Family Environment and Social Development in Gifted Students

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Abstract

Involving over 1,500 academically gifted students and their parents, this study examined relationships between family environment and social competence of gifted students. Results from an online survey revealed that our gifted students rated their families as cohesive and flexible with high levels of satisfaction and communication among family members. Compared to students, parents identified their families as more intimate, cohesive and flexible, and felt more positively about communication among their family members. Students' ratings of their family were found to be good predictors of their interpersonal ability and peer relationships, and positive correlations were found between the students' social competence and their ratings of functional aspects of the family. Differences were also found by students' level of social competence, with students with higher levels of social competence rating their families more positively. Unlike the norming sample, rigidity was not endorsed as a negative family variable. The results of this study are consistent with previous research in that affectionate, supportive, and respectful family environments appear to be important to the development of interpersonal skills and competency and peer relationships for gifted individuals

Keywords: family environment, gifted students, social competence, peer relationships

Family Environment and Social Development in Gifted Students

While reviews of current research on the social competence of gifted children generally indicate that academically advanced students are, on average, at least as well adjusted as any other group of students (Assouline & Colangelo, 2006; Janos & Robinson, 1985; Neihart, Reis, Robinson, & Moon, 2002; Robinson & Noble, 1991), there is nonetheless no shortage of conflicting research that seems to support the prevailing myth that gifted children are more socially vulnerable than their nongifted peers. In the face of this century-old and still ongoing debate, Shore, Cornell, Robinson, and Ward (1991) recommend that research in the field move beyond a comparison of the social competence of gifted children to nongifted, and instead focus on the factors that contribute to optimal social development in high-ability students. One such factor that may potentially have a crucial impact on the social adjustment of gifted children is overall family environment and, in particular, the quality of parent-child relationships.

There is, as yet, very little empirical research that specifically addresses the relationship between family environment and the social development of gifted children in particular. The present study begins to address the paucity of research in this area by examining the relationship between gifted students' social competence and the social climate in their homes--specifically, gifted students' and their parents' overall satisfaction with family relationships as well as perceptions of family connectedness, flexibility, and communication. Before presenting our study, we review the empirical literature regarding the social competence of high-ability students and some of the unique social challenges they may face, as well as the empirical literature available on characteristics of families of gifted children and the impact of family environment and intra-family relationships on the social competence of children in general.

The Social Competence of Gifted Children

Broadly defined, social competence refers to the social, emotional, and cognitive skills and behaviors that an individual needs to successfully engage socially with peers and others, and to develop rewarding friendships and relationships. Frank Gresham (1986), a prominent researcher of social competence, has conceptualized social competence as being composed of adaptive behaviors and social skills, on the one hand, and peer acceptance, on the other. Specifically, according to Gresham, social competence reflects the ability to use adaptive behaviors and social skills in the context of a person's perceptions and understanding of the social environment, for the purpose of building positive peer relationships. This notion of social competence is of increasing interest to professionals in the field of education, as it plays a critical role in a student's ability to flourish and navigate the complexities of the school setting (Gresham, 2001) and has been linked to school and academic success (Welsh, Parke, Widaman, & O'Neil, 2001; Wentzel, 1991, 1993).

The social competence of gifted students overall. With respect to gifted students, the empirical literature generally reports that high-ability students demonstrate average or above average interpersonal abilities and have positive perceptions of peer relationships. Using the *Interpersonal Competence Questionnaire-Revised* (ICQ-R: Buhrmester, 1988), *Socioemotional Survey* (SS: Buhrmester, 1989), and the *Self Perception Profile for Adolescents* (SPPA: Harter, 1988), a recent study by Lee, Olszewski-Kubilius, and Thomson (2012) examined the interpersonal competence and peer relationships of more than 1,500 gifted adolescents. They found that participants in their study demonstrated levels of interpersonal ability that were comparable to that of grade-equivalent students in the norming group; had mostly positive perceptions of their abilities to initiate, form, and maintain relationships with other people, including same-age nongifted peers; believed themselves to be well liked; and did not perceive

their giftedness as a negative factor affecting their peer relationships. Similarly, Schectman and

Silektor (2012) found that gifted students in their study of almost 1000 Israeli 5th to 12th graders

tended to score higher than their nongifted peers on measures of empathy, need fulfillment,

academic self-concept, and lack of emotional anxiety.

