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THE IMPACT OF TWICE-EXCEPTIONALITY ON SELF-PERCEPTIONS

by

Jennifer Keely Kauder

An Abstract

Of a thesis submitted in partial fulfillment
of the requirements for the Doctor of Philosophy degree
in Psychological and Quantitative Foundations
in the Graduate College of
The University of Iowa

July 2009

Thesis Supervisors: Clinical Professor Sam V. Cochran
Assistant Professor Megan Foley Nicpon

ABSTRACT

The purpose of the present study was to examine the self-perceptions of gifted individuals who have a disability that impacts their ability to learn and/or express knowledge, a population known as "twice-exceptional." Twice-exceptional participants were compared to gifted participants without disabilities to determine whether they differed in their self-perceptions. The self-perceptions that were measured in this study were self-esteem, global self-concept, academic self-concept, and sense of inadequacy.

Scores from the Behavior Assessment Scale for Children—2nd Edition (BASC-2) and the Piers Harris Children's Self-Concept Scale—2nd Edition (Piers-Harris 2) from school–age youth (n = 97) between ages 7 and 17 were used in the present study. Participants included 40 gifted youth, 29 gifted youth with learning disabilities, and 28 gifted youth with Attention-Deficit/Hyperactivity Disorder (ADHD).

Correlations that were calculated among age, gender, and scales measuring self-esteem, global self-concept, and sense of inadequacy for each group of twice-exceptional participants (G/ADHD, G/LD) revealed that neither age nor gender was significantly correlated with the three measures of self-perception. Self-Esteem and Total Self-Concept were positively correlated for each category of twice-exceptional participants, and Sense of Inadequacy was negatively correlated with the former two measures.

Gifted participants with learning disabilities were significantly different from gifted participants without disabilities on Self-Esteem, Intellectual and School Status (a measure of academic self-concept), and Sense of Inadequacy. Gifted youth reported higher levels of self-esteem and academic self-concept, and lower levels of sense of inadequacy. Gifted youth with ADHD were not significantly different from either

comparison group. All three groups reported scores in the average range, with the exception of Intellectual and School Status. On this measure, gifted participants without disabilities reported scores in the above average range.

Within the entire sample of participants, Interpersonal Relations and Sense of Inadequacy were found to predict 61% of the variability in Total Self-Concept Scores. Research and practice implications of the findings from these analyses were discussed.

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CERTIFICATE OF APPROVAL

PH.D. THESIS

This is to certify that the Ph.D. thesis of

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CHAPTER 1

INTRODUCTION

Respect for and protection of the dignity and civil rights of all individuals have been the foundation of the United States since its inception, although historically this has proven to be more of a guiding philosophy than actual practice. For centuries, many people have fought to have the rights of all United States citizens recognized in and upheld by the United States Constitution. The 1950s and 1960s were characterized by civil disobedience and social uprisings that emphasized the need for change in societal acceptance of discrimination toward African Americans. Other groups who had experienced systemic discrimination based on gender, race, religion, and sexual orientation also increased pressure on those holding power to put an end to legally and culturally sanctioned oppression. While there had been some recognition that persons with disabilities were among those citizens who were regularly denied civil rights during the first half of the 20th century, the events of the 1960s provided momentum for the disability rights movement. Persons with disabilities became increasingly involved in self-advocacy, and the focus of rehabilitation shifted from trying to "fit" the individual into the existing social world to adapting the environment to accommodate the individual (Vash & Crewe, 2004).

It generally has been accepted among theorists and researchers alike that culture impacts individual development. For example, research presented before the Supreme Court in *Brown v Board of Education* (1954) suggested that discrimination had a negative impact on the psychological well being of African American children. Additionally, Meyers (1995) found that minority stress models, which describe the psychological

consequences of prejudice and discrimination on racial minority groups, applied to gay men. Reviews of studies examining psychological functioning in marginalized groups (e.g., women, racial minorities, sexual minorities) suggest that psychological well-being and one's sense of self are adversely impacted by repeated reminders of one's membership in a stigmatized group (Steele, 1997; Sue & Sue, 2003; Worrell & Remer, 2003).

Rationale for Study

Repeated reminders of socially accepted and tolerated prejudicial attitudes may be internalized, regardless of group membership. Given the long-standing history of discrimination against persons with disabilities, internalized oppression (i.e., holding negative beliefs about one's own group status) found among members of other minority groups is likely present in persons with disabilities as well (Cramer & Gilson, 1999; Smart, 2001; Vash & Crewe, 2004). Because internalized oppression is based on the self-application of prejudicial attitudes and impacts one's perceived identity, one potential way of measuring this construct is by examining self-perceptions, such as self-esteem and self-concept. Additionally, self-esteem and self-concept have been linked to an individual's developing sense of identity (Vignoles, Regalia, Manzi, Golledge, & Scabini, 2006).

Self-conceptions are believed to develop throughout childhood and adolescence, and can impact emotions, behaviors, and levels of motivation (Piers & Herzberg, 2002). While self-beliefs tend to be fluid, and therefore revisable with new experiences, they are relatively stable in adults. Given that self-perceptions tend to be more amenable to change in children and adolescents, it may be beneficial to examine these beliefs in

primary and secondary school students in order to amend inaccurate and potentially harmful perceptions. (Bandura, 1999). Research on children, adolescents, and young adults with hidden disabilities (primarily learning disorders and ADHD, two relatively common disabilities among this age group) has suggested the presence of negative self-perceptions (e.g., Dole, 2001; Heyman, 1990; Kaidar, 2004; Reis, Neu, & McGuire, 1997; Roberts, 1994; Rothman & Cosden, 1995; Tabassam & Grainger, 2003). It should be noted that other studies have suggested negligible differences in self-conceptions between students with disabilities and students without disabilities (e.g., Beach, 2003).

While some groups are deemed less socially desirable or acceptable, other groups are seen as socially valued. These groups tend to hold a relatively privileged status in society (e.g., Caucasian, male, higher socioeconomic status, higher level of education, etc.). Individuals who identify with a valued group may experience an increased sense of self-esteem (Sue & Sue, 2003).

Given the vast number of potential group identities, it is likely that one individual may identify (or be identified) with groups that are valued and also with groups that are stigmatized. A sense of identity is often impacted by several factors, including situational contexts, visibility of the identity/group membership, personal standards, and cultural standards (Bandura, 1999; Worrell & Remer, 2003). While existing theories of identity development have incorporated the psychological impact of possessing multiple minority statuses, or possessing a valued status (e.g., Caucasian) and a devalued status (e.g., sexual minority), there has been little attention given to individuals whose dual group membership is defined by the same general construct (e.g., cognitive abilities).

Purpose of Study

The purpose of the present study was to examine the psychological impact of having a valued status (academically gifted) and a devalued status (learning disability or ADHD), as both of these statuses are defined and impacted by cognitive abilities. Research on individuals who are academically gifted and possess a learning disability or ADHD is limited. The existing research suggests that gifted and/or high achieving students with learning difficulties experience unique challenges within educational, interpersonal, and psychological contexts (Pliner, 1999; Reis et al., 1997; Roberts, 1994; Zentall, Moon, Hall, & Grskovic, 2001), including low self-concept, low self-esteem, and awareness of parent and teacher frustration with them.

The goal of this study was to develop a better understanding of whether simultaneously possessing cognitive strengths and limitations impacts the self-perceptions and the developing identity of children and adolescents. The study was also designed to examine whether personal factors, such as age and gender, influence self-perceptions within this population, as suggested by previous studies of self-concept with gifted children (Lewis & Knight, 2000), gifted children with ADHD (Roberts, 1994), and children with ADHD (Kaidar, 2004). Finally, this study attempted to address the question of whether prior knowledge and/or accommodation of (1) the specific disability and/or (2) giftedness impacted respondents' self-perceptions.

CHAPTER 2

LITERATURE REVIEW

The quest for self-knowledge and self-definition can be traced as far back as ancient Greece, where the inscription "Know Thyself" is found at the Oracle of Delphi. Generations later, this sentiment is echoed in the words of Carl Jung: "Who looks outside, dreams; who looks inside, awakes." These quotes capture the essence of the search for something that can seem both obvious and elusive—identity. The term "identity" has multiple definitions, depending on where one looks. Sociology, psychology, philosophy, and even mathematics—all have defined and refined what this construct means. The most basic definition, found in the American Heritage Dictionary (2000), defines identity as "the distinct personality of an individual regarded as a persisting entity; individuality" (p. 871).

The process of defining oneself as a separate and distinct individual begins at a very young age (Durkin, 1995). While the search for one's self, or identity, seems to be personal, and thus private by nature, in actuality it is a rather dynamic and social process. Some theorists (e.g., Erikson, Bandura) have posited that identity development is a life-long process that involves the interaction of psychological, interpersonal, and sociocultural factors (Bandura, 1999; Miller, 2002). As individuals mature and gain new experiences, one's identity becomes increasingly differentiated (Miller, 2002).

There are a multitude of individual and sociocultural factors that interact with one another to have an impact on one's developing sense of self. Some of these factors include gender, age, ethnicity, ability status, sexual orientation, and socioeconomic status. The identity development literature has examined the process of identity development for

a number of groups of individuals, including ethnic minorities, sexual minorities, and persons with multiple minority status (e.g., a Korean-American lesbian woman). Disability shares a number of similarities with other minority groups (Olkin, 1999a) and, within recent years, a few studies have focused on the identity development of individuals with physical disabilities (Grant, 1996), as well as those with learning disabilities (Dole, 2001; Pliner, 1999). Although there is no known model of identity development for gifted individuals, Levy and Plucker (2003) suggest that there are enough shared experiences among the gifted population to constitute a definition of giftedness as a distinct—even cultural—group.

The purpose of this chapter is to examine the impact of being gifted and having a disability, a population known as "twice-exceptional," on identity development from a social cognitive perspective. First, an overview of identity and the multifaceted nature of self-definitions will be provided. This will be followed by a brief synopsis of social cognitive theory. Then, the relationship between identity development and social cognitive theory will be discussed. Next, the meanings behind giftedness and disability as distinct groups representing exceptions from the general population will be explored. This will be followed by a discussion of the literature on twice-exceptional individuals and similarities among them. Finally, the chapter will be concluded with an examination of how the process of self-definition among twice-exceptional persons can be explained from a social cognitive perspective.

Identity Development: Defining the Self

Identity is a multifaceted construct that is reflective of one's self-understanding and can be self-applied (i.e., one chooses to identify with a particular characteristic or group). Yet, it may also represent the perceptions of others and thus be imposed on the individual. Identity exists on individual, group, and universal levels (Sue & Sue, 2003). For example, the same individual may identify as a satirical writer who enjoys traveling and listening to classical music (individual level); as a Jewish woman who has post-polio syndrome (group level); and as a human being (universal level). This combination of personal and social identities interacts in a manner that serves as the fodder for self-definition. The following section will focus on multiple aspects that impact the process of self-definition. First, the components implicated in personal definitions of identity will be outlined, followed by a discussion of social and cultural influences on identity.

Factors Influencing Personal Identities

When talking about the construct "identity," it is almost impossible to avoid terms that begin with "self," such as self-esteem, self-concept, self-knowledge, and self-efficacy. The concept of "self" seems to imply a singular entity. However, the complexity of multiple and interacting identities (e.g., personal and social; individual, group, and universal) is also found in discussions of the "self." While the self is a unifying structure—there is only one "you"—there are numerous ways one can conceive of and define oneself (Baumeister, 1995). This is reflected in the many characteristics with which one can identify (e.g., professional, social, and cultural categories) and the many descriptive terms, or constructs, used to refer to the self. The main self-constructs

discussed in the literature include self-esteem, self-concept, and self-efficacy. The following section will include definitions of these constructs and their relationship to identity.

Self-Esteem

Self-esteem is typically considered a global construct and reflects feelings or judgments of one's overall self-worth (Bandura, 1997; Bong & Clark, 1999). While self-esteem has been shown to fluctuate due to temporary circumstances, it generally is considered relatively stable (Baumeister, 1995). The role of self-esteem as an integral aspect of identity was examined across four studies conducted with participants representing a wide range of ages in two countries (Vignoles, Regalia, Manzi, Golledge, & Scabini, 2006). Participants in each study (n = 82, 479, 96, and 115, respectively) completed questionnaires, written and/or adapted by the first author, regarding variables thought to motivate identity construction (e.g., efficacy, meaning, belonging, etc.), generated identity elements, and rated these elements in terms of the identified identity motives. For example, for each identity, participants would rate their degree of efficacy for, meaning derived from, and feelings of self-esteem associated with that identity. The results of each smaller study were examined and contributed to the development of the subsequent studies within the larger project. The authors found that self-esteem had a direct influence on how an individual defined his or her identity and was related to one's positive feelings about the multiple aspects that comprise the sense of self.

In a review of the literature on self-structures, Bong and Clark (1999) note that self-esteem and evaluations of oneself are often confused. They make the distinction that self-evaluations are vast and occur across many domains, whereas self-esteem is

reflective of an overall perception of one's worth. That is, self-esteem may be seen as one's perception of the composite of those multifaceted self-evaluations. Self-evaluations are more akin to self-concepts, which comprise self-esteem.

Self-Concept

The term "concept" generally refers to an idea or an understanding of a thought or a principle. Therefore, the term self-concept suggests an idea or understanding of oneself. Bong and Clark (1999) note that self-concept consists of self-perceptions that incorporate both cognitive and affective information. That is, self-concept is the combination of (1) self-knowledge and/or descriptive self-appraisals (e.g., Can I do 'x' well?), and (2) judgments of one's worth or value based on one's perceived attributes (p. 141). While self-esteem is typically a global evaluation of self-worth, an individual can have a myriad of self-concepts. For example, an individual can have a self-concept that applies to performance in social situations and one that applies to performance in academic settings.

A positive evaluation in one domain does not necessitate positive evaluation in all domains. A student may have a generally positive academic self-concept, indicative of self-approval of his or her perceived academic performance, while possessing a negative self-concept regarding his or her perceived physical attributes or peer relationships. A positive or negative self-evaluation in a certain area can be influenced by both personal standards and socially constructed standards (Bong & Clark, 1999). Because self-concept includes the evaluation of perceived competence, it is sometimes confused with self-efficacy, which Bandura (1997) defines as an assessment of one's competence within a specific situation or task. Bandura differentiates between the two constructs by noting

that self-efficacy is a question of whether or not the individual believes he or she "can" perform a task or set of tasks, while self-concept includes the evaluation of self-worth for that particular domain.

Self-Efficacy

Self-efficacy and self-concept are sometimes substituted for one another in the literature, despite evidence that they are two distinct constructs (Choi, 2005; Lent, Brown, & Gore, 1997), which may be related to measurement issues arising from lack of a consistent and/or clear definition (Bong & Clark, 1999). Reviews of the theoretical and empirical literature on these two constructs, and specifically on academic self-efficacy and academic self-concept, demonstrate that the cognitive appraisal involved in self-efficacy is based on a comparison between one's perceived abilities and one's past performances in similar situations (Choi, 2005). Therefore, in self-efficacy, the self-evaluation is generally focused on the individual. An exception to this rule occurs when one is presented with a novel task, and thus does not have past performance data on which a comparison can be based (Bong & Clark, 1999). Self-evaluations that impact one's self-concept consistently involve comparisons with others' actual or perceived performances (i.e., normative standards) and one's appraisal of one's own capabilities (Choi, 2005). This suggests that while the competence assessment involved in self-efficacy is a separate construct, it nevertheless has a significant impact on self-concept (Bong & Clark, 1999).

