associated with higher academic and character self-concepts. Hattie (1992), however, is not surprised by these findings, believing they support the notion that level of self-concept relates to ability to meet expectations. It is possible that individuals from different SES levels have different expectations (Hattie, 1992). In support of this, Smith, Zingale & Coleman (1978) found lower academic achievement in higher SES children to be correlated with lower self-concept.

Hansford and Hattie (1982b) did find one potentially important difference in SES. Their study, a meta-analysis of self-esteem programs, found that lower SES children and adults were more likely to experience a change in their self-concept than middle or mixed SES individuals as a result of participating in a self-esteem program.

Family environment

Coopersmith (1967) has done the most extensive work on the relationship between

family variables and self-concept or self-esteem. He found that children with higher self-esteem tend to come from families where parents set limits, enforce rules through non-coercive discipline, unconditionally accept their children, hold high standards, and respect and value their children's opinions and differences (Coopersmith, 1967). His study also found that children with higher self-esteem have parents with high self-esteems. Wylie (1979) found evidence that the level of parental regard for the child and the child's self-perception of the parental attitude toward the child were related to level of self-esteem.

Harter (1983) and Wylie (1979) note that specific conclusions regarding the relationship between family variables and self-esteem are difficult to make. There are comparatively few studies attempting to evaluate this relationship, and the ones that have done so (including Coopersmith, 1967), have generally been limited in their conclusions by numerous methodological flaws.

Ethnicity/cultural background

Studies have generally not supported ethnic differences for self-concept and self-esteem (Verkuyten, 1989; Pallas et al., 1990). The majority of this research has focused on differences between Black and White children in America, with a few replication studies in Great Britain and Germany (Verkuyten, 1989).

Hattie (1992), though, has noted significant cultural differences in the salience of particular aspects of the self-concept, particularly for immigrants. Individuals from Asian countries tend to value intelligence more, while European and other Anglo individuals tend to value social self-concept more. Hattie (1992) also found

immigrants to have a higher locus of control, another mediator of self-concept and self-esteem.

Locus of control

Locus of control, defined as the source and amount of control that an individual believes he or she has over the environment and his/her behavior, has been portrayed as both a correlate and mediator of self-esteem and self-concept. Internal locus of control has been related to high self-concept in a number of studies (Fish & Karabenick, 1971; Martin, 1978; Prawat, Grissom & Parish, 1979; Reid, Haas & Hawkins, 1977; Roessler & Boone, 1979). Weiner (1974a, 1974b, 1979) believes that this holds important implications for the mediating role of locus of control for the maintenance and enhancement of self-esteem. Citing three types of causes in attribution theory (external versus internal causes; stable/dispositional vs. unstable/situational causes; and intentional/controllable vs. unintentional/uncontrollable causes), Weiner theorizes that those with high self-concept will attribute success to ability while attributing failure to unstable causes (e.g. mood, luck, or effort), while those with low self-concept will do the opposite. Thus, he believes that to maintain or enhance self-concept, the perceived causes of performance must be altered.

Marsh, Cairns, Relich, Barnes, and Debus (1984) challenge Weiner's theory, instead purporting that the type of attribution varies among specific self-concepts. Specifically, they present findings that suggest that social self-concept is related to an external locus of control, while academic self-concept is more related to ability and

effort (internal locus of control). Thus, the major disparity between the two theories appears to exist for attributions of social self-concept. Upon further investigation, Hattie (1992) found that the source of the disparity appears to be specific to peer self-concept (a subdimension of social self-concept). Hattie (1992) then concluded that while attributions of social self-concept remain somewhat vague, there is clear support for attributional differences between low and high self-concept individuals, particularly for achievement.

Classroom or school environment

Classroom and school environments have been studied to determine how they relate, if at all, to self-concept and self-esteem. Specifically, in evaluating school-based self-esteem interventions, understanding the influence of the school environment will be particularly important. Not surprisingly, the types of classroom and school environments associated with higher levels of self-concept and self-esteem parallel the types of family environments and foster the types of psychological traits (e.g. locus of control) that have been found in other studies to be associated with these constructs.

Many studies (Haertel, Waberg & Haertel, 1981; Hoge, Smit & Hanson, 1990; Johnson, Maruyama, Johnson, Welson & Skon, 1981) have found school or classroom climates fostering autonomy, initiative, cooperation, and interdependence to be associated with higher self-esteem in children. Classrooms with a high level of teacher involvement and support, as well as an emphasis on structure and organization were also related to higher self-esteem (Hoge et al., 1990). Others (Horwitz, 1976; Traub, Weiss, Fisher & Musella, 1972) have found less traditional classrooms and

mixed-age classrooms (Henderson, 1984) to contain children with higher self-concepts.

Academic achievement

One of the most frequently studied correlates of self-concept and self-esteem has been academic achievement. Unfortunately, however, the large amount of attention this area has drawn has not resulted in any conclusive findings.

Many studies have found correlations between academic achievement and self-esteem or self-concept (Harter, 1983; Hoge, Smit & Hanson, 1990; Lamy, 1965; Marx & Winne, 1980; Piers & Harris, 1964), while others have found no causal connection (Hansford & Hattie, 1982a; Rubin, Dorle & Sandidge, 1977; Scheirer & Kraut, 1979), or even a negative correlation (Bridgeman & Shipman, 1978). A meta-analysis by Hansford and Hattie (1982b) found that lower correlations were found in studies in which the "sample was representative, tests were reliable, and quality of design was high." The meta-analysis also revealed an average covariance rate of about two to four percent between academic achievement and self-concept or self-esteem.

Despite inconclusive findings, theories relating academic achievement to self-concept and self-esteem have played a prominent role in self-esteem interventions. Many current programs attempt to improve academic achievement by improving self-esteem or vice versa (Byrne, 1984). Because of a lack of evidence supporting a causal connection in either direction, Hattie (1992) has proposed an alternative theory. Citing research in which successful learning has been shown to be reinforcing (e.g.,

Phares, 1968; Rotter, Chance & Phares, 1972), Hattie (1992) suggests that having expectancies that match one's abilities will maintain a high level of self-concept. To enhance self-esteem, Hattie (1992) suggests that giving children realistic, though higher than current, expectations will lead to higher self-concept when those expectancies are met. This notion also seems supported by the finding on socio-economic status mentioned earlier, in which Smith, Zingale & Coleman (1978) found lower academic achievement in higher SES children to be correlated with lower self-concept (Hattie, 1992).

A final variable receiving a significant amount of attention is age. This will be discussed next.

Development of Self-Concept and Self-Esteem

Both self-concept and self-esteem are believed to develop over time. Thus, understanding the theoretical and empirical support for how the self develops will be important in evaluating self-esteem interventions. The focus of this section will be on the development of self-concept and self-esteem in childhood and early adolescence since the vast majority of self-esteem interventions target children of these ages, although brief mention will be given to earlier developmental issues to provide a background.

Infancy to two years

During the first two years of life, children's development of self mainly involves understanding themselves as a separate entity and as an "agent" (Harter, 1983; Hattie, 1992; Lipka & Brinthaupt, 1992). The tasks of learning response-outcome

contingencies and object permanence help infants and toddlers understand that their behavior has concrete, physical consequences in the environment and leads to an awareness and recognition of the self and to a definition of this self based on actions (Hattie, 1992; Lipka & Brinthaupt, 1992). These tasks also help the child understand him/herself as separate from the caregiver (Hattie, 1992; Lipka & Brinthaupt, 1992). Towards the end of this developmental stage, when these tasks have been mastered, the child is believed to be cognitively able to recognize categories of his or her own features and will start to use "me" words (Hattie, 1992).

Although the infant or toddler recognizes his or her behavior and self as an agent at this point, s/he is not appraising the behavior, but is merely recognizing the consequences of the actions (Hattie, 1992). That is, these tasks are important in the development of the self-concept and act as precursors to later development, but actual evaluation of one's self (the root of self-esteem) does not occur until middle childhood (Harter, 1983).

Early and middle childhood (3-10 years)

Important changes occur during early and middle childhood that influence the development of self. In the initial stages of early childhood, children are egocentric, showing little differentiation between themselves and the environment (Hattie, 1992). Consistent with the need for the self-concept to be an integrated, organized structure, this egocentricity helps them to integrate the different aspects of themselves and their environment into a coherent and manageable structure (Hattie, 1992). As the child moves through early and middle childhood, though, into Piaget's concrete operational

stage, development in cognitive and language abilities, as well as increased social interaction and increased understanding and awareness of affect work together to expand the child's sense of self (Harter, 1983; Hattie, 1992; Lipka & Brinthaupt, 1992).

Empirical findings (Shavelson & Marsh, 1986; Pallas, Entwisle, Alexander & Weinstein, 1990) have shown that children becoming increasingly more able to differentiate aspects of themselves during this phase of development. Correlations between different factors of their self-concepts increase with age, particularly around third grade (Harter, 1983).

Because of their developmental level (concrete operational stage), these different aspects are based on physical, observable characteristics or behaviors, particularly competencies (Harter, 1983; Hattie, 1992; Searcy, 1988). As children become increasingly aware of their competencies, the competencies, in turn, become increasingly important to their sense of self, as they develop cognitive schemas about themselves (Hattie, 1992; Lipka & Brinthaupt, 1992). In addition, whereas younger children tend to have unrealistic appraisals of their abilities, cognitive development in middle childhood brings an ability to be self-reflective and to have a more realistic appraisal of one's self (Lipka & Brinthaupt, 1992).

The increase in social experiences that take place as children begin school also provides an important influence in the development of the self. Because of increased cognitive abilities, children are able to understand the expectations placed on them in their social relationships and they learn to present themselves in a particular manner

(Hattie, 1992). In essence, children in this stage, develop a social self (Hattie, 1992). They begin to internalize social and cultural norms, developing a "prescription" (Hattie, 1992) of what their social self should be, and learning that, through self-control, they can meet the expectations of themselves and society (Hattie, 1992). Their increased interactions with others, combined with increased cognitive and language abilities, also allow children to understand themselves in comparison to others (Harter, 1983; Hattie, 1992). Social comparison becomes important as children begin to understand themselves based on how they think others view them and as they look to others to model ideal behavior (Harter, 1983; Lipka & Brinthaupt, 1992). In learning to take the perspective of others, children in early and middle childhood begin to learn the consequences of their interactions on others (Hattie, 1992). They develop a sense of empathy, an awareness of other's reactions to themselves, and they begin to identify with a reference group (Hattie, 1992). Because a child must learn trust in order to be empathic and to identify with a group, it is believed that the child must have a nurturing environment that will promote exploration and acceptance of self (Hattie, 1992).

Increased social interaction, along with increased language abilities, provides an important means for obtaining feedback, both positive and negative, that begins to help children develop a sense of self-worth. This sense of self-worth is also developed as children in middle childhood become more aware of their own affect (Hattie, 1992). Harter (1986) has found empirical support for this notion that self-worth, i.e. self-esteem, begins to develop in middle childhood, at around age eight.

Her research has found that appraisals of self-worth for children under age eight do not load onto any cohesive factor, while children older than eight make global appraisals of self-worth and judgements about specific competencies that load onto a cohesive factor. Logically speaking, self-concept, then, must be developed, at least on some level, prior to self-esteem so that children have something to evaluate (Cook, 1987).

Pre-adolescence and adolescence (11-18 years)

Adolescence is marked by significant maturational changes that are reflected in changes in the self-concept and self-esteem. Self-concept and self-esteem seem to become more unstable for the adolescent, particularly during the early adolescent stage, around age 12 or 13 (Hattie, 1992; Searcy, 1988). Not surprisingly, then, children in pre-adolescence and adolescence are concerned with finding continuity of self, in spite of these changes (Lipka & Brinthaupt, 1992). It should be noted, though, that empirical support for the stability of self-concept and self-esteem, in adolescence and throughout childhood, has been conflicting. This issue will be discussed in a separate section below.

Adolescence is marked by increasing cognitive abilities as the child enters Piaget's formal operational stage. Some researchers believe that because of these increasing cognitive abilities, pre-adolescence, particularly during the ages of 11-13 years, is a critical time for self-concept and self-esteem development. Increasing cognitive abilities (to integrate, plan, synthesize, and develop), marked instability of the self-concept, and increasing concern for continuity of self provide the potential for great

change in the concept of self (Hattie, 1992).

The move to the formal operational stage of development allows adolescents to begin to think of themselves in more abstract terms, i.e. psychological traits, rather than concrete, physical descriptions (Harter, 1983). In addition, the self becomes increasingly more differentiated and complex (Harter, 1983; Mullener & Laird, 1971; Rosenberg, 1986). This is particularly important as some researchers believe that more differentiated and complex self-concepts lead to higher self-evaluations as they provide the adolescent with alternative sources of self-esteem in light of negative feedback on other aspects (Lipka & Brinthaupt, 1992). Their increased cognitive abilities also bring more introspection and a greater concern for the ideal versus real self (Hattie, 1992).

The importance of adolescents' self-concept continues to be strongly influenced by the perceived expectations of others, feedback, and social comparison (Hattie, 1992). This has two important implications. One is that adolescents are more vulnerable to negative feedback or disconfirming evidence about their real or desired abilities or traits (Okun & Sasfy, 1977). Secondly, because adolescence is marked by decreased importance of family and increased importance of peer groups, expectations and social comparison of one's reference group, it is believed a significant drop in self-esteem would be experienced unless adequate peer support is developed (Hattie, 1992).

Though social comparison and peer acceptance is increasingly important during this time, adolescents also grow more aware of their own personal beliefs and philosophies. Because of this, adolescents also begin to differentially value aspects of

themselves based on their own beliefs (Hattie, 1992; Searcy, 1988).

Stability of self-concept and self-esteem during childhood and adolescence

As noted above, stability of the self-concept and self-esteem has received conflicting empirical support. Empirical support (Hattie, 1992; Searcy, 1988) that self-concept and self-esteem fluctuate during adolescence seems consistent with the recognition of adolescence as a time of significant turmoil, change, and growth. However, conflicting evidence has lead some researchers (Marsh, 1992; Rosenberg, 1979) to hypothesize that self-concept becomes more stable with age. For example, Anderson (Lipka & Brinthaupt, 1992) found the self-esteem of third graders to be less stable than sixth graders.

Harter (1983) summarized these conflicting findings by noting that self-esteem may become more stable in later elementary school years, as children at this age are more likely to have mastered the demands of their environment. Entrance into junior high, however, is marked by a period of great transition, and it follows that self-esteem would enter a period of transition as well. Harter's data in which similar periods of instability in self-concept were found for children changing from kindergarten to first grade, suggests, then, that instability in self-esteem and self-concept may parallel transitions in life.

Overall, then, it seems that self-esteem and self-concept parallel the cognitive, emotional, physical, and behavioral changes that occur during development. As different competencies become important at different ages, specific components of one's self-concept also seem to assume more importance. As cognitive abilities

increase, the self-concept becomes more complex and abstract. In addition, developmental periods of transition may be correlated with transitory changes in the self-concept and self-esteem.

Measurement of Self-Concept and Self-Esteem

There are numerous measures of self-concept and self-esteem, each with varying psychometric properties. Many are developed based on a particular theory of self-concept and self-esteem, while others are devised for purposes of a specific study. The more commonly used measures tend to have stronger support for their validity, though a general criticism of self-concept and self-esteem measures is the lack of sufficient validation (Gurney, 1986).

Several methodological and theoretical issues regarding the measurement of self-concept and self-esteem have important implications for self-esteem interventions. Before discussing these issues, though, several of the most common scales will be briefly discussed. This discussion will focus on those measures that are most used in self-esteem research: Coopersmith Self-Esteem Inventory, Harter's Perceived Competence Scale for Children, Piers-Harris Children's Self-Concept Scale, Rosenberg Self-Esteem Scale, and the Tennessee Self-Concept Inventory. Table 1 summarizes the theoretical constructs of these measures.

Coopersmith Self-Esteem Inventory

The Coopersmith Self-Esteem Inventory (Coopersmith, 1967) is a measure of self-esteem as a unidimensional construct of one's feelings towards the self, based on an initial sample of fifth and sixth graders. Respondents indicate how "like me" or

Table 1.--Construct of Self-Concept and Self-Esteem Measures

Measure	Theoretical characteristics[a]	Global construct construct	Subdimensions measured[b]
Coopersmith	1,5	self-esteem	none
Perceived Competence	4,5,6,8	self-esteem	+1. cognitive competence +2. social competence +3. physical competence
Piers-Harris	3,5,6	self-esteem/ self-concept (as the same construct)	*1. behavior *2. intellectual/school status *3. physical appearance/attributes *4. anxiety *5. popularity *6. happiness and satisfaction
Rosenberg	1,5,7,8	self-esteem	none
Tennesee	4,5	self-esteem	*1. physical self *2. moral-ethical self *3. personal self *4. family self

Table 1.--continued

	*5. social self

[a]: theoretical characteristics: 1=unidimensional; 2=taxonomic; 3=hierarchical; 4=multi-dimensional, but not taxonomic or hierarchical; 5=self-esteem as evaluative component; 6=self-esteem as subdimension of self-concept; 7=self-concept as cognitive component; 8=self-esteem considered to have idiographic tendencies.

