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Adolescent Perceptions of Family Connectedness and School Belonging: Links with Self-Concept and Depressive Symptoms among Gifted African American and Hispanic Youth

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Gifted minority students, particularly those who are African-American or Hispanic, often face significant barriers to their optimal psychosocial functioning and academic achievement (Ford, 1998). Lack of access to appropriate educational resources, reduced teacher expectations, under-identification and underrepresentation in gifted and talented programs, and outright discrimination all contribute to increased risk and reduced psychosocial and academic functioning among these youth (e.g. Ford, Grantham, & Milner, 2004; Ford & Harris, 1999). Yet, despite these numerous risk factors, there are many gifted minority youth who continue to flourish in the face of these difficult conditions (Mueller, 2009). Further, other researchers have suggested that, because of their advanced cognitive ability and increased sensitivity and perceptiveness, gifted students in general might be at greater risk for problematic psychosocial adjustment and lowered academic functioning (Gross, 1999; Pfeiffer & Stocking, 2000). Many of these students, they argue, may experience maladaptive perfectionism (Nugent, 2000), poor social adjustment (Jackson & Peterson, 2003), and develop negative self-views or feelings of alienation (Dauber & Benbow, 1990), because of asynchronous development with same-aged peers (Garland & Ziglar, 1999; Silverman, 2002).

At the same time, there is a growing trend in many areas of psychological and educational research (e.g., Seligman & Csikszentmihalyi, 2000), and among many giftedness researchers, to move away from outdated negative models and toward healthier and more positive models of psychological adjustment and academic functioning. For example, Ford and her colleagues (e.g. Ford, 1994, 1998; Ford, Grantham & Milner, 2004; Ford & Harris, 1999), have suggested that gifted students, because of their advanced problem-solving capability, and minority students, because of their extended community-support networks, may actually become more resilient when faced with adverse circumstances, because of the combination of these unique factors (Mueller, 2009). Contrary to some popular notions, gifted African American and Hispanic youth may actually possess greater advantages when faced with stress, because their advanced problem-solving abilities allow them to seek out and utilize sources of support (Kitano & Lewis, 2005; Umaña-Taylor, 2009). Citing an example from Dole (2000), Mueller notes that risk factors (e.g., being raised in a single-parent home) may be ameliorated by other factors (e.g., presence of a strong mother figure in the home) for this unique group.

Theoretical Framework

Ford (1994) suggested the importance of strengthening the "family-school-community" link in order to nurture resiliency and reduce risk in gifted African American youth. Other researchers have suggested that this may also be essential for nurturing resiliency and reducing risk in gifted Hispanic youth as well (Mulvaney-Day, Alegría, & Sribney, 2007; Shaunessy, McHatton, Hughes, Brice, & Ratliff, 2007; Umaña-Taylor, 2009). Phelan, Davidson, and Yu (1998) and Umaña-Taylor (2009) have suggested that minority adolescents often experience discordant cultural values between their homes, schools, and the larger community, and that stronger interpersonal bonds among and between these various spheres of influence can enhance resiliency for these youth. Adolescents who perceive strong attachments within their families and within school contexts are better able to navigate the troubled waters of adolescence; more specifically, negative associations have been found between adolescent

perceptions of parent-family connectedness and school belongingness and a multitude of health risk outcomes, including emotional distress, suicidal ideation, depression and drug and alcohol use (Resnick et al., 1997; Theobald, 2006). These relationships have also been found independently among the gifted (Mueller, 2009) and among African American and Hispanic adolescents (Choi, 2002; Marsiglia, Miles, Dustman, & Sills, 2002). Little empirical research exists, however, illustrating how these factors may function in a uniquely gifted minority sample.

From a psychological standpoint, much of what is believed to benefit individuals through these strong attachments derives from various attachment theories (e.g., Ainsworth, 1985). Attachment theory proposes that individuals derive safety and security from strong interpersonal bonds with caregivers and loved ones, especially during times of stress (Bowlby, 1969, 1973). During adolescence, these sources of attachment may come through the family or through non-familial relationships at school, such as with peers, friends and teachers (Markward, McMillan, & Markward, 2003; Way & Robinson, 2003). Further, many researchers have utilized an attachment-theory framework to explain individual differences in adolescent psychosocial functioning (Allen, Moore, Kuperminc, & Bell, 1998; Howard & Medway, 2004; Ognibene & Collins, 1998; Seiffge-Krenke, 2006), and Maslow (1970) suggested that the basic human needs of affiliation and belongingness must be fulfilled before individuals can pursue and experience actualization at higher levels.