Bandura (1997) suggests that self-efficacy, like self-concept, can be measured within a number of different domains (i.e., academic, physical, social, emotional) as individuals become increasingly exposed to different experiences and develop different

abilities. Perceived efficacy has been proposed to be an essential component in defining one's identity. Specifically, individuals feel positively about those aspects of their identities for which they perceive a solid sense of efficacy (Vignoles et al., 2006). In addition to novel tasks, Bong and Clark (1999) report that social comparison via observation can impact perceived self-efficacy in ambiguous situations. When an individual perceives that he or she is different from the social comparison group, his or her perception of efficacy for performing a given task may be impacted (e.g., a tall child observes smaller children having difficulty hitting a piñata at a party and believes this task will be easier given his or her height). This may have implications for one's developing sense of self, depending on the importance the individual assigns to the ability to perform the task in question.

Identity as a Measurable Construct

Given that personal identity is an abstract concept and is therefore difficult to measure, for the purposes of this dissertation identity will be defined as a collection of an individual's self-perceptions. Self-esteem, self-concept, and self-efficacy are self-perceptions and distinct constructs that are related to identity (Bong & Clark, 1999; Choi, 2005; Lent et al., 1997; Vignoles et al., 2006). Because self-efficacy is applied to very specific domains (e.g., perceived efficacy within addition, subtraction, multiplication, and division problems within the larger domain of arithmetic), it was not directly measured as a part of this dissertation. Instead, multiple aspects of self-concept were assessed, as was the more global construct of self-esteem. Specifically, within the context of this paper,

self-perceptions consisted of measures of self-esteem, overall self-concept, academic self-concept, and feelings of inadequacy.

Social and Cultural Identities

Erikson emphasized the importance of both personal and social identities when he posited that identity development centers on an understanding of oneself and one's culture (Miller, 2002). Within a particular culture (e.g., United States), there are many subcultures and groups with which individuals identify. Each culture and group tends to have associated standards that can impact values, attitudes, and expectations. These specific group identities often help to shape the manner in which individuals experience and assign meaning to the world, as well as how others perceive group members (Worrell & Remer, 2003). Typically, people have multiple identities (e.g., a Jewish, American, woman) that interact with one another to create a sense of uniqueness or individuality. However, not all of these identities hold equal importance, for the individual or for observers. The salience of any one identity depends on several factors, including the specific situation, the visibility of the identity, and whether that identity holds a valued or devalued status within that situation (Worrell & Remer, 2003).

Value judgments regarding status are most often determined by the dominant culture. Essentially, that which is associated with the dominant culture is considered "normal" and acceptable. Therefore, a group or subculture that differs from the majority culture (i.e., the culture holding the power to define normal) and its values may be stigmatized or devalued. This likely has an impact on those individuals who either self-

identify or are identified by others as belonging to a minority group or culture (Sue & Sue, 2003; Worrell & Remer, 2003).

Sue and Sue (2003) noted the potential adverse effects of repeated reminders, via both systemic processes and interpersonal interactions, of the valued status of the majority group and/or the inferior status of minority groups on individuals with a racial and/or cultural minority status. They reported that when an individual identifies with a group that is socially valued, he or she may feel empowered and gain self-esteem. However, when an individual is associated with a stigmatized group, either voluntarily or when imposed by others, he or she may experience illness, a sense of inadequacy, and negative self-conceptions (Sue & Sue, 2003; Worrell & Remer, 2003).

Not all groups with stigmatized statuses are readily identifiable to observers. It has been suggested that gay, lesbian, and bisexual persons and individuals with hidden disabilities (e.g., learning disabilities, chronic fatigue syndrome) are two groups who potentially experience adverse psychological consequences that may impact identity development as a result of their "invisible" membership in stigmatized groups (e.g., Cramer & Gilson, 1999; Meyer, 1995; Pliner, 1999).

Cramer and Gilson (1999) identified several similarities among sexual minorities and persons with disabilities, including being raised in a family that does not necessarily share the same cultural experiences; experiencing the legal denial of civil rights based on group status, although persons with disabilities were granted civil rights protections with the passage of the Americans with Disabilities Act (ADA); and having to choose between disclosing a stigmatized status or "passing" as either a person without a disability or as a heterosexual individual. Given the above information, it appears that the potential

negative psychological effects of belonging to a stigmatized group impact individuals regardless of the visibility of group status.

Numerous identity development models have been generated in an attempt to examine reported differences in self-knowledge among various ethnic and cultural groups and to acknowledge the role of the environment in self-definition. Sue and Sue (2003) note that these models all describe a similar process of identity development, lending credibility to the argument that individuals who are members of devalued groups are impacted by the dominant sociopolitical culture. Specifically, the authors emphasize that identity development for members of groups devalued by the dominant culture involves a complex process of understanding the self within the contexts of the identified culture/group, the dominant culture, and the unequal relationship between those two cultures (p. 214).

The shared similarities among stigmatized groups, regardless of visibility, further support Sue and Sue's (2003) assertion that devaluation by the environment impacts the well-being of targeted group members. Thus, when considering the process of identity development, it is imperative to consider multiple contextual influences, including variables associated with the individual (e.g., biological factors, cognitions), the social environment, and cultural or systemic factors (Cramer & Gilson, 1999).

Identity Development as a Model

Many traditional theories of human development have often focused on one context (e.g., the individual, society/culture) and utilized stage models as an explanatory framework. Stage models, in general, posit that individuals must acquire certain abilities and traits or resolve certain conflicts within a particular stage before successfully moving

to the next, linearly sequenced, stage. The stages are universal and successful completion of each stage is deemed necessary in order to achieve healthy development. That is, several proponents of stage theories acknowledge that an individual can progress to the next level of development while having "unfinished business" within a previous stage; however, the individual has not achieved optimal or healthy development (Miller, 2002, p. 121).

Stage models have been applied to the development of cognitive abilities (e.g., Piaget), psychosexual and personality functioning (e.g., Freud), and identity (e.g., Erikson). Historically, a number of these developmental models have focused primarily on the individual at the expense of acknowledging other contextual influences (Cramer & Gilson, 1999). However, the process of self-definition is impacted by a number of factors beyond the individual. Personal traits, social roles, and cultural expectations are all examples of the many forces that shape the definition of self (Baumeister, 1995). Additionally, stage models have been criticized for describing levels of development that are fixed categories, implying only forward movement, rather than categories that can be moved through fluidly based on environmental and contextual considerations (Sue & Sue, 2003).

Recent cultural identity development models have recognized the limitations of traditional stage models, emphasizing instead conceptual frameworks that describe a fluid process of moving among various stages of identity formation (Sue & Sue, 2003). Models with this emphasis, such as the Racial/Cultural Identity Development Model (R/CID; Sue & Sue, 2003) and the stage model of adaptation to disability (Livneh, 1986a, 1986b, as cited in Smart, 2001), provide guidelines to help individuals (as clients) and

providers (e.g., therapists) gain a better understanding of clients' attitudes and experiences.

Although these recent models still imply a linear sequence to developmental stages, the emphasis is on the *process* of developing one's self-understanding within a complex network of individual, sociological, and environmental factors. The individual is believed to move between, rather than simply moving forward through, these stages of self-understanding as he or she encounters new life experiences and/or stressors (Smart, 2001; Sue & Sue, 2003). While these models are valuable in accounting for *where* an individual may be regarding his or her self-definition, they do not offer explanations for *how* an individual engages in the fluid process of identity formation or development.

One theory of human development appears to offer an explanatory framework through which the process of identity development—*how* the process occurs—can be understood. Social cognitive theory integrates psychological, social, and cultural influences on individual development and emphasizes the reciprocal interactions within each of these influences. Furthermore, social cognitive theory acknowledges the fluid nature of development, such that new experiences can impact an individual's cognitions, behaviors, and environment. This framework has been applied to several aspects of development, including career and occupational identity (e.g., Social Cognitive Career Theory) and gender role development (Bandura & Bussey, 1999). Therefore, it appears to be a feasible framework through which the process of identity development can be viewed.

Social Cognitive Theory: An Overview

Social cognitive theory is an expansion of social learning theory, which posits that behaviors are learned through observation in addition to direct experience. Social cognitive theory incorporates the pivotal role of cognitions in learning, such as which events are observed, how the observer interprets and assigns meaning to events, and the manner in which events are integrated into the observer's perceptual framework (Miller, 2002). According to this theory, human behavior results from a dynamic interaction between individual factors (e.g., cognitions), one's behavioral patterns, and environmental influences (Bandura, 1999). Bandura notes that each of these factors has a varying influence on the individual and his or her environment depending on the activities in which the person engages, the specific parameters of the situation, and the social and cultural context. Each factor has an influence on, and is influenced by, the other factors. For example, an individual's cognitions (e.g., beliefs, values, goals) impact his or her behavior; the effects or consequences of the person's behavior, in turn, influence how he or she thinks and/or emotionally responds to an event (Bandura, 1999).

Individual Factors

Individual factors are comprised of several influences, including biology, affect, and cognition. Biological influences range from genetic predispositions for certain traits or abilities (e.g., diabetes, giftedness, learning styles) to physical characteristics (e.g., race, gender, physical stature). Affective influences refer to an individual's temperament and emotional responses. Cognitive influences consist of perceptions, beliefs, and values (Bandura, 1999). These personal factors influence the behaviors in which people engage, the choices they perceive and resulting decisions they make, and (without even

engaging in any behavior) can elicit differing reactions from others based on their physical characteristics and socially assigned roles (Bandura, 1999).

Behavioral Factors

Behaviors are the actions in which an individual engages. Behaviors can be active, such as physically doing or saying something, or passive (e.g., avoidance of a behavior, inaction). The consequences of one's actions have an impact on the environment, just as the environment influences the behaviors in which one engages (Bandura, 1999). Bandura emphasizes the reciprocal nature of this relationship, suggesting that behaviors can change the immediate environment, which then elicits additional behavioral responses. It should be noted that cognition is viewed as playing a role in this interaction as well, particularly in terms of how people are experiencing the effects of their actions and the motivation (or outcome expectations) underlying their behavior (Bandura, 1999). This is a major difference between social cognitive theory and traditional learning theories (Miller, 2002).

Environmental Factors

Environmental influences range from direct experience (e.g., interpersonal interactions) to observation from a distance (e.g., media) to larger, more impersonal societal structures (e.g., educational policies, institutionalized discrimination). Bandura (1999) recognizes that there are certain aspects of the environment that are unavoidable, which he termed the "imposed environment." Many of these imposed influences, including familial, educational, governmental, and economic systems, have an indirect influence on individuals via cognitive processes, such as beliefs about oneself, values,

goals, and emotional responses (Bandura, 1999). Essentially, while individuals may not have complete control over all aspects of their environment, Bandura posits that they do have control over the meaning they assign to events and how they choose to respond to the environment.

Social Cognitive Theory and Identity

Bandura (1999) conceptualizes personal identity as a set of self-identified characteristics that gives an individual a sense of who he or she ultimately is. He states that the process of self-definition begins in infancy, with simple actions (e.g., shaking a rattle) demonstrating that one has an impact on the environment (e.g., hearing the noise emitted from the shaken rattle). Throughout the maturation process, individuals learn that they are distinct beings separate from others and that they can have a unique effect on the environment (Bandura, 1994). Personal identity is largely constructed from the experiences people have, the meaning assigned to those experiences, and the ways in which people utilize that knowledge in the future.

Identity is also influenced by social factors. Hence, the way in which people perceive and respond to each other also impacts the developing sense of self (Bandura, 1999). In addition to interpersonal interactions, self-perceptions are formed through daily contact (direct or observed) with any number of social systems (e.g., familial, educational, occupational; Bandura & Bussey, 2004). The relationship between personal and social identities is one that is active and ongoing; as new experiences are encountered and new knowledge is gained, one's sense of identity is modified, adapted, and refined (Bandura, 1999). While identity is often referred to as a singular, monolithic entity, Bandura suggests that it is comprised of many facets. For example, one can have a sense

of who he or she is as a student, a sibling, a member of a minority group, and as a particular gender. These all comprise the individual's general sense of who he or she is as a person. The strength and salience of each identity likely varies according to the importance the individual places on these aspects of his or her self (Bandura, 1999).

The value placed on a specific identity is impacted by self-evaluative judgments. Individuals develop personal standards by observing how important persons in their lives have reacted to events (Bandura & Bussey, 1999). This may include how a significant person responded to his or her own behavior or the behavior of another. Social reactions may communicate the personal standards held by others, as well as cultural standards for appropriate behavior. The individual, then, engages in the process of self-evaluation for a particular behavior, desire, or goal when he or she weighs situational factors, his or her own personal standards, and cultural or societal standards (Bandura & Bussey, 1999).

As mentioned earlier, Bandura (1997) characterizes self-evaluations involving one's worth as a distinguishing feature between self-concept and self-efficacy. Self-efficacy typically involves a self-appraisal of one's perceived capabilities and, therefore, likely impacts the process of defining one's self. Self-efficacy beliefs have been implicated in shaping personal identity by influencing one's motivational levels (i.e., what opportunities are sought out and/or engaged in) and attributions (i.e., whether an event is perceived as being within one's control; Bandura & Bussey, 1999).

Self-efficacy beliefs can also be impacted on a group level. Bandura and Bussey, in a theoretical article reviewing the empirical literature on women and self-perceptions, asserted that women's low efficacy beliefs regarding traditionally male occupations reflected the internalization of cultural stereotypes rather than their actual abilities. This

suggests that stereotypes regarding a group's subordinate status within a dominant culture can have an adverse impact on individual group member's self-beliefs, which in turn may impact positive or negative feelings regarding that aspect of identity. Because self-efficacy appears to play an integral role in the formation of self-concept and identity, the following section will focus in more detail on the development of self-efficacy.

Self-Efficacy: The Foundation for Identity Development

Self-efficacy represents an individual's beliefs that he or she is capable of competently handling situations or tasks that arise in one's life. These beliefs impact one's thoughts, moods, and behaviors (Bandura, 1994) and have far-reaching consequences. Self-efficacy beliefs influence all aspects of one's life, such as beliefs about one's effectiveness as a student, employee, parent, friend, or spouse (Miller, 2002). A person with a strong sense of self-efficacy perceives difficulties as challenges and obstacles to be overcome; persists in meeting goals; and perceives failures as setbacks caused by insufficient effort, inappropriate strategy, or deficient skills that he or she will be able to acquire and develop (Bandura, 1994, 1999).

Bandura characterizes someone with a sense of low self-efficacy as perceiving difficult tasks as threats, attributing failure to lack of ability, and tending to dwell on barriers to achievement and other potentially negative outcomes. Therefore, someone who has developed a low sense of self-efficacy as an athlete over time likely does not have a strong identity as an athlete. This may or may not be troubling for that individual, depending on the importance he or she assigns to having a strong athletic identity. Bandura (1994) describes four main sources of self-efficacy: direct experience, vicarious experience, social persuasion, and emotional/physical states.

Direct Experience

One of the main ways an individual can develop self-efficacy beliefs is through direct experience (Bandura, 1999). When a person engages in an act and experiences success (mastery), his or her sense of self-efficacy is strengthened. However, if that individual perceives that he or she is unsuccessful, the result is a poor sense of self-efficacy (Bandura, 1994). This is particularly true if he or she is still in the developing phases of self-efficacy (Bandura, 1999).

Vicarious Experience

While mastery experiences provide the most direct pathway to self-efficacy (Miller, 2002), individuals can also acquire knowledge by observing others. Social modeling is particularly effective if the observer perceives the model to be similar to him- or herself (Bandura, 1994). When a model succeeds at a challenging task through perseverance, the observer tends to believe that he or she can also competently complete that task; similarly, if a model does not succeed, the observer may doubt his or her own capabilities to successfully engage in that task (Bandura, 1999). The greater the perceived similarity between the model and observer, the more likely self-efficacy will be affected (Bandura, 1994).

Social Persuasion

An individual is likely to persist at a challenging task if others instill in him or her the belief that he or she can successfully complete the task. Self-efficacy will be enhanced if the individual, after increasing or maintaining the amount of effort due to the persuasion of others, ultimately perceives that he or she has succeeded (Bandura, 1994).