[b]: * indicates that the subdimension is a component of self-concept; + indicates it is a component of self-esteem.

"unlike me" 50 statements are. Though it was Coopersmith's original intention to measure four domains of self-esteem (peers, parents, school, and personal interests), more recent empirical evidence indicates that this scale measures only a unidimensional factor (Blascovich & Tomaka, 1991).

Perceived Competence Scale for Children

Harter's (1979, 1982) Perceived Competence Scale for Children has 24 items, measuring three domains of competence, as well as a global rating of self-esteem (Harter, 1983). Within the three domains of cognitive, social and physical competence, items purport to measure how children judge their competencies in each area based on speed of performance, effort, and perceptions of evaluations by authority. The self-esteem scale is geared toward measuring the importance of each domain to the respondent, thus allowing for individual differences. Scores are found by summing responses on a 4-point scale, with higher scores indicating a higher self-concept.

The revised edition of this scale, the Self-Perception Profile for Children (1985b) is the only scale, of those described in this paper, that offers different scales for different developmental levels. Although the structure of the questions and format remain the same, the revised scale's versions for younger children contain questions describing more relevant activities, offer pictorial descriptions, require individual, oral administration, and do not ask children under age eight to evaluate their global self-worth. This revised scale, however, is relatively new and has not been used in many self-esteem interventions.

Piers-Harris Children's Self-Concept Scale

The Piers-Harris Children's Self-Concept Scale (1969, 1984) is an 80-item self-report scale designed to measure one's descriptions and evaluation of his or her behavior and attitudes. Based on a hierarchical, multi-dimensional structure of self-concept, in which self-esteem is the evaluation of one's self-concept, there are six subscales that were developed according to results of a factor analysis. These six subscales are Behavior, Intellectual and School Status, Physical Appearance and Attributes, Anxiety, Popularity, and Happiness and Satisfaction, with several of the items appearing in more than one scale. Individuals respond either "yes" or "no" as to whether the statement is generally like or not like them. Scores are obtained by summing responses, and the total summation is purported to be an index of overall self-esteem.

Rosenberg Self-Esteem Scale

The Rosenberg Self-Esteem Scale (1965) is a 10-item scale, originally developed for use by high school students. It is based on a unidimensional construct of self-esteem, in which the individual is asked to evaluate his or her general attitude toward his or her self-concept (Hattie, 1992; Wylie, 1989). Items are declarative statements asking one to agree or disagree based on how positively or negatively one's general attitudes are about one's worth, abilities, qualities, and self-respect. Responses are given on a 4-point scale ranging from "strongly agree" to "strongly disagree" (Rosenberg, 1965). Scores are obtained by summing responses to each of the 10 items.

Tennessee Self-Concept Scale

The Tennessee Self-Concept Scale (Fitts, 1964) is a 100 item scale originally developed for adolescents and adults. Ninety items correspond to five categories of physical self, moral-ethical self, personal self, family self and social self. Ten items are from the Minnesota Multiphasic Personality Inventory (Hathaway & McKinley, 1983) lie scale. Responses are indicated on a 5-point scale ranging from "completely true" to "completely false." A level of overall self-esteem is derived by summing all responses.

Psychometric Findings of Self-Concept and Self-Esteem Measures

Tables 2 through 4 present psychometric information on descriptive statistics, reliability, and normed samples, when available.

Issues Related to Measurement of Self-Concept and Self-Esteem

Though each of the above measures varies considerably in format, surprisingly the authors of these measures seem to concur upon a general definition of self-concept and self-esteem from the outset. For the most part, self-concept is generally thought of as the perceptions one has about one self, while self-esteem is hypothesized to be the evaluation of one's self-concept according to the weight that each individual places on particular aspects of his or her self-concept. Some of the variability among scales can be explained, though, by evaluating the purpose of the measure. For example, Rosenberg's Self-Esteem Scale is geared towards measuring the evaluative aspect of self-esteem only, with no regard as to the person's self-concept. Other measures, like the Perceived Competence Scale, appear to measure both self-concept and self-esteem.

Table 2.--Descriptive Statistics of Self-Concept and Self-Esteem Measures

Measure	No. of items	No. of subscales	Highest possible score	Method of scoring
Coopersmith	50 (25[a])	0	50 (25)	summation of scores
Perceived Competence	24	4	24 (for each sub-scale)	summation of scores for EACH subscale
Piers-Harris	80	6	80	summation of scores
Rosenberg	10	0	40	summation of scores
Tennessee	100	5	500	summation of scores

[a]Form B, the short version, has 25 items.

Table 3.--Reliability of Self-Concept and Self-Esteem Measures

Measure	Internal Consistency	Test-Retest
Coopersmith	.75 - .90	.62 - .88
Perceived Competence	.73 - .86	.69 - .87
Piers-Harris	.88 - .93	.42 - .96
Rosenberg	.77 - .92	.63 - .85
Tennessee	.89 - .94	.60 - .94

Table 4.--Standardization Samples for Self-Concept and Self-Esteem Measures

Measure	Population Devised For	Sample Description	N
Coopersmith	adults; reworded for children	1. 5th and 6th grade children 2. grade school children	87 1,748
Perceived Competence	children, ages 8 to 13	1. 3rd through 6th grade children 2. 3rd through 9th grade children 3. 9 to 12 year old children	1,825 133 746
Piers-Harris	ages 8 to 18	1. 4 to 12 year old grade-school children	1,183
Rosenberg	adolescents and adults	1. high school juniors and seniors	5,024
Tennessee	ages 12 through young adults	1. 12 to 30 year old individuals, with representation of gender, SES, and race	626

This, however, does not seem to entirely explain the differences among scales. For one, the conceptualization of self-esteem among these scales varies. In some, self-esteem is a separate subscale (e.g. Harter), while in others it is merely a summation of the components of self-concept (Coopersmith and Piers-Harris). The latter, i.e. self-esteem as a summation of the components of self-concept, is contradictory to the definition of self-esteem as an evaluative component based on the idiographic weights of importance of the self-concept.

The variability among the particular subscales in each of the measures also poses problems, as it is difficult to imagine how measures with different subscales could be measuring the same self-concept. Some of this may be explained by the nature of factor analysis, which was used in the development of many of these scales (e.g. Piers-Harris and Harter). Factor analysis can only analyze the items entered. Important items missing or trivial items entered will significantly alter what is computed as important to self-concept (Hattie, 1992). Researchers' different emphases, then, may explain the tremendous variability, though, it is hardly the type of variability that is welcomed. Inter-measure correlations have ranged from 0.55 to 0.85, with the highest correlation existing between the Piers-Harris and Coopersmith scales (Blascovich & Tomaka, 1991). This would seem to suggest that these measures do tap some of the same construct, however these findings have not consistently been found among all of the measures described above. It is, therefore, not likely that each of these measures is measuring the same construct, or at least the same aspect of the same construct. This inconsistency has important implications not

only for the validity of the constructs of self-esteem and self-concept, but also for the validity of findings from self-esteem intervention studies, as these findings may, in part, be due to the nature of the instruments used (Delugach et al., 1992).

Another issue related to measurement of self-concept and-self-esteem is the internal nature of the construct, which makes it difficult, if not impossible, to measure by any method other than self-report. Ideally, the strongest support for the validation of a construct and a measure is to have converging evidence from multiple types of measures, e.g. behavioral observations, self-reports, reports by others (Gurney, 1986). While some studies have found converging evidence between indirect reports of self-esteem provided by significant others (peer, teacher, and parent) and direct self-reports provided by the individual (Blascovich & Tomaka, 1991; Wylie, 1989), reports by others seem to contradict the definition of self-esteem as the evaluation of the self-concept based on the idiographic importance of each aspect of the self-concept.

Another problem with self-report measures is that they may be confounded with social desirability, particularly since many of these measures ask the individual to note differences between their own competencies and the "ideal" competencies presented in the measure. Studies on the scales described above have found correlations with social desirability ranging from 0.09 (for Harter's Perceived Competence Scale) to 0.44 (for the Coopersmith Self-Esteem Inventory) (Blascovich & Tomaka, 1991; Wylie, 1989).

Developmental differences also pose certain problems for self-report measures.

It is not known whether children, particularly at different ages, are conceptualizing the instructions and items in the same manner as the adults who devised them. Harter (1985b), in developing the Self-Perception Scale for Children, individually interviewed children after they completed the measure to determine if there was congruence between the children's and authors' perceptions of the measure. She found that children did tend to respond to the items consistent with the theoretical construct of the measure. Harter's study, however, is the only study located that attempted to do this. Furthermore, even if children were responding to the measures consistent with the theoretical construct, children's self-esteem may be structurally different than the adult conceptions of these constructs (Pallas et al., 1990).

Developmental issues also create practical difficulties in measuring children's self-esteem. The shorter attention span and lower cognitive abilities of younger children may interfere with the validity of the measures for young children unless given individually or in small groups (Delugach et al., 1992; Pallas et al., 1990).

Lastly, almost all samples of self-concept and self-esteem tend to have a high degree of negative skewness, with low scores hovering around the mid-point ranges (Blascovich & Tomaka, 1991; Wylie, 1989). While this would seem to imply that most individuals have a very positive self-concept and self-esteem, this seems intuitively contradictory to what most clinicians and researchers hypothesize. Alternatively, one could suggest that these findings support a confound between self-concept/self-esteem measures and social desirability or an inability of existing measures to be sensitive to lower levels of self-esteem.

Overall, a large number of self-esteem and self-concept measures exist, ranging from those developed for specific studies to the more well-validated and commonly known measures. While many of these measures seem to have some theoretical commonalities (e.g. multidimensional structure, affective and cognitive components), there continue to be some disconcerting differences. The number and types of scales differ dramatically from scale to scale, as do the response formats and scoring. Perhaps even more perplexing is the tendency for some scales to have obvious contradictions between their theory and measure, most notably the tendency to theorize self-esteem as idiographic, yet to use equal weight in summing responses. Psychometric findings, particularly validity, are also problematic for the vast majority of these measures. These measurement issues are critical to self-esteem and self-concept interventions. The less reliable and valid these measures are, the more difficult it will be to understand the true effects of these interventions.

Implications of Theoretical and Empirical Findings for Self-Esteem Interventions

Clearly, it can be said that the constructs of self-esteem and self-concept are elusive and complex, often supported by conflicting and confusing theoretical and empirical findings. Not surprisingly, self-esteem interventions frequently reflect this state. However, the increasing prevalence of self-esteem interventions and the purported importance of a positive self-esteem make it necessary to draw conclusions regarding these constructs. Thus, the theoretical bases and empirical findings described above provide important implications for evaluating self-esteem interventions. To be effective, it is logical that these interventions root themselves in

theoretical and empirical support. Specifically, there are important conceptual, developmental, and methodological issues that should be accounted for within any intervention attempting to change self-esteem.

Conceptual evaluation criteria

1. Are the goals of the intervention clearly specified? Interventions should clearly specify whether the intervention is: (1) focused on self-esteem or self-concept or both; (2) targeted to a specific component of these constructs (e.g. academic self-concept) or to a global level; (3) intended to maintain current levels of self-esteem or self-concept or to enhance lower levels. Interventions with different goals should be different. For example, an intervention program aimed at improving academic self-concept would look significantly different than one attempting to maintain self-esteem in students making a transition to junior high school.

2. Is the intervention based on a specific, prevailing theory of self-concept and self-esteem, one that has empirical and theoretical support? Despite inconclusive findings, the evidence from the most prevailing theories (e.g. Harter, 1983; Hattie, 1992; Shavelson et al., 1976) indicate that self-concept is multi-dimensional, has an evaluative component (self-esteem) based on the idiographic salience of each dimension to the individual, and is relatively stable, but not unchangeable. An intervention should clearly state the theory of self-concept or self-esteem on which the intervention is based, and this theory should be empirically supported.

3. Does the intervention operationally define self-esteem or self-concept? The interventions should clearly state, in measurable terms, what the definition of these

constructs are. For example, if the intervention intends to improve levels of self-esteem, it should be clear as to what would operationally define various levels of self-esteem. If an intervention intends to use a measure as its operational definition, a clear rationale should be given and the measure should be consistent with the goals of the intervention, i.e. the operational definitions of the measure and intervention should be similar (see methodological criteria below).

4. Does the intervention target the pathways purported to change self-concept or self-esteem? The literature reviewed above describes a number of theoretically and empirically supported pathways in which self-esteem and self-concept are believed to be changeable. These include situations during which self-esteem and self-concept are believed to be more readily open to change (Bandura, 1982, 1984), the type of messages and goals received (e.g. disconfirmatory messages and slightly higher than attainable goals tend to be best for producing changes in self-esteem), the influence of the intervention leader (e.g. the most influential messages are those that come from significant others), and the process through which the components of the program are received by different individuals (e.g. locus of control). In order to change self-esteem or self-concept, a program should consider and incorporate these mediating components. For example, an intervention aimed at changing levels of self-concept could, according to support by Weiner (1974, 1979) attempt to change the locus of control so that children in the intervention learn to attribute their successes to ability and failures to unstable causes.

5. Is the strength of the intervention commensurate with its goals? Empirical

support has shown levels of self-concept and self-esteem to be relatively enduring, with global self-esteem and self-concept being more resistant to change than specific components. Logically speaking, then, an intervention that hopes to change global self-esteem would have to be significantly more potent than one that hopes to change only a specific component. Accordingly, interventions should justify, empirically, the length and/or intensity of their program.

6. Does the intervention account for the idiographic nature of self-esteem? The most prevailing theories purport self-esteem to be an evaluation of those components of the self-concept most salient to the individual. Programs targeted at maintaining or enhancing self-esteem must account for these individual differences by either promoting positive acceptance and evaluation of an individual's salient components or attempting to change the salience of the components. Interventions focusing on self-concept must recognize that improving or changing one's self-concept does not necessarily change the level of self-esteem if the changed components of the self-concept are not salient to the individual.

Developmental evaluation criteria

1. Does the intervention specify a targeted age group or specific period of transition for which it is purported to be appropriate? Empirical evidence shows self-concept and self-esteem to parallel developmental stages. Thus, programs need to be clear in stating the age group or transitional period for which they are targeted.

2. Is the intervention developmentally appropriate? Once an intervention states a particular age group or transition period for which it is aimed, it should specifically

target those processes believed to be most relevant for that age group or transitional period. Interventions intended primarily for children under eight years of age should not, according to Harter (1983), target self-esteem.

Methodological evaluation criteria

1. Are the measures used consistent with the intervention? Instruments used in a self-esteem program should define and measure self-concept or self-esteem in the same manner as the intervention. If the intervention uses a measure as its operational definition, the intervention's theoretical basis and definitions of self-esteem and self-concept should be consistent with the measure's definition. The instrument used should also measure the specific component of self-concept or self-esteem at which the intervention is aimed. For example, if the program attempts to enhance social self-concept, the instrument used should measure social self-concept.

2. Are the measures used reliable and valid? The instruments currently available for measuring self-esteem and self-concept have varying psychometric properties. Self-esteem interventions should attempt to use the most reliable and valid measure available that is consistent with their goals. Interventions that devise measures specifically for their study should provide evidence of the measure's reliability and validity.

3. Do interventions measure other dependent variables, related to self-concept/self-esteem and their purported mediators? Little, if any, conclusive evidence is available as to the specific processes in which self-esteem and self-concept change. Intervention studies, then, would do well to measure other variables related to self-

esteem and self-concept, such as mediators or expected behavioral outcomes. Elardo and Elardo (1976), in their review of social development programs, also noted the tendency of interventions to focus only on self-concept, rather than a wider range of dependent variables. For example, if a self-esteem intervention intends to change levels of self-esteem by changing an individual's locus of control, it would be advantageous to measure both constructs. Not only would this add to the empirical knowledge of how self-esteem changes, but it would provide a better understanding of the effectiveness of the intervention.

4. Does the intervention measure correlational differences among its sample? As noted earlier, empirical evidence indicates that some differences in self-esteem and self-concept are correlated with gender, SES, family and school environment, and pre-existing levels of self-esteem. Identifying differences among the sample population may provide a more accurate understanding of the effectiveness of the study. For example, significant changes may occur for a particular population, but not for another. Lumping all populations together may mask these differences.

5. Do the measures used account for developmental differences? Theoretical and empirical evidence suggests that children at various ages conceptualize themselves differently and, thus, have different abilities for completing self-concept or self-esteem measures. For instance, Harter (1983) purports that children younger than 8 years are unable to evaluate themselves (i.e. have a self-esteem). Thus, programs aimed at this age group should not ask children to measure self-esteem. Measures given to younger children should also be given in small groups or individually.