These results are supported by large-scale reviews of the literature, including Janos and

Robinson's (1985) review of studies over a 60-year period and Robinson and Noble's (1991) and

Assouline and Colangelo's (2006) reviews of more recent research, which suggest that gifted

students are at least as well adjusted as regular students with respect to a variety of measures,

including overall self-concept, affect regulation, social skills and adaptive behavior (see also

Ablard, 1997; Cornell, Delcourt, Bland, Goldberg & Oram, 1994; Howard-Hamilton & Franks,

1995; Keiley, 2002; McCallister, Nash, & Meckstroth, 1996; Nail & Evans, 1997; Neihart,

2002). In addition, the empirical literature indicates that in most situations being intellectually

gifted is generally an asset with respect to peer relationships: gifted students tend to be well liked

by others and sometimes even more popular than their nongifted peers (Janos & Robinson, 1985;

Neihart, 1999, 2002, 2007; Neihart, Reis, Robinson, & Moon, 2002; Robinson, 2008).

Nonetheless the myth of the academically advanced student as more socially awkward, more at-

risk for adjustment problems, and more likely to have difficulty finding friends persists. There is

some empirical evidence that seems to support this view as well, particularly in studies that

measured gifted students' own perceptions of their relationships with peers or studies that

examined social competence within specific subpopulations of gifted students.

Gifted students' perceptions of difference. In a recent longitudinal study by Vialle,

Heaven, and Ciarrachi (2007) of over 950 students in Australia, teachers rated gifted students as

being well-adjusted and less likely to have behavioral or emotional problems than nongifted

students, but the gifted students in the study reported feeling more sad and less satisfied with their social support than their nongifted counterparts. Colangelo and colleagues (Colangelo & Kelly, 1983; Kerr, Colangelo, & Gaeth, 1988) found that while gifted students tended to view their own personal growth and academic abilities positively, they perceived teachers and their nongifted peers to view their giftedness negatively (see also Brown & Steinberg, 1990; Coleman & Cross, 1988; Cross, Coleman, & Stewart, 1993; Gross, 1989; Janos, Fung, & Robinson, 1985; Manor-Bullock, Look, & Dixon, 1995; Robinson, 2008).

In a study of 3,500 middle and high school students in Minnesota, Schroeder-Davis (1999) reported that this perception of stigma was not limited to gifted students: the majority of students in her study, both gifted and nongifted, claimed to value intelligence, but simultaneously noted a general "anti-intellectual" stigma expressed by peers and almost none of the respondents attributed any social benefits to being smart. Such perceptions of difference or a negative bias against "being gifted," argued by Coleman and Cross (1988), can have a real effect on gifted students' social interactions; this sense of feeling "different" from their peers or the perception of a lack of peer acceptance can impact their interpersonal abilities (Coleman & Cross, 1988; Gross, 2002, 2004).

However, in a study of nearly 500 high-ability adolescents who attended Tennessee Governor's Schools, Cross, Coleman, and Stewart (1995) found that gifted students vary considerably in how different or similar they feel to their nongifted peers and, regardless of these feeling of difference, in how they respond to potentially stigmatizing situations. They conclude, "It is not clear at this time how personal characteristics of the subjects influence self-perceptions and behaviors. It does, however, make a case for the existence of psychosocial developmental differences among gifted students" (p. 185). That is to say, gifted students are a diverse group

with respect to their social competence and perceptions of peer acceptance, which are likely dependent on a number of additional factors that include, but are not limited to age, gender, domain of talent, degree of giftedness, and educational environments (see also Lee, Olszewski-Kubilius, & Thomson, 2012).