Bandura specifies that persuaders are more likely to be influential and enhance an individual's sense of self-efficacy if they place that individual in a situation in which he or she will be successful.

Emotional/Physical States

Mood and physical states are another source of information that people consider when assessing their ability to perform a task (Bandura, 1999). An individual who experiences symptoms of anxiety or fatigue might perceive this as an indication that he or she cannot effectively handle his or her environment. Positive emotional or physical experiences tend to contribute to a strong sense of self-efficacy (Bandura, 1994).

Influences on the Development of Self-Efficacy

The sources of self-efficacy are a means through which information is provided to the individual, who then assigns meaning and establishes a set of rules regarding that information (Bandura, 1999). For example, if a student receives an "A" on a test after studying for several hours each day in the week prior to the test (e.g., a direct mastery experience), he or she may establish a connection that, in order to receive a high mark on subsequent tests, he or she must put forth a sufficient amount of effort in preparing for future tests.

However, there is more to the process of developing self-efficacy than the manner in which the information is conveyed. An individual can receive information from any of the sources mentioned above; that information can be provided through a number of variables, such as individual processes, interpersonal processes, and systemic/sociocultural processes. Put simply, one can develop a sense of self-efficacy

for interpersonal relationships: 1) directly, through an interaction with a friend, 2) vicariously, by observing an interaction between another person and that friend, 3) by receiving a "pep talk" from another person about one's ability to engage in a desired behavior with a friend, or 4) by judging his or her emotional state when thinking about or initiating an interaction with that friend.

Individual Processes

Specific individual traits and characteristics can have an impact on one's developing sense of self-efficacy. For example, physical appearance, temperament, and the relative ease or difficulty with which one can engage in activities—such as academic abilities or physical prowess—can influence an individual's perception of his or her capabilities (Bandura, 1994).

Interpersonal Processes

Individuals gain a sense of what they are capable of engaging in and what activities to avoid through interpersonal relationships. The family serves as the first model of interpersonal interactions and basis for social comparison (Bandura, 1994). As a child matures and is exposed to a wider variety of environments, peers take on an important role in the development of individual self-efficacy. Bandura explains that competent and successful peers serve as models for teaching new skills and for comparisons when evaluating one's perceived capabilities. Positive peer and family relationships can bolster and validate one's sense of self-efficacy. However, if one perceives others as rejecting, the subsequent low sense of self-efficacy can lead to timidity, social withdrawal, and sense that he or she is insignificant (Bandura, 1994).

Systemic/Sociocultural Processes

Individuals are exposed to a variety of systemic and sociocultural influences throughout their lives. Education is an example of a systemic influence. Educational experiences are a major influence on an individual's developing sense of self. School is the primary context in which individuals develop the necessary cognitive, social, and problem-solving skills to be successful (Bandura, 1994). Sexism is an example of a sociocultural influence on one's development. As Bandura and Bussey (1999) noted, women participants reported a low sense of self-efficacy for careers traditionally associated with men, despite having the capacity to perform the job duties.

Self-Definition Applied: When Your "Self" is the Exception

There are many aspects to one's developing sense of self, some of which are perceived positively and some negatively. The focus of this paper is on the group of learners called "twice-exceptional," a descriptive label that represents a mix of abilities and limitations that likely have a unique impact on how the learner views him- or herself. Prior to discussing the specific factors faced by twice-exceptional individuals, the construction of this label will be explored.

To be an Exception: Defining Difference

What does it mean to be considered an "exception"? "Exceptional" is defined as "unusual" (American Heritage Dictionary, 2000, p. 619) and, without a qualifying term such as "exceptionally *good"* or "exceptionally *bad,*" this can take on either positive or negative connotations. Strictly speaking, "unusual," and, thus, "exceptional," is

something that is different from the norm (Moon & Reis, 2004). Positively, this can be interpreted as having outstanding abilities in a particular area (e.g., musical skills, written expression) when compared to the "norm," or the level of ability that is usually demonstrated by the general population. Alternatively, differing from the "norm" can also be termed "deviant," in that a particular ability, behavior, or event deviates (i.e., moves away) from that which is considered typical or usual. While exceptional is often thought of more positively and deviant more negatively, essentially both terms encompass the same general idea: they represent that which is different from typical, or "normal," practices, customs, abilities, or behaviors. Put simply, without any value labels attached, when one is considered exceptional, he or she is considered different.

Types of Exceptions

The definition of "exception" is inherently linked to the definition of "normal." Therefore, that which is considered different likely varies according to the setting, the traits that are evaluated, and the evaluators. Whether a classification of "different" is deemed positive or negative often depends on the values of the individual(s) who holds the power to define (Smart, 2001). This is demonstrated in situations in which "normal" is not defined by numbers, such as a trait or behavior that occurs in the majority of people within a particular community or culture, but instead is defined by what is considered "natural," expected, or accepted. The following section will address two categories of exceptions within U.S. culture: giftedness (i.e., advanced abilities occurring within a numerical minority of the general population) and disability (i.e., limitations in particular areas of functioning not experienced by the normative population).

Giftedness

To be "gifted" is to be "endowed with great natural ability, intelligence, or talent" (American Heritage Dictionary, 2000, p. 742). Giftedness, which overall has a positive meaning or connotation, is considered an exceptionality (Moon & Reis, 2004). While there is not one accepted definition of what constitutes giftedness (Reis & McCoach, 2002), there is a general consensus that gifted individuals possess high ability in at least one area, such as a specific academic subject or creative area (Reis & Renzulli, 2004).

A Distinct Category

While gifted individuals and persons with relatively average abilities have quite a bit in common, there are a number of shared characteristics within gifted persons that, taken together, differentiate these two populations. Some of the traits that academically gifted individuals may possess include advanced verbal abilities, strong analytical skills, good memory, sense of humor, advanced problem solving abilities, a range of interests, creativity, strong reasoning skills, and task commitment/motivation (Frasier & Passow, 1994, as cited in Reis & McCoach, 2002; Moon & Reis, 2004).

Levy and Plucker (2003) suggest that academically gifted students have a qualitatively different experience from many of their same-age peers due to their advanced intellectual skills and the expectations others hold for their performance. Gifted adolescents report feeling different, although it is difficult to ascertain if this is solely due to the gifted label (Rimm, 2002). The experience of being different can bring both positive (e.g., maturity, independence, high self-concepts) and negative (e.g., perfectionism, loneliness, fear of failure) consequences for gifted individuals (Keiley, 2002).

Asynchrony

Asynchrony is the absence of synchrony, or simultaneous occurrence of events (American Heritage Dictionary, 2000, p. 1754). In the gifted literature, asynchrony refers to the varying rates of a child's cognitive, physical, and emotional development (Baum & Olenchak, 2002). Academically gifted children often experience discrepancies between their advanced intellectual abilities and their more average physical and/or emotional abilities, which can leave them feeling out of step with their age mates (Silverman, 2002). Asynchrony can pose a risk for certain social and emotional vulnerabilities. For example, a child's cognitive abilities (e.g., reading) may be more advanced than his or her physical abilities (e.g., writing), resulting in frustration (Terrassier, 1985, as cited in Silverman, 2002). Additionally, gifted children tend to experience anxiety about issues more commonly associated with older children's fears; however, they might not yet have the necessary skills to manage these fears (Baum & Olenchak, 2002).

Social and Emotional Functioning

Research on the effect of giftedness on social and emotional functioning has produced varied findings. Some studies suggest that gifted students are at greater risk for depression, suicidality, substance abuse, and delinquent behavior; however, other studies indicate that gifted individuals are at no greater risk for these difficulties than the general population (Keiley, 2002; Levy & Plucker, 2003; Reis & McCoach, 2002). While gifted individuals may not experience more difficulties than their typically achieving peers, they are at risk for social and emotional problems, such as perfectionism and

underachievement, if their specific academic and personal needs are not adequately met (Reis & McCoach, 2002).

Disability

The Americans with Disabilities Act (ADA) defines disability as a "physical or mental impairment that substantially limits one or more major life activities" (ADA, 1990). Physical and mental impairments can include a range of disorders, including physiological disorders, problems with neurological functioning, emotional or behavioral disorders, developmental disorders, and specific learning disabilities (ADA, 1990). The "average performance of the general population" is the gauge by which impairment is defined (Gordon & Keiser, 1998, p. 8). Given that disability is defined as something that differs from the norm, this category is also considered an exceptionaluty,

A Distinct Category

The ADA (1990) explicitly prohibits the discrimination of individuals with disabilities; however, the experience of stigma and institutionalized discrimination is still present. Disability is not viewed as a desirable characteristic within the dominant (non-disabled) society (Olkin, 1999b). Within recent decades, there has been a resurgence of defining disability as a social construct (e.g., Olkin, 1999b; Sternberg & Grigorenko, 2004). Essentially, this view posits that the problem of disability exists within the environment or social context (Olkin, 1999b). Societal values underlie the definition of what constitutes a disability; for example, a reading disability would not be relevant in a society where no one reads (Sternberg, 2004).

Individuals with disabilities share experiences with other minority groups, such as stigma, discrimination, social isolation, and denial of civil rights (Olkin, 1999a). Persons

with disabilities represent the largest minority group in the United States (Olkin, 1999b, p. 16). As such, there is extensive diversity within this group. While there are specific impairments associated with particular disabilities, and variations of those impairments even within a particular disability category, there are similarities among persons with disabilities often referred to as the "disability experience" (Olkin, 1999b, p. 3). These shared experiences often serve as a connecting point among individuals with disabilities and speak to the pervasiveness of the stigma the non-disabled world assigns to persons with disabilities (Olkin, 1999b).

Specific Disabilities in this Paper

Examining the influence of every disability category on the self-development of gifted individuals is beyond the scope of this paper. The federal government lists 13 disability categories that qualify students for accommodations within the educational system. Those categories include specific learning disabilities, speech or language impairments, mental retardation, multiple disabilities, hearing impairments, orthopedic impairments, other health impairments, visual impairments, autism, deaf-blindness, traumatic brain injury, and developmental delay (U.S. Department of Education, 2001). According to data from the 2000-2001 academic year, the majority of students between ages 6 to 21 fall under the specific learning disabilities category. The "other health impairments" category demonstrated the most significant growth since the 1991-1992 academic year, which was attributed, in large part, to the increased number of students receiving accommodations for attention-deficit/hyperactivity disorder (ADHD; U.S. Department of Education, 2001). Given the prevalence of students with these disabilities and the impact both specific learning disabilities and ADHD have on the process of

learning and demonstrating knowledge, the remainder of the paper will focus on twice-exceptional individuals who meet criteria for either of these disabilities.

Twice-Exceptional

There is limited research on the twice-exceptional population and much of the existing literature is based on small samples or case studies. This is due, in part, to difficulty in identifying large numbers of twice-exceptional students to participate in empirical research (Moon & Reis, 2004; Reis, Neu, & McGuire, 1997). While some information exists about the educational, social, and emotional needs of students with both high abilities and disabilities, much of this information cannot be generalized to the larger twice-exceptional population given the small scope of existing research on this topic. Therefore, the question remains as to whether there are unique effects of possessing both high abilities and specific limitations on individual development.

Although twice-exceptional students possess many of the same characteristics as gifted students, they also possess one or more disabilities. When gifted students possess a specific learning disability or ADHD, they display academic strengths and learning difficulties concurrently (Assouline, Foley Nicpon, & Huber, 2006). This combination of seemingly incongruent characteristics can pose unique barriers, making it difficult for students to perform at their advanced levels (Colangelo, 2002; Lovecky, 2004). Furthermore, this complicates the identification of these students as gifted and/or having a disability, as one can mask the other (Dole, 2001; Kaufman, Kalbfleisch, & Castellanos, 2000). For example, a student identified as gifted may have informally learned strategies to compensate for his or her disability. Conversely, the student's disability might impede his or her ability to fully demonstrate his or her strengths.

Twice-exceptional students experience significant asynchrony, given the extreme discrepancies between their abilities (Silverman, 2002). The frustration evidenced by asynchrony in gifted children generally is exacerbated by the unique combination of abilities and limitations experienced by twice-exceptional students. Additionally, others often misjudge these students due to the mistaken belief that the students' variable performance reflects laziness and low motivation (Colangelo, 2002; Reis, Neu, & McGuire, 1997). This is likely frustrating for the students, who have difficulty expressing what they know, and for teachers and parents, who do not understand the reason for the students' inconsistent performance.

Learning Disabilities

A learning disability is diagnosed when an individual's performance is significantly lower than expected for his or her age, level of education, and ability level (APA, 2000). There are three main types of learning disorders (reading, mathematics, and written expression), although additional learning problems can be manifested in nonverbal skills. Nonverbal learning disorders, as the latter disorders are commonly termed, are not specifically outlined in the DSM-IV-TR and, therefore, will not be discussed in more depth in this paper.

According to the most recent edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV-TR), a reading disorder is diagnosed when an individual's reading achievement, as measured by standardized tests of reading accuracy or comprehension, is significantly below expected levels and considerably interferes with academic achievement (APA, 2000, p. 53). A reading disorder is characterized by difficulty in reading accuracy and/or problems with comprehension. Slowed reading

speed and difficulty with oral reading (i.e., "distortions, substitutions, or omissions," p.52) are often present.

The DSM-IV-TR criteria for a mathematics disorder requires that an individual's math performance on an individually administered standardized test be significantly below expected levels and interfere substantially with academic achievement (APA, 2000, p. 54). A mathematics disorder can include problems with comprehending or naming mathematical terms, decoding written problems into symbols, recognizing mathematical signs, copying figures correctly, and/or performing correct mathematical steps.

A disorder of written expression is diagnosed when an individual performs below expected levels on standardized assessments of writing skills and experiences significant problems with writing in academic or other common settings. According to the DSM-IV-TR, this disorder is comprised of several difficulties in areas necessary for written expression, including poor handwriting, poor written organization, multiple spelling errors, and errors in punctuation (APA, 2000).

Learning Disabilities and Identity Constructs

Few studies have examined identity development in individuals diagnosed with learning disabilities. However, research conducted on the self-esteem and self-concepts of persons with learning disabilities suggests that they may experience low self-esteem, difficulty with social interactions, and low self-confidence (APA, 2000). In a review of the literature, Bender and Wall (1994) report that students with learning disabilities tend to perceive that they are less competent than their non-learning disabled peers, attribute failure to a lack of ability, report that they are lonely, and are at risk for depression.

These findings were supported almost one decade later, in a study examining children and adolescents' self-disclosures regarding their experiences with having a learning disability. Participants were 164 children between the ages of 9 and 18 identified through their registration on and active use of a free website (SparkTop.org) developed by the Charles and Helen Schwab Foundation to study internet interactions of children diagnosed with learning disabilities. The authors performed a content analysis on 4,903 messages sent between participants. Results found that children with learning disabilities reported experiencing emotional distress regarding their perceived academic difficulties, social isolation, negative treatment by peers, and hesitancy to ask for help for fear of embarrassment (Raskind, Margalit, & Higgins, 2006).

While the literature has repeatedly shown that students with learning disabilities, overall, do not significantly differ from typically achieving peers in measures of global self-concept, evidence suggests that differences do exist in measures of academic self-concept (e.g., Tabassam & Grainger, 2002). However, when self-perceptions of one's learning disability are taken into account, a different picture emerges.

Heyman (1990) suggests that individuals with learning disabilities may generalize from their specific academic challenges to broader aspects of their self. She conducted a study of self-perception of one's learning disability and its relationship to academic self-concept and self-esteem. Participants were 87 third through 6th graders (ages 9 – 11 years, 11 months) in the New York City public school system. The children completed self-esteem, academic self-concept, and self-perception of their learning disability inventories (Coopersmith Self-Esteem Inventory, School Short Form, Form B; Student's Perception of Ability Scale; and a scale developed for the study, the Self-Perception of

One's Learning Disability, respectively). Findings indicated that twelve percent of the variability found in self-esteem scores and over 30% of the variability in academic self-concept scores were accounted for by one's perception of his or her learning disability (Heyman, 1990).