6. Are programs implemented consistent with the goals of the intervention?

One of the appealing aspects of school-based interventions is their potential to be implemented efficiently and fairly inexpensively if they are incorporated into the classroom curriculum. Elardo and Elardo (1976) noted, however, that teachers most likely need some sort of training to implement these programs effectively and properly. In their study, they noted one classroom-based program, Developing Understanding of Self and Others (Dinkmeyer, 1970), in which the manual stated that no specific training was needed, yet no empirical evidence was provided to support this claim. The other three programs evaluated required special teacher training, and based on their evaluation, Elardo & Elardo (1976), concluded that special training was necessary to effectively lead the intervention. Clearly, self-esteem interventions need empirical evidence supporting the amount and type of training given to those who implement the programs and they need to ensure that the interventions are implemented correctly and consistently.

Review of Self-Concept and Self-Esteem Interventions

Empirical support for the effectiveness of self-esteem and self-concept interventions, in general, has been inconsistent (Cook, 1987; Currie, 1988; Elardo & Elardo, 1976; Hattie, 1992; Lorion & Work, 1987; Martorella, 1975; Offord, 1987; Schneider, 1992; Strein, 1988; Swisher, Vicary & Nadenichek, 1983). For school-based interventions, the findings have been consistently negative. While some studies have reported significant findings, particularly for some of the more well-known, pre-packaged programs (e.g. DUSO, HDP, Magic Circle) (Offord, 1987; Strein, 1988),

overwhelmingly, there is little empirical support for the effectiveness of school-based programs in changing self-esteem or self-concept (Cook, 1987; Durlak, 1985; Hattie, 1992; Offord, 1987; Strein, 1988). In addition, Strein (1988) found that those self-esteem studies yielding significant results tend to be less methodologically rigorous, while those with little or no significance tend to be more methodologically sound.

Several of these meta-analyses and literature reviews offer important conclusions regarding the effectiveness of self-esteem and self-concept interventions. These studies identify characteristics present in more successful interventions and offer some potential reasons for the lack of support for school-based programs.

Cook (1987) and Hattie (1992), in their meta-analyses of self-esteem/self-concept interventions (school-based and otherwise), found greater changes in self-concept and self-esteem for older populations (older children, college students, and adults) and for those populations with a pre-existing problem or lower level of self-esteem. Both studies also identified the level of experience of the group leader and the comprehensiveness (i.e., intensity and duration) of the program as positively related to more significant changes (Cook, 1987; Hattie, 1992). Strein's (1988) review of 23 school-based affective education programs had similar findings. Based on these findings, the authors concluded that the ineffectiveness of school-based programs may, in part, be due to the inexperience of teachers leading these programs and to the low dosage of treatment (Cook, 1987; Hattie, 1992; Strein, 1988).

Cook (1987) also noted that many school-based interventions lack specific definitions of self-esteem and self-concept. Others (Elardo & Elardo, 1976; Hattie,

1992; Wylie, 1989) echo this concern, pointing to the lack of a theoretical basis as a major flaw in these programs.

Elardo & Elardo (1976) and Martorella (1975) in their review of four (different) school-based programs, pinpointed several other major areas of concern. To varying degrees, each of these programs not only lacked a solid grounding in theory, but failed to operationally define the goals of the program, neglected to devise an effective evaluation procedure, conducted little to no long-term follow-up, and/or did not ensure consistency between the design of the program and actual implementation (Elardo & Elardo, 1976; Martorella, 1975).

These studies point to some rather significant flaws in school-based self-concept/self-esteem interventions. The paucity of studies finding significant effects for these programs is disconcerting, given the potential benefits of such programs. However, the above studies show that many researchers have begun to identify potential reasons for these findings (Cook, 1987; Elardo & Elardo, 1976; Hattie, 1992; Strein, 1988).

This paper attempted to extend these initial findings. Based on the earlier discussion of the theoretical constructs, mediators, correlates, development, and measurement of self-esteem and self-concept, a number of variables were identified as possible moderators of effective self-concept and self-esteem interventions (cf Appendix C). These variables, some of which echo the findings of the reviews and meta-analyses described above, were presented in the evaluation criteria described earlier. The following section describes the method by which these criteria will be

used to evaluate self-esteem and self-concept interventions and to provide implications for school-based programs.

CHAPTER III

METHOD

Literature Search

Studies included in this paper were obtained from a large database of studies relating to general treatment and interventions with children. The original compilation of studies were obtained by computer and manual searches of relevant journals containing intervention and prevention studies involving children and adolescents. These studies are part of an ongoing research program analyzing the overall effectiveness of preventive and therapeutic interventions (e.g. Durlak and Wells, 1994).

From this larger sample, studies reporting at least one measure of self-esteem or self-concept were considered for this study. Studies, then, included in this paper met the following criteria: (1) were reported through December 1991; (2) involved children or adolescents with a mean age of 18 or younger; (3) included a control group drawn from the same population as the treated group; and (4) used at least one measure of self-esteem or self-concept as an outcome measure.

This criteria identified 104 studies, 102 of which were included in this study. Two studies were unable to be located and were, thus, not used. Studies included both those that involved interventions specifically targeted to maintaining or enhancing self-esteem or self-concept (primary studies) and those involving interventions with a

primary focus other than self-esteem or self-concept, but which include a self-esteem or self-concept outcome measure (non-primary studies). For example, a non-primary study might focus on improving social skills of aggressive children and include a measure of self-esteem or self-concept as an outcome measure. Non-primary studies were included to provide additional information regarding possible moderators of interventions that have successfully modified self-esteem or self-concept.

Several studies included more than one intervention. For these studies, each intervention was coded separately. Therefore, these 102 studies yielded 120 distinct treatment interventions. Coding was done separately for each intervention within each study and all analyses were done per intervention rather than per study.

Coding of Interventions

Each intervention was initially coded on 47 variables, divided into 7 major categories (see Appendix B). These categories identified characteristics of: (1) the study (e.g. year of publication, type of intervention); (2) design; (3) sample; (4) intervention leader; and (5) comparison (e.g. treatment versus control); type of: (6) treatment and (7) outcome measures; and (8) effect size information. Inter-rater reliability for this coding schema was averaged across variables and was found to equal 85%.

Interventions were also coded according to an additional schema developed specifically for evaluating the components of self-esteem/self-concept interventions. Primary interventions (those primarily focusing on self-esteem or self-concept) were coded on 24 additional variables relating to theoretical and developmental components

of the interventions and on methodological variables regarding the outcome measures used and the methodological procedures used in the intervention (cf Appendix C). Non-primary interventions (those with a primary focus other than self-esteem or self-concept, but which use a self-esteem or self-concept outcome measure) were coded according to the same criteria, excluding 3 variables applicable only to self-esteem or self-concept interventions (cf Questions 4, 5, and 6 in Appendix C). Inter-rater reliability for this coding schema was calculated separately for each variable. These findings are presented in the results section.

Several primary interventions indicated using a "pre-packaged" program (i.e., self-esteem/self-concept programs developed, packaged, and distributed by educational or other psychologically-based companies) or a well-known theoretical intervention (e.g. reality therapy) as their intervention. Seven such programs/theoretical interventions were used by one or more interventions in this study. They were 1) the ACCEPTS program (Walker, et al., 1983), 2) Developing Understanding of Self and Other (DUSO) (Dinkmeyer, 1970; Dinkmeyer & Dinkmeyer, 1982), 3) the Human Development Program (HDP) (Bessell, 1970, 1976), 4) Reality Therapy (Glaser, 1965), 5) Rational-Emotive Therapy/Rational-Emotive Education (Ellis, 1973), 6) Systematic Training for Parenting (STEP) (Dinkmeyer & McKay, 1976), and 7) Toward Affective Development (DuPont, Gardner, & Brophy, 1974). Because most of these studies tended to offer less description of the intervention and, instead, frequently referred the reader to the original materials, coding for questions regarding the components of the intervention was based on information found in the original

materials. This procedure was followed for all interventions indicating that they adhered to one of the above listed programs. Interventions that used a modified version of one of these programs were not coded based on the original materials, but only on the information described in the current study.

Calculation of Effect Sizes

Effect sizes were computed according to the following formula:

$$\underline{M}_t - \underline{M}_c \; / \; \underline{SD} \text{ pooled},$$

where $\underline{M}_t$ = mean of the treatment group, $\underline{M}_c$ = mean of the control group, and $\underline{SD}$ pooled = the pooled standard deviation of both groups (Hedges and Olkin, 1985). Positive effect sizes indicate a stronger effect of the treatment group, while negative scores indicate a stronger effect of the control group. When means and/or standard deviations were not reported, alternative procedures to estimate effect sizes were used according to methods described by Wolf (1986).

When interventions reported nonsignificant findings and no other useable data was reported, the effect size was conservatively set at zero. This occurred for 30 of the interventions. Because 83% of the effect sizes were positive whenever they could be calculated, it is likely that using this procedure led the current review to underestimate the true effect on self-esteem/self-concept.

Two adjustments to effect sizes were made. First, effect sizes were corrected to adjust for small sample bias. Secondly, each effect size was weighted by its respective sample size (Hedges and Olkin, 1985). Weighting of effects gives greater weight to interventions based on larger sample sizes and provides a more reliable

estimate of true population effects.

Analysis of Interventions

Effect sizes

A single effect size for self-esteem/self-concept change was calculated for each intervention. When more than one measure of self-esteem or self-concept was reported, effect sizes were averaged, yielding one effect size per intervention.

Homogeneity of effect size

Variables hypothesized to be primary moderators of effect size for self-esteem and self-concept are described in Table 5. Analysis of these variables occurred in three separate phases.

In the first phase, homogeneity of effect size analyses were computed for eleven variables hypothesized as being the most significant moderators of self-esteem and self-concept based on the literature review presented above. They are 1) the articulation of the target construct of the intervention, 2) the articulation of the goals of the intervention, 3) the attempt to change a global versus specific target construct, 4) the type of theoretical rationale offered for the hypothesis that self-esteem or self-concept would change, 5) the use of operational definitions of self-esteem/self-concept, 6) the number of mediators theorized to be important to self-esteem/self-concept, 7) the number of mediators actually included in the intervention, 8) the use of empirical and/or theoretical justification for the length and/or intensity of the intervention, 9) the inclusion of developmental components of self-esteem/self-concept included appropriate to the targeted age groups of the intervention, 10) the experience

Table 5.--Coded Self-Concept and Self-Esteem Variables

Theoretical characteristics

Type of study
- Primary
- Non-primary

*Clear articulation of goals (i.e., identification of target construct(s)
- Yes/No

*Clear articulation of purpose (i.e., maintaining or enhancing self-esteem/self-concept)
- Yes/No

*Specificity of target construct
- Global self-concept
- Specific dimension of self-concept
- Global self-esteem
- Specific dimension of self-esteem

*Type of self-esteem or self-concept theory used as a theoretical basis
- Unidimensional
- Taxonomic
- Hierarchical
- Multi-dimensional
- Other type of self-concept/self-esteem theory
- Non self-concept/self-esteem theory
- Previous research findings
- Hypothesis generated by current author(s)
- No theoretical basis articulated

Characteristics of theory used as a theoretical basis
- Multi-dimensional
- Self-esteem as an evaluative component
- Self-concept as a cognitive component
- Idiographic tendencies
- Stability, but changeability of self-esteem under certain circumstances
- None of the above characteristics present

*Articulation of operational definition of constructs
- Yes/No

Table 5.--continued

*Incorporation of theoretical mediators
- (Dis)confirmatory messages
- Individual interpretation of messages
- Self-complexity
- Self-verification
- Self-consistency
- Self-enhancement
- Affect
- Cognition
- Locus of control
- Cultural influence
- Self-evaluations
- Beliefs
- Other mediator
- No inclusion of mediators

*Incorporation of actual mediators
- (Dis)confirmatory messages
- Individual interpretation of messages
- Self-complexity
- Self-verification
- Self-consistency
- Self-enhancement
- Affect
- Cognition
- Locus of control
- Cultural influence
- Self-evaluations
- Beliefs
- Other mediator
- No inclusion of mediators

*Empirical justification of strength (i.e., length, intensity) of intervention
- Yes/No

Length of intervention (in weeks)

Number of Sessions

Table 5.--continued

Developmental Characteristics

*Inclusion of appropriate developmental process(es), (i.e., the period in which the developmental process occurs matches the target age)
- No appropriate processes included
- Inclusion of at least one appropriate process
- Inclusion of more than half of the appropriate processes
- Inclusion of all appropriate developmental processes identified in coding sheet

Methodological characteristics

Measurement of mediators of self-concept or self-esteem
- (Dis)confirmatory messages
- Individual interpretation of messages
- Self-complexity
- Self-verification
- Self-consistency
- Self-enhancement
- Affect
- Cognition
- Locus of control
- Cultural influence
- Self-evaluations
- Beliefs
- Other mediator
- No measurement of mediators

Measurement of correlated variables
- Age
- Gender
- Socio-economic status
- Family environment
- Ethnicity/cultural background
- Classroom environment
- School environment
- Academic achievement
- Other correlated variable
- No correlated variables measured

Table 5.--continued

*Experience of intervention leader
- Mental health professional
- Professional trainee
- Medical professional
- Teacher
- Teacher's aide
- Parent
- Other non-professional
- Experimenter
- Not specified

*Training procedures
- Didactic instruction
- Role-play
- Instruction manual
- Other reading materials
- Other type of training
- Not specified

Standardization procedures
- Yes/No

Manipulation checks
- Unplanned observations
- Planned observations
- Video/audio recording
- Use of co-leaders
- Other evidence
- No evidence

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*Indicates a hypothesized variable.

level of the intervention leader, and 11) the type of training provided to intervention leaders.

Using Hedges' and Olkin's (1985) categorical fixed effects model testing procedures, a Q (goodness-of-fit) statistic was obtained for each of these factors. This statistic is similar to an ANOVA in that it partitions the total variance into variance occurring between ($Q_{Between}$) and within (Q_{Within}) groups. A well-specified model is reflected by a significant $Q_{Between}$ and a nonsignificant Q_{Within} for each variable. The $Q_{Between}$ indicates that the variable is a significant moderator of outcome, while the Q_{Within} indicates that the studies within each cell of the variable are homogeneous (i.e. that the effect sizes are obtained from a single population of studies and that variance in effect sizes is due to random error rather than systematic differences). The purpose of the Q_{Within} statistic is to determine whether studies have been grouped appropriately for the between-group analysis. Therefore, it was hypothesized that the nine variables described above would result in significant between-group findings at or below the 0.01 level and a non-significant, i.e. homogeneous, within group finding at or above the 0.01 probability level.

In the second phase, homogeneity of effect size analyses were also computed for ten remaining variables, not included in the first phase, to determine if these variables identified other important moderators of self-esteem and self-concept interventions. This was done for two reasons. First, meta-analyses frequently fail to identify a well-validated model with hypothesized moderators, i.e. they often fail to find nonsignificant (homogeneous) within group findings for all hypothesized

variables. Additionally, more than one model often offers a good fit for the data. Therefore, it is important to analyze all coded variables as possible moderators (Durlak & Wells, 1995; Durlak & Lipsey, 1991).

Multiple regression

In the third phase, multiple regression analyses were performed, using a weighted multiple regression procedure. This phase had two purposes. First, it identified the best combination of significant moderators of self-esteem and self-concept. Secondly, because of the tendency for self-concept and self-esteem interventions and measures to vary considerably in their quality, multiple regression analysis was used to control for methodological factors.

Hedges and Olkin (1985) recommend this type of regression procedure as the most appropriate method for meta-analyses. The procedure involves using a step-wise algorithm, in which possible predictors (moderating variables from the homogeneity of effect size analyses) are entered separately and successively. First, each variable is entered separately into a weighted multiple regression procedure. After this first step, the variable significantly accounting for the most variance is entered as the first entry in the next step (similar to a hierarchical regression analysis) of the analysis. This process is continued, each time taking the most significant predictor and entering it (along with previous significant predictors) before the new variable of interest. The process ends when there are no remaining variables significantly accounting for any variance.

CHAPTER IV

RESULTS

Descriptive Information

One-hundred and twenty interventions, described in 102 studies, met the criteria described above and were included in the analyses. Descriptive information for these interventions is provided on Table 6. Forty-nine interventions (40.8%) were part of a primary study of self-esteem or self-concept (i.e. were specifically targeted to changing self-esteem or self-concept) and 71 interventions (59.2%) were part of a non-primary study (i.e. were not specifically focusing on self-esteem or self-concept, but included a self-esteem or self-concept outcome measure). Interventions were conducted from 1958 to 1990, with the majority of interventions (65.9%) occurring in the 1980s.