Furman (2002) and others (e.g., Connolly, Furman, & Konarski, 2000; Sullivan, 1953) have suggested that romantic, peer, and non-familial adult relationships assume an increasingly important role during adolescence whereby adolescents form unique ways of interacting and drawing strength from relationships with peers, teachers, and friends. Masten (2001) and McLoyd (1998), for example, found that adolescent perceptions of at least one positive relationship with a non-parent adult, such as a coach or teacher, reduced the risk for problematic psychosocial adjustment. Further, Rodriguez, Mira, Myers, Morris, and Cardoza (2003) found a link among Latino college students such that friend support contributed slightly more to well-being than family support, even after controlling for such factors as gender and socioeconomic status. Gifted students, because of their overall perceptiveness and advanced cognitive abilities, may actually be at a greater advantage to seek out and utilize support during times of stress (Mueller, 2009; Neihart, 2001). That is, while perceptiveness and problem-solving ability do not make one more resilient, these characteristics may enhance resiliency in some gifted youth (Kitano & Lewis, 2005). For these reasons, gifted minority adolescents may be uniquely equipped to seek out and utilize sources of support during times of stress, although these links require further empirical support before educators can design intervention strategies based on these assumptions.

Sources of Attachment Support during Adolescence

Many times, sources of attachment support for gifted African American and Hispanic youth will come from their nuclear families. There may be times, however, when conflict or a lack of perceived support may not be found within the immediate family, in which case many adolescents seek other sources of support to help them cope during times of stress. For example, many adolescents draw upon their attachments to teachers and extended family members to gain support (Farnworth, 1984; Taylor, Chatters, & Jackson, 1993). As a result of adolescent reliance on family and non-family support systems, we believe these relationships will act as psychosocial buffers for gifted African American and Hispanic youth. It is to this literature that we turn our attention next.

Family. Families are perhaps the most important source of attachments for youth, since the attachments formed in infancy continue to develop even through the sometimes turbulent years of adolescence (Arnett, 1999). Long after adolescents exhaust other sources for emotional support, healthy parent and family attachments remain essential to healthy adolescent functioning (Markiewicz, Lawford, Doyle, & Haggart, 2006). For example, Mueller (2009) found that strong family attachments were inversely related to depression for gifted adolescents and others have found similar relationships for minority adolescents (e.g. Boyd-Franklin, Smith, & Bry, 1997; Nahulu, Andrade, Makini, Yuen, McDermott, & Danko, 1996; Sheeber, Davis, Leve, Hops, & Tildesley, 2007). Further, Dailey (2009) reported results from two separate studies that indicated adolescent perceptions of validation and acceptance from family were significantly related to a range of positive psychosocial adjustment outcomes including self-concept. Despite the fact that many African American and Hispanic adolescents rely on their families for support, there are some instances where strong family support is not readily available or offered by members of the immediate families. Though extended family members can, and often do, provide support under these circumstances (Ceballo & McLoyd, 2002), some gifted adolescents may seek out alternate forms of support from people in other social networks, particularly at school.

School. Davis (2003) noted that, when available, adolescents benefit immensely from the strong attachment and support provided through interpersonal relationships in the school setting. Even after controlling for age, gender and family income level, Mueller (2009) found that school belonging was a significant negative predictor of depression in both gifted and nongifted youth. Additional findings related to the gifted Hispanic youth in that study, however, led Mueller to conclude that additional research was needed to further explore how these factors interacted for other gifted minority groups. Specifically, even after controlling for the above-mentioned demographic factors, family-connectedness, and school belonging, Mueller found that gifted Hispanic youth reported significantly higher levels of depression.