Rothman and Cosden (1995) conducted a study of 56 students in grades 3 through 6 in an attempt to better understand the relationship between students' perceptions of their learning disabilities and their level of achievement, self-concept, and social support. The children completed Self-Perceptions of One's Learning Disability (SPLD) scale, Self-Perception Profile for Learning Disabled Students, and the Social Support Scale for Children. Achievement (Woodcock-Johnson Tests of Achievement-Revised, Wide Range Achievement Test) and ability (Wechsler Intelligence Scale for Children-Third Edition, Differential Ability Scale) information was obtained from participants' special education records. Multiple regression analyses were conducted to (1) determine the effect of intelligence and achievement scores on SPLD scores, (2) assess the relationship between self-concept and SPLD scores, and (3) determine the relationship between responses on the social support scale and SPLD scores. Stepwise multiple regression analyses were conducted in order to assess the relationship between several achievement variables (math, reading, and written expression), self-concept scores, social support variables, and the SPLD.

The authors found that students who reported a positive perception of their learning disability also had a positive global self-concept, while those students with negative perceptions of their learning disability tended to have a negative overall self-concept. This finding persisted even after the role of academic achievement was

controlled for, suggesting that students' test scores did not support their negative perceptions of their disability and of themselves (Rothman & Cosden, 1995).

Students who believed that parents, teachers, and peers supported them and recognized their individual strengths reported more positive views of their learning disability (Rothman & Cosden, 1995). This suggests that the behavior and/or beliefs of others impact one's self-perceptions, lending support to the argument that personal, social, and cultural identities all have an impact on one's definition of self. In a review of the literature on self-concept and self-efficacy, Bong and Clark (1999) report that students with academic disabilities reported decreased self-concept when their disability status was salient and that children with learning disabilities initiated comparisons of their abilities to typically achieving peers (see Strang, Smith, & Rogers, 1978, and Renick & Harter, 1989, respectively).

Pliner (1999) conducted a qualitative study of the self-perceptions of entering and exiting college students with learning disabilities, a category in which she also included ADHD. There were 16 participants, all of whom were college students at either a large northeastern university or a small, private college for women in the northeast. All participants engaged in individual interviews, 7 elected to also attend a focus group, and 13 completed a written description of their learning disability.

Results suggested that the process of being identified as having a learning disability, in addition to the stigmatized status of this label, adversely impacted participants' sense of self. The college students who participated in the study reported experiencing low self-esteem and low self-acceptance, including feeling ashamed and embarrassed about their disability. Participants reported experiencing these feelings

regardless of age at diagnosis, although those diagnosed at older ages (i.e., early to late adolescence; late adolescence to early adulthood) described experiencing greater difficulty incorporating the newly assigned devalued status into their existing identity.

The college students appeared to engage in a developmental process as they gradually assimilated their general self-knowledge with their identity as individuals with a learning disability. This assimilation process also included developing increasingly positive self-perceptions. Pliner (1999) identified three developmental stages based on their responses: Denial, Transition, and Acceptance. Denial is associated with the internalization of negative cultural stereotypes regarding learning disabilities, fear of discrimination and prejudice if one's disability is disclosed, and distancing oneself from the challenges posed by their learning difficulties.

Pliner (1999) described the second stage, transition, as becoming aware of conflicting beliefs about oneself (e.g., holding both positive and negative beliefs about oneself) and beginning to acknowledge the negative cultural stereotypes regarding learning disabilities. Pliner noted that this stage involves utilizing cognitive strategies to reconcile these contradictions. Acceptance is characterized by discarding negative social stereotypes regarding learning disabilities and gaining a sense of self that incorporates all aspects of self (i.e., "a shift in thinking from 'Who I am not' to "Who am I;'" p. 234). Essentially, this stage involves recognizing the social construction of stigmatized statuses and purging one's self of these internalized negative attitudes, resulting in a more positive sense of self.

Gifted with a Learning Disability

Many of the studies about individuals with learning disabilities do not specify whether any of the participants were classified as gifted. There are few studies about which gifted students with learning disabilities are the focus, and even fewer studies examine the process of identity development within this population. The twice-exceptional literature suggests that students who possess both gifts and learning disabilities reportedly lack self-confidence, express feelings of inferiority, and hold unrealistic self-expectations (Moon & Reis, 2004; Reis, Neu, & McGuire, 1997).

Reis, Neu, and McGuire (1997) conducted qualitative analyses on case studies of 12 high ability college students with learning disabilities. Participants engaged in 2-3 interviews with two of the authors and provided written responses to several questions. Additionally, the authors conducted a record review of the participants' school and testing information. Results of the qualitative analyses indicated that many of these students were not identified as having a learning disability until adolescence or early adulthood.

Several themes emerged among the participants, including a history of negative school experiences leading to a low self-concept, relying on numerous compensation strategies (e.g., computers, books on tape, learning additional note taking and study strategies) to aid in their academic performance, and self-doubt about their academic abilities. The authors concluded that the unique combination of learning difficulties and learning strengths contributed to the students' negative academic experience. Specifically, teachers and parents attributed the learning difficulties to poor motivation and inattentiveness, rather than a disability, given the students' talents in other areas.

Dole (2001) examined identity development in gifted college students with learning disabilities. She utilized qualitative narrative inquiry to investigate the identity development of the four college students who participated in the study. Each participant discussed his or her educational and social experiences in a series of 3 unstructured interviews that took place over 5 months. The students reported several socioemotional difficulties they experienced that they attributed, in large part, to their experience as twice-exceptional students. These concerns included poor self-esteem, frustration, humiliation, and low self-efficacy. Additionally, the participants acknowledged the social and cultural environment in shaping their self-definitions, such as the stigma associated with special education classes (e.g., being seen by others as less competent) and the difficulty others had in understanding that one can have both above- and below-average academic abilities. This reportedly translated to frustration with oneself when confronted with tasks that emphasize one's gifts and disabilities.

High achieving college students with learning disabilities have also described feeling as though they were "less than" others and as though something was wrong with them (Pliner, 1999, p. 157). This feeling of difference resulted in a number of students keeping their disability hidden from others, even if this meant not utilizing needed accommodations (Pliner, 1999; Olney & Brockelman, 2003). Many students reported attending counseling in order to address these negative experiences (Dole, 2001; Reis, Neu, & McGuire, 1997). Positively, several high ability college students in these studies reported that their experiences have contributed to the development of a strong work ethic (Pliner, 1999; Reis, Neu, & McGuire, 1997).

Attention-Deficit/Hyperactivity Disorder (ADHD)

Attention-Deficit/Hyperactivity Disorder (ADHD) is characterized by the presence of inattention and/or hyperactivity/impulsivity. According to the DSM-IV-TR these symptoms must have been present by age seven, although in many cases (particularly with predominantly inattentive symptoms) they may not be detected until a later age (APA, 2000). Additionally, the individual must exhibit these symptoms in several environments and they must interfere with developmentally appropriate functioning. However, the demonstration of ADHD symptoms is not necessarily consistent across settings, nor is it consistent within a particular setting (APA, 2000). For example, the DSM-IV-TR documents that symptoms of ADHD are less apparent in novel situations, when the individual is intrinsically motivated to engage in an activity, when rewards are immediate, or in one-on-one and/or closely supervised situations.

ADHD and Identity Constructs

A literature search for research on the identity development of persons with ADHD revealed that no such studies have been disseminated. However, Pliner's (1999) research on the identity development of college students with learning disabilities included ADHD as a learning disability. Yet, given that participants had been diagnosed with either a specific learning disability or ADHD and that these results were looked at as a whole, it is unclear whether the qualitative data provided by college students revealed any differences in identity development that were attributable to either diagnosis.

While the topic of identity development has not specifically been explored, research on the self-concept and self-esteem of individuals with ADHD in the general population suggests that they may experience low self-esteem, moodiness, poor social

skills, and a low threshold for frustration tolerance (APA, 2000). Differences in interpersonal interactions have been associated with the specific ADHD subtypes. Individuals with hyperactive/impulsive symptoms more frequently experience peer rejection and are prone to accidental injury, while those with predominantly inattentive symptoms often appear to be socially withdrawn and/or neglected, rather than actively rejected, by peers (APA, 2000).

Overall, studies of self-esteem and self-concept in children with ADHD have produced mixed results. For example, boys with ADHD have provided ratings on measures of global self-worth that were similar to boys without ADHD (Beach, 2003; Hoza, Pelham, Milich, Pillow, & McBride, 1993). Additional research regarding the self-perceptions and attributions of boys with ADHD has suggested that they tend to overestimate their abilities, a characteristic that has been termed the "positive illusory bias" (Hoza et al., 1993).

Evidence of positive illusory thinking has been demonstrated in boys with ADHD in several studies. Viro (1998) examined the self-efficacy of 20 pre-adolescent (3rd to 6th grade) and 40 adolescent (7th to 12th grade) boys with ADHD. Participants completed the Piers-Harris Self-Concept Scale, the Student Self-Concept Scale, the Youth Self-Report, the Wechsler Intelligence Scale for Children, the Wechsler Individual Achievement Test, and the Gordon Diagnostic System. She found that pre-adolescent boys with ADHD reported more confidence in their self-image than was found in a normative sample. However, adolescent participants scored lower than pre-adolescent participants on social importance, social self-confidence, and self-image self-confidence. This suggests that

positive illusory thinking may be more prominent in younger males with ADHD than in older groups.

Beach (2003) also found that children with ADHD tended to overestimate their abilities in certain areas of academic and nonacademic self-concept. He examined the self-concepts of children with ADHD in order to determine whether these self-perceptions varied by ADHD subtype. Participants were 53 males and 16 females between the ages of 6 and 14. They were administered the Behavior Assessment Scale for Children, the Disruptive Behavior Disorder Rating Scale, and the Self-Description Questionnaire. In addition to finding that children with ADHD overestimated their abilities, participants also rated themselves similarly regardless of diagnostic subtype. However, he emphasized that over half of the participants with ADHD, Predominantly Inattentive type—an internalizing disorder hypothesized to possess lower self-concepts—were also diagnosed with Oppositional Defiant Disorder or Conduct Disorder, which are externalizing disorders and are not typically associated with the population of individuals with inattentive ADHD.

Conversely, it has been reported elsewhere that individuals with ADHD possess lower levels of self-esteem and self-concept than their peers. Boys with ADHD reported more symptoms of depression and lower global and behavioral self-concepts in a study examining depression and self-esteem within this population (Treuting & Hinshaw, 2001). One hundred fourteen males, ages 7-12, were administered the Children's Depression Inventory and the Piers-Harris Self-Concept Scale. The participants were further categorized into aggressive ADHD, non-aggressive ADHD, and a comparison group who did not meet criteria for any behavior disorder. Results indicated that the

comparison boys had the highest global and behavioral self-esteem, followed by the non-aggressive boys with ADHD. The group that obtained the lowest self-concept scores and endorsed depressive symptoms at least within the mild clinical range was the aggressive ADHD group.

Milich and Okazaki (1991) examined the incidence of learned helplessness in a sample of 23 boys with ADHD and 22 comparison boys, all between the ages of 9-11. Participants engaged in several experimental tasks, some of which were designed to be unsolvable. The boys with ADHD were more easily frustrated regardless of the condition (i.e., solvable vs. unsolvable tasks) and gave up at a higher rate than their non-ADHD peers after experiencing multiple failures on tasks (Milich & Okazaki, 1991).

Additionally, in a study of 143 children between ages 9-14 (89 children had ADHD; 54 children did not have ADHD), Kaidar (2004) found that children with ADHD rated themselves significantly lower than their non-ADHD peers on the Self-Perception Scale for Children's specific measures of global self-worth, scholastic competence, behavioral conduct, and social acceptance.

The low self-esteem noted among many individuals with ADHD often has consequences that extend into adolescence and adulthood. A longitudinal study of 60 males diagnosed with ADHD between ages 6 and 12 demonstrated that they experienced lower self-esteem, as measured by an unpublished questionnaire at the time of the study, during late adolescence than matched comparisons regardless of whether they continued to meet full DSM-IV criteria for ADHD in adolescence. When re-assessed in adulthood (mid- to late 20s), these participants experienced difficulty with academic achievement, as measured by number of years completed in school, and occupational attainment, as

measured by the occupational scale of Hollingshead and Redlich (1958; as cited in Slomkowski, Klein, & Mannuzza, 1995). These results held true regardless of current diagnostic status.

There are many potential explanations for the varied findings regarding self-perceptions of worth and capabilities among individuals with ADHD. Authors have cited differences in terminology leading to difficulty in measuring self-constructs (Viro, 1998), examining ADHD as a single structure rather than looking for potential differences between its subtypes (Beach, 2003), and the presence of multiple disorders within a particular sample of participants as possible contributions to the differing results. For instance, some studies confirming the presence of positive illusory thinking in children and adolescents with ADHD relied on the self-reports of participants who had concurrent diagnoses of Oppositional Defiant Disorder (ODD) or Conduct Disorder (CD) (e.g., Beach, 2003), which may have impacted participants' perceptions of themselves, others, and the environment.

Self-perceptions may also vary according to the individual's age and previous experiences. Viro (1998) found that when participants were grouped together according to age, the impact of positive illusory thinking dissipated for adolescents. That is, younger boys with ADHD (grades 3-6) reported significantly higher levels of confidence about their self-image than both their non-ADHD peers and adolescent boys with ADHD (grades 7-12). The pre-adolescent boys also endorsed a strong sense of efficacy in social interactions that was significantly higher than adolescent boys with ADHD. This apparent decline in confidence in self-image did not appear to be a typically occurring developmental trend when compared to normative samples. Furthermore, Kaidar (2004)

reported that young adolescents (ages 12-14) with ADHD endorsed less confidence in their physical appearance, academic competence, and overall self-worth than did children (ages 9-11) with ADHD. These findings suggest that there may be a relationship between the transition from childhood to adolescence, which often brings about increased demands for independence and self-regulation within one's relationships and environment, and the self-perceptions of individuals with ADHD.

Gifted with ADHD

Few studies have focused specifically on the population of gifted individuals diagnosed with ADHD. Some of the research on high ability students, to date, has included ADHD as a learning disability, which makes it difficult to know what impact, if any, ADHD alone has on individuals with high abilities. The existing research indicates that gifted students with ADHD are often not identified until later in their educational careers, as high intellectual ability tends to mask many of the symptoms (Kaufman et al., 2000; Moon, 2002; Pliner, 1999). Late identification can have a negative impact on an individual's sense of self as a learner, because increased effort on schoolwork does not make the problems associated with poor organizational skills, inattentiveness, and hyperactivity disappear (Leroux & Levitt-Perlman, 2000 as cited in Moon, 2002). This can lead a student to doubt his or her abilities (Kaufman et al., 2000).

ADHD is characterized by an inability to adequately adjust attention when presented with rote tasks or tasks that require sustained effort—typically those tasks that are not engaging (Kaufman et al., 2000). Yet, when a task is highly motivating, rewarding, or challenging—often perceived as "effortless" because it is enjoyable—an individual with ADHD can demonstrate extreme levels of motivation and focus

(Kaufman et al., 2000; Moon, 2002). While this phenomenon occurs in both gifted and normally achieving populations with ADHD, it may be more pronounced in gifted persons with ADHD, as they tend to have a larger number of tasks they perceive as effortless (Kaufman et al., 2000). This can cause confusion among observers, who might attribute the variable attention to laziness, irresponsibility, or poor motivation.