The majority of interventions (51.6%) were aimed at normal populations of children, 15% at children with internalizing disorders, 11.7% at externalizing populations, and 2.5% each at children with social skills deficits and academic problems. The remaining 16.7% of the interventions were aimed at children with some other type of pre-existing problem. Seven interventions (5.8%) were secondary prevention programs, attempting to improve low levels of self-esteem or self-concept, while 107 interventions (89.2%) had a primary prevention focus (with regards to self-esteem and self-concept). Six interventions (5%) had a primary and secondary focus,

Table 6.--Descriptive Characteristics of Reviewed Studies

Variable	N	Per Cent
Number of Interventions Per Study		
One	102	85.0
Two	16	13.3
Three	2	1.7
Type of Study		
Primary	49	40.8
Non-primary	71	59.2
Publication Date		
1950-1959	1	0.8
1960-1969	9	7.5
1970-1979	27	22.5
1980-1989	79	65.9
1990	4	3.3
Previously Existing Problems		
Anxiety	3	2.5
Somatic	7	5.8
Other internalizing	8	6.7
Impulsive	3	2.5
Behavior problem	6	5.0
Other externalizing	5	4.2
Social skill	3	2.5
Other	20	16.7
Academic	3	2.5
Normal	62	51.6
Ethnicity		
White or mostly white	23	19.2
Minority or mostly minority	19	15.8
Mixed	4	3.3
Unknown	74	61.7
Target Construct		
Self-esteem	29	24.2
Self-concept	56	46.7
Both self-esteem & self-concept	5	4.2

Table 6.--continued

Variable	N	Per Cent
Not identified	30	25.0
Specificity of Target Construct		
Global	73	60.8
Specific 17	14.2	
Target construct unknown	30	25.0
Purpose of Intervention		
Enhance self-esteem/self-concept (secondary prevention)	7	5.8
Maintain self-esteem/self-concept (primary prevention)	107	89.2
Both enhance and maintain	6	5.0
Theoretical Basis		
Unidimensional theory	1	.8
Multi-dimensional theory	4	3.3
Other self-esteem/self-concept theory	4	3.3
Non self-esteem/self concept theory	12	10.0
Previous research findings	14	11.7
Author's hypothesis	7	5.8
No theoretical basis described	78	65.1
Theoretical Characteristics (more than one response possible) (includes only primary studies)		
Multi-dimensional	4	3.3
Self-esteem as evaluative component of self-concept	7	14.3
Self-concept as cognitive construct	3	2.5
Idiographic nature of self-esteem	2	1.7
Self-concept/self-esteem as stable but changeable	2	1.7
Age Group Targeted (more than one response possible)		
Toddler	0	0.0
Early Childhood (3-5 years)	5	4.2
Middle Childhood (6-10 years)	80	66.7
Pre-Adolescence (11-12 years)	61	50.8

Table 6.--continued

Variable	N	Per Cent
Adolescence (13-18 years)	39	32.5
Unknown	1	0.8
Number of Age Groups Targeted		
Zero (parent intervention or unknown)	8	6.7
One	57	47.5
Two	44	36.7
Three	10	8.3
Four	1	0.8
Number of Developmental Characteristics Included (based on characteristics appropriate for each age group targeted in intervention)		
0	44	36.7
At least 1 68	56.5	
At least half	8	6.8
All	0	0.0
Experience of Leader		
Mental health professional	24	20.0
Mental health trainee	10	8.3
Parents	9	7.5
Teacher	17	14.2
Other non-professional	7	5.8
Experimenter	8	6.7
Mixed	25	20.8
Unknown	20	16.7
Training (more than one response possible)		
Didactic instruction	24	20.0
Role-playing	5	4.2
Instruction manual	31	25.8
Other reading materials	8	6.7
Other training	36	30.0
Mentioned, type not specified	28	23.3
None	43	35.8
Stated as not necessary	8	6.7

Table 6.--continued

Variable	N	Per Cent
Manipulation Checks (more than one response possible)		
Observation	13	10.8
Video/audio recordings	13	10.8
Use of co-leaders	24	20.0
Other	16	13.3
None	64	53.3
Operational Definitions Used		
Yes	24	20.0
No	96	80.0
Standardized Procedures Used		
Yes	37	30.8
No	83	69.2
Measures Used (more than one response possible)		
Coopersmith Self-Esteem Inventory	20	16.7
Perceived Competence Scale	4	3.3
Piers-Harris Self-Concept Scale	38	31.7
Rosenberg Self-Esteem Scale	5	4.2
Tennessee Self-Concept Scale	0	0.0
Other published measure	45	37.5
Unpublished measure	20	16.7
Mediators Measured		
Yes	59	49.2
No	61	50.8
Sample Characteristics Correlated with Outcome (more than one response possible)		
Age	10	8.3
Gender	23	19.2
Ethnicity	0	0.0
SES	2	1.7
Academic achievement	5	4.2
Classroom environment	1	0.8
School environment	0	0.0
Family environment	1	0.8
Other variable	3	2.5
None	84	70.0

Table 6.--continued

Variable	Range		Mean	S.D.
	Low	High		
Sample Size	10	905	96.22	124.24
Age	1	16	10.44	2.67
Number of Sessions	1	95	16.33	16.59
Average Effect Size	-1.15	1.74	0.27	0.46
Length of Intervention (weeks)	2	156	20.43	31.56
Theoretical Mediators (non-primary studies=0)	0	12	1.70	2.79
Actual Mediators	0	12	4.11	.27
Developmental Characteristics (proportion of total characteristics appropriate to age groups targeted in intervention)	0	0.67	0.14	.16

including both groups with previously measured low levels of self-esteem/self-concept and groups whose participation did not depend on previous levels of self-esteem/self-concept.

The mean age of children included in the interventions was 10.44, with middle childhood (ages 6 to 10) and pre-adolescence (ages 11 and 12) being the most frequently targeted age groups (66.7% and 50.8%, respectively). Forty-seven and one-half percent of the interventions targeted only one age group; 36.7% targeted two age groups; 8.3% targeted three age groups. One intervention (0.8%) targeted four age groups and eight interventions (6.7%) attempted to change children's self-esteem and/or self-concept through parent interventions.

The average length of an intervention was 20.43 weeks and the average number of sessions was 16.33. The average sample size was 96.22 children. Twenty-nine interventions (24.2%) had self-esteem as their target construct, 56 interventions (46.7%) focused on self-concept, and 5 (4.2%) aimed at changing both self-esteem and self-concept. Thirty (non-primary) interventions (25.0%)) did not specify whether they were focusing on changing self-esteem or self-concept.

Twenty interventions (16.7%) used the Coopersmith Self-Esteem Inventory (1967), 4 interventions (3.3%) used the Perceived Competence Scale for Children (Harter, 1979, 1982), 38 interventions (31.7%) used the Piers-Harris Children's Self-Concept Scale (1969, 1984), and 5 interventions (4.2%) used the Rosenberg Self-Esteem Scale (1965) as an outcome measure. Forty-five interventions (37.5%) used another published measure of self-esteem or self-concept and 20 (16.7%) used an

unpublished measure.

Effect Sizes

A weighted effect size was computed for the entire sample of interventions to obtain general descriptive information. This weighted effect size was 0.28. This information indicates that the average child in the treatment groups was better off than 61% of children in the control groups. Mean effect sizes were also computed for interventions grouped according to their type (primary versus non-primary). The weighted effect size for primary studies was 0.57. For non-primary studies, the average effect size was 0.10. These findings indicate that the average child receiving a primary intervention was better off than 72% of children in the control group with regards to self-esteem/self-concept, while the average child receiving non-primary interventions was better off than only 54% of children in the treatment group.

Table 7 provides information on the distribution of weighted mean effect sizes, by tenths. Positive effect sizes indicate greater improvements in self-concept and/or self-esteem for treatment groups, while negative effect sizes indicate greater improvements for control groups. Sixty-two percent of the interventions reported an effect size greater than zero, indicating that the majority of interventions positively improved self-esteem or self-concept. Generally, effect sizes are evaluated according to the following criteria: 0.20 is considered a small effect size, 0.50 is considered a medium effect size, and 0.80 is considered a large effect size (Cohen, 1977). The average effect size of 0.28 for the interventions in this study indicates that the overall effect for self-esteem/self-concept interventions was small.

Table 7.--Distribution of Effect Sizes (in increments of 10)

Effect Size Range			Frequency
- 1.10	to	- 1.19	1
- 0.70	to	- 0.79	1
- 0.60	to	- 0.69	1
- 0.59	to	- 0.50	3
- 0.30	to	- 0.39	1
- 0.20	to	- 0.29	1
- 0.19	to	- 0.10	3
- 0.09	to	- 0.01	4
0.00			30
0.01	to	0.09	11
0.10	to	0.19	7
0.20	to	0.29	6
0.30	to	0.39	9
0.40	to	0.49	11
0.50	to	0.59	6
0.60	to	0.69	5
0.70	to	0.79	1
0.80	to	0.89	7
0.90	to	0.99	1
1.00	to	1.09	3
1.10	to	1.19	2
1.20	to	1.29	2
1.40	to	1.49	1
1.60	to	1.69	1
1.70	to	1.79	1

Homogeneity of Effect Size Analyses

Five statistics were obtained for each homogeneity of effect size analysis. The weighted mean effect sizes were obtained to indicate the mean effect size for all interventions contained within a particular cell for a particular variable. Confidence interval ratings at the 99th percentile were also obtained. These were used to determine whether the mean effect size found was significantly different from zero. If the confidence interval contained zero, the mean effect size (even if larger was zero) for that particular cell was not significantly different from zero.

Q_{Within}s and $Q_{Between}$s were also obtained for each variable. As described in the previous section, Q_{Within}s were obtained to determine whether groups within a particular cell of a variable were from the same population (i.e., differences in effect sizes were due to random error not systematic error) and $Q_{Between}$s were obtained for each variable to determine if the variable was a significant moderator of effect size. Q statistics were compared to the right-tailed chi-square value for the appropriate degrees of freedom to determine their significance (Hedges & Olkin, 1985). Degrees of freedom were equal to the number of studies per cell minus one for Q_{Within} or the number of cells per variable minus one for $Q_{Between}$.

Finally, fail safe Ns were calculated. Fail safe Ns indicate the number of additional studies with zero effect sizes that would be needed to change a mean effect size greater than zero for a particular cell of a variable to zero. Higher fail safe Ns indicate more reliable findings. That is, a larger number of studies with low effect sizes would be needed to invalidate the current findings. Smaller fail safe Ns indicate

less reliable findings, while zero and negative fail safe Ns indicate unreliable findings (i.e. that the current mean effect size for that cell is not significantly different from zero).

To summarize, results were evaluated in the following manner. First, homogeneity for each cell of each variable was ascertained. When interventions for a particular cell were homogeneous (nonsignificant Q_{Within}), had effect sizes greater than zero, confidence intervals not containing zero, and a positive fail safe N, the effect size for that cell was considered to be significantly different from zero and the cell was considered to be homogeneous. When a cell was found to be homogeneous, but either had a mean effect size of zero, a confidence interval containing zero, or a negative fail safe N, the mean effect size was considered to be not significantly different from zero. Cells with significant Q_{Within} were considered heterogeneous and findings of mean effect size differences among cells were considered tenuous.

Secondly, the significance of the $Q_{Between}$ of each variable was used to determine whether the variable, as a whole, was a significant moderator of outcome (effect size). Variables having both a significant $Q_{Between}$ and nonsignificant Q_{Within}s for each cell of the variable were considered to be the most reliable findings. Variables having a significant $Q_{Between}$ and nonsignificant Q_{Within}s for some of the cells of the variable were considered to be possible moderators of effect size, though the findings were interpreted more tenuously. Variables having neither a significant $Q_{Between}$ or nonsignificant Q_{Within}s were considered unreliable, and to not be moderators of outcome. When more than one variable achieved a significant $Q_{Between}$ and/or

nonsignificant Q_{Within}s, these variables were all considered to be possible moderators of effect size and a multiple regression analysis (described below) was performed to determine the importance of the moderators in predicting outcome.

Outliers

Interventions with either unusually low or high effect sizes can be considered outliers (Hedges & Olkin, 1985). Interventions with unusually large samples can also be considered outliers because mean effect sizes are weighted by sample size, and, thus, a very large sample size can have a drastic influence on the overall mean effect size. In general, outliers tend to suppress the homogeneity of a group of interventions. Outliers usually become apparent when a homogeneity of effect size analysis yields a heterogeneous group in which the Q_{Within} is close to meeting homogeneity requirements (i.e., being smaller than $Q_{Critical}$). In these instances, identifying studies, among these groups of interventions, with unusually high/low effect sizes or unusually large sample sizes and removing them from the analysis can yield homogeneous groups.

In the initial homogeneity of effect size analyses done for this study, cells for the theoretical rationale variable were close to meeting homogeneity requirements. In examining the effect sizes and sample sizes of the studies in each of these cells, four outliers were discovered - three in the cell for those studies having a theoretical rationale and one in the cell for those studies not having a theoretical rationale. These four interventions were removed and the analyses revealed homogeneous groups. Therefore, these studies were considered outliers and were removed from all

homogeneity analyses for all variables and from the regression analyses. The total N was thus reduced from 120 to 116.

Variables tested

Homogeneity of effect sizes were performed on the eleven variables hypothesized to be the most significant moderators of self-esteem/self-concept interventions (cf to Table 5). In addition, ten remaining variables were also used in homogeneity analyses to determine if they moderated effect sizes. These latter variables were: 1) the type of study (primary versus non-primary), 2) the characteristics of the theoretical rationale, 3) the match between the theoretical mediators identified and the actual mediators incorporated, 4) the use of standardization procedures, 5) the use of an instruction manual by intervention leaders, 6) the use of manipulation checks, 7) the number of sessions, 8) the length of the intervention, 9) the match between target constructs and measured constructs, and 10) a global method variable. The global method variable combined several design variables into one variable to determine if studies meeting or not meeting multiple methodological criteria would be homogeneous. The findings for each variable are presented on Table 8 and are described in detail below. These results on summarized on page 98. Inter-rater reliability results are also reported below for each variable.

Type of study. Type of study was found to be a significant moderator of effect size ($Q_{Between}$ = 135.59). However, neither primary nor non-primary studies were found to be homogeneous groups. Primary studies had a mean effect size of 0.57. Non-primary studies had a mean effect size not significantly different from zero

Table 8.--Homogeneity Analyses and Mean Effect Sizes for Possible Moderators

Variable	Q_w	Mean	99% Confidence Interval		Fail Safe N
			Low	High	
Type					
Primary (45)[a]	153.00	0.57	0.49	0.65	85.74
Non-primary (71)	117.52	0.10	0.03	0.16	-36.00
Q_B = 135.59*					
Articulation of Target Construct					
Yes (86)	327.96	0.35	0.29	0.41	64.49
No (30)	40.36*	0.07	-0.04	0.17	-19.93
Q_B = 37.39*					
Purpose					
Enhance (7)	2.86	0.21	- 0.06	0.47	0.25
Maintain (103)	372.71	0.32	0.26	0.38	62.72
Both enhance and maintain (6)	15.20	0.13	0.01	0.24	-2.22
Q_B = 15.34*					
Specificity of Target Construct					
Global (100)	354.19	0.32	0.27	0.38	61.86
Specific (16)	35.19	0.13	0.02	0.24	-5.73
Q_B = 16.73*					

Table 8.--continued

Variable	Q_W	Mean	99% Confidence Interval		Fail Safe N
			Low	High	
Theoretical Rationale Given					
Yes (17)	31.17*	0.52	0.31	0.73	27.40
No (99)	365.92	0.27	0.21	0.32	32.75
Q_B = 9.02*					
Theoretical Basis Given					
Unidimensional theory (1)	n/a	0.00	n/a	n/a	n/a
Multidimensional theory (1)	n/a	0.40	n/a	n/a	n/a
Other theory of self-esteem/self-concept (4)	2.98*	0.54	0.12	0.96	6.78
Non self-esteem/ self-concept theory (12)	28.06	0.53	0.27	0.78	19.54
Previous research findings (14)	68.00	0.71	0.61	0.82	35.87
Hypothesis generated by current author(s) (7)	10.61	0.26	0.05	0.46	2.04
No theoretical basis given (77)	124.66	0.11	0.04	0.17	-36.34
Q_B = 171.80*					
Characteristics of Theoretical Basis (primary studies only)					
Self-concept as multi-dimensional construct					
Yes (1)	n/a	0.40	n/a	n/a	n/a