In summary, strong family and school support is essential for adolescent health and well-being and most youth will ultimately benefit from high levels of involvement with supportive, nurturing adults. What is less clear from existing literature, however, are the multiple ways that family and school support may benefit gifted African American and Hispanic youth. The present study is partially a follow-up to an earlier study conducted by Mueller (2009), which showed conflicting findings pertaining to the gifted Hispanic adolescents in that study.

Purpose of the Present Study

The purpose of the present study was to explore how adolescent perceptions of family and school support were related to self-concept and depressive symptoms in a nationally representative sample of verbally gifted African American and Hispanic youth. Using a priori findings from related literature with both gifted and non-identified youth, we hypothesized that adolescent perceptions of family connectedness and school belonging would be significantly and positively related to a positive indicator of psychosocial well-being (self-concept) and significantly and negatively related to a negative indicator of psychosocial well-being (depressive symptoms). Findings from the present study can add to the growing empirical literature documenting ways to help enhance resiliency and reduce risk in gifted African American and Hispanic youth.

Methodology

Data Source

In the present study, we used archived data from National Longitudinal Study of Adolescent Health (Add Health) (Udry, 2003). Add Health contains data from a nationally-representative sample of 20,745 adolescents who were in grades seven through twelve at the time of the Wave I interviews, which were conducted during the 1994-1995 school year. Although these data were collected more than 15 years ago, they continue to offer valuable insights for researchers who address concerns that occur during adolescence. Primarily, Add Health presents the most extensive study of adolescent health ever conducted, and as such, allows researchers to examine a range of academic and psychosocial variables across different achievement contexts and across a wide range of ages and racial and ethnic groups. In addition, the present study is designed to extend the findings of an earlier study with gifted youth (i.e., Mueller, 2009) that utilized the same Add Health dataset.

As a part of the larger Add Health study, data were collected through the use of extensive interviews and were conducted in respondents' homes and schools. The purpose of the larger Add Health study was to examine how health-related behaviors during adolescence were influenced by social and environmental factors. The Add Health research team used proper procedures for ensuring participant confidentiality and privacy (Harris, Florey, Tabor, Bearman, Jones, & Udry, 2003). Further details about study design, sampling procedures, and methodology are available in other studies based on Add Health data (e.g., Resnick et al., 1997; Rushton, Forcier, & Schectman, 2002) and from the Add Health website (Harris, Halpern, Entzel, Tabor, & Udry, 2008).

Present Sample

In the present study, we relied on previously established criteria[1] to define our current sample of 165 gifted African American and Hispanic students. Participants were identified as being verbally gifted if their scores on the Add Health Picture Vocabulary Test (AHPVT) were in the top five percent of scores in the entire Add Health sample; a nationally-representative sample of students. This method has been used as a proxy measure for intelligence (e.g., Halpern, Joyner, Udry, & Suchindran, 2000) and for giftedness (Mueller, 2009) in previous studies using Add Health data. The other selection criterion, racial/ethnic identity, was determined using a three-step method. We first selected participants who said they were of Hispanic origin, regardless of their race (N=77). We then selected non-Hispanic participants who endorsed being Black/African American or who, after endorsing more than one race, indicated that Black/African American best described their race (N=88), which led to a combined sample of 165 participants.

Measures

Demographic variables. Age, gender, and family income level served as the demographic variables in the study. We calculated age by subtracting the year of birth of each respondent from the year of the interview. Age was treated as a continuous variable in the subsequent regression analyses.

[1] Mueller (2009) utilized same criteria to identify a sample of verbally gifted students in that study.

Gender and race were dummy-coded (0 = male, 1 = female; Hispanic = 0, African American = 1). Ages ranged from 12 to 18 years old (M = 15.44, SD = 1.60); there were more males (52.1%) than females (47.9%). The sample was predominantly African American (53.3%). Family income level was measured in US $1,000 increments and was also treated as a continuous variable. Household income ranged from $0 to $177 (in thousands) dollars per year (M = $43.90, SD = $28.47). Twenty-seven percent of the participants lived with both of their parents, and 73% lived with a single parent. Sample demographic information is presented in Table 1 and the correlations among all continuous variables are presented in Table 2.