Zentall, Hall, Moon, and Grskovic (2001) conducted case studies on the learning and motivational characteristics of 9 boys between the ages of 8 and 10. Three boys were diagnosed with ADHD, 3 were identified as gifted, and 3 were identified as both gifted and having ADHD. Data was collected from participants and their families through interviews and rating scales (Connors Rating Scale-Revised, parent and teacher forms; School Situations Questionnaire, completed by parents and teachers). The authors found that twice-exceptional elementary school students with ADHD enjoyed cognitively stimulating activities that utilized problem-solving and memory skills, and involved creative talents. These students experienced specific difficulties with procrastination, organizational difficulties, planning, and staying on track once they started an activity that was not inherently (and highly) stimulating. Gifted individuals with ADHD may experience frustration, problems with emotional management, low self-esteem, and high levels of asynchrony (Kaufman et al., 2000; Moon, Zentall, Grskovic, Hall, & Stormont, 2001).

While no studies have been found that exclusively examine the process of identity development in gifted persons with ADHD, one study was located that examined the self-concept of students identified as gifted and diagnosed with ADHD. Roberts (1994) compared the results of a self-concept measure (the Piers-Harris Children's Self-Concept

Scale) from 250 students in grades 3 through 6 who were either (1) identified as gifted, (2) diagnosed with and on medication for ADHD, (3) identified as both gifted and having ADHD, or (4) of average intelligence.

Roberts (1994) found that the self-concept of gifted students with ADHD, while in the average range and comparable to children of average intelligence, was significantly lower than the self-concept of gifted students without ADHD, despite similar demographic backgrounds. Additionally, these differences were noted even though the gifted students with ADHD were all receiving medication to manage their symptoms, did not have concurrent diagnoses of learning or emotional disorders, and were participants in their schools' gifted programs. This suggests the possibility that self-concept may be adversely impacted by the challenges posed by possessing a unique combination of cognitive strengths and difficulties.

It remains unclear whether the impact on self-concept is due to exacerbated asynchrony (i.e., internal factors), environmental barriers due to possessing symptoms/characteristics that are not commonly experienced by the majority of individuals and are therefore not readily accommodated without following the proper diagnostic/legal procedures (i.e., external factors), or some combination of the two. Evidence for the role of external factors in one's developing sense of self is demonstrated in the finding that individuals who no longer meet full criteria for ADHD continue to experience difficulties related to low self-esteem into adolescence and adulthood (Slomkowski et al., 1995).

Similarities: The Twice Exceptional Experience

The literature on gifted students with learning disabilities and gifted students with ADHD suggests that these two subpopulations of twice-exceptional students share similar experiences. The majority of both groups of students reported that they were not identified as having a disability until secondary school or college (Dole, 2001; Pliner, 1999; Reis et al., 1997). These individuals also share the experience of questioning their intellectual abilities (Kaufman et al., 2000; Pliner, 1999; Reis et al., 1997). Gifted individuals with learning disabilities or ADHD also reported low self-esteem, frustration with their abilities and their environments, poor self-efficacy, negative school experiences, feeling as though others questioned the legitimacy of their disability diagnoses, reluctance to use accommodations in order to avoid negative reactions from others, and feeling different or "less than" their non-disabled peers (Dole, 2001; Kaufman et al., 2000; Moon et al., 2001; Olney & Brockelman, 2003; Pliner, 1999; Reis et al., 1997).

Furthermore, both groups recognized that they knew more than they were consistently able to demonstrate, needed to put forth additional effort in order to achieve desired results, had a strong work ethic, and recognized that the problem with their disability often resided in the environment (Dole, 2001; Olney & Brockelman, 2003; Pliner, 1999; Reis et al., 1997). Additionally, both sets of twice-exceptional groups reported feeling comfortable, empowered, and as though they belonged when they were with other students who possessed similar characteristics (Pliner, 1999; Olney & Brockelman, 2003). The blend of similar cognitive, emotional, and social experiences

associated with twice-exceptional students with learning disabilities or ADHD suggests that they may engage in similar process of identity, or self, development.

Twice-Exceptional Identity: A Social Cognitive Approach

Social cognitive theory does not provide a specific model of identity development. However, Bandura's (1999) description of the relationship between personal and social identities and the development of self-efficacy appears to provide a framework for understanding the fluid nature of identity development. Given that gifted individuals with learning disabilities or ADHD have described a similar pattern of self-evaluation and social experiences, it is possible that they share a common experience regarding the development of self-efficacy beliefs. In the following section, social cognitive theory will be utilized as a proposed method for explaining the process of identity development in twice-exceptional learners. That is, the available research findings on twice-exceptional students will be examined via the sources of self-efficacy (i.e., direct experience, vicarious experience, social persuasion, emotional/physical states) and the manner in which self-efficacy information is conveyed (i.e., individually, interpersonally, systemically/socioculturally).

Direct Experience

Gifted individuals with learning disabilities and ADHD are able to recognize their advanced abilities in at least some settings. The discrepancy between their recognized abilities (and a history of some mastery experiences) and their disabilities may lead to frustration and embarrassment in educational settings (e.g., Dole, 2001; Reis et al., 1997). The tendency to have to put in long hours and extra effort in order to succeed

academically might have a mixed effect on one's academic self-efficacy. While achieving high marks in school likely contributes to a strong sense of self-efficacy, the added effort that does not consistently produce success might undermine one's self-efficacy or contribute to feeling as though one's academic performance is a result of not being *all that* smart (e.g., Dole, 2001; Kaufman et al., 2000; Pliner, 1999). The student might not doubt that he or she has the ability to succeed, but still might suspect that, with stronger abilities or the absence of the disability, success would come more easily.

Additionally, twice-exceptional individuals likely experience barriers in their environment that influence their developing sense of self. Examples of such barriers include negative attitudes of others, having to repeatedly disclose the presence of a "deficit" in order to receive accommodations, and, as often occurs with hidden disabilities, having to justify the presence of a disability to individuals who doubt its existence because it is not readily apparent. For example, one college student described an encounter with a professor who informed the student that he did not believe in "ADD" (Olney & Brockelman, 2003). Additionally, individuals have described being called lazy, unmotivated, and dishonest by peers, teachers, school administrators, and family members due to their unique blend of abilities and impairments (Dole, 2001; Reis et al., 1997; Olney & Brockelman, 2003). These direct experiences with others likely have an influence in terms of how twice-exceptional students view themselves and the world.

Vicarious Experience

Vicarious experience may have both positive and negative effects on a twice-exceptional student's developing sense of self. Possessing a stigmatized status encourages social comparisons to the normative population and, oftentimes, the observed

differences are perceived as negative (Grant, 1996). Social comparison can prove to be disempowering when a gifted individual with a disability compares him- or herself to classmates who do not have similar learning or attentional difficulties. When a student observes classmates completing with relative ease a task he or she finds particularly challenging, this may result in negative emotions and a sense that he or she is not as capable or as smart as his or her peers (e.g., Dole, 2001; Pliner, 1999; Reis et al., 1997, Roberts, 1994).

Twice-exceptional individuals may witness other persons with disabilities being treated negatively, which could adversely impact how they think about themselves and others with disabilities, and how they behave. For example, hearing others joke about or put down people with learning disabilities, ADHD, or who participate in special education generally, might specifically impact one's decision to disclose his or her disability status.

Social modeling can enhance the self-efficacy of twice-exceptional students, likely having a positive effect on their developing sense of self. The college students in Pliner's (1999) study reported that being around others with similar difficulties provided them with examples that were inconsistent with negative stereotypes of learning difficulties. This resulted in the students feeling more positive about themselves and as though they were a part of a community.

Social Persuasion

Social persuasion can have detrimental effects. For example, repeated exposure to individuals who cast doubt on one's capabilities and motivation might result in self-doubt and questioning the veracity of one's own disability. Cook (2001) examined

teachers' attitudes toward their students with mild and severe disabilities who were included in the general classroom. Teachers tended to reject students with mild, more hidden disabilities, who displayed problematic behavior and performance even though these problems were directly influenced by the disability. This was not the case for the students with severe, more obvious, disabilities. It is possible that the negative treatment and rejecting attitudes of others have a negative impact on one's developing identity.

Yet, social persuasion can have a distinctly positive effect on a twice-exceptional individual who might otherwise doubt his or her capabilities. Reis and her colleagues (1997) describe the impact that positive role models (e.g., teachers, parents) had by providing twice-exceptional students in their study with opportunities to demonstrate their strengths. By experiencing success in one area (e.g., sports, art, music), these students were able to generalize this positive experience to other ability areas that were more challenging (e.g., specific academic subjects). Additionally, exposure to individuals who reframe disability as a difference rather than a deficit might have a positive influence on twice-exceptional students' identity development (e.g., Olney & Brockelman, 2003; Pliner, 1999).

Emotional/Physical States

One's mood and somatic states, depending on how they are interpreted, can positively or negatively impact self-efficacy and potentially one's identity. Experiencing frequent barriers, both attitudinal and structural, to success likely produces strong emotions. For example, boys with ADHD who were presented with multiple failures on tasks, some of which *were* unsolvable, experienced strong frustration and gave up quickly on subsequent tasks (Milich & Okazaki, 1991). If strong emotions are interpreted as a

sign of one's inability to overcome challenges or make changes in the environment, then this may negatively impact one's sense of self, as suggested in Bandura and Bussey's (1999) study of gender role development. However, if the emotions are seen as a reaction to barriers that can be removed, and serve as an impetus for the individual to enact social change, the emotional responses might have a more positive impact on one's identity.

Conclusion

There are a number of models describing the identity development of individuals belonging to various racial, ethnic, and cultural groups. Traditional stage models of development have increasingly been replaced with models that reflect the fluid nature of identity development. That is, some of the newer models acknowledge that individuals can move between various stages of identity development based on new experiences and information. These recent models (i.e., R/CID; Sue & Sue, 2003; Livneh, 1986a, 1986b as cited in Smart, 2001) are intended for use in conceptualizing client issues and attitudes, and describe a process of developing self-understanding within a complex network of individual, sociological, and environmental factors.

Sue and Sue (2003) emphasize the similarities among the existing models of identity development, highlighting the shared experiences of members of groups that are devalued and stigmatized within U.S. culture. The impact of possessing a stigmatized status, regardless of visibility of the status, on one's well-being and sense of self that has been observed in members of various racial, ethnic, and cultural minority groups lends credibility to the assertion that environmental and sociocultural factors do affect the

process of self-definition and self-understanding (Cramer & Gilson, 1999; Meyer, 1995; Pliner, 1999; Sue & Sue, 2003; Worrell & Remer, 2003).

The definition of disability as a cultural group has gained increasing acceptance since the passage of the ADA in 1990. Despite evidence of a common "disability experience," there is not yet a model that describes the process of identity development in persons with disabilities, although the general nature of the R/CID model suggests that it could be utilized with persons with disabilities within a therapy context. While individuals with disabilities represent a vastly diverse group, there are enough similarities in the sociocultural experiences of persons with disabilities to suggest examining the process of identity development of this population as a whole. The twice-exceptional population represents one subset of the disability population whose multiple identity status as "twice different" likely has a unique impact on their developing sense of self. By gaining a better understanding of this developmental process, professionals will be able to intervene at appropriate stages to help empower these students and assist them with developing a positive sense of self.

While recent models describe how to identify *where* an individual who differs from the dominant group may be in his or her identity development, they do not account for *how* that individual moves between the various developmental stages. The experiences that trigger a change in one's self-understanding or understanding of the world likely are impacted by the interaction between the individual's internal experiences and social and cultural factors (e.g., Cramer & Gilson, 1999; Sue & Sue, 2003). Social cognitive theory appears to complement the R/CID model, in that it takes into account the

reciprocal nature of psychological, social, and cultural factors to help describe how individuals form self-perceptions and how that informs human behavior.

Self-perceptions are typically measured by examining self-esteem, self-concept, and self-efficacy. Members of stigmatized groups have reported negative self-conceptions and a sense of personal inadequacy (Sue & Sue, 2003; Worrell & Remer, 2003). The existing literature on individuals with learning disabilities and ADHD, whether they have been identified as gifted or as functioning within the normal range of abilities, suggests that they experience low self-esteem, lack confidence, perceive they are less competent than peers without disabilities, and report feeling lonely and/or rejected by others, although these findings are less clear for persons with ADHD (APA, 2000; Bender & Wall, 1994; Dole, 2001; Kaidar, 2004; Moon & Reis, 2004; Pliner, 1999; Raskind et al., 2006; Reis et al., 1997; Treuting & Hinshaw, 2001). Evidence suggests that the impact of low self-esteem in persons with learning disabilities or ADHD can persist into young adulthood (Reis et al., 1997; Pliner, 1999), even in the absence of continued impairing symptoms (Slomkowski et al., 1995). This is consistent with the assertion that repeated reminders of the valued status of the dominant group and the devalued status of a minority group can adversely impact members of the minority group (Sue & Sue, 2003; Worrell & Remer, 2003).

Social cognitive theory can be used as an explanatory framework in discussing the identity development of gifted individuals with learning disabilities and ADHD. Although social cognitive theory does not specifically include an identity development model, it defines an ongoing process of identity development. Specifically, the repeated experiences, over time, of developing and adapting one's sense of self-efficacy likely

influences an individual's sense of self-knowledge and self-definition, given that self-efficacy has a strong impact on self-concept (Bong & Clark, 1999). Social cognitive theory provides a viable context in which the existing literature of twice-exceptional students with learning difficulties can be viewed. While the R/CID model can help counselors gain an understanding of client issues and attitudes, social cognitive theory can help counselors identify how the client arrived at his or her self-understanding and provide specific areas in which interventions can be directed (e.g., interpersonally via social persuasion).

The purpose of the present study was to examine the psychological impact of having a socially valued status (academically gifted) while possessing a socially devalued status (learning disability or ADHD), given that both statuses are defined and impacted by cognitive abilities. Given the limited empirical research in this area and the largely anecdotal information on this population, it is not clear what impact possessing both academic strengths and difficulties has on individual development. Existing research suggests that gifted and/or high achieving students experience unique challenges within educational, interpersonal, and psychological contexts (e.g., Pliner, 1999; Reis et al., 1997; Roberts, 1994; Zentall et al., 2001), such as low self-concept, low self-esteem, and awareness of parent and teacher frustration with them.

A primary goal of this study was to develop a better understanding of the self-perceptions of twice-exceptional youth and what environmental or psychosocial factors might impact the developing identity of twice-exceptional children and adolescents. Gaining an understanding of the self-concept and self-esteem of this population of students allows educators and counselors alike to better identify what, if any,

interventions may be needed and appropriate. The aim of this study was to investigate these questions within a larger sample of twice-exceptional students than has previously been examined. Given the limited research into this area, the present study addressed a number of research questions.

Research Question #1: What is the relationship between giftedness, ADHD, self-perceptions, age, and gender?

Research Question #2: What is the relationship between giftedness, learning disabilities, self-perceptions, age and gender?

Research Question #3: Do twice-exceptional students and gifted students without a disability differ in their self-perceptions?

Research Question #4: Are the self-perceptions of students with knowledge of their specific learning needs (i.e., identified as gifted, or as possessing ADHD or learning disabilities) different from individuals have not yet been identified?

Research Question #5: What psychosocial factors predict self-concept?

CHAPTER 3

METHODS

The following chapter is divided into four sections. In the first section, the guiding research questions will be reviewed. This will be followed by a description of participant characteristics. Then, the psychometric properties of each measure will be discussed. Select subscales from the Behavior Assessment Scale for Children—2nd Edition (BASC-2) and the Piers Harris Children's Self-Concept Scale—2nd Edition (Piers Harris-2) were used to measure self-perceptions. Finally, there will be an explanation of the procedures utilized in the data collection process.

Research Questions and Hypotheses

Although research has investigated the relationship between self-perceptions and possessing an educational need, such as giftedness, a learning disability, or ADHD, there is little that is known about the relationship between self-perceptions and possessing multiple educational needs. In the present study, empirical information on the self-perceptions of a relatively large sample of individuals identified as twice-exceptional was analyzed. Because self-perceptions have been found to vary in age cohorts (Kaidar, 2004; Viro, 1998) and by gender (Lewis & Knight, 2000), these factors were examined to determine if they influence self-perceptions in students identified as twice-exceptional.