But even among these subpopulations, there is considerable diversity in the adaptive behaviors and social skills of individual students, and ultimately in their perceptions of acceptance by their peers (Janos, Fung, & Robinson, 1985). Not all gifted students, or even subpopulations of gifted students, feel different from nongifted peers; however, it seems clear that some do and this may impact how they relate to others, the number and quality of their friendships, whether or not they are more or less susceptible to pressure to conform, preferences for spending time alone or in groups, and even adaptive behaviors and social skills. Rather than continuing to add to the debate regarding whether gifted children as a whole are more or less socially vulnerable than their nongifted peers, it does seem that, to move the research forward in this area, a slightly different path must be forged: namely, one that heeds Shore et al.'s (1991) call for examining the factors that contribute to or detract from the optimal development of social competence in gifted students. In other words, are there factors that support the development of the adaptive behaviors and skills that gifted students need in order to forge and maintain meaningful friendships regardless of the challenges they may face?

The Impact of Family Environment on Social Competence

The research on intra-family relationships and social climate in the home is of particular importance for better understanding the development of social competence in gifted children. There is a considerable body of evidence from a variety of fields that substantiate the view that everyday family experiences and relationships with parents are fundamental to children's

developing social skills (see, for example, Cohn, Patterson, & Christopoulous, 1991; Maccoby, 1984; Parke & Ladd, 1992). The family is the place where a child's initial sense of self is formed through intimate, intensive interactions with the significant people in his or her life (Gecas & Schwalbe, 1986). Moreover, the overall family environment—in particular, the relationships and communication between its members—provides the foundation for children to develop both cognitive and affective components of prosocial behavior, such as social relatedness and empathy (Knafo & Plomin, 2006).

Hauser, Vieyra, Jacobson, and Wertlieb's (1985) review of the literature with respect to the influence of family on the social competency of children explain that while various personality and social milieu factors affect social competence, the role of the family is particularly important because it has both a direct and an indirect influence on social competence. They report that children learn social competency skills through the modeling and quality of social interactions within their families, but also that children's social competency skills are related to personality and broader social factors—such as self-esteem, self-efficacy, overall stress, and cognitive skills and styles—which are themselves impacted by family environment. Specifically, much research highlights the direct and indirect impact of family environment dimensions such as family cohesion and flexibility on social competence.

Family cohesion and social competence. Family cohesion is defined as "the emotional bonding that family members have toward one another" (Barnes & Olson, 1985, p. 439). It is typically measured on a continuum that ranges from "disengaged" (very low family cohesion) to "enmeshed" (very high family cohesion). Characteristics of "disengaged" families include little closeness, lack of loyalty, and high independence, which characteristics of "enmeshed" families are high closeness, high loyalty, but very little independence. Both of these extremes are

considered to be problematic, while the middle of the continuum or a balance between the two extremes (a "cohesive" family) is considered healthy, because family members can be both connected to and independent of their families.

There is a wealth of research that indicates that one of the key factors in the development of children's social competence is a "cohesive" family system in which there is a balance of parental nurturance and support, on the one hand, and parental responsiveness and respect for the individual needs and interests of the child, on the other (Campbell, 2002; Maccoby & Martin, 1983; Rice, Herman, & Peterson, 1993; Shulman, 1993; Steinberg, 1990). Children who display high levels of social competence typically enjoy parent-child relationships characterized by warmth and positive affect (Cohn, Patterson, & Christopoulous, 1991; Pettit & Mize, 1993; Putallaz, 1987), as well as sensitive behavioral exchanges in which the parent responds appropriately to their child's individual needs and growing independence (Campbell, 2002; Harrist, Pettit, Dodge, & Bates, 1994; Pettit, Harrist, Bates & Dodge, 1991; Pettit & Harrist, 1993). These styles of parent-child interaction which characterize the dimension of family environment often described as cohesion help children to see the world in a positive way and to expect that relationships with others will be rewarding (Campbell, 2002). They provide children with the emotional support and security they need to develop autonomy and establish healthy and fulfilling relationships with peers (Feldman, Rubenstein, & Rubin, 1988; Greenberg, Siegel, & Leitche, 1983; Papini & Rogman, 1992).

Even as early as kindergarten, children whose families were rated as cohesive were described by teachers as more socially competent, less hyperactive, and less likely to display anxious or depressed internalizing behaviors; by contrast, families rated as disengaged (demonstrated limited intimacy or support among family members) had children who were

described by teachers as more aggressive and more likely to display externalizing behaviors (Ironsmith & Poteat, 1990; Johnson, Ironsmith, Snow, & Poteat, 2000). Russell and Russell (1996) reported similar results in a study of third through sixth graders: the lower the perception of family cohesion, the lower the feelings of affiliation (feelings of friendship, connectedness, ability to communicate openly, trust and acceptance) the student had with his or her classmates and teacher.