Intelligence. Many large field studies such as Add Health utilize the Peabody Picture Vocabulary Test (PPVT) as a proxy measure for intelligence because it was designed to require minimal time and training to administer, and because test performance is independent of the test-takers' reading abilities; PPVT scores are interpreted using the same metric as other standardized tests of intelligence (Halpern et al., 2000). Other tests of intelligence have been found to have a moderate correlation with the PPVT, including the Stanford-Binet Intelligence Test (correlation=.62) and the Wechsler Intelligence Scale for Children (correlation=.64; Halpern et al., 2000). This same procedure was used previously by Mueller (2009) to identify gifted minority students.

Parent-family connectedness. We measured perceived parent–family connectedness by using a six-item scale. This scale has been utilized by other studies using Add Health data (e.g. Mueller, 2009) and measured both the level of perceived closeness in the immediate family (e.g. "How much do you feel that your family pays attention to you?") and parent–child relationships (e.g. "How close do you feel to your father/mother?"). Items that measured perceived closeness employed a five point Likert-type scale 0 (*not at all*) to 4 (*very much*). In regard to perceived parent-child relationships, participants were asked to respond to separate questions about parent-child relationships with their mothers and fathers, which we recoded such that scores ranged from 0 (*strongly disagree*) to 4 (*strongly agree*). Higher values on the scale indicated higher levels of parent–family connectedness. The complete scale was created by averaging item scores to generate a scale score. We found good reliability for the scale (α = .79), which is slightly less than the reliability estimate found by Mueller (α = .84)[2].

School-belonging. School belonging was measured using a four-item scale. This scale is the same in content as the scale used by Anderman (2002) and Mueller (2009); it measured the level to which a student felt a general sense of belongingness to their school. Items included, "You feel close to people at your school" and "You are happy to be at your school." Responses were coded on a 5- point Likert-type scale 0 (*strongly disagree*) to 4 (*strongly agree*) where higher scores indicated higher levels of perceived school belonging. Reliability for the scale (α = .72) is slightly smaller than the reliability estimates for identical scales used by Anderman (α = .76) and Mueller (α = .79).

Self-concept. Global self-concept was measured using a seven-item scale and was designed to measure global self-concept and included such items as, "You have a lot of good qualities" and "You feel socially accepted." Responses were coded on a 5-point Likert-type scale, with higher responses indicating higher self-concepts. Reliability for the scale (α = .85) is approximately the same as that for the scales used by Anderman (2002; α = .86) and Mueller (2009; α = .85).

[2] Separate reliability estimates were provided as the present sample differed from that of Mueller (2009) in that only a subset of the participants were used in current analyses.

Depressive symptoms. An additional outcome measure for the study was adolescent self-report of depressive symptoms (Rushton, Forcier, & Schectman, 2002). In Add Health, depressive symptoms were measured using an adapted form of the Center for Epidemiological Studies-Depression Scale (CES-D; Radloff, 1977). A number of researchers (e.g., Mueller, 2009; Munafò, Hitsman, Rende, Metcalfe, & Niaura, 2008; Needham, 2009) have used the adapted CES-D from the Add Health study and have reported varying factor structures for different racial and ethnic subsamples, which is likely due to cultural differences between the varying groups (Crockett, Randall, Shen, Russell, & Driscoll, 2005). As a result, we chose to use a shortened version of the scale that was found to have similar factor structures across racial and ethnic subsamples in the Add Health study (see Perreira, Deeb-Sossa, Harris, & Bollen, 2005, for a full review).

Respondents were asked to indicate, for example, how often over the past seven days they had felt "sad" or "depressed" or "happy." We recoded responses on all items such that higher scores indicated a greater degree of depressive symptoms; possible scores ranged from 0 (never or rarely) to 3 (most of the time or all of the time). In the current study, the depressive symptoms scale was treated as a continuous variable by creating a mean score of the five items on the scale. The reliability estimate for this scale in the present study was good ($\alpha = .74$), and was similar to the reliability estimates for the full sample ($\alpha = .78$) and African American ($\alpha = .73$) samples in the study by Perreira, et al. (2005).