For the purpose of this study, participants were considered gifted if they obtained at least one index score that is expected to fall within the Superior Range of intelligence, based on the 95% Confidence Interval, as measured by a standardized intelligence test. Gifted participants who met the DSM-IV-TR diagnostic criteria for ADHD were included in the gifted/ADHD group. Gifted participants who met the DSM-IV-TR diagnostic

criteria for a learning disability were included in the gifted/learning disability group. Self-perceptions were defined as self-esteem, overall self-concept, academic self-concept, and perceptions of inadequacy. These perceptions were measured using the Self-Esteem and Sense of Inadequacy scales from the BASC-2 and the Total Self-Concept composite and Intellectual and School Status scale from the Piers Harris 2. Lastly, psychosocial factors were defined as environmental elements that might impact self-perceptions, including interpersonal relationships, parental relationships, and educational classification. Psychosocial factors were measured using the Interpersonal Relations and Relations with Parents scales on the BASC-2, and by examining in which educational category participants were included (gifted, gifted/ADHD, and gifted/LD).

The aim of Research Question #1 was to examine the relationship between self-perceptions, age group, and gender in gifted youth with ADHD. The self-perceptions assessed in Research Question #1 were Self-Esteem, Total Self-Concept, and Sense of Inadequacy. Given the lack of research in this area, this question was primarily exploratory in nature. However, based on findings that age has an influence on self-concept, particularly in students with ADHD (Beach, 2003; Hoza et al., 1993; Viro, 1998), it was hypothesized that pre-adolescent participants would obtain higher Total Self-Concept scores than young adolescents.

Research Question #2, much like Research Question #1, examined the relationship between self-perceptions, age group, and gender in gifted youth with learning disabilities. The self-perceptions measured in this question were Self-Esteem, Total Self-Concept, and Sense of Inadequacy. As with Research Question #1, Research Question #2 was primarily exploratory in nature. However, pre-adolescent participants

were expected to obtain higher Total Self-Concept scores than young adolescent participants.

Research Question #3 addressed whether differences exist in the self-perceptions of twice-exceptional learners and gifted students without disabilities. To date, one study has examined differences in these populations with respect to self-concept (Roberts, 1994). Findings suggested that gifted elementary students with ADHD had lower self-concepts than gifted students without a disability. Research on students with learning disabilities, as well as the theoretical and related research on twice-exceptionality, suggests that twice-exceptional students may report lower academic self-concept than gifted students without disabilities (Bender & Wall, 1994; Tabassam & Grainger, 2002; Reis et al., 1997; Rothman & Cosden, 1995).

Because Intellectual and School Status is a measure of academic self-concept, it was included in the analysis of Research Question #3. As with the first two research questions, the other measures of self-perceptions were Self-Esteem and Sense of Inadequacy. Total Self-Concept was not included in this particular question. It was hypothesized that twice-exceptional students would report lower scores on Intellectual and School Status than gifted students without disabilities. No additional hypotheses were made regarding additional aspects of self-concept or other self-perceptions, given the lack of research into those areas and the varied findings within the literature regarding the social and emotional functioning of gifted students (e.g., Keiley, 2002; Levy & Plucker, 2003; Reis & McCoach, 2002).

Research Question #4 focused on whether prior knowledge of one's educational classification (i.e., as gifted, possessing a disability, or both) impacts self-perceptions.

Theoretically, it has been suggested that the difference in abilities, inconsistency in performance, and difficulty performing at one's advanced level can adversely impact one's sense of self as a learner (Colangelo, 2002; Kaufman et al., 2000; Lovecky, 2004). Dole (2001) and Pliner (1999) both cited examples in their research of high ability students who felt empowered when they learned that their academic struggles were related to their twice-exceptionality rather than to a lack of ability. This question was primarily exploratory in nature and looked at whether differences exist in the academic self-concept and total self-concept of students with special educational needs depending on prior knowledge of their educational status.

Research Question #5 addressed what psychosocial factors predict self-concept. Bandura (1999), Sue and Sue (2003), and Worrell and Remer (2003) all acknowledge the importance of individual and interpersonal factors on the developing sense of self. Additionally, perceived social support from peers, parents, and teachers has been found to positively impact self-perceptions of one's learning disability (Rothman & Cosden, 1995). Therefore, this question aimed to identify what, if any, psychosocial factors predict self-concept scores.

Participants

Data from ninety-seven school-aged youth who had previously participated in a psychoeducational evaluation at the Belin Blank Center's Assessment and Counseling Clinic (BBC-ACC) were included in the present study. The BBC is a comprehensive center that focuses on gifted education and talent development through research, training, and program development. The BBC's Assessment and Counseling Clinic assists in the identification of gifted learners and provides clinical, outreach, and consultation services

to gifted youth and their families, as well as to schools. Psychoeducational evaluations at the BBC-ACC typically include measures of ability, academic achievement, and social-emotional functioning.

All participants whose data were used in the present study were identified as academically gifted. Academic giftedness was defined as achieving at least one index score that falls within the Superior Range of intelligence, based on the 95% Confidence Interval, as measured by a standardized intelligence test. Participants were considered having received accommodations for giftedness if their school provided academic supports (e.g., participation in the school's Talented and Gifted program, course acceleration).

Participants were deemed twice-exceptional if they met the definition for giftedness and were diagnosed with ADHD or a learning disability based on criteria provided in the DSM-IV-TR. Individuals were included in the ADHD group if they were diagnosed with ADHD, Predominantly Inattentive Type, ADHD, Predominantly Hyperactive-Impulsive Type, ADHD, Combined Type, or ADHD Not Otherwise Specified. Given the small sample size, participants were not further divided into subgroups based on the specific type of ADHD.

Individuals were included in the LD group if they were diagnosed with Reading Disorder, Mathematics Disorder, Disorder of Written Expression, or Learning Disorder Not Otherwise Specified. As with the ADHD participants, given the small number of participants, there were no further subdivisions for the statistical analyses according to specific type of learning disability.

Participants who received formal educational assistance from the school, such as participating in the resource room or having an Individualized Educational Program (IEP), were considered to receive educational accommodations for their disability. Both gifted and twice-exceptional students had prior knowledge of their educational classification if they had previously been informed of this status, such as participation in a previous school's gifted program or having received a diagnosis of ADHD or a learning disability in the past.

Three groups of students participated in the present study: (1) Gifted students who were not diagnosed with a disability, (2) Gifted students who had a DSM-IV-TR diagnosis of ADHD, and (3) Gifted students who had a DSM-IV-TR diagnosis of a learning disability.

A total of ninety-seven students between the ages of 7 to 17 (M = 11, SD = 3) participated in the present study. Forty students were classified as gifted and had no disability, 28 students were identified as gifted and as having ADHD, and 29 students were gifted and met criteria for a learning disorder. The majority of participants were between the ages of 7 and 11 (60%). The remaining participants were in early adolescence (i.e., ages 12-14; 28%) or mid- to late-adolescence (i.e., 15-17; 12%).

The sample was predominantly male (70%), had prior knowledge of their giftedness (60%), and received academic accommodations for giftedness (66%). Within the twice-exceptional category, 14% and 10% of the participants with ADHD or a learning disability, respectively, had prior knowledge of their disability. Twenty-nine percent and 7% of those students with ADHD or a learning disability, respectively, had

prior knowledge of their twice-exceptionality. No participants had received academic accommodations for their twice-exceptionality.

Instruments

The Behavior Assessment Scale for Children—2nd Edition (BASC-2)

The BASC-2 (Reynolds & Kamphaus, 2004) is a comprehensive assessment designed to collect a variety of information necessary to aid in the identification and diagnosis of behavioral and emotional disorders. The symptoms reflected in the item content are associated with the diagnostic categories found in the DSM-IV-TR. In addition to assessing problematic behavior, the BASC-2 also measures adaptive behavior. The BASC-2 consists of three rating scales: the Teacher Rating Scale (TRS), Parent Rating Scale (PRS), and Self-Report of Personality (SRP). Only the SRP will be discussed in this section, as this study will not be utilizing responses from the other forms.

The SRP is available in four forms: one for children ages 6 and 7 (SRP-I) and children ages 8-11(SRP-C), for adolescents (SRP-A) ages 12-21, and for college students (SRP-COL). The items vary on the forms in order to capture many of the subtle ways in which symptom presentation and self-perceptions differ depending on developmental level. However, the different forms of the SRP are similar in content and design, enabling them to be interpreted in a similar manner.

The SRP is comprised of clinical scales, adaptive scales, and composite scales. The composite scales are combinations of scales from the clinical and/or adaptive sections. The clinical scales measure maladjustment and include Anxiety (13 items), Attention Problems (9 items), Attitude to School (7 items), Attitude to Teachers (7 items

on SRP-C and 9 items on SRP-A), Atypicality (9 items), Depression (13 items on SRP-C and 12 items on SRP-A), Hyperactivity (8 items on SPR-C and 7 items on SRP-A), Locus of Control (8 items on SRP-C and 9 items on SRP-A), and Sense of Inadequacy (8 items on SRP-C and 10 items on SRP-A). The SRP-A also includes Somatization (7 items) and Sensation Seeking (9 items). Raw scores on each scale are converted to T-Scores. High scores on the clinical scales are indicative of the presence of characteristics measured in that scale. The T-Scores are classified according to the following ranges: Very Low (30T and below), Low (31T-40T), Average (41T-59T), At-Risk (60T-69T), and Clinically Significant (70T and above). An example of an item on one of the clinical scales is, "Nothing is fun anymore." As noted in the beginning of the chapter, the scales assessing self-perceptions from the BASC-2 that will be examined in the present study are Self-Esteem and Sense of Inadequacy.

The adaptive scales measure positive adjustment and include Interpersonal Relations (6 items on SRP-C and 7 items on SRP-A), Relations with Parents (9 items on SRP-C and 10 items on SRP-A), Self-Esteem (8 items), and Self-Reliance (8 items). High scores on the adaptive scales are indicative of positive traits, while low scores suggest potential problem areas. The T-Scores are classified according to the following ranges: Clinically Significant (30T and below), At-Risk (31T-40T), Average (41T-59T), High (60T-69T), and Very High (70T and above). An example of an adaptive scale item is, "I like who I am." The adaptive scales that will be used to assess psychosocial factors are Interpersonal Relations and Relations with Parents.

The SRP Composites are designed to broadly evaluate personality tendencies, rather than the specific information provided by the clinical and adaptive scales. Because

no composite scales were examined in the present study, they will not be discussed in further detail. Validity scales are also included to assess whether the respondent endorsed most items in a negative fashion or was attempting to "fake bad" (the F index); whether responses were indicative of social desirability or attempting to "fake good" (the L index); whether the respondent did not fully read or understand the item content, or was uncooperative (the V index); whether the items were answered in a certain pattern irrespective of item content (the Response Pattern Index); and whether the respondent provided inconsistent responses to similar items (the Consistency Index).

The BASC-2 is grounded in theory, based on careful reviews of other behavior scales, and utilized consultation with clinical experts. The scales and composites were derived from factor analytic techniques. The norms closely reflect the U.S. population, particularly in areas of race and ethnicity, as well as gender. Raters have agreed that the BASC-2 has strong psychometric properties. For example, the internal consistency of the SRP composites and clinical scales are generally good, with reliability coefficients in the mid to high .80s, although some of the clinical scales are slightly lower. The test-retest reliabilities for the composites ranged from the .70s to the low .90s.

Refer to Table 1 for the reliability coefficients for the clinical and adaptive scales for the SRP-C and the SRP-A used in the present study (as reported in Reynolds and Kamphaus, 2004, pp. 198 and 201). Although reliability coefficients for all of the scales are reported in the BASC-2 manual, only those coefficients used in the present study will be included in Table 1.

The BASC-2 also demonstrates good concurrent validity, as well as good construct validity for the SRP-C and SRP-A forms. The clinical scales correlate

positively with one another, as do the adaptive scales. The clinical scales are negatively correlated with the adaptive scales.

Table 1. Reliability Coefficients on the BASC- 2

	SRP-C		*SRP-A*	*SRP-A*	*SRP-A*
				12-14	15-18
Clinical Scales	Alpha	Test-Retest	Test-Retest	Alpha	Alpha
Sense of Inadequacy	.78	.72	.74	.80	.79
Adaptive Scales					
Relations with Parents	.81	.63	.80	.87	.88
Interpersonal Relations	.81	.71	.75	.79	.78
Self-Esteem	.77	.67	.78	.83	.82

Source: Reyolds, C.B., & Kamphaus, R (2nd ed.). The Behavior Assessment Scale for Children—Second Edition (*BASC-2).* Bloomington, MN: Pearson.

Additionally, the SRP-A clinical scales have shown relatively good correlations with similar scales on several measures, including the syndrome scales on the Achenbach System of Empirically Based Assessment (.83 for anxiety scales and .70 for social stress, depression, and attention problems), the Connors-Wells Self-Report Scale (.52 - .63), and the Children's Depression Inventory (.69). The SRP-C did not have a strong correlation with the Children's Depression Inventory (.29), although it fared better than the SRP-A when compared with the Revised Children's Manifest Anxiety Scale (.60 for children vs. .49 for adolescents). For an extensive discussion of psychometric properties, please refer to the BASC-2 manual (Reynolds & Kamphaus, 2004).

Piers-Harris Children's Self-Concept Scale, 2nd Edition (Piers-Harris 2)

The Piers-Harris 2 (Piers & Herzberg, 2002) is a 60-item self-report inventory assessing self-concept in children and adolescents. The authors defined self-concept as a "stable set of attitudes reflecting both description and evaluation of one's own behavior and attributes" (p. 3). The measure is based on the theory that self-concept beliefs provide the individual with a consistent sense of how he or she tends to respond, emotionally and behaviorally, in various contexts; these perceptions also motivate the individual to engage, or refrain from engaging, in certain behaviors. The Piers-Harris 2 is an improvement from the original measure in that new norms, based on an ethnically diverse sample of children and adolescents that closely resembles that of the U.S population, were established. Additionally, the outdated and psychometrically limited items were revised or removed.

The questionnaire is designed for use with individuals between the ages of 7-18. Respondents read descriptive, self-evaluative statements and indicate whether they believe each statement applies to them by selecting "yes" or "no." The Piers-Harris 2 consists of a set of factor-analytically derived self-concept scales—representing the notion that self-concept is multifaceted and can vary depending on the area being measured—and validity scales. There are six domain scales (Behavioral Adjustment [BEH], Intellectual and School Status [INT], Physical Appearance and Attributes [PHY], Freedom From Anxiety [FRE], Popularity [POP], and Happiness and Satisfaction [HAP]) that comprise the Total (TOT) score, which reflects the respondent's general self-concept or self-esteem. Higher scores represent a positive self-concept, while lower scores indicate a less favorable self-concept. The TOT score is rated according to the following

ranges: Very Low (29T and below), Low (30T-39T), Low Average (40T-44T), Average (45T-55T), High Average (56T-59T), High (60R-69T), and Very High (70T and above). The domain T-Scores are categorized in the following ranges: Very Low (29T and below), Low (30T-39T), Low Average, (40T-44T), Average (45T-55T), and Above Average (56T and above). The following are examples from the Piers-Harris 2:

I am well behaved in school. (BEH)

I am dumb about most things. (INT)

My looks bother me. (PHY)

I worry a lot. (FRE)

I have many friends. (POP)

I am a happy person. (HAP)

The Piers-Harris 2 contains two validity scales, the Inconsistent Responding (INC) index and the Response Bias (RES) index. The INC is designed to assess whether the items were answered randomly and the RES detects whether the respondent demonstrated a tendency to either agree or disagree with test items regardless of content. Elevated scores on either validity scale suggest the need to investigate whether the respondent comprehended the items, intentionally responded inconsistently or randomly, or some other difficulty impeded his or her performance on the questionnaire.

