

The Influence of Family Attributes on College Students' Academic Self-concept

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The purpose of the present study was to investigate the effects of family attributes on college students' academic self-concept. Family attributes include family communication, parental education, family structure, and parental involvement in activities such as arts and crafts, sports, and music. One hundred and fifty-five college students from a diverse private university completed the *Academic Self-Concept Scale* and a self-reported family attributes questionnaire. Results revealed that a family structure of two parents at home is associated with higher academic self-concept than a single parent home. In addition, parents who praise their children and partake in family activities such as arts and crafts, tend to have children with higher academic self-concepts. The present study shows that parents continue to influence their child's development into the college years.

A student's perceived academic ability is associated with academic achievement (Cokley, 2000; Song & Hattie 1984). In a sample of 230 college students, Choi (2005) found academic self-concept was a significant predictor of academic grades. Kornilova, Kornilov, and Chumakova (2009) found that subjective evaluations of intelligence and academic self-concept accounted for 42% of the variance in a student's grade point average (GPA). The current question is what factors influence academic self-concept? Specifically, what factors affect college students' perceived ability within an academic setting?

The present study was designed to investigate what family attributes, if any, affect college students' academic self-concept. Bandura's (1986) social cognitive theory has been used to understand academic behavior (Bandura, 1993; Lent, Brown, & Gore, 1997; Lent, Brown, & Hackett, 1994). The theory suggests that an individual's perceived belief about his/her ability to perform a specific task can have an effect on actual performance. Self-efficacy beliefs help determine choice of activities, level of effort, persistence, and quality of work (Lent et al., 1997). Bandura's (1986) theory further posits that people's self-efficacy varies

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depending on the activity domain. For example, a young adolescent may perceive himself as having strong athletic skills but weak academic skills. Within a specific domain, it is possible that individuals may even hold specific beliefs such as being good at math but questionable beliefs about their academic ability in general. However, studies show that a conviction that one is a good overall student takes precedence over beliefs regarding a particular subject (Lent et al., 1997).

The term self-concept is typically used as a subcomponent of self-efficacy to identify perceived beliefs within a specific domain (Super, 1990). Research suggests self-concept is associated with cognitive development and functioning (Bandura, 1993). Bouffard, Markovits, Vezeau, Boisvert, and Dumas (1998) found that children with higher levels of cognitive development were more accurate in appraising their own self-concept than children with lower levels of cognitive development. In a study comparing birth weight and cognitive functioning in a sample of 14 year-old children, researchers found a reduced self-concept and cognitive functioning in the very low birth weight group when compared to the normal birth weight group (Rickards, Kelly, Doyle, & Callanan, 2001).

Self-concept has an effect on performance in domains such as work environment (Judge, 1998), weight loss (Edell, Edington, Herd, O'Brien, & Witkin, 1987), athletics (Kane, Marks, Zaccaro, & Blair, 1996), and academics (Cokley, 2000; Reynolds, Ramirez, Magrina, & Allen, 1980). Academic self-concept may be defined as incorporating one's feelings, perceptions, and attitudes relative to their academic ability (Lent et al., 1997). When controlling for variables such as school commitment, parental socioeconomic status, gender, and teacher expectations, Daniel (1997) found academic self-concept to be a strong predictor of academic achievement. Reynolds (1988) explored the relationship between academic self-concept and GPA in a sample of 589 undergraduate college students. Results revealed a significant correlation between the students' academic self-concept and GPA. In another study of 235 fourth grade students, researchers found that lower academic self-concept was associated with higher levels of test anxiety (Urhahne, Chao, Florineth, Luttenberger, & Paechter, 2011).

Researchers have explored the influence of various family attributes on a child's academic and social development (Belsky, Rovine, & Taylor, 1984; Kochanska, 1998; Pettit, Bates, & Dodge, 1997). For the purpose of the present study, family attributes include family communication patterns, parental education attainment, family structure, and parental involvement.

The relationship between family communication patterns and a child's development has been of interest (Fitzpatrick & Ritchie, 2006;

Koerner & Fitzpatrick, 2006). It has been suggested that families with a sense of cohesion or connectedness have a high degree of positive communication that is more free-flowing of factual and emotional information (Olsen, Russell, & Sprenkle, 1983). In a sample of 42,305 adolescents aged 11 to 17 drawn from the 2003 National Survey of Children's Health, researchers found a positive association between parental positive communication and the child's socialization with teachers and classmates (Youngblade, Theokas, Schulenberg, Curry, Huang, & Novak, 2007). Jeynes (2007) conducted a meta-analysis of 52 studies which explored the influence of open and bi-directional communication on a child's academic self-concept. Results revealed a positive association between the child's level of comfort in talking with his/her parents and their academic self-concept. Hart and Risley (1995) found that the frequency of parent and child communication was associated with a young child's language development.