Table 8.--continued

Variable	Q_W	Mean	99% Confidence Interval		Fail Safe N
			Low	High	
No (44)	152.77	0.57	0.49	0.66	82.15
Q_B = -0.17					
Self-esteem as evaluative component of self-concept					
Yes (6)	7.58*	0.54	0.15	0.94	10.32
No (39)	145.39	0.57	0.49	0.66	72.79
Q_B = 0.03					
Self-esteem as idiographic					
Yes (2)	0.00	0.00*	-0.77	0.77	-2.00
No (43)	149.37	0.58	0.50	0.66	81.37
Q_B = 3.63					
Self-esteem as a relatively stable construct, but changeable under certain circumstances					
Yes (2)	0.03*	0.49	-0.05	1.03	2.93
No (43)	2.83	0.57	0.49	0.66	80.37
Q_B = 0.14					
Inclusion of at Least One of the Above Characteristics					
Yes (16)	23.99*	0.36	0.14	0.59	13.10
No (29)	122.63	0.60	0.52	0.69	58.46
Q_B = 6.38					
Operational Definitions Provided					
Yes (21)	41.12	0.16	0.06	0.26	-4.51
No (95)	351.01	0.33	0.27	0.38	59.38
Q_B = 13.98*					

Table 8.--continued

Variable	Q_W	Mean	99% Confidence Interval		Fail Safe N
			Low	High	
Seven (7)	15.70*	0.22	- 0.02	0.47	0.83
Eight (3)	2.16*	0.33	- 0.14	0.81	2.01
Nine (3)	3.44*	0.62	0.05	1.19	6.28
Ten (1)	n/a	0.45	n/a	n/a	n/a
Eleven (0)	-----	-----	-----	-----	-----
Twelve (6)	8.61*	0.24	0.03	0.45	1.09
Q_B = 146.78*					
Match Between Theoretical Mediators and Actual Mediators Incorporated (primary studies only)					
Yes (16)	45.19	0.76	0.66	0.87	44.91
No (29)	57.12	0.30	0.17	0.43	14.48
Q_B = 50.69*					
Justification of Length of Intervention					
Yes (7)	3.94*	0.19	0.01	0.37	-2.08
No (109)	399.95	0.29	0.24	0.34	49.08
Q_B = 2.22					
Justification of Intensity of Intervention					
Yes (7)	4.35*	0.21	0.02	0.39	-1.20
No (109)	400.36	0.29	0.24	0.34	47.95
Q_B = 1.40					

Table 8.--continued

Variable	Q_W	Mean	99% Confidence Interval		Fail Safe N
			Low	High	
Theoretical Mediators Identified as Important (non-primary studies coded as "0")					
Zero (72)	119.87	0.10	0.04	0.17	-35.24
One (7)	27.44	0.20	- 0.10	0.49	-0.09
Two (4)	1.17*	0.57	0.20	0.94	7.41
Three (10)	21.67*	0.69	0.59	0.79	24.39
Four (5)	4.13*	0.45	0.04	0.86	6.25
Five (9)	16.61*	0.26	0.00	0.53	2.87
Six (3)	9.21*	0.12	- 0.38	0.63	-1.13
Seven (1)	n/a	0.83	n/a	n/a	n/a
Eight (0)	-----	-----	-----	-----	-----
Nine (1)	n/a	0.58	n/a	n/a	n/a
Ten (0)	-----	-----	-----	-----	-----
Eleven (1)	n/a	0.00	n/a	n/a	n/a
Twelve (3)	6.15*	0.69	0.15	1.22	7.30
Q_B = 199.50*					
Actual Mediators Incorporated					
Zero (4)	6.79*	0.04	- 0.23	0.31	-3.24
One (18)	36.22	0.25	0.07	0.42	4.20
Two (16)	32.24*	0.14	- 0.02	0.30	- 4.55
Three (21)	84.29	0.63	0.53	0.72	44.97
Four (12)	43.07	0.00	- 0.18	0.18	-12.11
Five (13)	23.92*	0.27	0.08	0.47	4.85
Six (12)	2.89*	0.06	- 0.05	0.16	-8.47

Table 8.--continued

Variable	Q_W	Mean	99% Confidence Interval		Fail Safe N
			Low	High	
Number of Sessions					
1-10 (52)	106.81	0.13	0.05	0.20	-19.17
11-20 (34)	185.82	0.50	0.42	0.59	51.38
21-30 (12)	12.79*	0.21	0.04	0.39	0.84
31-40 (4)	10.91*	0.46	0.07	0.85	5.25
41-60 (2)	1.53*	0.28	- 0.20	0.76	0.80
61-70 (1)	n/a	0.16	n/a	n/a	n/a
> 71 (3)	10.25	0.16	- 0.16	0.48	-0.57
Q_B = 72.51*					
Length of Intervention (in weeks)[b]					
1-10 (17)	17.34*	0.35	0.10	0.59	12.55
11-20 (4)	5.34*	0.41	0.17	0.82	5.88
21-30 (3)	14.34	- 0.32	0.10	- 0.74	-7.82
> 30 (4)	1.53*	0.07	- 0.33	0.47	-2.65
Q_B = 18.12*					
Inclusion of Appropriate Developmental Characteristics					
None (39)	68.08	0.27	0.15	0.39	12.87
At least one (66)	320.43	0.28	0.22	0.33	25.16
At least half (8)	7.32*	0.51	0.77	0.25	6.47
All (0)	-----	-----	-----	-----	-----
Q_B = 5.32					

Table 8.--continued

Variable	Q_W	Mean	99% Confidence Interval		Fail Safe N
			Low	High	
No (38)	79.63	0.10	0.02	0.18	-18.78
Q_B = 52.30*					
Manual Provided					
Yes (31)	38.14*	0.26	0.12	0.39	8.33
No (85)	367.66	0.29	0.23	0.34	36.28
Q_B = 0.31					
Match between Target Constructs and Measured Constructs					
Yes (36)	63.47	0.20	0.09	0.31	0.60
No (80)	338.39	0.30	0.25	0.36	40.90
Q_B = 4.25					
Standardization Procedures					
Yes (37)	49.02	0.14	0.04	0.24	-11.33
No (79)	337.56	0.33	0.28	0.33	53.16
Q_B = 19.53*					
Manipulation Checks					
Yes[c] (35)	50.79*	0.23	0.11	0.36	6.02
No (81)	354.18	0.29	0.23	0.35	36.63
Q_B = 1.14					

Table 8.--continued

Variable	Q_W	Mean	99% Confidence Interval		Fail Safe N
			Low	High	
Experience of Therapist					
Mental health professional (23)	213.86	0.41	0.34	0.49	24.49
Mental health trainee (9)	8.12*	0.33	0.07	0.59	6.01
Parent (9)	24.50	0.21	-0.10	0.53	0.47
Teacher (16)	30.20*	0.20	0.06	0.34	-0.39
Other non-professional (7)	6.38*	0.31	0.02	0.59	3.69
Experimenter (8)	12.17*	0.12	-0.11	0.36	-3.05
Mixed (25)	33.98*	0.11	0.00	0.23	-10.85
Q_B = 38.28*					
Experience of Therapist					
Experienced (40) (mental health professional, trainee, experimenter)	243.29	0.38	0.31	0.45	36.35
Inexperienced (32) (parent, teacher, other non-professional)	61.77*	0.22	0.11	0.34	3.67
Mixed (25)	33.98*	0.11	0.00	0.23	-10.85
Q_B = 28.45*					
Training					
Yes (77)	274.08	0.40	0.33	0.46	75.42

Table 8.--continued

Variable	Q_W	Mean	99% Confidence Interval		Fail Safe N
			Low	High	
Methodological Criteria met[d]					
Yes (1)	n/a	0.00	n/a	n/a	n/a
No (115)	405.43	0.28	0.33	0.23	46.99
Q_B = 0.68					

Note: Variables with Ns of less than 116 contain missing data.

[a]Ns for each cell of each variable.

[b]92 cases had missing information on this variable.

[c]The use of co-leaders was not assumed to be done as a manipulation check. Studies using only co-leaders, without evidence of other manipulation check, were grouped as "no."

[d]Studies included in "yes" met the following criteria: match between target construct and measured construct, operational definitions provided, no self-esteem interventions or measures given to children under 8 years old, standardization procedures used, and training provided for leaders.

*$p \leq .01$.

(mean effect size = 0.10; fail safe = -36.00). Inter-rater reliability (percent agreement) was 70%.

Articulation of target construct. Interventions that did not articulate their target construct (i.e., self-esteem or self-concept) were found to be a homogenous group with a mean effect size (0.07) not significantly different from zero. Interventions that did articulate their target construct obtained a mean effect size of 0.35, but were not homogenous. This variable was also found to be a significant moderator of effect size $Q_{Between} = 37.39$. Inter-rater reliability (percent agreement) was 80%

Purpose. Interventions whose purpose was to enhance low levels of self-esteem (i.e., secondary prevention focus) were a homogeneous group with an effect size not different from zero (mean effect size = 0.21; confidence interval from -0.06 to 0.47). Those interventions whose purpose was to maintain normal development of self-esteem or self-concept (i.e., primary prevention focus) had a mean effect size of 0.32. They were not a homogeneous group. Interventions whose purpose included both maintaining and enhancing self-esteem/self-concept had a mean effect size of 0.13. They were not a homogeneous group. Purpose was found to be a significant moderator of effect size. For this variable, inter-rater reliability (percent agreement) was 70%.

Specificity of target construct. Sixteen interventions focused on a specific aspect of self-esteem or self-concept. One-hundred studies focused exclusively on either global self-esteem or global self-concept. Because some interventions had more than one focus, some of the 16 focusing on a specific aspect may also have focused on a

global aspect. However, all 100 studies in the global cell focused only on a global aspect.

Homogeneity analyses for this variable found that it was a significant moderator of effect size ($Q_{Between}$ = 16.73). Mean effect size for interventions with a global target was 0.32, although the group was not homogeneous. Interventions with a specific target construct were also not a homogeneous group. The mean effect size was not significantly different from zero (mean effect size = 0.13, fail safe N = -5.73). Since this variable is based on the findings from two coded variables (questions 1 and 2, cf to Appendix C), inter-rater reliability (percent agreement) was found by averaging the reliability findings from both variables. The averaged reliability finding was 88.4%.

Theoretical basis. Interventions were grouped according to whether or not they provided a theoretical rationale for their expected hypotheses. This variable was found to be a significant moderator of effect size ($Q_{Between}$ = 9.02). Interventions using a unidimensional, multidimensional, or other type of self-esteem or self-concept theory as their rationale for expecting to improve self-esteem/self-concept were placed into the "yes" cell. In addition, studies using a non self-esteem/self-concept theory as a rationale for their hypothesis of improving these constructs were also placed into the "yes" cell. Studies basing their hypothesis on findings from previous studies, generating their own hypothesis without a theoretical rationale, or failing to provide a rationale were placed into the "no" cell. All non-primary studies were placed into this cell, as well, since their intervention was not specifically aimed at improving self-

esteem/self-concept and, thus, they were not expected to provide a rationale.

Interventions providing a theoretical rationale were found to be a homogenous group with a effect size of 0.52. Interventions not providing a theoretical rationale had a mean effect size of 0.27, but were not a homogenous group.

Findings for each type of theoretical basis were also analyzed separately to determine if homogeneous groups could be found. Grouping theoretical basis in this manner was also found to be a significant moderator of effect size ($Q_{Between}$ = 171.80). Studies using an "other theory of self-esteem or self-concept" were found to be a homogeneous group with an effect size of 0.54. Studies using a "non self-esteem or self-concept theory," "previous research findings", or a "hypothesis generated by current authors" were also found to be heterogeneous. The mean effect sizes of these groups were 0.53, 0.71, and 0.26, respectively. Studies not using a theoretical basis were also not homogeneous. The effect size of this group was not significant different from zero ((mean effect size = 0.11; fail safe N = -36.34). Only one study, each, fit into the "unidimensional theory" and "multidimensional theory" category. The effect sizes for these studies was 0.00 and 0.40, respectively.

For theoretical rationale, inter-rater reliability (percent agreement) was 84%.

Characteristics of the theoretical basis. Primary interventions were coded as to whether their theoretical rationale contained components commonly thought to characterize self-esteem/self-concept. These characteristics included conceptualizing self-concept as a multi-dimensional construct and conceptualizing self-esteem as an evaluative component of self-concept, as idiographic, and as a relatively stable

construct, but changeable under certain circumstances (e.g. disconfirmatory messages, etc.). For this variable, inter-rater reliability (percent agreement) was found to equal 77%.

Only one intervention (effect size = 0.40) characterized self-concept as a multi-dimensional construct. The remaining primary interventions were not a homogeneous group. Their mean effect size was 0.57. Interventions conceptualizing self-esteem as an evaluative component were a homogeneous group with a mean effect size of 0.54, while those that did not had a mean effect size of 0.57, but were not homogeneous. Only two interventions conceptualized self-esteem as idiographic. Their effect size was not significantly different from zero (mean effect size = zero; fail safe N was -2.0. They were a homogeneous group. The remaining studies were not a homogeneous group; their mean effect size was 0.58. Interventions conceptualizing self-esteem as a stable construct that can be changed under certain circumstances, again, numbered only two. They were a homogeneous group with a mean effect size of 0.49. The remaining studies were not a homogeneous group; their mean effect size was 0.57. None of these variables were found to be a significant moderator of effect size ($Q_{Between}$s of -.17, 0.03, and 3.63, respectively).

Lastly, a homogeneity of effect size analysis was performed by grouping interventions as to whether or not they included at least one of the above characteristics in their theoretical rationale. Those that did include at least one characteristic were a homogeneous group with an effect size of 0.36. Those that did not include any of the above characteristics were not a homogeneous group. Their

mean effect size was 0.60. Again, this variable was not a significant moderator of effect size ($Q_{Between}$ = 6.38).

Operational definitions. Twenty-one interventions provided operational definitions of their target construct. These interventions were not a homogenous group. Their mean effect size was 0.16. Mean effect size for interventions not reporting operational definitions was 0.33. The use of operational definitions was found to be a significant moderator of effect size ($Q_{Between}$ = 13.98). Inter-rater reliability (percent agreement) for this variable was 89%.

Mediators. Interventions were coded as to the number of mediators hypothesized to be important to changing self-esteem or self-concept (theoretical mediators) and as to the number of mediators actually incorporated into the intervention (actual mediators). Again, since non-primary interventions were not specifically aimed at improving self-esteem/self-concept, they were not expected to provide any theoretical basis for changing self-esteem or self-concept. Therefore, the number of theoretical mediators for non-primary studies was coded as zero. For both theoretical and actual mediators, inter-rater reliability (Pearson correlation coefficient) was equal to 96%.

Homogeneity of effect size analysis, for both theoretical and actual mediators, was done in two ways. First, analyses were done by grouping interventions by the number of either theoretical or actual mediators they included. This was done to determine if there was an increase in effect size as mediators increased. Secondly, analyses were done by categorizing interventions into two groups using various cut-off points (e.g. interventions with less than four moderators or interventions with four or

more moderators). This was done to determine if including a minimum number of mediators improved homogeneity and/or effect size.

A frequency analysis indicated that interventions had the following number of theoretical mediators: zero through seven, nine, eleven, and twelve. No interventions had either eight or ten theoretical mediators. Interventions with two, three, four, five, six and twelve theoretical mediators were homogeneous groups with the following effect sizes: 0.57, 0.69, 0.45, 0.26, 0.12, 0.69, respectively. Interventions with zero and one were not homogeneous groups. Their effect sizes were 0.10 and 0.20, respectively. Only one intervention each had seven, nine, and eleven mediators. Their effect sizes were 0.83, 0.58, and zero, respectively.

Analyses using various cut-off points found homogeneous groups for interventions meeting the following nine cut-off points: inclusion of at least four, five, six, seven, eight, nine, ten, eleven, and twelve theoretical mediators. However, none of these cut-off points revealed mean effect sizes greater than those interventions that did not meet the cut-off point.

Similar analyses were done for actual mediators. A frequency analysis indicated that interventions had the following number of actual mediators: zero through ten and twelve. No interventions had eleven theoretical mediators. Interventions with zero, two, five, six, seven, eight, nine, and twelve actual mediators were homogeneous groups with the following effect sizes: 0.04, 0.14, 0.27, 0.06, 0.22, 0.33, 0.62, 0.24, respectively. Interventions with one, three, and four mediators were not homogeneous groups. Their effect sizes were 0.25, 0.63, and zero, respectively.

Only one intervention had ten mediators; its effect size was 0.45.

Analyses using various cut-off points found homogeneous groups for interventions meeting the following eight cut-off points: inclusion of at least five, six, seven, eight, nine, ten, eleven, and twelve actual mediators. Again, none of these cut-off points revealed mean effect sizes greater than those interventions that did not meet the cut-off point.

Finally, interventions were grouped according to whether or not there was a match between the theoretical mediators and the actual mediators incorporated in the intervention. Because non-primary studies were not rated as to their theoretical mediators, they were excluded from this analysis. The 16 primary studies that included the same theoretical and actual mediators had an effect size of 0.76, but were not a homogeneous group. Those that did not match theoretical and actual mediators were also not a homogeneous group. Their mean effect size was 0.30.

All three variables (theoretical mediators, actual mediators, and the match) were found to be significant moderators of effect size. Their $Q_{Between}$ values were 199.50, 146.78, and 50.69, respectively.