The Piers-Harris 2 has been shown to be a reliable and valid measure of self-concept in children and adolescents, suggesting that it has retained the strong psychometric properties of the original scale. The TOT is considered the most reliable measure on the Piers-Harris 2. The authors note that the Piers-Harris 2 is "essentially identical to the original measure from a psychometric perspective" (p. 49). Internal

consistency estimates of the self-concept scales range from .74 (POP) to .91 (TOT). Test-retest reliability estimates were not available for the Piers-Harris 2 at the time the manual was published; however, the original Piers-Harris demonstrated a test-retest reliability ranging from .69 at two weeks to .83 - .96 at 3-4 weeks (Metcalfe, 1981; Querry, 1970, as cited in Piers & Herzberg, 2002).

Piers and Herzberg (2002) provide ample information regarding the validity of the Piers-Harris 2 and the original Piers-Harris, including content validity; construct validity, including convergent validity; criterion validity; and outcome research from clinical and educational interventions utilizing the original Piers-Harris. For example, the construct validity of the Piers-Harris 2 was demonstrated through use of a factor-analysis. The results revealed the 6-domain structure, also found in the original Piers-Harris, indicating that this inventory assesses related, yet distinct, aspects of self-concept. Additionally, the Piers-Harris 2 has been shown to negatively correlate with measures of aggression, anger, and posttraumatic stress disorder symptoms. The scales from the Piers Harris 2 that will be utilized in the present study are Intellectual and School Status and Total Self-Concept.

Procedure

Participants in the present study were selected from a database of past clients at the BBC-ACC. All selected youth had previously participated in a psychoeducational evaluation, with the consent of their parents or guardians, for the purpose of determining whether or not they were functioning within the gifted range of intellectual abilities and to assess for any potential learning or cognitive problems. A number of participants had contacted the BBC-ACC in order to participate in an ongoing study that was funded with a federal Jacob K. Javits Gifted and Talented Students Education Program grant. The

Javits grant was awarded to the Iowa Department of Education, which partnered with the BBC and Iowa's Area Education Agencies in order to gain knowledge about gifted students who have a learning disability or an autism spectrum disorder. Potential participants' parents or guardians were informed that their participation was voluntary, confidential, and did not impact whether or not they will receive services from the BBC-ACC. Those participants who were not a part of the Javits grant paid privately for the evaluation.

Participants and a parent or guardian met with a psychologist and another qualified examiner (e.g., educational specialist or doctoral level practicum student) who provided information regarding the nature of the psychoeducational evaluation. The parent or guardian and the participant both gave their consent in order to proceed with the evaluation. Prior to the beginning of the evaluation, the parent or guardian and the participant provided background data. Participants completed the evaluation in a quiet room, free from external distractions. A qualified examiner administered to each participant an ability test, followed by the administration of the psychosocial measures on the first day of the evaluation. Educational achievement testing occurred on the second day of testing, in addition to other potential instruments measuring executive functioning if relevant to the referral question or presenting issue. Participants were provided with breaks as needed.

The relevant test scores and de-identified background information of participants who met the selection criteria of academic giftedness and the presence of a learning disability or ADHD were analyzed as a part of this study. Participants in the control group were selected on the basis of meeting criteria of academic giftedness. Record

reviews of qualified participants were conducted in order to obtain relevant background information, such as whether they had prior knowledge of their educational needs and whether they received accommodations for these needs. All data were collected at the BBC-ACC and were stored according to federal and state confidentiality laws. Participant information was assigned a case number to assure confidentiality.

CHAPTER 4

RESULTS

In this chapter, the statistical analyses used to evaluate the research questions and hypotheses will be described and summarized. First, the plan of analysis will be presented within the context of the research questions. Then, the specific results for each research question will be presented in detail. Specifically, the correlations calculated in order to examine relationships among self-perceptions, age group, and gender will be reported. This will be followed by a description of the MANOVAs used to analyze whether differences existed among the different educational groups. Finally, the results from the multiple regression analysis will be reported.

Plan of Analysis

The purpose of Research Question #1 was to examine the relationship between giftedness, ADHD, age group, gender, and self-perceptions. For the purposes of this data analysis, self-perceptions were measured by the following scales: Self-Esteem and Sense of Inadequacy (BASC-2) and Total Self-Concept (Piers-Harris 2). In order to examine the relationship between giftedness, ADHD, age group, gender, and self-perceptions, correlations were calculated between Self-Esteem, Sense of Inadequacy, Total Self-Concept, age group, and gender within the sample of participants who were gifted and diagnosed with ADHD.

The purpose of Research Question #2 was to examine the relationship between giftedness, learning disabilities, age group, gender, and self-perceptions. Similar to Research Question #1, correlations were calculated between Self-Esteem, Sense of

Inadequacy, Total Self-Concept, age group, and gender in the sample of participants with learning disabilities.

Research Question #3 examined whether differences exist between the self-perceptions of twice-exceptional and gifted participants. In order to address this question, a MANOVA was conducted with educational classification as the independent variable and self-perceptions as the dependent variables. For purposes of evaluating this research question, self-perceptions were defined by the Self-Esteem and Sense of Inadequacy scales from the BASC-2, and a measure of academic self-concept from the Piers-Harris 2 (Intellectual and School Status).

The intent of Research Question #4 was to determine whether Self-Esteem, Sense of Inadequacy, and Intellectual and School Status differed in those participants who had prior knowledge of their specific learning needs and those who had not yet been identified. In order to address this research question, a MANOVA was conducted with educational classification and prior knowledge of educational status as the independent variables, and self-perceptions as the dependent variables. Because the gifted and twice-exceptional participants could not be compared on all possible levels of prior knowledge of educational status, gifted students without disabilities were excluded from this MANOVA.

Finally, in order to answer Research Question #5 (i.e., what psychosocial factors predict self-concept), a simultaneous multiple regression was conducted with Total Self-Concept as the criterion variable. This analysis included as predictor variables a combination of individual (e.g., age group, gender, whether accommodations were received, prior knowledge of one's educational status, and educational classification) and

psychosocial (e.g., Relations with Parents, Interpersonal Relations, and Sense of Inadequacy) variables.

Research Question #1: What is the Relationship Between Giftedness, ADHD, Age Group, Gender, and Self-Perceptions?

The first research question focused on the relationship between self-perceptions, gender, and age in gifted students with ADHD. Means and standard deviations for the three measures of self-perception are reported in Table 2. Because not all participants with ADHD were administered the Piers-Harris 2, there were only 11 responses on the Total Self-Concept scale. There were three age groups (Preadolescent [7-11], Young

Table 2. Group Means for Self-Perceptions

Scale	G/ADHD			G/LD		
	N	MEAN	SD	N	MEAN	SD
Self-Esteem	27	47.52	9.34	29	48.31	12.13
Sense of Inadequacy	27	50.96	7.92	29	52.41	10.89
Total Self-Concept	11	46.27	5.82	26	46.65	9.79

Note. Higher scores indicate stronger presence of the trait measured in each scale.

Adolescent [12-14], Adolescent [15-17]) that were coded in ascending order. Mean age for gifted youth with ADHD was 12, and ranged from 7-17. The sample consisted of 11

females and 17 males. Gender was coded such that females received a "1" and males received a "2".

As shown in Table 3, age group and gender were not significantly correlated with one another, nor were they significantly correlated with measures of self-perception. Therefore, the hypothesis that younger participants would report higher Total Self-Concept than young adolescents was not supported. Self-Esteem was negatively correlated with Sense of Inadequacy and positively correlated with Total Self-Concept. Sense of Inadequacy was negatively correlated with Total Self-Concept. The correlations on scales assessing self-perceptions were in the expected directions, given that higher scores on measures of feelings about oneself (as assessed by Total Self-Concept and Self-Esteem) were associated with lower scores on a scale measuring the degree to which feelings of inadequacy are present (Sense of Inadequacy).

Table 3. Intercorrelations Between Self-Perceptions, Age, and Gender in G/ADHD Youth

	Gender	Self-Esteem	Sense of Inadequacy	Total Self-Concept
Age	.24	-.02	-.00	-.43
Gender		-.19	.25	-.59
Self-Esteem			-.55**	.68*
Sense of Inadequacy				-.74**

Note. *$p < .05$, **$p < .01$

Research Question #2: What is the Relationship Between Giftedness, LDs, Age Group, Gender, and Self-Perceptions?

Similar to Research Question #1, the purpose of the second research question was to examine the relationship between self-perceptions, gender, and age in gifted students with learning disabilities. Within the gifted/LD sample, the mean age was 12, with ages ranging from 8-17. The sample was predominantly male (24 males, 5 females).

As shown in Table 4, neither age group nor gender was significantly related to one another, nor were they significantly correlated with the measures of self-perception. This does not support the hypothesis that younger participants would report higher levels of Total Self-Concept than young adolescent participants. Consistent with the Research Question #1, Self-Esteem was negatively correlated with Sense of Inadequacy and positively correlated with Total Self-Concept. Sense of Inadequacy was negatively correlated with Total Self-Concept.

Table 4. Intercorrelations Between Self-Perceptions, Age, and Gender in G/LD Youth

	Gender	Self-Esteem	Sense of Inadequacy	Total Self-Concept
Age	-.16	.21	-.22	.16
Gender		-.26	.12	-.14
Self-Esteem			-.58**	.71**
Sense of Inadequacy				-.65**

Note. *$p < .05$, ** $p < .01$

Research Question #3: Do Twice-Exceptional Students and Gifted Students without a Disability Differ in their Self-Perceptions?

A MANOVA was conducted with educational classification (gifted, G/ADHD, and G/LD) as the independent variable and Self-Esteem, Sense of Inadequacy, and Intellectual and School Status as the dependent variables to test whether these self-perceptions varied according to educational groups. As reported earlier in Table 2, the means for each measure of self-perception all fell within the average range for both groups of twice-exceptional participants. The means and standard deviations for Intellectual and School Status are reported in Table 5.

Table 5. Twice-Exceptional Group Means for Measures of Self-Perceptions

Measures	G/ADHD			G/LD		
	N	MEAN	SD	N	MEAN	SD
Self-Esteem	27	47.52	9.34	29	48.31	12.13
Sense of Inadequacy	27	50.96	7.92	29	52.41	10.89
Intellectual and School Status	11	50.73	8.68	26	48.04	8.24

The gifted participants also obtained mean scores in the average range on measures of self-perception, as shown in Table 6.

Table 6. Means for Self-Perceptions for Gifted Participants Without Disabilities

Scale	N	Mean	SD
Self-Esteem	36	54.33	4.17
Sense of Inadequacy	36	43.94	5.75
Intellectual and School Status	20	57.80	6.72

Box's test revealed that the assumption of homogeneity of variance was violated ($p = .001$), indicating that the variances were not equal among the gifted, G/ADHD, and G/LD groups. This suggests that the spread of scores on some or all of the measures of self-perceptions is not equal across the three educational groups. This finding could render the results of the MANOVA inaccurate as it relies on the assumption that the spread of scores on the dependent variables are equal across all levels of the independent variable.

Levene's test was utilized in order to determine which of the self-perception measures were not roughly equal across the educational groups. The results of Levene's test showed that Intellectual and School Status had equal variances across groups ($p > .05$). However, Sense of Inadequacy and Self-Esteem did not have equal variances, $F(2, 52) = 4.16$, $p < .05$, and $F(2, 52) = 9.08$, $p < .001$, respectively.

After correcting for unequal variances, the results indicated that there was a significant multivariate effect of educational classification on Self-Esteem, Sense of Inadequacy, and Intellectual and School Status, $\Lambda = .74$, $F(6, 100) = 2.77$, $p = .016$. Separate univariate ANOVAs on the outcome variables revealed a significant effect of

educational group on Sense of Inadequacy, $F(2, 30.37) = 5.33$, $p < .05$, Self-Esteem, $F(2, 22.30) = 5.81$, $p < .01$, and Intellectual and School Status, $F(2, 52) = 7.87$, $p < .01$.

The Games-Howell procedure was used to follow-up findings that there was a significant effect of educational classification on self-perceptions, given that this procedure does not assume equal variances among groups. Results revealed that the G/LD group had higher scores on Sense of Inadequacy than the gifted group. Additionally, the gifted group had higher scores on Self-Esteem and Intellectual and School Status than the G/LD group. No significant differences existed between the G/LD and G/ADHD groups, nor did significant differences exist between the G/ADHD and gifted groups.

Research Question #4: Are the Self-Perceptions of Students with Knowledge of their Specific Learning Needs Different from Individuals who Have Not Yet Been Identified?

A second MANOVA was conducted with the twice-exceptional participants only, as gifted participants without disabilities could not be compared with twice exceptional participants on all levels of prior knowledge of their educational classification. In this MANOVA, educational classification (G/ADHD and G/LD) and prior knowledge of one's educational classification were the independent variables and Intellectual and School Status, Self-Esteem, and Sense of Inadequacy were the dependent variables. The MANOVA tested whether educational classification affects self-perceptions and whether prior knowledge of one or both educational classifications impacts Intellectual and School Status scores of twice-exceptional students. The means and standard deviations

for measures of self-perception for twice-exceptional participants are the same as reported in Research Question #3. Descriptive data regarding prior knowledge of educational status are presented in Table 7.

Table 7. Group Frequencies for Prior Knowledge of Educational Status

	G/ADHD	G/LD
	N	N
No Prior Knowledge	2	11
Prior Knowledge of Disability	4	3
Prior Knowledge of Giftedness	14	13
Prior Knowledge of Twice-Exceptionality	8	2

The MANOVA revealed that neither Box's test nor Levene's test was significant on any of the dependent variables measured ($p > .05$), indicating that group variances were not significantly different from one another.

Results of the MANOVA among twice-exceptional participants were not significant for educational classification, $F(3, 27) = .14$, ns, prior knowledge of educational classification, $F(9, 65.86) = 1.02$, ns, or for the interaction of these two variables, $F(9, 65.86) = .42$, ns. These findings suggest that the twice-exceptional groups were not significantly different from each other—regardless of prior knowledge of their educational status—on measures of their self-perceptions, consistent with the initial MANOVA comparing all three educational groups.

Research Question #5: What Psychosocial Factors Predict Self-Concept?

A multiple regression was conducted in order to determine what factors predict Total Self-Concept measured by the Piers-Harris 2. Given that relationships with peers and parents have been found to impact views about oneself and one's learning disability (Raskind et al., 2006; Reis et al, 1997; Rothman & Cosden, 1995), measures of interpersonal relationships and relationships with parents (i.e., Interpersonal Relations and Relations with Parents from the BASC-2) were included in this analysis as predictor variables, along with Sense of Inadequacy, and educational classification. Given that Self-Esteem as measured on the BASC-2 and Total Self-Concept as measured by the Piers-Harris 2 both measure global self-perceptions, Self-Esteem was not included in the regression analysis. Additionally, because Intellectual and School Status is a scale that comprises Total Self-Concept, this scale was not included as a predictor in the multiple regression. Means and standard deviations for the scales are reported in Table 8.

Table 8. Means and Standard Deviations for Self-Perceptions and Social Relationships

Scale	Total Sample		
	N	X	SD
Sense of Inadequacy	92	48.67	9.06
Interpersonal Relations	96	51.51	10.06
Relations with Parents	92	48.09	9.12
Self-Concept	57	50.63	10.48

Prior to conducting the multiple regression, intercorrelations among the predictor variables for the total sample were examined (Table 9). Total Self-Concept was positively correlated with Relations with Parents, and Interpersonal Relations. This measure was negatively correlated with Sense of Inadequacy and learning disabilities. Learning disabilities was coded dichotomously, such that "1" indicated the presence of a learning disability and "0" indicated giftedness without the presence of any learning difficulties. ADHD was coded similarly, but was not included in the final regression analysis, as it was not significantly correlated with Total Self-Concept ($r = -.205$, $p > .05$). No other measures were dropped form this analysis.