Most of the research on the impact of family cohesion on social competence, however, has focused on adolescents. For example, Gavazzi, Anderson, and Sabatelli (1993) found that high levels of family connectedness and support were consistently related to higher level of psychosocial maturity, coping, and adjustment in adolescents. Adolescents experiencing the lowest levels of family cohesion also reported the lowest levels of adaptive coping and adjustment, except when they were simultaneously experiencing high levels of peer support. Interestingly, Ohannessian (1993) found that the frequency with which an adolescent sought support from others was also positively predicted by his or her perceived quality of overall family functioning, specifically having a healthy view of family relationships. These findings are supported by a number of other studies, which indicate that family patterns of warmth, nurturance and support are positively related to adolescent social adjustment and competence (Cooper, Grotevant, & Condon, 1983; Grotevant & Cooper, 1986; Hamill, 1988; Sabatelli & Anderson, 1991; Scott & Scott, 1989).

Family adaptability and social competence. A second dimension of family environment is "adaptability," which is defined as "the ability of the family system to reorganize in response to situational and developmental stresses" (Barnes & Olson, 1985, p. 439). This dimension ranges from "rigid" (very low family adaptability) to "chaotic" (very high). A rigid or highly

authoritarian, family environment in which there is strict discipline and very little change in response to new or different situations, as well as a chaotic, or highly permissive, family environment in which there is lack of leadership, erratic or little discipline, dramatic roles shifts and frequent change, are both considered to be problematic for individual and relationship development in the long run. A well-functioning adaptive or flexible family is one that strikes a balance between the two extremes and is characterized by authoritative discipline and more-or-less stable roles that can nonetheless be tweaked when necessary.

Again, there is considerable research that indicates that an adaptive family system supports positive social development in children. According to Hauser and colleagues' (1985) review of the literature, socially and emotionally competent children tend to come from homes where there is a balance between clear expectations for behavior and consistent enforcement of well-defined limits, on the one hand, and respect for the child's individual development and freedom for the child to engage in self-initiated behaviors within the stated limits, on the other. A number of studies have linked overall psychosocial competence, healthy social coping skills, and higher levels of self-esteem with home environments in which there are consistently enforced rules, good supervision, well-balanced discipline, and stable family organization, combined with a respect for individual development and diverse interests (Dornbush, Ritter, Leiderman, Roberts, & Fraleigh, 1987; Grotevant & Cooper, 1985; Lamborn, Mounts, Steinberg, & Dornbusch, 1991; Maccoby & Martin, 1983; Mounts, 2008; Nelson, 1984; Schulman & Klein, 1982; Shulman, Seiffge-Krenke, & Samet, 1987). Parents of socially competent children also minimize the use of physical punishment and coercive discipline, which are characteristic of more rigid, authoritarian family systems and were found to be negatively correlated with self-esteem and psychosocial adjustment (Dodge, Bates, & Pettit, 1990; Gavazzi et al., 1993;

Strassberg, Dodge, Pettit, & Bates, 1994). According to Shulman et al. (1987), an adaptive and flexible family climate that is both stable with respect to family leadership but also open to child input and situational change may affect social competency by helping children to appropriately perceive and respond to social cues and interactions.

It should be noted that some studies that have examined the impact of family cohesion and adaptability on social competence found that family cohesion related more frequently and more strongly to measures of psychosocial competence than did family adaptability (Green, Harris, Forte, & Robinson, 1991; Ohannessian, 1993; Shulman & Klein, 1982). A few studies even found no significant relationship between family adaptability and social adjustment (Ohannesian, 1993). Interestingly, in a study by Pettit, Dodge, and Brown (1988), the impact of family adaptability on social competence with peers was found to be mediated by the child's problem-solving skills and patterns, which were in turn influenced by perceptions of maternal support as well as overall family values and expectations.