Statistical Analyses

In order to examine our research questions related to psychosocial health in gifted minority students, we conducted two separate hierarchical linear regressions to determine the relative associations between the protective factors – parent-family connectedness and school-belonging – and one positive indicator of psychosocial well-being (self-concept) and one negative indicator of psychosocial well-being (depressive symptoms). Participant demographics, including the measure of giftedness, were entered as control variables into the regressions at the first step. The protective factors were then entered into the second step of the regressions. Lastly, we entered interaction terms into the third step of the regression models to test moderation by race and protective factors. We centered the protective factor variables before we constructed the interaction terms (Tabachnick & Fidell, 2001).

Results

Self-Concept

The first step of the regression model, which included demographic and giftedness variables, was significantly related to self-concept and explained a significant portion of the variance in the model, with an adjusted R^2=.11, p <.01. The second step, in which we added the protective factors to the model, explained a much larger percentage of the variance, with an adjusted R^2=.31, p <.001. In the third and final step of the model, we included interactions between race/ethnicity and each of the two protective factors to determine if race/ethnicity moderated the associations between the protective factors and self-concept.

In the full model, females ($\beta = -.28$, p <.01) were less likely than males, and African Americans ($\beta = .24$, p <.01) were more likely than Hispanics to have a high self-concept. In the presence of the

protective factors and the interaction terms, the effect of the two significant demographic variables was decreased and the two protective factors were statistically significant, as was the interaction of race/ethnicity and school belonging. The effect of parent-family connectedness (β = .40, *p* <.001) indicates that, as adolescents' perceive stronger connections with their families, their self-concept increases. We found a similar but smaller effect for school belonging (β = .21, *p* <.001), indicating that as adolescents' perceive stronger connections with school, their self-concept increases as well. Lastly, the interaction between race/ethnicity and school belonging (β = .19, *p* <.05) indicates that race/ethnicity moderates the effect of school belonging on self-concept. In other words, as school belonging increases, gifted African American adolescents are more likely to have a higher self-concept than gifted Hispanic adolescents. Results for this regression analyses can be found in Table 3, and a plot of the interaction effect can be found in Figure 1.

Depressive Symptoms

The first step of the regression model, which included demographic and giftedness variables, was significantly related to depressive symptoms and explained a significant portion of the variance in the model, with an adjusted R^2=.10, *p* <.01. The second step, in which we added the protective factors to the model, explained a much larger percent of the variance, with an adjusted R^2=.22, *p* <.001. In the third and final step of the model, we included interactions between race/ethnicity and the two protective factors to determine if race/ethnicity moderated the associations between the protective factors and depressive symptoms.

In the full model, females were more likely to have high depressive symptom scores than males (β = .30, *p* <.01), and African Americans were more likely to have lower depressive symptom scores than Hispanic adolescents (β = -.19, *p* <.05). In addition, participants who lived with both parents were more likely to have high depressive symptoms scores than participants who did not live with both parents (β = -.25, *p* <.05). Higher levels of school belonging predicted lower levels of depressive symptoms (β = -.22, *p* <.01), and family connectedness was not a significant predictor of depressive symptoms. Neither of the two interaction terms was found to be significant. Results for this regression analyses can be found in Table 4. Implications for the significant findings related to self-concept and depressive symptoms are discussed next.

Discussion

In the present study, after controlling for demographic variables, we examined the relationship between family connectedness and school belongingness and self-concept and depressive symptoms among a nationally-representative sample of gifted African American and Hispanic youth. As predicted, our results showed a significant positive relationship between family connectedness and self-concept, and school belonging and self-concept, among the participants. Contrary to our predictions, only school belonging yielded a significant negative relationship with depressive symptoms among the participants. These findings add to the growing literature in this area by demonstrating that sources of support, by way of family and school relationships, do indeed have important implications for psychosocial functioning in gifted African American and Hispanic youth (Ford, 1994; Umaña-Taylor, 2009). Implications of these and other findings are discussed next and are organized according to their relationships to the main outcome variables of self-concept and depressive symptoms.