A parent's education attainment appears to be related to their child's academic achievement. In a study of over 9,000 young Australian adults, Marjoribanks (2005) found that parents' educational and occupational attainments were associated with their child's academic achievement, including GPA. However, in a study of 120 junior high school students, researchers found parental education did not have an effect on academic achievement (Gonzales, Cauce, Friedman, & Mason, 1996).

In general, family structure pertains to single-parent or two-parent homes. Children in single-parent homes risk low academic achievement and increased potential for dropping out of school (Amato, 2001; Zill, 1996). Using longitudinal data from the Maternal and Child Supplement of the National Longitudinal Survey of Youth ($N = 3,862$), researchers found that single parenting was associated with an increase in childhood behavioral problems and decreases in academic achievement (Magnuson & Berger, 2009). Fortunately, the mere presence of a father is predictive of high school graduation (Brooks-Gunn, Guo, & Furstenberg, 1993).

Parental involvement appears to be one of the primary agents through which children are socialized for academic success (Hoover-Dempsey & Sanders, 1997; Taylor, Clayton, & Rowley, 2004). Parental participation in preschool and kindergarten has been shown to be associated with a child's reading achievement and fewer years of special education (Miedel & Reynolds, 1999). Child academic outcomes are enhanced when parents check homework, talk about daily school activities, and communicate with their child's teachers (Henderson & Berla, 1994). Epstein and Sanders (2006) identified six types of involvement activities that connect parents with their child's academic environment: parenting, communication, volunteering, learning at home, decision making, and connections in the community. Learning at home, for example, includes

family activities such as playing musical instruments, family reading time, and arts and crafts. Hawkins and Weiss (1985) found that a child's socialization can be enhanced when parents include activities such as arts and crafts in the home. This may be due to the bi-directional communication and the expression of creativity that takes place during these activities (Hawkins & Weis, 1985).

Research provides evidence for a positive association between academic self-concept and academic achievement (Cokley, 2000; Reynolds et al., 1980). While past research has explored the influence of various family attributes on a child's academic self-concept, we are unaware of research that has explored the impact of family attributes on college students' academic self-concept. Results could promote the value of parental involvement in a child's development into the college years. Four hypotheses were tested: (H₁) family communication including positive communication and a high frequency of communication will be associated with higher levels of academic self-concept, (H₂) parental educational attainment will be associated with academic self-concept, (H₃) children in a family structure of two parents in the home will have a higher academic self-concept than those whose parents are separated, (H₄) parental involvement which includes family activities such as arts and crafts, playing musical instruments, reading, and sports will have a positive influence on academic self-concept.

METHOD

Participants

Participants were undergraduate students attending a private university in the southeastern part of the United States enrolled in an introductory psychology course. One hundred and fifty-five participants (121 women, 34 men) with a mean age of 20.29 ($SD = 2.71$, range: 18-33) volunteered for the study. Two participants identified themselves as American Indian/Alaska Native, 6 as Asian/Pacific Islander, 74 as Black, 41 as Hispanic, and 32 as White.

Measures and Procedure

The present study included the *Academic Self-Concept Scale* (Reynolds, 1988; Reynolds et al., 1980) and a family attributes questionnaire. The *Academic Self-Concept Scale* is a 40-item Likert-type scale developed to measure the academic aspect of general self-concept in college students. The values range from 1 (strongly disagree) to 4 (strongly agree). The Cronbach's α estimate of reliability for the scale is .92 (Reynolds, 1988). Sample items include "Most of the time while taking a test I feel confident" and "I usually get the grades I deserve in my courses." The *Scale* is an index of an important psychological

construct because of its relationship to academic achievement (Guay, Marsh, & Boivin, 2003; Marsh, Trautwein, Ludtke, Koller, & Baumert, 2005).

Created specifically for the present study, the family attributes questionnaire is a self-report questionnaire that includes family communication (e.g., praise), parent's education, family structure, and parental involvement. Family communication includes items such as "how often do you receive praise from your parents" and "how often do you communicate with your parents." Scale values range from 1 (Never) to 5 (Daily). Parental education scale values range from 1 (No formal education) to 7 (Graduate degree). The family structure item includes two-parents, one-parent being father or mother, or blended, including grandparents. Parental involvement includes activities such as sports, family reading time, arts and crafts, playing musical instruments, computer games, singing and dancing. The scale for each family activity ranges from 1 (Never) to 5 (Often). For the present participants, the Cronbach's α for the family activity variables which included family arts and crafts, playing musical instruments, reading, playing sports, computer games, singing and dancing, was .78.