Strength of the intervention. Seven studies provided a theoretical or empirical justification for the length of their interventions. These studies were a homogenous group, though their mean effect size was not significantly different from zero (mean effect size = 0.19, fail safe N = -2.08). Studies not providing a rationale were not a homogeneous group; their mean effect size was 0.29. Overall, this variable was not found to be a significant moderator of effect size ($Q_{Between}$ = 2.22). Inter-rater

reliability (percent agreement) for this variable was 90%.

Similarly, seven studies also provided a theoretical or empirical justification for the intensity (e.g. comprehensiveness, length of individual sessions) of their interventions. These interventions, however, were a homogeneous group with a effect size (mean effect size = 0.21, fail safe N = -1.20) not significantly different from zero. Studies not meeting this requirement were not a homogeneous group. The mean effect size of this group was 0.29. This variable was not found to be a significant moderator of effect size ($Q_{Between}$ = 1.40). Inter-rater reliability (percent agreement) was 90%.

Because being able to justify, theoretically or empirically, the length and/or intensity of an intervention does not necessarily mean that the justification is logical or correct, homogeneity of effect sizes were calculated for the actual length (in weeks) and intensity (number of sessions) of the interventions. Because of the wide range of variability in intervention length and number of sessions (i.e., low frequencies for individual cells), these analyses were done by grouping interventions in ranges (e.g. 1-10 sessions, 11-20 sessions, etc.).

The length of the interventions (in weeks) was grouped into the following ranges: 1-10, 11-20, 21-30, and more than 30. Attempts to group interventions into smaller ranges were not done because cell sizes became extremely small for most of the ranges. Homogeneous groups were found for the 1-10, 11-20 and more than 30 weeks range. The mean effect sizes for these cells were 0.35, 0.17, and 0.07, respectively. The 21-30 weeks range was not homogeneous. Its mean effect size was

-0.32. Length of intervention was found to be a significant moderator of effect size ($Q_{Between}$ = 18.12). It should be noted, however, that a large majority of interventions (77%) were missing information for this variable.

Ranges for number of sessions were grouped in the following manner: 1-10, 11-20, 21-30, 31-40, 41-60, 61-70, and more than 71 sessions. The 41-60 range was larger than the others (span of 20 versus 10) because there was only one intervention each in the 41-50 and 51-60 range. Number of sessions was found to be a significant moderator of effect size ($Q_{Between}$ = 72.51). Homogeneous groups were found for the ranges 21-30, 31-40, and 41-60. Mean effect sizes for these groups were 0.21, 0.46, and 0.28, respectively. Interventions in the 1-10, 11-20, and more than 71 ranges were not homogeneous. Their mean effect sizes were 0.13, 0.50, and 0.16, respectively. Only one intervention fell into the 61-70 range; its effect size was 0.16.

Developmental characteristics. Characteristics important to developing and maintaining a healthy self-esteem and/or self-concept were identified for each developmental group (toddler, early childhood, middle childhood, pre-adolescence and adolescence). Studies were examined to determine the proportion of these characteristics that their interventions included for each developmental age group participating in their study. For example, an intervention targeting both middle childhood and pre-adolescence would have 19 appropriate characteristics, 12 pertaining to middle childhood and 7 pertaining to pre-adolescence. Inter-rater reliability (Pearson correlation coefficient) was 85%.

Because of the wide variability in the proportions of developmental characteristics

each intervention met, it was again decided to group interventions into categories. Interventions, therefore, were grouped into whether they included no appropriate characteristics, 1% to 49% of the appropriate characteristics, 50% to 99% of the appropriate characteristics, or 100% of the appropriate characteristics. It was additionally decided that these categories were also theoretically logical in that a interventions might by chance include at least one characteristic, but would have to be quite intentional to include 50%. Additionally, to include 100% of the characteristics would require further attention to developmental components of self-concept/self-esteem.

Overall, inclusion of developmental characteristics was found not to be a significant moderator of effect size ($Q_{Between}$ = 5.32). Interventions including no developmental components were not a homogeneous group. Their mean effect size was 0.27. Those containing 1% to 49% of the appropriate characteristics were also not a homogeneous group. Their mean effect size was 0.28. Eight studies containing at least 50% of the appropriate developmental characteristics for their target groups were found to be a homogeneous group with an effect size of 0.51. No interventions included all appropriate developmental characteristics.

Experience of intervention leader. Homogeneity analyses of effect size for leader experience was computed in two different ways. First, analyses were done for each different type of intervention leader (mental health professional, mental health trainee, parent, teacher, other non-professional, experimenter, and mixed). Grouped in this manner, experience level was found to be a significant moderator of effect size

($Q_{Between}$ = 38.28). Mental health trainees (e.g., psychology graduate students), teachers, other non-professionals, experimenters, and mixed leader experience groups were found to be homogeneous groups. Their effect sizes were 0.33, 0.20, 0.31, 0.12, and 0.11, respectively, although negative fail safe Ns for teachers, experimenters, and mixed leaders (-0.39, -3.05, and -10.85, respectively) indicate these effect sizes are not significantly different from zero. Mental health professionals and parents were not homogeneous groups. Their mean effect sizes were 0.41 and 0.21, respectively.

Because interpretation of these findings was not obvious on any theoretical grounds, these cells were grouped to examine whether "experienced" versus "inexperienced" leaders moderated effect size. Grouping this variable in this manner also was found to be a significant moderator of effect size ($Q_{Between}$ = 28.45). Mental health professionals, mental health trainees, and experimenters were considered "experienced" leaders and parents, teachers, and other non-professionals were considered "inexperienced" leaders. Experienced leaders yielded a mean effect size of 0.38, although they were not a homogeneous group. Inexperienced leaders were found to be a homogeneous group with a mean effect size of 0.22.

This variable was part of the first coding schema (cf p. 53). For this coding schema, inter-rater reliability was averaged across all variables in the coding schema and was found to be 85%.

Training. Interventions were grouped according to whether or not they provided training (either didactic instruction, role-play, instruction manual, reading materials,

or other types of training) for their leaders. This variable was found to be a significant moderator of effect size ($Q_{Between}$ = 52.30). Those that did provide training had a mean effect size of 0.40, while those that did not provide training had a mean effect size of 0.10. Neither of these groups was homogeneous. Inter-rater reliability (percent agreement) was calculated at 83%.

In addition, groups were categorized by whether or not they provided an instruction manual for the intervention leader to follow. Because this type of training was perceived as more specific to the content of the intervention, it was analyzed separately, in addition to being part of the overall training variable. Interventions providing leaders with an instruction manual were a homogeneous group with a mean effect size of 0.26. Those not providing a manual were not a homogeneous group. Their mean effect size was 0.29. This variable was not found to be a significant moderator of effect size ($Q_{Between}$ = 0.31).

Methodological variables. Homogeneity of effect size analyses were also performed for several methodological variables. First, interventions were analyzed according whether there was a match between the target construct(s) and the measured construct(s). Thirty interventions not identifying their target construct were included in the "no" cell. Homogeneity of effect size analyses indicated that interventions measuring the same constructs that they targeted to change were not a homogeneous group. Their mean effect size was 0.20. Those that did not have a match between target construct and measured construct were not a homogeneous group. Their effect size was 0.30. This variable was not found to be a significant moderator of effect

size ($Q_{Between}$ = 4.25).

The use of standardized procedures was also used as a methodological variable. It was found to be a significant moderator of effect size ($Q_{Between}$ = 19.53). Thirty-seven interventions showing evidence of using standardized procedures were a homogeneous group, however, their effect size was not significantly different from zero (mean effect size = 0.14, fail safe N = -11.33). The remaining interventions that did not use standardized procedures were not a homogeneous group. Their mean effect size was 0.33. Inter-rater reliability (percent agreement) was 50%.

The use of manipulation checks, another methodological variable, was not found to be a significant moderator of effect size ($Q_{Between}$ = 1.14). Interventions including manipulation checks (either observations, video/audio recording, or other type of check) were a homogeneous group with a mean effect size of 0.23. Studies not including a manipulation check were not a homogeneous group. Their mean effect size was 0.29. For this variable, inter-rater reliability (percent agreement) was 70%.

Several methodological variables were also grouped together into a single criterion variable. These variables include the variables described above and four additional methodological variables: the use of operational definitions, training of intervention leaders, and using self-esteem interventions and/or measures only for children eight years or older. (Harter, 1983, indicates that children younger than eight years old are unable to correctly report their level of self-esteem.) Only one intervention, however, met all of these criteria. Its effect size was zero. The remaining studies were not a homogeneous group. Their mean effect size was 0.28.

This variable was not a significant moderator of effect size ($Q_{Between} = 0.68$).

Two additional methodological variables were hypothesized to be important moderators of outcome. First, it was hypothesized that interventions measuring outcomes of mediators, in addition to self-esteem or self-concept outcomes, would be better able to assess the outcome of their intervention. Secondly, interventions that accounted for correlational differences among its sample (e.g., gender, SES, etc.) and, thus, measured outcome separately for each of these subgroups were hypothesized to find more accurate effect sizes. However, because only outcomes on self-esteem and self-concept measures were used in the homogeneity analyses and because multiple measures (or measures across multiple groups) within each intervention were averaged, these analyses could not be adequately performed as planned. Descriptive information for these variables is, however, available on Table 6.

Summary of homogeneity of effect size analyses

Overall, the following results were obtained. Fourteen variables were identified as significant moderators of effect size, as determined by their significant $Q_{Between}$ values. These variables were the type of study, articulation of target construct, goal (enhance versus maintain), specificity of target construct, theoretical basis, use of operational definitions, number of theoretical mediators, number of actual mediators incorporated, the match between the theoretical and actual mediators, experience level of the intervention leader, training of intervention leaders, use of standardization procedures, number of sessions, and length of intervention. Of these 14 variables,

seven had at least one homogeneous cell. These seven variables were articulation of target construct, theoretical basis, number of theoretical mediators, number of actual mediators, experience level of therapist, number of sessions, and length of intervention, although none of these seven yielded homogeneity for all cells of the variable. Type of study, specificity of target construct, use of operational definitions, match between theoretical mediators and actual mediators, training of intervention leaders, and use of standardization procedures did not contain any homogeneous cells.

Eight variables were not significant moderators of effect size (i.e., did not obtain significant $Q_{Between}$). These variables were the characteristics of the theoretical basis, justification of length of the intervention, justification of the intensity of the intervention, use of instruction manual by intervention leaders, proportion of developmental characteristics included, use of manipulation checks, match between target constructs and measured constructs, and the global method variable.

Multiple Regression Analyses

After homogeneity of effect size analyses were conducted, multiple regression analyses were performed. This was done for three reasons. First, it is possible that some of the variables used in the homogeneity of effect size analyses were confounded. For example, homogeneity of effect size analyses indicated that both theoretical rationale and type of study (primary versus non-primary) were significant moderators of effect size. However, these two variables were confounded since all non-primary studies were contained in the "no theoretical rationale" cell. A regression analysis controls for this confounding and determines which variable is a

more significant predictor. Secondly, homogeneous cells within variables were found for more than one variable, making it difficult to determine which variable was a more significant moderator of outcome. Thirdly, because no variable yielded homogeneous groups (nonsignificant Q_{within}s) for all cells, it is difficult to interpret these findings. Therefore, a multiple regression procedure was done to determine the best combination of predictors of effect size. It should be noted that two variables - characteristics of the theoretical rationale and the match between theoretical and actual mediators -were not used in the multiple regression analyses because they applied only to primary studies.

Table 9 summarizes the results of the multiple regression procedures. Theoretical basis was the single best predictor of outcome (R^2 = 45.8%). This variable was then entered first to determine if any other variables would account for a significant amount of the variance after controlling for theoretical basis.

Experience level of the leader was found to be the second best predictor of variance (R^2 change = 4.9%), followed by the proportion of appropriate developmental characteristics as the third best predictor (R^2 change = 1.9%). The analysis ended after step four, when no other variable was found to account for a significant amount of the variance.

Thus, the results of the weighted multiple regression procedure yielded a model of three variables (theoretical basis, leader experience, and inclusion of developmental characteristics) that significantly predict the effect size of a self-esteem or self-concept intervention. Together, these three variables accounted for 52.6% of the variance,

Table 9.--Significant Predictors of Outcome from Regression Analyses

Variable	Multiple R	R^2	R^2 change	$Q_{predict}$
Theoretical Basis	0.677	0.458	0.458	863.65*
Leader Experience	0.712	0.507	0.049	955.76*
Incorporation of Developmental Characteristics	0.726	0.526	0.019	991.68*

Note: Significance tests for Q_{model} were not significant, indicating that the equation containing all three variables does not account for all possible variance.

* $p \leq .01$.

leaving 47.4% of the variance unexplained by this model.

CHAPTER V

DISCUSSION

Current Findings

In general, results indicate that improvement in self-esteem or self-concept was experienced by children in the interventions reviewed for this study. Specifically, these children were better off than 61% of children in the control groups. Furthermore, for interventions specifically focusing on changing these constructs (primary studies), children receiving these interventions were better off than 72% of the children in the control groups. Additionally, of the interventions in this study, 62% reported a positive improvement (effect size greater than zero) in self-esteem and/or self-concept. Based on these findings, then, it appears that self-esteem and/or self-concept can be changed as a result of treatment programs, specifically if these programs are primarily focusing on self-esteem or self-concept.

This is encouraging for several reasons. First it contradicts past literature reviews that have found self-esteem/self-concept interventions to be ineffective at worst and inconsistent at best (Cook, 1987; Currie, 1988; Durlak, 1985; Elardo & Elardo, 1976; Hattie, 1992; Lorion & Work, 1987; Martorella, 1975; Offord, 1987; Schneider, 1992; Strein, 1988; Swisher, et al., 1983). This contradiction may be due to the fact that the quantitative nature of meta-analysis permits measuring the magnitude of an intervention instead of merely noting if statistically significant

findings were obtained at a nominal p level.

Secondly, these findings occur for interventions that work with diverse populations. Asymptomatic children, children with academic and peer relation deficiencies, and children with psychological symptoms participated in these interventions, indicating that both interventions with a primary prevention focus and a treatment focus were effective. In addition, interventions included both white and nonwhite samples, suggesting that these interventions may work for children from different cultural backgrounds.

Thirdly, these findings are encouraging in light of the fact that the constructs of self-esteem and self-concept tend to be elusive (Byrne, 1984) and to have diverse theoretical conceptualizations (Harter, 1983). While, self-esteem and self-concept have traditionally been found to be relatively stable (Gurney, 1986; Harter, 1983; Underwood, Froming & Moore, 1980), more recent findings (e.g., the current study; Harter, 1990, 1992) suggest that self-esteem/self-concept may be more changeable than previously thought. Overall, the findings from this study indicate that, despite the above limitations, self-esteem and self-concept can be changed.

However, while data indicate an improvement in self-esteem and self-concept across all interventions in the current study, there was substantial variability in outcomes (cf Table 7). Some programs were more effective than others. Regression analyses provided clues as to which characteristics of the interventions were most important in changing self-concept and self-esteem. Specifically, regression analyses indicated three variables were significant predictors of effect size. In order, these

variables were the theoretical basis of the intervention, the experience level of the intervention leader, and the proportion of development components of self-esteem/self-concept included in the intervention.

The most significant predictor of effect size was the type of theoretical basis of the intervention. Remarkably, this variable alone accounted for 45.8% of the variance of effect sizes for self-esteem/self-concept interventions, strongly suggesting that self-esteem/self-concept interventions need to be rooted in theory to be most effective. Those interventions with theoretical bases typically had much larger effect sizes (e.g., 0.40, 0.54, 0.53) than those without theoretical bases (e.g., 0.26, 0.11). These findings seem to validate recommendations by Elardo and Elardo (1976) and Martorella (1975) that self-esteem interventions should be more strongly grounded in theory.

Interestingly, though, interventions did not have to use a theory of self-esteem or self-concept, per say, to achieve a notable improvement. Nine interventions used a "non self-esteem or self-concept theory" and had a mean effect size of 0.53. These interventions subscribed to either rational-emotive theory, reality therapy theories, or social learning theory. These findings suggest that the components of these theories overlap with components necessary for changing self-esteem and self-concept. Further research as to which components overlap may provide additional clues regarding the necessary theoretical components of effective interventions.

One contradiction to these findings was the effect size for those interventions basing their hypotheses for changing self-esteem/self-concept on findings of previous

research, and not on any theoretical grounds. Their large effect size (0.71) would seem to indicate that having a theoretical basis might not be necessary for a large effect size and that basing an intervention on findings from previous research may compensate for the lack of a theoretical background. However, ideally, the original research findings (on which these interventions were based) should and may have been rooted in some sort of theoretical background. In addition, to be able to help "drive" an area of research, these findings should be conceptualized and translated into theoretical terms.