Self-Concept

Rudasill, Capper, Foust, Callahan, and Albaugh (2009) suggested that when it comes to self-concept, the gifted are not a homogonous group, and the study participants in our sample reflected this fact. Our sample consisted of members of two broad racial/ethnic groups, African Americans and Hispanics, and included both adolescent girls and boys. With respect to gender differences, the finding that girls reported significantly lower self-concepts than boys is generally consistent with previous research (e.g., Colangelo & Assouline, 1995; Hoge & McScheffrey, 1991; Rudasill et al., 2009). This finding may indicate, however, that other issues are present for gifted African American and Hispanic females. Because of negative stereotypes based on gender, race/ethnicity, and giftedness, the females in our study may be at greater risk for low self-concept because of the combined effects of their status (Lindstrom & Van Sant, 1986; Rudasill et al., 2009); although additional research is needed before this link is clearly established.

With respect to ethnic differences in self-concept, our findings indicated that gifted African American students reported significantly higher self-concepts than gifted Hispanic students. Further, the significant interaction between race/ethnicity and school belonging on self-concept indicated that gifted African American adolescents were more likely to have higher self-concepts when they reported a stronger connection to their school. Few studies have explored ethnic differences in self-concept among gifted adolescents; however, the present findings seem to indicate school relationships are important for gifted African American students. Again, very little research has explored ethnic differences in self-concept among gifted adolescents, although Grantham and Ford (2003) and Worrell (2007) have suggested that ethnic identity may be especially salient sources of self-esteem and self-concept among many gifted minority youth.

Previous studies have shown that family connections are critical to academic motivation and success in many gifted minority students (Ford & Harmon, 2001; Hébert, 1996). Results from the present study also demonstrate this link exists with psychosocial outcomes, including self concept. Adolescents who perceive understanding and care from their families, enjoy spending time together, and feel close to their parents tend to feel more supported than those who do not. Many researchers, including Seiffge-Krenke (2006) and others (e.g. Markiewicz, Lawford, Doyle, & Haggart, 2006) have utilized attachment theory as a framework for explaining individual differences in coping during adolescence in nongifted populations. These researchers suggest that family attachments may provide stability for the tumultuous period of adolescence. In the present study, this seems to translate to a better view of self. Likewise, adolescents who perceive acceptance and closeness from others at school also tend to feel more supported than those who do not, and increases in school belonging were also associated with increases in self-concept, thereby indicating that these strong school connections served to increase adolescents' views of themselves. Both of these findings lend support to the notion that school and family relationships provide important sources of support for gifted African American and Hispanic youth in relation to self-concept.

Depressive Symptoms

As they relate to depressive symptoms, results from the present study also support previous findings in this area. First, significant gender differences were found between males and females in their

self-reported levels of depressive symptoms. Most research related to depression reports that gendered trajectories are higher for females than for males across the life-course such that females often report higher levels of depression than males (Cyranowski, Frank, Young, & Shear, 2000). Meadows, Brown and Elder (2006) suggested that possible causes for this life-course discrepancy include the increased exposure to multiple stressors at various life stages, as well as increased vulnerability to their cumulative detrimental effects. During adolescence, females tend to place more importance on peer relationships and may be more susceptible to depression when problems arise (Simmons, Burgeson, Carlton-Ford, & Blyth, 1987). It may be that the present sample of gifted African American and Hispanic females faces additional pressures because of their combined gender, giftedness, and racial/ethnic minority status.

Relatedly, we found that Hispanics were more likely than African American participants, and youth who lived with only one parent were more likely than youth who lived with both parents to report significantly higher levels of depressive symptoms. The literature on family structure for minority students often indicates that youth who live with a single parent are most at risk of developing depressive symptoms because many single parents are forced to juggle the competing demands of wage earning and meeting the physical, educational, and emotional needs of their children (McKeown et al., 1997). Prevalence rates of depression in racial and ethnic minority groups, on the other hand, often are inconsistent between studies because of varying cultural interpretations, experiences, and reporting of depressive symptoms (Choi, 2002; Crockett, et al., 2005). Although some researchers have reported that non-Caucasian students as a whole tend to report higher levels of depressive symptoms when compared with their Caucasian counterparts (Rushton, Forcier, & Schectman, 2002), the complexities associated with African American and Hispanic cultures should be at the forefront of research on depression within gifted minority populations. As some researchers have argued, the measurement of depression within African American and Hispanic communities, among other racial and ethnic groups, is complex and different types of symptoms (e.g., affective symptoms) associated with depression may be more salient for one group than another (Choi, 2002; Crockett et al.).