Questionnaires were distributed in a paper format and completed in a group setting in a standard classroom. The research protocol was approved by the university Institutional Review Board (IRB). Participants were given ample time and instructed to complete the questionnaires to the best of their ability.

Data analysis was based on the students self-reporting of family communication, parental education attainment, family structure, and parental involvement. Academic self-concept was based on the completion of the *Academic Self-Concept Scale* (Reynolds et al., 1980). To determine the unique contributions of family communication on academic self-concept, a stepwise multiple regression was conducted. Multiple regression was used for the second hypothesis to determine the unique contributions of parental educational attainment and the student's academic self-concept. To examine the third hypothesis, a *t*-test was used to determine if there was a difference in the student's academic self-concept based on whether parents were together or apart. To examine the fourth hypothesis, a multiple regression was used to determine the unique contributions of parental involvement and the student's academic self-concept. Finally, based on results from the analyses for each hypothesis, a multiple regression was conducted combining all the variables found to be associated with the student's academic self-concept.

RESULTS

The mean score on the *Academic Self-Concept Scale* was 118.04 ($SD = 15.86$) which is consistent with previously reported norms (Schutte, Malouff, Hall, Haggerty, Cooper, Golden et al., 1998). For the present study, the Cronbach's α for the scale was .93. There was no gender difference in scores on the *Academic Self-Concept Scale*. To explore the difference between racial groups and academic self-concept, an Analysis of Variance (ANOVA) was conducted. The American Indian and Asian groups were removed due to small sample size. The three levels of the IV were racial group, Black, Hispanic, and White, while the DV was scores on the *Academic Self-Concept Scale*. The analysis revealed the between groups factor was significant $F(2, 123) = 3.224, p = .043$. Post-hoc analysis using the least significant difference (LSD) test revealed a significant difference ($p < .05$) in academic self-concept between the White group ($M = 124.00, SD = 11.71$) and both the Black ($M = 115.21, SD = 15.99$) and Hispanic group ($M = 115.52, SD = 18.05$). Additional analyses were conducted to explore any racial differences in family communication, parental education, family structure and parental involvement. Results revealed no significant racial differences in any of the family attributes explored.

H1: Positive communications and a high frequency of communication will be associated higher levels of academic self-concept. To determine the unique contributions of family communication on academic self-concept, a stepwise multiple regression was conducted. The dependent variable was the score on the *Academic Self-Concept Scale* while the predictor variables were the amount of praise the child felt they received and how often the child communicated with their parents. Results revealed that amount of praise was the only variable that explained a significant proportion of the variance in scores on the *Academic Self-Concept Scale*, $R = .427, R^2 = .182, F(1,130) = 28.792, p = .000$.

H2: Parent's educational attainment will be associated with academic self-concept. To determine the unique contributions of parental education on the academic self-concept of the college student, a multiple regression was conducted. The DV was the score on the *Academic Self-Concept Scale* while the predictor variables were the fathers' and mothers' educational attainment. Results revealed that the mothers' education was the only variable to explain a significant proportion of the variance in the *Academic Self-Concept Scale*, $R = .181, R^2 = .033, F(1,131) = 4.37, p = .039$.

H3: Children in a family structure of two parents in the home will have higher academic self-concept than those whose parents are separated. To determine the unique contributions of parents being together or apart on a child's academic self-concept, an independent

samples *t*-test was conducted. Results revealed a significant difference in a child's academic self-concept when the parents were together ($M = 120.57$, $SD = 14.58$) than when the parents were separated ($M = 113.95$, $SD = 17.01$), $t(130) = 2.41$, $p = .018$

H4: Parental involvement which includes family activities of arts and crafts, playing musical instruments, reading, playing sports, computer games, singing and dancing will have a positive influence on academic self-concept. To determine the unique contributions of family activities on academic self-concept, a multiple regression was conducted. The DV was the score on the *Academic Self-Concept Scale* while the predictor variables were the family activity variables. Results revealed that arts and crafts was the only variable to explain a significant proportion of the variance in the *Scale*, $R = .265$, $R^2 = .07$, $F(1,131) = 9.85$, $p = .002$.

Finally, to determine the unique contributions of the variables that were associated with academic concept, multiple regression was performed. The DV was the score on the *Scale* while the predictor variables were the family activities of arts and crafts, mother's education, parental relationship, and positive communication. Results revealed that mothers' education and parental praise were the only two variables that explained a significant portion of the variance in academic self-concept $R = .462$, $R^2 = .213$, $F(2,126) = 16.812$, $p = .000$.