Table 9. Correlations Between Total Self-Concept and Predictor Variables

	1	2	3	4	5
1. Self-Concept	--	.-.62**	.48**	.66**	-.33**
2. Sense of Inadequacy		--	-.43**	-.43**	.34**
3. Relations with Parents			--	.37**	-.11
4. Interpersonal Relations				--	-.19
5. LD					--

Note. *$p < .05$, **$p < .01$

Sense of Inadequacy was negatively correlated with Relations with Parents and Interpersonal Relations. This scale was positively correlated with learning disabilities, indicating that higher scores on Sense of Inadequacy were associated with possessing a

learning disability. Relations with Parents was positively correlated with Interpersonal Relations and negatively correlated with learning disabilities. Based on these correlations, Sense of Inadequacy, Relations with Parents, Interpersonal Relations, and the educational classification of learning disabilities were included in the regression analysis.

The predictor variables (i.e., Sense of Inadequacy, Relations with Parents, Interpersonal Relations, and LD) were entered simultaneously into a regression equation in which Total Self-Concept was the dependent measure. Results are shown in Table 10. Interpersonal Relations was the strongest predictor of Total Self-Concept, followed by Sense of Inadequacy. Neither Relations with Parents or learning disabilities accounted for a significant portion of the variability in Total Self-Concept scores. In all, the predictor variables accounted for 61% of the variability in Total Self-Concept.

Table 10. Simultaneous Regression with Self-Concept as the Outcome Variable

Predictors	B	SEB	β	R^2	Adjusted R^2
Sense of Inadequacy	-.35	.12	-.31**		
Relations with Parents	.17	.11	.16		
Interpersonal Relations	.41	.09	.45**		
LD	-2.57	1.96	-.12		
				.61	.57

Note. *$p < .05$, **$p < .01$

CHAPTER 5

DISCUSSION

This study examined the self-perceptions of gifted students and gifted students with disabilities in order to determine whether possessing academic strengths and difficulties concurrently impacted self-perceptions. In the present chapter, the implications of the results of the study will be discussed. First, the findings will be addressed and related to past literature. Then, there will be a discussion of the larger implications of the findings. Finally, limitations of this study will be reviewed, along with suggestions for future research.

Research Question #1: What is the Relationship Between Giftedness, ADHD, Age Group, Gender, and Self-Perceptions?

Gifted individuals with ADHD have not been the focus of many research studies to date. Therefore, this question sought to clarify whether there were any unique effects of ADHD in gifted individuals. The findings suggested that Self-Esteem and Total Self-Concept were positively related to each other. Therefore, in gifted youth with ADHD, high self-esteem was associated with high global self-concept, while low self-esteem was associated with low global self-concept. Given that both constructs measure overall perceptions of self-worth (Bong & Clark, 1999), this finding was not surprising. Similarly, Sense of Inadequacy was negatively correlated with Self-Esteem and Total Self-Concept. Perceptions of inadequacy, therefore, moved in the opposite direction from measures of self-esteem and global self-concept (i.e., the more gifted youth with

ADHD perceived themselves as inadequate, the less likely they were to report positive self-esteem and positive global self-concept).

While age was a significant factor in earlier studies of ADHD youth (Kaidar, 2004; Viro, 1998), this was not the case in the present study. Specifically, age group was not significantly correlated with measures of self-esteem, global self-concept, or sense of inadequacy, suggesting that there was not a significant relationship between age and self-perceptions. Gender was not significantly related to self-perceptions in the present study, despite earlier findings that gender was correlated with self-concept (Lewis & Knight, 2000).

Research Question #2: What is the Relationship Between Giftedness, Learning Disabilities, Age Group, Gender, and Self-Perceptions?

Similar to Research Question #1, this aim of this question was to determine whether there were any unique effects of possessing a learning disability on the self-perceptions of gifted students. As with the former research question, Self-Esteem and Total Self-Concept were positively correlated. Therefore, perceptions of self-esteem and global self-concept moved in the same direction. Again, this finding is not unexpected, given that both measures assess overall self-worth. Sense of Inadequacy was negatively correlated with both Self-Esteem and Total Self-Concept, as it was with the gifted participants with ADHD. As mentioned earlier, feelings of inadequacy moved in the opposite direction of perceptions of overall self-worth.

Although age and gender have been significantly related to self-concept, positive self-image, and self-confidence in youth with ADHD and in gifted youth (e.g., Beach,

2003; Kaidar, 2004; Lewis & Knight, 2000, Viro, 1998), neither age nor gender was significantly related to measures of self-perception in the sample of gifted youth with learning disabilities.

Research Question #3: Do Twice-Exceptional and Gifted Students Without a Disability Differ in Their Self-Perceptions?

One of the main questions guiding the present study was whether possessing academic strengths and academic weaknesses simultaneously impacted self-perceptions. In order to address this question, gifted students with disabilities and gifted students without disabilities were compared on the self-perceptions of Self-Esteem, Sense of Inadequacy, and Intellectual and School Status. Findings revealed that gifted participants reported higher scores on Self-Esteem and Intellectual and School Status (group means of 54.33 and 57.80, respectively) than gifted participants with learning disabilities (group means of 48.31 and 48.04, respectively).

These findings revealed that gifted participants reported higher self-esteem than gifted participants with learning disabilities. However, it is important to note that the mean scores on Self-Esteem, although significantly different, were in the average range for gifted and G/LD participants. Gifted participants also reported higher academic self-concept than gifted participants with learning disabilities. Their average Intellectual and School Status score fell in the above average range, compared to G/LD participants' average mean scores on this measure. This latter finding is consistent with past research findings that twice-exceptional youth report lower academic self-concept than gifted youth (Roberts, 1994). Gifted participants with learning disabilities received higher

mean scores on Sense of Inadequacy (52.41) than gifted participants without disabilities (43.94). While both mean scores are in the average range, this finding suggests that gifted participants with learning disabilities endorsed relatively stronger perceptions of inadequacy. Gifted participants with ADHD were not significantly different from gifted participants without disabilities or from gifted participants with learning disabilities on Self-Esteem, Sense of Inadequacy, or Intellectual and School Status.

Research Question #4: Are the Self-Perceptions of Students with Knowledge of Their Specific Learning Needs Different from Individuals Not Yet Identified?

Past literature has suggested that the asynchrony experienced by gifted individuals who have learning difficulties can negatively impact their sense of self as a learner (Colangelo, 2002; Kaufman et al., 2000; Lovecky, 2004). In their research on high ability students with learning disorders, Dole (2001) and Pliner (1999) found that a sense of empowerment emerged when learners discovered that their academic struggles were related to their twice-exceptionality and not to a lack of ability. Conversely, Dole (2001) also suggested that the stigma associated with receiving special education accommodations might adversely impact sense of self.

Therefore, in the present study, the relationship between prior knowledge of educational classification and self-concept was examined. However, no significant differences emerged in relation to self-perceptions and prior knowledge of educational status among twice-exceptional participants. This finding suggests that, in the present study, any degree of prior knowledge of educational status ranging from no knowledge to

knowledge of twice-exceptionality, did not differentially impact academic self-concept, sense of inadequacy, or self-esteem in gifted students with learning difficulties.

Research Question #5: What Psychosocial Factors Predict Self-Concept?

The final research question addressed what, if any, psychosocial factors predicted Total Self-Concept. The importance of individual and social factors in developing a sense of self have frequently been acknowledged in the literature (e.g., Bandura, 1999; Sue & Sue, 2003; Worrell & Remer, 2003), and perceived social support has been found to positively impact perceptions of one's learning disability (Rothman & Cosden, 1995). In the present study, Interpersonal Relations was the strongest predictor of Total Self-Concept, followed by Sense of Inadequacy. This suggests that perceived social support has the largest impact on global self-concept among twice-exceptional students and gifted students without a disability. Social support and feelings of inadequacy together accounted for a relatively large portion (i.e., 61%) of the variability in Total Self-Concept scores.

Summary of Findings

The overall findings of this study suggest that gifted individuals with learning disabilities were significantly different from gifted participants without disabilities on measures of self-esteem, academic self-concept, and sense of inadequacy. While both groups of twice-exceptional participants were not significantly different from one another, gifted youth with ADHD were not strikingly dissimilar from gifted youth without disabilities either. Age group and gender were not significantly related to self-

perceptions in the twice-exceptional sample. Prior knowledge of one's educational status did not impact self-perceptions in twice-exceptional participants.

Psychosocial factors that appeared to contribute the most to global self-concept were perceptions of interpersonal relationships and feelings of inadequacy. Rothman and Cosden (1995) found that perceptions of social support impacted how one felt about his or her learning disability. Results of the current study suggest that perceptions of social support may impact overall feelings of self-worth (as measured by Total Self-Concept) in gifted participants with and without disabilities. Feelings of inadequacy were negatively related to global self-concept, such that as feelings of inadequacy increased, global self-concept decreased. While interpersonal relationships was the strongest predictor of global self-concept, feelings of inadequacy also significantly predicted self-concept.

Implications and Recommendations for Practice

These findings have a number of implications for individuals working with gifted youth who have learning disabilities. One such implication is that gifted/LD youth may be at an increased risk of developing feelings of inadequacy, having low confidence in their academic abilities, and a having a poor sense of self in comparison to gifted youth without disabilities.

Additionally, interpersonal relationships (e.g., parents, peers, and others) are important to one's developing sense of self-concept, regardless of disability status. Therefore, individuals working with twice-exceptional and gifted youth without disabilities in a clinical or academic setting may find it useful to help bolster self-esteem and self-concept by working to increase supportive social relationships. Based on research that suggests there are negative psychological consequences of being associated with a stigmatized or undervalued group, (e.g., Bandura & Bussey, 1999; Meyer, 1995;

Sue & Sue, 2003; Worrell & Remer, 2003), these interventions might also be targeted at educating family members, peers, and teachers to help decrease any negative attitudes held toward disability generally or twice-exceptionality specifically.

Research in the area of social cognitive theory indicates that self-concept and self-efficacy both involve self-evaluative judgments. However, self-concept is different in that it is a self-evaluation that includes an appraisal of one's worth. Given that self-efficacy has been implicated in shaping personal identity by influencing motivational levels and attributions, professionals working with twice-exceptional youth are encouraged to help these students identify specific areas in which they lack self-efficacy, what that means to them, and help them engage in experiences that will help provide a sense of mastery and confidence in the identified areas. Targeting and bolstering self-efficacy may lead to an increased sense of self-worth, which in turn may lead to positive self-esteem and self-concept.

Limitations and Future Research

A considerable limitation of the current study is the small sample size. Although the number of participants was larger than in several other studies examining twice-exceptional youth, the small size still limited the power of the statistical tests used to detect differences and relationships among the data. Furthermore, not all participants completed all measures, which decreased the sample size on analyses taken from the Piers Harris. The group impacted the most was gifted students with ADHD. The small numbers completing the Piers Harris (n = 11) compared to the other two groups (Gifted n = 20; G/LD n = 26) may have made true differences harder to detect.

Furthermore, some comparisons could not be made based on group size. Specifically, no comparisons could be made between gifted and twice-exceptional youth in order to determine whether having one's academic needs fully accommodated impacted self-perceptions, as no twice-exceptional participants received accommodations for both giftedness and disabilities (i.e., their needs were not fully accommodated). The literature suggests that gifted students and students with learning difficulties experience frustration when their academic needs are not adequately met (Dole, 2001; Kaufman et al., 2000; Reis & McCoach, 2002; Reis, Neu, & McGuire, 1997). However, the literature also suggests that students receiving accommodations for their disabilities might experience a lower academic self-concept, given that self-concept involves a comparison to their peers (Dole, 2001; Roberts, 1994; Olney & Brockelman, 2003). Future research into the impact of having one's learning difficulties and academic strengths accommodated on self-perceptions likely will provide useful information to clinicians and educators alike.

Another limitation is that the sample is not representative of the larger population of gifted individuals with ADHD and LDs. The current sample was predominantly young (ages 7-11), male, from the Midwest, and Caucasian. Future research will benefit from finding a more diversified sample, as well as larger numbers of gifted individuals with ADHD.

Specific self-perceptions and individual factors (e.g., receipt of accommodations, prior knowledge of educational status, age) were examined in the current study. It is likely that there are other factors that might impact self-perceptions of twice-exceptional youth and predict self-concept and self-esteem. One such factor that has been examined

in previous studies is self-perception of one's learning disability (Heyman, 1990; Rothman & Cosden, 1995). At the time of this writing, it is not known whether a similar measure exists for disability in general, or ADHD specifically. However, the development and use of such a measure would be beneficial in determining what other factors impact self-concept and self-esteem, as these constructs are an important aspect of identity development (Vignoles et al., 2006).

The present study found that sense of inadequacy and interpersonal relationships predicted 61% of the variability in global self-concept scores. There is still a substantial portion of self-concept that is not accounted for by these predictor variables. Future research may identify other variables that assist in explaining factors that comprise self-concept.

Pliner (1999) and Dole (2001) have examined identity development in high ability students with learning disabilities. While their research has added to the knowledge base of the experiences of these individuals, research is still lacking on how the process of identity development occurs within twice-exceptional individuals. Future studies may examine in more detail the relationship between social cognitive theory and the process of identity development.

Conclusion

Theorists and researchers typically agree that culture impacts individual development. The influence of discrimination on sense of self has been established for a variety of cultural minority groups (Meyers, 1995; Sue & Sue, 2003; Worrell & Remer, 2003), although there is not yet a model that accounts for the process of identity development in individuals with disabilities. The civil rights of persons with disabilities

were only recently recognized on a national scope with the passing of the ADA (1990) and there is still a stigma associated with possessing a disability (Olkin, 1999b). Evidence from past research suggests that the long-term impact of this stigma on sense of self in persons with learning disabilities and ADHD can persist into young adulthood (Reis et al., 1997; Pliner, 1999), even in the absence of continued impairing symptoms (Slomkowski et al., 1995).

The present study examined the psychological impact of simultaneously having a socially valued status (academically gifted) and a devalued status (learning disability or ADHD). An important finding of this study was that gifted students with learning disabilities reported feeling more inadequate than did gifted youth without disabilities. They also had lower academic self-concepts and lower self-esteem than gifted youth without disabilities. However, evidence did not support that twice-exceptional participants, as a whole, were significantly different from gifted participants without disabilities. Therefore, given these findings, there may not be a similar process of developing aspects of self-worth that is common to twice-exceptional individuals.

Although these results do not support the notion that gifted individuals with LDs and ADHD encounter a shared cultural experience that impacts their developing sense of self, there still may be some benefit to viewing twice-exceptional learners from a cultural perspective. Specifically, viewing the development of self-worth through a social cognitive lens may be useful, as the process of identity development is complex, involving individual, behavioral, and environmental factors (Bandura, 1999). Bandura and Bussey (1999) suggested that self-perceptions might be impacted on the group level, via internalization of cultural stereotypes. Utilizing social cognitive theory as a means

for conceptualizing the fluid nature of identity development will likely assist counselors and other trained professionals in identifying how one arrived at his or her self-understanding. Furthermore, it can also provide a framework for determining specific areas in which interventions can be directed (e.g., cognitively via direct experience).

APPENDIX A. BEHAVIOR ASSESSMENT SCALE FOR CHILDREN—SECOND EDITION (BASC-2)

The BASC-2 is copyrighted material. Therefore, this instrument will not be included in this appendix.

APPENDIX B. PIERS-HARRIS CHILDREN'S SELF-CONCEPT SCALE—SECOND EDITION (PIERS-HARRIS 2)

The Piers-Harris 2 is copyrighted material. Therefore, this instrument will not be included in this appendix.

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