In light of these reports on the measurement of depression in minority populations, however, it is important to note that results from a number of studies continue to indicate that Hispanic students tend to report the highest depressive symptom scores when compared with the other major ethnic groups (e.g., Cespedes & Huey, 2008; Gore & Aseltine, 2003). For example, Mueller (2009) found that the gifted Hispanic youth were significantly more likely to report depressive symptoms than Caucasian students, even in the presence of family and school protective factors. Taken together, the results of both the gender and ethnic differences found here lend support to existing research suggesting that gender and ethnic differences in levels of depression continue to exist, even among gender-minority and ethnic-minority gifted youth. These findings warrant additional research to explore the unique experiences that are faced by racial and ethnic minority gifted students, especially females, and call attention to the need for adults who work with and care for gifted African American and Hispanic adolescents to be mindful of their psychological health.

Not only are demographic factors associated with depressive symptoms in our study, but we found that higher levels of school belonging are inversely associated with levels of depressive symptoms. These results indicate that gifted students in our sample benefit from support drawn from strong school attachments, which serves as a protective factor against depressive symptoms. When family support is either unavailable or is not utilized by gifted adolescents, benefits from strong

attachments can often be sought through other resources, including healthy attachments with teachers, peers, and other adults in school settings (Mueller, 2009). It is often these relationships and these attachments that provide the foundation for the subjective sense of well-being that one derives from strong attachments to school (Anderman & Freeman, 2004). School belonging, which in the present study was characterized by endorsing statements such as "you feel close to people at your school" and "you feel like you are a part of your school," suggest that school belonging may be a more important factor for enhancing psychosocial well-being in gifted minority adolescents than other types of support, including family support. Previous research has shown that gifted students often seek these different sources of support (Dunn, Putallaz, Sheppard, & Lindstrom, 1987), although there is little research examining these differences among gifted ethnic minority youth. Again, further evidence is needed before this conclusion can be definitively made.

Limitations and Future Research

One limitation of this study is the use of the first wave of Add Health data, which was collected the 1994-1995 school year. Although we outlined our rationale for the use of these data in the present study, we recognize that more current nationally representative samples of gifted students are needed for continued research. In light of this, however, we believe that the current study provides valuable insights into the psychosocial functioning of a nationally-representative sample of verbally gifted African American and Hispanic adolescents. An additional limitation of the present study involves use of the Add Health Picture Vocabulary Test (AHPVT) as an indicator of giftedness. Whereas the AHPVT has been found to correlate moderately with other measures of intelligence as outlined above, and has been used as a proxy measure of intelligence (Halpern et al., 2000) and giftedness (Mueller, 2009) in previous studies, it lacks the multifaceted approach to identifying and defining gifted students that would otherwise be desired. Despite these limitations, we believe that the findings from a nationally-representative sample provide external validity to the findings, and at the very least, establish preliminary links between social support and psychosocial functioning in this growing, but currently underserved population.

In summary, results in the present study both extend previous literature, as well as point to a need for further research. It is clear from the present results that sources of attachment are important for healthy functioning in gifted African American and Hispanic youth. Given the lack of presence of these students in gifted and talented programs nationwide (Grantham & Ford, 2003), and the difficulty in retaining these students once enrolled (Ford, 1998), researchers and practitioners face increasing need to continue in Ford's (1994) call to strengthen the "family-school-community" link in order to enhance resiliency and reduce risk in gifted African American and Hispanic youth.

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Table 1

Means, Standard Deviations, and Ranges, and Skewness Statistics of Continuous Variables

Variable	Mean	SD	Median	Range	Skewness
Household Income (in thousands)	43.90	28.47	40.00	0 – 177	.986
Age	15.44	1.60	16.00	12 – 18	.04
AHPVT	126.03	3.28	125.00	123 – 139	1.54
Family Connectedness	3.06	.57	3.29	0 – 4	-1.27
Self-Concept	3.08	.61	3.10	0 – 4	-.36
School Belonging	2.86	.71	3.00	0 – 4	-.85
Depressive Symptoms	.38	.44	.20	0 – 3	1.92