Lastly, in regards to theoretical basis, one study that subscribed to a unidimensional theory of self-concept/self-esteem did not have a positive effect size (effect size = zero). While it is difficult to draw conclusions based on one study, this finding at least supports the notion that the theoretical basis of an intervention should be one that is currently supported by the literature. Self-esteem was commonly thought to be a unidimensional construct in the 1960s, when Coopersmith (1967) proposed his model and offered some empirical support for it. However, recent empirical findings (Harter, 1983) have contradicted this model, and have increasingly replaced it with multi-dimensional models.

Experience level of the leader was the second most significant predictor of effect size, accounting for an additional 4.9% of the variance. Current findings for the importance of leader experience echo findings by Cook (1987), Hattie (1982), and Strein (1988). Interventions lead by mental health professionals or trainees had larger effect sizes than those lead by parents and teachers. These findings have particular

implications for school-based interventions because school-based interventions are typically conducted by teachers. Specifically, findings suggest that if teachers are to be leading these types of interventions, they should be thoroughly trained in how to do so. Furthermore, the findings described above regarding the importance of theory in the effectiveness of self-esteem/self-concept interventions also suggest that teachers be given some background instruction in the theoretical basis of the interventions. This notion is further supported if one considers that the training of mental health professionals' typically involves both theoretical and practical knowledge regarding psychological development.

A potentially conflicting finding regarding the experience level of the intervention leader was the effect size findings for interventions run by "experimenters." The mean effect size (0.12) of this group was among the smallest. While it could be assumed that experimenters would be the most knowledgeable, i.e., trained, in the intervention, these findings suggest otherwise. It is possible that this finding could be explained by the fact that the "experimenter" category could have consisted of a range of leaders, including not only primary investigators, but undergraduate and graduate research assistants, all of whom would have different experience levels. Two other categories, "mixed" and "other non-professionals" had low effect sizes. The broad heading of these cells also suggests that they may have contained leaders with various experience levels.

The third and last significant predictor of effect size was the proportion of developmental characteristics included in the intervention. This variable accounted

for an additional 1.9% of the variance of effect sizes. Numerous research findings indicate that self-esteem and self-concept develop throughout childhood and adolescence (Harter, 1983; Hattie, 1992; Lipka & Brinthaupt, 1992; Mullener & Laird, 1971; Okun & Sasfy, 1977; Rosenberg, 1986; Searcy, 1988) in processes that parallel the general cognitive, emotional, physical, and behavioral changes of each stage of development. The current findings indicate that incorporating these developmental components of self-esteem and self-concept significantly affects outcome.

Interventions that incorporated at least half of the developmental components believed, based on the current review of previous research, to be important for the development of self-esteem and self-concept had a much higher effect size (0.51) than those that incorporated less than half or none of the appropriate developmental components (0.28 and 0.27, respectively). While it is somewhat unclear as to why the effect size significantly increased with the inclusion of half of the appropriate developmental characteristics, as opposed to other cut-off points, it does seem that interventions including as many as half of the developmental components may be more deliberate in their attention to development. Because the developmental components of self-esteem and self-concept do include some more general developmental components (e.g., awareness of affect, empathy, and identification with peer groups), it is also possible that interventions incorporating only one or a few developmental components did so coincidentally and without a true consideration of development.

Clearly, however, additional research could provide more information as to the importance that attention to development plays in self-esteem and self-concept interventions. To date, this is an issue that has gone largely unaddressed. In fact, none of the literature reviewed for the current study produced any major reviews that addressed the issue of development in self-esteem/self-concept interventions.

Furthermore, few, if any, of the interventions included in the current study made overt mention of developmental considerations in their interventions. Generally, only those interventions using "pre-packaged" programs (e.g. DUSO, HDP) involved a developmental component, if it was included as part of the pre-packaged program. However, for many of these programs, while session content varied according to developmental level, it is unclear if developmental considerations focused on development of self-concept/self-esteem or on development in general. Many interventions (45.8%) targeted more than one age group (e.g., early childhood, middle childhood, pre-adolescence, or adolescence) and one targeted four. Few, if any, of these interventions (with exception of those using pre-packaged programs as noted above) made any special provisions for the developmental differences among the children participating in the programs.

There were numerous variables in this study that were found to be significant moderators of effect size based on the homogeneity of effect size analyses, but which did not account for significant amounts of variance in the regression analyses. These findings would suggest that these variables play some role in the outcome of self-esteem and self-concept interventions, but that they are confounded with other

variables that were found to account for significant amounts of variance. Therefore, once the three significant variables were accounted for, the remaining variables did not seem to add any further predictive information.

There were also some variables for which homogeneity of effect size findings were contrary to expected hypotheses. For example, in some instances interventions with more sessions had smaller effect sizes than those with fewer sessions. Other contradictory findings included the justification of the length and intensity of the intervention, the specificity of the target construct (specific target constructs were expected to have larger improvements), the provision of an instruction manual for intervention leaders, and the number of theoretical and actual mediators.

Such findings are difficult to explain logically. However, they may point to the complexity of these interventions, and ultimately may be reflective of the complexity of the constructs of self-esteem and self-concept. Although self-esteem and self-concept are perceived as crucially important constructs for healthy development, their perceived importance comes essentially from theoretical conceptualizations of their influence on psychological states and behavior (e.g., Erikson, 1950; Rogers, 1951; Sullivan, 1953), as well as from studies correlating low self-esteem with numerous problem behaviors (e.g., Delugach, et al., 1992; Gouvernet, 1989; Gurney, 1986). Such theories and studies offer few clues as to the process of self-esteem and self-concept. Others who have recently generated significant amounts of research on self-esteem and self-concept (e.g., Harter, 1982, 1983, Shavelson, et al., 1976; Song and Hattie, 1984) have tended to focus more on

the structure and measurement of these constructs, rather than the process. Research that has focused more on process has tended to validate the complexity of the pathways and interrelationships involved in these constructs (e.g., Elliot, 1986; Harter, 1988; Hattie, 1992; Linville, 1982; Lipka & Brinthaupt, 1992; Stern, 1985). Therefore, it is not entirely surprising that the current findings on self-esteem/self-concept interventions reflect the gaps, vagueness, and contradictory findings present in the area of self-concept and self-esteem research.

Another set of unexpected findings pertains to methodological variables. It was hypothesized that studies adhering to stricter methodological standards would have larger effect sizes. That is, studies which provided operational definitions, standardized their procedures, measured only and all of their target constructs, and focused on self-esteem only for those children for whom it was developmentally appropriate (i.e., were eight years or older) were hypothesized to be in a better position to measure true effects of their studies.

Evaluating effect sizes for each of these methodological variables, separately, did not reveal significant differences in effect sizes among groups who did or did not meet these criteria. This would seem to suggest that these variables, by themselves, were not comprehensive or "strong" enough to influence outcome. That is, merely adhering to just one of these methodological criteria was not enough to predict positive outcome. Unfortunately, however, attempts to combine these variables were unsuccessful. Only one study met all of the above methodological criteria. Its effect size was zero.

Although findings are tenuous since homogeneity was not reached for all cells, the current data suggest that adherence to methodological variables was associated with smaller effect sizes and that positive effect sizes were achieved without adherence to methodological standards. While, this could be construed as a strength, in that positive effect sizes were detected in spite of methodologically weaker studies, previous research findings suggest that positive effect sizes may occur in relation to weaker methodology. Strein (1988) found that studies yielding significant results in self-esteem and self-concept tended to be less methodologically rigorous, while more methodologically rigorous studies tended to yield little or no significant results. The findings of the current study, then, seem consistent with Strein's (1988) findings.

Clearly, more research is needed regarding the effect of methodological rigor on outcome of self-esteem and self-concept interventions. Consistent findings of less rigorous studies yielding larger outcomes do not explain why this occurs, nor is there any obvious logical rationale to these findings. Certainly it seems that self-esteem and self-concept intervention studies need to meet certain minimal requirements in order to determine their true effectiveness. Without this internal validity, conclusions regarding their effectiveness will remain tentative.

Overall, several major findings were derived from this study. First, contrary to previous studies, self-esteem and self-concept interventions, in general, were found to result in positive improvements in these constructs. The most significant predictors of these outcomes were adherence to a theoretical basis, more experienced intervention leaders, and inclusion of developmental components of self-esteem and

self-concept. Together, these three predictors accounted for 52.6% of the variance of effect sizes, leaving less than half (47.4%) of the variance unexplained by this model. Of these three predictors, the type of theoretical basis was the most significant predictor, by a large margin, accounting for 45.8% of the total variance.

Both the findings for a theoretical basis and experienced intervention leaders as significant moderators of outcome extended previous findings by offering a more comprehensive, as well as quantitative, approach to the importance of these variables. The third significant predictor, inclusion of developmental characteristics, identified a relatively unexplored moderator of outcome of self-esteem and self-concept interventions. While basic theoretical and empirical research has explored the development of self-esteem and self-concept, little evidence exists showing that research of self-esteem and self-concept interventions consider developmental components. The current review indicates that developmental considerations predict outcome and that this variable should receive greater attention in the area of self-esteem and self-concept interventions.

Several findings point to other limitations of self-esteem and self-concept interventions. First, findings contradictory to expected hypotheses, while possibly indicating that these hypotheses may be incorrect, also may reflect the vagueness and inconsistencies in self-esteem and self-concept research, and thus, in interventions focusing on these constructs. Secondly, findings for the effect of methodological variables clearly show that self-esteem and self-concept interventions often fail to meet minimum methodological standards. While both previous research and the

current study find evidence indicating that a lack of methodological rigor may be related to higher effect sizes, the reasons for this association are unclear.

Limitations of the Current Study

While the results of this study revealed several major findings, the study also has several limitations. First, the interventions included in this study were obtained from published studies only. Hedges and Olkin (1985) recommend that unpublished studies be included in meta-analyses to control for publication bias. For practical reasons, this was not possible in the current study. Therefore, it is possible that effect size findings may be different if unpublished studies were included in the sample. A literature search of dissertations revealed 46 unpublished studies that would have met the requirements for inclusion in this study. Knowing this number allows findings to be compared to fail safe Ns. Variables with fail safe Ns larger than 46 can be regarded as relatively unaffected by publication bias because more than 46 studies would be needed (larger than the number identified by the literature search) to invalidate the findings for that variable. Fail safe Ns smaller than 46 should be interpreted more tenuously with regards to publication bias. Fail safe Ns for the variables found to be significant predictors of outcome in the current study were under 46 (range: 3.69 to 35.87). This suggests that the unpublished dissertations should be explored in follow-up studies.

A second major limitation of this study was the inability to achieve homogeneity in all cells of any variable. While these variables may be significant predictors of effect size, evidence indicating that interventions were appropriately

categorized within each variable remains tenuous. Ideally, meta-analysis findings should reveal variables that are both significant predictors of effect size and form homogeneous groups within the cells of each of these significant variables.

Small ns were problematic throughout the homogeneity of effect size analyses. In some cases, this problem restricted a homogeneity of effect size analyses from being performed and did not allow for determination as to whether the variable was a significant moderator of effect size. In other cases, small cell sizes may have increased chances for achieving homogeneity. That is, homogeneity may have been enhanced simply because there were few interventions in the cell, thereby reducing the variance of effect sizes within that cell. The use of the 99% confidence intervals, in most cases, would control for these artificial findings, however, it may not have prevented some such findings from occurring.

Another limitation is that the model presented in this study does not account for all of the variance of effect sizes. It accounted for 52.6% of the variance, leaving 47.4% unaccounted for. Thus, there are additional significant predictors of effect size for self-esteem and self-concept interventions that remain unidentified.

Lastly, the findings of this study were limited by the low inter-rater reliability findings for some of the variables. For variables with low (less than 80%) inter-rater reliability, it is hard to determine whether findings were hampered by these low ratings. Fortunately, inter-rater reliability was at least 84% for the three variables found to be the most significant predictors of outcome.

Future Directions

The findings from this study offer numerous possibilities for the direction of future research in the area of self-esteem and self-concept interventions. First, theoretical models should be studied more in-depth. Specifically, while the type of theoretical basis was identified as the most significant predictor of outcome, further research could be done to determine components of various theoretical bases most responsible for higher effect sizes. For example, what types of theories tend to produce the largest effect sizes? Are there certain mediators within theories that influence outcomes?

Another way models can be explored in-depth is with regards to the inclusion of developmental components. As indicated above, this is a relatively unexplored area within self-esteem/self-concept intervention research. Much remains to be uncovered regarding the appropriate use of developmental components within self-esteem/self-concept interventions. Therefore, more interventions should investigate and include these variables. This would allow for future comparisons and for a better understanding of the role these variables play in outcome.

Future research should also focus on the role of methodological rigor on outcome. Self-esteem/self-concept interventions need to meet certain minimum methodological standards, such as the use of appropriate measures, operational definitions, standardization procedures, and manipulation checks. This line of investigation might help inform self-esteem/self-concept interventions regarding minimally acceptable standards.

Additional research is also needed to determine the variables unaccounted for in the current model. The amount of variance unaccounted for by the current model (47.4%) suggests that other variables exist that may significantly predict outcome of self-esteem and self-concept interventions. Identifying these additional variables can help strengthen the predictability of outcome, and ultimately, can help improve self-esteem and self-concept interventions.

Implications for School-Based Interventions

As indicated in the introduction, school-based interventions of self-esteem and self-concept are appealing for several reasons. First, they can be administered to a large number of children. Secondly, they can be efficiently administered as part of the curriculum, particularly if they are conducted by teachers or other staff. Thirdly, they have the potential to prevent a wide-range of later academic, socio-emotional, and behavior problems found to be correlated with low self-esteem and self-concept. Therefore, it is important to interpret the findings of this study in light of their implications for school-based interventions.

First, in contrast to reviews of school-based interventions, the current findings seem to support the notion that self-esteem/self-concept interventions can change self-concept or self-esteem. This suggests that these types of interventions hold an important role in the school curriculum and that efforts should be made to understand more clearly what types of interventions are most effective and efficient.

The findings regarding the model specified in this study also hold important implications for school-based interventions. First, the model suggests that grounding

interventions in theory will be the biggest determinant of outcome. While some of the more popular and widely disseminated self-esteem/self-concept programs have a theoretical basis (e.g., HDP), others seem to lack any grounding in theory (e.g., DUSO). Future versions of these popular programs should pay stricter attention to theory. In addition, interventions developed in the future, whether on a national or school level should have a clear idea of their theoretical basis as they develop their program.

Interventions should include trained leaders. As discussed above, if teachers are to be included as leaders, they should be thoroughly trained in both the theoretical background of the intervention as well as the practical implementation. The failure of training variables to be significant predictors of outcome suggests that current training procedures are not sufficient to influence effect size.

Interventions should also be developed with developmental processes in mind. Particularly, programs should be modified for the particular age group targeted.

Lastly, the findings for the model currently specified indicate other variables that may be less important to outcome. While further research should be conducted before these findings can be considered conclusive, variables such as length of the intervention and number of sessions may be less important to the outcome of an intervention, if the interventions include the variables specified in the current model.