DISCUSSION

The present research was designed to explore the influence of family attributes on college students' academic self-concept. The finding that positive communication is associated with academic self-concept was expected. It provides evidence that the benefit of positive communication (Lanz, Iafrate, Rosanti, & Scabini, 1999) extends beyond early childhood and adolescence into early adulthood. The lack of association between the frequency of communication and academic self-concept was a surprise. While researchers have found the frequency of parent and child communication to be beneficial to child development, (Hart & Risley, 1995), the frequency of communication between the parents and their college-age child does not appear to be associated with academic self-concept.

The idea that parental education is positively associated with academic self-concept was partially supported. Mother's education was positively associated with academic self-concept while father's education was not. Research conducted by Halle, Kurtz-Costes, and Mahoney (1997) found that mothers' education was associated with childrens' perceived reading ability, reading scores, and parental expectations. Mothers with higher levels of education typically maintain a home environment that contains more complex language and greater

availability of reading material (Davis-Kean, 2005; Hart & Risley, 1995). The lack of relationship between the father's education and academic self-concept was a surprise. However, past research has shown that a mother's education has a stronger influence on their daughters than their son's academic self-concept (Sewell & Shah, 1968). The high proportion of females within the present study could partially explain the lack of association between the father's education and *Academic Self-Concept Scale* performance.

The present results also indicate that children of parents who are together have higher academic self-concept than those whose parents are separated. Research has been consistent as to the value of a two-parent family on child development (Belsky et al., 1984; Connell, Spencer, & Aber, 1994; Kochanska, 1998; Pettit et al., 1997). When controlling for gender, race, and socioeconomic status, family structure was found to be the single greatest predictor of academic achievement (Jeynes, 2005). Connell and colleagues (1994) found single parenting was associated with lower school attendance, resulting in lower math and reading scores. The results of the present study suggest that family structure impacts a child's development into the college years.

Positive relationships between parental involvement and academic self-concept were partially supported. Family activities such as family reading time, dancing and singing, sports, and board games were not associated with academic self-concept. However, the family activity of arts and crafts was associated with academic self-concept. Research conducted by Tinsely and Eldredge (1995) explored the psychological benefits of activities such as arts and crafts, sports, and games. The study found that arts and crafts (e.g., ceramics) had higher scores in self-expression and the desire to experience something new (i.e., interest in novelty) than did activities such as sports, cards and other board games. Boden (2000) has suggested that art activities stimulate thoughts and novel concepts that were previously unthinkable. Researchers find an association between a person's interest in novel concepts and their general intelligence (Fagan, Holland, & Wheeler, 2007; Flegr, Preiss, Klose, Havlic, Vitakova, & Kodym, 2003; Kanazawa, 2008; Thompson, Fagan, & Fulker, 1991). Specifically, Fagan and colleagues (2007) found that an infant's curiosity for new images over previously viewed images to be associated with later intelligence. Further, there is a well established association between general intelligence and academic achievement (Koenig, Frey, & Detterman, 2008; Rohde & Thompson, 2007). The relationship between academic self-concept and academic achievement, along with the known relationship between academic achievement and general intelligence could indirectly explain the association between novel activities such as arts and crafts and academic self-concept.

The difference in academic self-concept between racial groups was a surprise. While the family attributes explored in the present study provide no insight into the racial differences, additional research seems warranted. Rather than family attributes, the racial variance in academic self-concept may be due in part to external variables such as stereotype threat. Researchers find that negative stereotypes impact the academic performance of minorities (Aronson, Fried, & Good, 2002). The prevailing American image that minorities are intellectually inferior (Devine, 1989) may be influencing perceived beliefs pertaining to academic ability. The self-determination theory (Deci & Ryan, 2002) proposes that a high degree of self-concept in a domain increases motivation within that domain, resulting in higher achievement. Guay, Ratelle, Roy, and Litalien (2010) found motivation to be a significant mediator between academic self-concept and academic achievement. Future researchers could explore the relationship between stereotype threat, motivation, and academic self-concept.

A strength of the research is its generality to the broader ethnic population which lies in the diversity of the present sample (21% White, 47% Black, 27% Hispanic and 5% American Indian/Alaska Native, or Asian/Pacific Islander). Some limitations of the research should be noted; there were a limited number of male participants (21%) in the study. This may have influenced the lack of association between academic self-concept and gender specific variables such as sporting activities and father's educational attainment. In addition, only undergraduate students from a private, southeastern university were included in the present research.

In summary, the importance of self-concept is evident in its relationship to achievement in numerous domains. By better understanding what variables impact self-concept, it may be possible to devise educational programs to promote positive variables while mitigating those variables that negatively impact self-concept. Practically, the reauthorization of the No Child Left Behind Act (2001; NCLB) identifies a need to establish practices for involving parents in their child's education. While the benefits of parenting on a child's development are well documented (Hart & Risley, 1995; Youngblade, et al., 2007), the present study suggests that parents continue to influence their child's development into the college years.

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