Table 2

Correlations among continuous variables

	1	*2*	*3*	*4*	*5*	*6*	*7*
N	165	165	165	165	165	165	165
1 Age	-						
2 Household Income	-.04	-					
3 AHPVT	-.48***	-.00	-				
4 Family Connectedness	-.20**	-.05	.16*	-			
5 School Belonging	.05	-.09	-.06	.32***	-		
6 Self Concept	-.07	-.02	.03	.46***	.34***	-	
7 Depressive Symptoms	.13	-.02	-.06	-.30***	-.34***	-.50***	-

* p < .05, ** p < .01, *** p < .001

Table 3

Hierarchical Linear Regression Predicting Self-Concept

Variable	Step 1 *β*	Step 2 *β*	Step 3 *β*
Female	-.28**	-.23*	-.25**
African American	.24**	.21**	.21**
Household Income	.00	.03	.01
Both Parents	-.02	.01	.05
Age	-.04	.01	-.04
AHPVT	-.02	-.04	-.06
Family Connectedness		.36***	.40***
School Belonging		.19*	.21**
African American by Family Connectedness			.-.03
African American by School Belonging			.19*
Adjusted R^2	.11**	.31***	.33***
Change in R^2	.11**	.20***	.02
Effect Size		.29	.03

** p < .05, ** p < .01, *** p < .001*

Table 4

Hierarchical Linear Regression Predicting Depressive Symptoms

Variable	Step 1 *β*	Step 2 *β*	Step 3 *β*
Female	.36**	.32**	.30**
African American	-.23**	-.19*	-.20*
Household Income	.00	-.02	-.02
Both Parents	-.26*	-.27**	-.25*
Age	.10	.08	.09
AHPVT	.04	.04	.03
Family Connectedness		-.19*	-.16
School Belonging		-.24**	-.22**
African American by Family Connectedness			.12
African American by School Belonging			.04
Adjusted R^2	.10**	.22***	.22***
Change in R^2	.10**	.12***	.00
Effect Size		.15	.00

** p < .05, ** p < .01, *** p < .001*

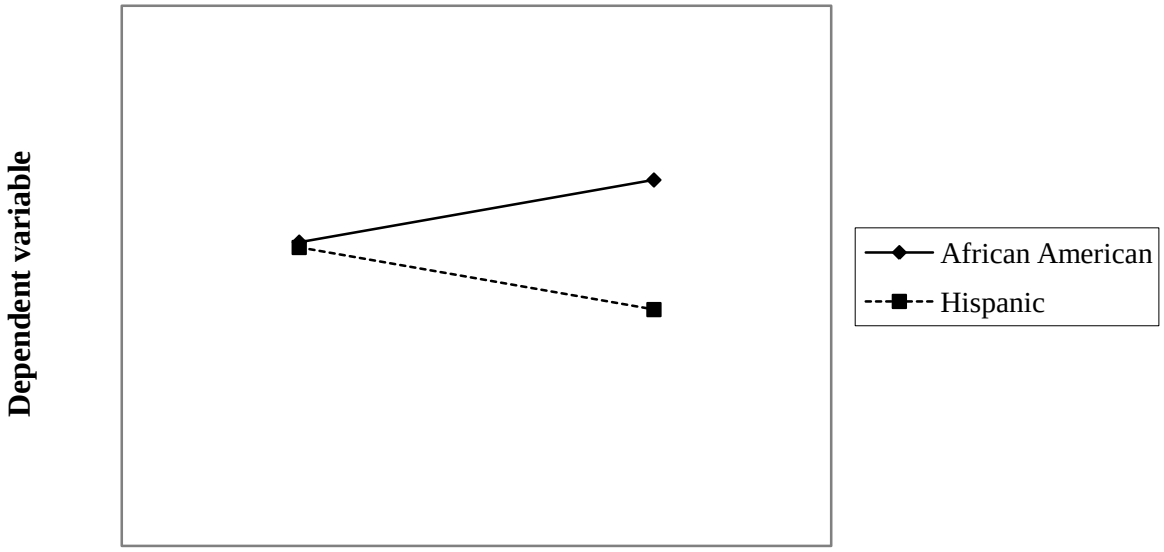

Figure 1.

Interaction Effect between Race/Ethnicity and School Belonging on Self-Concept