APPENDIX A

STUDIES INCLUDED IN META-ANALYSIS

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APPENDIX B

Coding Schema for Meta-Analysis of Interventions with Children

I. Study Characteristics

1. Study ID# (001-999) (1-3)

2. Year of publication (code last two digits) (4-5)

3. General Psychotherapy (check if applicable) (6)

4. School-Based (check if applicable) (7)

5. Group (check if applicable) (8)

6. Prevention (check if applicable) (9)

7. Affective Education (check if applicable) (10)

8. Source (1-5) (11)
   1=published article
   2=book
   3=dissertation
   4=conference paper
   5=other

9. Total number of treatment groups (12-13)

10. Total number of comparisons (14-15)

11. Total number of outcome measures (16-17)

12. Follow-up data available (18)
   1=yes
   2=no

II. Design Characteristics

13. Type of design (1-5) (19)
    1=pre-test-posttest with nonequivalent control group (NECG)
    2=posttest only with NECG
    3=randomized true experiment
    4=other (e.g. matching)
    5=not available

14. Group assignment procedure (1-6) (20)
    1=random
    2=matching
    3=available intact
    4=voluntary self-selection
    5=other
    6=not available

15. Total sample size-assigned (21-24)
    (all treatment groups and control groups)

16. Total sample size-completed posttest (25-28)
    (all treatment groups and control groups)

    Not ascertainable, code 00
    (assumes same as 15 if not stated)

17. Overall quality code for this study (29)

III. Subject Information

18. Number of males in total sample (30-32)

    Number unknown, code 99

19. Mean age of subjects to the nearest tenth year (33-35)

    Number unknown, code 99

20. Ethnic sample characteristics (1-4) (36)
    1=majority or all white
    2=minority
    3=mixed

4=unknown

21. Special sample characteristics (1-7) (37)
1=retarded
2=learning disabled
3=underachievers
4=hospital/dental patients
5=other
6=unknown
7=none

22. Source of subjects (1-8) (38)
1=clinical inpatients
2=clinical outpatients seeking treatment
3=volunteers for special project
4=subjects chose through problem-oriented observation, measurement, or recommendation
5=hospital/dental patients
6=convenient
7=mixed/other
8=unknown

23. Target problem (1-16) (39-40)
1=social isolate
2=fears/phobias
3=anxiety
4=enuresis
5=somatic problems
6=depression
7=other or mix of 1-6

(1-7 indicate internalizing symptomatology)

8=impulsive/hyperactive
9=non-compliant/management problem/behavior problem
10=psychotic/autistic
11=other or mix of 8-10
12=social skills, undefined

(8-12 indicate externalizing symptomatology)

13=mix of 1-12
14=none
15=unknown

16=other (e.g. academics, achievement)

24. Academic learning problems (1-3) (41)
1=present
2=absent
3=unknown

IV. Therapist Characteristics

25. Number of therapists (42-43)
(Unknown, code 0)

26. Experience level of therapist (1-8) (44)
1=mental health professional (psychologist, social worker, psychiatrist)
2=professional trainee (graduate students in above professions)
3=parents
4=teacher
5=other non-professionals
6=experimenter
7=mixed
8=unknown

V. Comparison Information

27. Comparison number (45-46)

28. Type of comparison (1-6) (47)
1=treatment vs. control
2=behavioral vs. nonbehavioral
3=individual vs. group
4=parent vs. child
5=teacher vs. child
6=combination

29. Type of control group (1-6) (48)
1=none
2=no treatment (assume if not stated)
3=wait-list
4=attention-placebo
5=other
6=not available

30. Sample size of treatment group for this comparison (49-51)

31. Sample size of control group for this comparison (52-54)

VI. Treatment Characteristics

32. Type of treatment (1-4) (55)
1=behavioral
2=nonbehavioral
3=mixed
4=unknown

33. Method of delivery (1-4) (56)
1=individual
2=group
3=mixed
4=unknown

34. Number of treatment sessions (Unknown, code 000) (57-59)

35. Average length of each treatment session (in minutes) (60-62)

36. Treatment setting (1-9) (63)
1=school
2=home
3=mental health, community mental health or psychology/psychiatry clinic
4=general hospital or dental clinic
5=residential treatment center (psychiatric or special school)
6=camp
7=combination of at least two of the above
8=other
9=unknown

VII. Outcome Measures

37. Type of outcome measure (1-9) (64)
1=independent behavioral observation
2=nonindependent behavioral observation
3=peer sociometric

4=normed rating scale or behavior checklist (or psychometrically adequate/someone else has used before)
5=nonnormative/experimenter constructed instrument
6=achievement test or intellectual measure
7=other performance measure, e.g. MFF (matching familiar figures)
8=school grades
9=objective performance measure (e.g. days in school, arrests, approaching feared object)

38. Source of outcome measure (1-10) (65-66)
1=independent observers
2=parents
3=therapists
4=teachers/school
5=peers
6=subject self-report
7=subject performance measure (on an achievement, IQ or cognitive measure)
8=other (expert judges, not independent observers, or therapists or 1-7)
9=mixed
10=unknown

39. Dimension of adjustment (1-10) (68-69)
1=fear/anxiety
2=cognitive skills
3=global adjustment
4=social adjustment/social skills
5=achievement
6=personality
7=self-esteem
8=bed-wetting
9=mixed
10=unknown

VIII. Effect Size Information

40. Reliability of measure (70-73)

41. Effect size at posttreatment (74-78)

42. Length of follow-up (in weeks) (79-81)

43. Effect size at follow-up (82-86)

44. How effect size was calculated (1-11) (87-88)
    1=means/standard deviations
    2=ANOVA summary table
    3=t-score
    4=raw data
    5=ANCOVA
    6=chi square/nonparametric
    7=change scores
    8=estimate from p
    9=correlations
    10=effect size estimated as zero
    11=effect size not calculated on this measure

45. Source of data (1-3) (89)
    1=standard information provided
    2=data drawn from graphs
    3=2-week test-retest reliabilities used with change scores

46. Number of this outcome measure (90-91)

47. Measure to be combined with others (92-93)

APPENDIX C

Evaluation Criteria for Studies of Self-Esteem
Supplemental Coding Schema

Conceptual Evaluation Criteria

(1-85)

1. What is (are) the target construct(s) (self-esteem or self-concept or both) identified? (Choose one answer.) (1)

1 = self-esteem
2 = self-concept
3 = both self-esteem and self-concept
4 = target construct not articulated
5 = unsure or other

2. Which component(s) of self-esteem or self-concept does the intervention target? (Circle all that apply.)

NOTE: To be included, the study should specify the components prior to the results section.

1- academic self-concept
2- achievement self-concept (2)
3- behavior self-concept (3)
4- classroom self-concept (4)
5- cognitive self-concept (5)
6- emotional self-concept (6)
7- global self-concept (7)
8- happiness (8)
9- intellectual self-concept (9)
10-moral self-concept (10)
11-peer self-concept (11)
12-physical ability (12)
13-physical appearance (13)
14-physical, general (14)
15-satisfaction (15)
16-significant others self-concept (16)

17-school self-concept (18)
18-school subject self-concept (e.g. math, English) (19)
19-social self-concept (20)
20-other self-concept (21)
21-family self-esteem (22)
22-global self-esteem (23)
23-moral self-approval (24)
24-parental acceptance/self-esteem (25)
25-peer self-esteem (26)
26-power, control, self-determination (27)
27-school self-esteem (28)
28-other self-esteem (29)

29-none of the above identified (30)

3. Is the intervention intended to enhance low-levels of self-esteem/self-concept or maintain healthy development? (Choose one answer).

NOTE: Indicate #2 if a random sample of a population is used without previous knowledge of level of self-esteem. #2 should also be used for "at-risk" populations, if previous level of SE or SC is not part of the criteria for inclusion of study. Describe the "at-risk" population on the answer sheet.

1=enhance low levels (31)
2=maintain healthy development
3=both enhance and maintain
4=does not specify

4. What is the intervention's theoretical basis? (Circle all that apply.)

1-unidimensional theory of self-esteem (SE) or self-concept (SC) (32)
2-taxonomic theory of SE or SC (33)
3-hierarchical theory of SE or SC (34)
4-multi-dimensional theory of SE or SC, but not taxonomic or hierarchical (35)
5-other type of theory of SE or SC (36)
6-non SE or SC theory (37)
7-previous research finding(s) (38)
8-hypothesis generated by current authors (39)
9-unknown (40)
10-DO NOT USE (41)

11-previously published intervention used (42)

5.Of the characteristics of self-esteem and self-concept indicated below, which characteristics, if any, are included in the intervention's theoretical basis?

(Circle all that apply, but include only those clearly specified in the study.)

1- multi-dimensional (43)
2- self-esteem as an evaluative component of self-concept (44)
3- self-concept as a cognitive component (45)
4- self-esteem as idiographic, i.e. evaluation of self-concept based on individual salience of various components (46)
5- relatively stable, but changeable under certain circumstances (47)
6- none of the above are specifically included and/or identified (48)
7- previously published intervention used (49)

6. Does the intervention operationally define its constructs of self-esteem and/or self-concept? If the intervention specifies a measure as its operational definition of self-esteem or self-concept, is a rationale provided for the particular measured used? (Choose one answer.)

1=yes (50)
2=no
3=measure specified as definition, no rationale provided

7.Which pathways or mediators does the intervention's theoretical basis articulate as important to changing the targeted construct?

(Circle all that apply, but include only those that are clearly specified as part of the theory.)

1- affect (51)
2- beliefs (52)
3- cognition (53)
4- societal/cultural influences/expectations (54)
5- (dis)confirmatory messages, social evaluations (55)
6- individual interpretation of messages/interpretation of feedback (56)
7- locus of control (57)
8- self-complexity (58)

9- self-consistency (59)
10-self-enhancement (60)
11-self evaluations (61)
12-self-verification (62)
13-other variable identified as a mediator (63)
14-no mediators included in the theoretical basis (64)
15-published intervention used (65)
16-intervention uses well-known theories (66)
17-no theoretical basis specified (67)

8.Which mediators does the intervention incorporate in its program?

(Circle all that apply, but include only those that are clearly specified as part of the treatment.)

1- affect (68)
2- beliefs (69)
3- cognition (70)
4- societal/cultural influence/expectations (71)
5- (dis)confirmatory messages, social evaluations (72)
6- individual interpretation of messages/interpretation of feedback (73)
7- locus of control (74)
8- self-complexity (75)
9- self-consistency (76)
10-self-enhancement (77)
11-self evaluations (78)
12-self-verification (79)
13-other variable identified as a mediator (80)
14-no mediators incorporated in the intervention (81)
15-published intervention used (82)
16-intervention uses well-known theories (83)

9.Does the intervention offer empirical or theoretical justification for the length of its program? (Choose one answer.)

1=yes (84)
2=no
3=published program used, no justification offered

10.Does the intervention offer empirical or theoretical justification for the intensity of its program? (Choose one answer.)

1=yes (85)

2=no
3=published program used, no justification offered

Developmental evaluation criteria (86-129)

11. What are the particular age groups or transitional periods targeted in the intervention?

(Circle all that apply.)

1- toddler (up to 2 years) (86)
2- early childhood (3-5 years, preschool, kindergarten) (87)
3- middle childhood (6-10 years, 1st grade-5th grade) (88)
4- pre-adolescence (11-12 years, 6th-7th grade) (89)
5- adolescence (13-18 years, 8th-12th grade, freshman in college) (90)
6- transition from kindergarten to 1st grade (early childhood) (91)
7- transition to junior high (pre-adolescence) (92)
8- transition to high school (adolescence) (93)
9- other transitional period (94)
10-other population (e.g. parent, teachers) ... Note: if target population is no the child, still circle the children's ages if provided (95)
11-unknown (96)

12. Which developmental processes does the intervention address?

(Circle all that apply, but indicate a positive response only if the intervention specifically states its inclusion.)

toddler (total=3; >1/2 = 2)
1- recognition of own features and characteristics (97)
2- understanding of concrete, physical consequences of behavior (98)
3- understanding of self as a separate entity (99)
4- other developmental process identified (in the intervention) as occurring during this age period (100)

early childhood (total=4; >1/2 = 2)

5- differentiation of self based on physical, observable characteristics and competencies (101)
6- differentiation between own thoughts and other person's thoughts (102)

7- self-control (103)
8- other developmental process identified (in the intervention) as occurring during this age period (104)

middle childhood (total=11; >1/2 = 6)

9- awareness and interpretation of other's reactions to own behavior (105)
10-awareness and identification of affect (106)
11-balancing social involvement and individuality, i.e. recognizing individuality and distinctness while maintaining social ties (107)
12-development of empathy (108)
13-identification with reference group (109)
14-internalization of societal expectations (110)
15-interpretation of feedback and incorporation into sense of self (111)
16-realistic appraisal of self (112)
17-self-control (113)
18-social comparison (114)
19-self-reflection (115)
20-other developmental process identified (in the intervention) as occurring during this age period (116)

pre-adolescence and adolescence (total=7; >1/2 = 4)

21-adolescent change from importance of family acceptance to peer acceptance (117)
22-development of self-consciousness (118)
23-differentiation of self based on abstract, psychological characteristics (119)
24-integration of ideal versus real self (120)
25-identification of personal beliefs (121)
26-maintaining continuity of self, i.e. integrating past, present and future selves (122)
27-maintaining sense of self-esteem (123)
28-other developmental process identified (in the intervention) as occurring during this age period (124)

29-developmental process identified (in the intervention) without mention of critical age period (125)

30-no developmental process identified in description of program (126)
31-published program used (127)
32-well-known theories used as basis for program (128)

13.If the intervention focuses on self-esteem, does it target only children eight years or older (3rd grade or higher)? (Choose one answer.)

1=yes (129)
2=no
3=n/a, children eight or older or SC is focus
4=unknown, if target construct is unknown and children < 8 y.o.

Methodological evaluation criteria (130-220)

14.How many self-concept or self-esteem measures are used (include subscales of the same measure as 1 measure)? Write the number to tens (e.g. 01, 02, ...) (130)

15.What measures of self-concept or self-esteem are used in the intervention? (Circle all that apply.)

1- Coopersmith Self-Esteem Inventory (131)
2- Perceived Competence Scale for Children (132)
3- Piers-Harris Children's Self-Concept Scale (133)
4- Rosenberg Self-Esteem Scale (134)
5- Tennessee Self-Concept Scale (135)
6- Other published measures (136)
7- Unpublished measures (137)

15a. If "7", are reliability information reported?
1=yes (138)
2=no
3=not applicable

15b. If "7", are validity information reported?
1=yes (139)
2=no
3=not applicable

15c. If "7", what ages do authors report measures normed for? (Circle all that apply.)

1- toddler (up to 2 years) (140)
2- early childhood (3-5 yrs, preschool, kindergarten) (141)
3- middle childhood (6-10 yrs, 1st-5th grade) (142)
4- pre-adolescence (11-12 yrs, 6th-7th grade) (143)
5- adolescence (13-18 yrs, 8th-12th grade, freshman in college) (144)
6- no normed ages provided (145)

16. What dimensions of self-esteem or self-concept do the instruments used in the study measure (refer to Table 1)?

(Circle all that apply, but for measures not described in Table 1, indicate only those dimensions that are clearly specified in the intervention.)

1- academic self-concept (146)
2- achievement self-concept (147)
3- behavior self-concept (148)
4- classroom self-concept (149)
5- cognitive self-concept (150)
6- emotional self-concept (151)
7- global self-concept (152)
8- happiness (153)
9- intellectual self-concept (154)
10-moral self-concept (155)
11-peer self-concept (156)
12-physical ability (157)
13-physical appearance (158)
14-physical, general (159)
15-satisfaction (160)
16-significant others self-concept (161)
17-school self-concept (162)
18-school subject self-concept (e.g. math, English) (163)
19-social self-concept (164)
20-other self-concept (165)

21-family self-esteem (166)
22-global self-esteem (167)
23-moral self-approval (168)
24-parental acceptance/self-esteem (169)

25-peer self-esteem (170)
26-power, control, self-determination (171)
27-school self-esteem (172)
28-other self-esteem (173)

17. What theoretical characteristics do the measures used in the intervention incorporate (refer to Table 1, if needed)?

(Circle all that apply.)

1- multi-dimensional (174)
2- self-esteem as an evaluative component of self-concept (175)
3- self-concept as a cognitive component (176)
4- self-esteem as idiographic, i.e. evaluation of self-concept based on individual salience of various components (177)
5- relatively stable, but changeable under certain circumstances (178)
6- none of the above specified as incorporated (179)

18. Which of the following mediators or process variables are measured? (Circle all that apply.)

1- affect (180)
2- beliefs (181)
3- cognition (182)
4- cultural influence (183)
5- (dis)confirmatory messages (184)
6- individual interpretation of messages/interpretation of feedback (185)
7- locus of control (186)
8- self-complexity (187)
9- self-consistency (188)
10-self-enhancement (189)
11-self evaluations (190)
12-self-verification (191)
13-other variable identified as a mediator (192)
14-none of the above mediators are measured (193)

19. Which of the following correlated variables does the study measure? (Circle all that apply.)

1- age (194)
2- gender (195)

3- ethnicity/cultural background (196)
4- socio-economic status (SES) (197)
5- academic achievement (198)
6- classroom environment (199)
7- family environment (200)
8- school environment (201)
9- other variable hypothesized to be correlated to self-esteem or self-concept (202)
10-none other correlated variables measured (203)

20.If the target population is younger than eight years (younger than 3rd grade), does the study disregard any measures of self-esteem? (Choose one answer.)

1=yes (204)
2=no
3=target population at least 8 years old or no self-esteem measure used

21.What type of special training do the intervention leaders receive?

(Circle all that apply.)

1- didactic instruction (205)
2- role-play (206)
3- instruction manual (to read on own) (207)
4- other related materials (to read on own) (208)
5- other type of training (209)
6- training mentioned, type not specified (210)
7- training not mentioned (211)
8- published intervention used (212)
9- training stated as not necessary (213)

22.Does the intervention indicate use of standardization procedures? (Choose one answer.)

1=yes (214)
2=no

23. What presence of "checks" of adherence to the intervention and/or standardization procedures does the intervention employ?

(Circle all that apply.)

1=unplanned observations	(215)
2=planned observations	(216)
3=video/audio recording	(217)
4=use of co-leaders	(218)
5=other evidence of adherence	(219)
6=no evidence of adherence	(220)

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APPROVAL SHEET

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The final copies have been examined by the director of the thesis and the signature which appears below verifies the fact that any necessary changes have been incorporated and that the thesis is now given final approval by the Committee with reference to the content and form.

The thesis is therefore accepted in partial fulfillment of the requirements for the degree of Masters of Arts.

March 30 1995
Date

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