Discrepancies in children's and parents' perceptions of family functioning. By examining discrepancies in perceptions of family functioning, instead of relying solely on the adolescents' (or the parents') perceptions of the family, a broader and more dynamic picture of the relationship between the family environment and a child's social competence can be obtained. In general, though not altogether unsurprisingly, research has indicated that adolescent children tend to have more negative perceptions of their family environment than their parents. Noller, Seth-Smith, Bouma, and Schweitzer (1992) found that the 12- to 16-year-olds in their study reported higher levels of family conflict and lower levels of intimacy between family members than did their mothers. In an earlier study conducted by Noller and Callan (1986), adolescents reported being less satisfied with the flexibility of the family environment and

perceived the family environment as less cohesive than did both of their parents. These differences in parent and child perceptions of family functioning are important to note in the context of social development because children's perceptions of parental behaviors have been shown to be related more strongly to children's self-esteem and psychosocial adjustment than their parents' perceptions of the parent-child relationships (Gecas & Schwalbe, 1986; Ohannessian, Lerner, Lerner & von Eye, 1995). Further, greater discrepancies in children's and parents' perceptions of family functioning may be related to higher levels of anxiety and/or depressive symptoms (Ohannessian et al., 1995). Clearly, the differential impact parental and child perceptions of family climate on social competence and peer relationships are important to assess and investigate.

The impact of family environment on the social competence of gifted children. While many studies have investigated characteristics of families of gifted children that likely play a critical role in the development of their academic talents, less attention has been given to family characteristics that may be associated with the development of social competence either directly or through mediating variables such as self-esteem or psychological adjustment, within the gifted population. There are, however, a few studies that can shed some light on this area.

The available studies seem to support the important role that family environment, and specifically family cohesion and adaptability, can play in the development of social competence among gifted children. A number of studies have found that, in general, families of gifted children are more likely than families of average or learning disabled children to be more cohesive and adaptable. Specifically, parents of gifted children were more likely to use an authoritative parenting style (and use less punishment or force), demonstrate consistent involvement in and support for their children's interests while also encouraging independence,

and favor a clear and open communication style with their children (Csikszentmihalyi, Raathunde, & Whalen, 1997; Cornell & Grossberg, 1987; Karnes, Shwedel, & Steinberg, 1984; Olszewski-Kubilius, 2008; Rudasill, Adelson, Callahan, Houlihan, & Keizer, 2013; Snowden & Christian, 1999). Yet, families of gifted students vary considerably in their family environments, and these differences in family environments may be related to differences in social competence.

For example, Cornell and Grossberg (1987) found that in their sample of 83 gifted students aged 7 to 11, the gifted students who came from families that were more cohesive, expressive, and conflict-free demonstrated better overall adjustment and self-esteem and fewer problems with anxiety, discipline or self-control. Furthermore, mutually supportive and open family relationships were found to be more important to the child's self-esteem and overall adjustment than are specific family activities or value orientations. Similarly, in a study of 44 female gifted students ranging in age from 13 to 17 years, Cornell, Callahan, and Loyd (1991) found that harmonious family relationships were associated with better mental health adjustment and fewer behavioral problems. Moreover, girls from families with greater emphasis on organization and definite rules were more favorably perceived by their peers.

Enright and Ruzicka (1989; see also Enright, 2001) studied the relationship between family environment and self-esteem in gifted students. They found that higher perceptions of family satisfaction, maternal and paternal acceptance, maternal principled discipline, and global maternal support were significantly associated with higher levels of self-esteem. By contrast, children's perceptions of maternal physical punishment and paternal use of psychological control techniques were significantly and inversely related with their self-esteem scores.

Callahan et al. (2004) studied the impact of family cohesion and adaptability on the specific coping strategies of 457 gifted 6th through 10th graders. Overall, the results indicated that

higher levels of family cohesion and adaptability (as measured by *the Family Adaptability and Cohesion Evaluation Scale III*, *FACES-III*) were linked to the use of coping strategies generally considered to be healthy, while lower levels of cohesion and adaptability were linked to coping strategies generally considered to be dysfunctional. The authors further found, interestingly, that family cohesion was most strongly related to the "seek social support coping strategy," and this ability to seek support from others was additionally found to mediate the relationship between perceived family function and other indicators of adolescent adjustment, such as depression and anxiety. Family adaptability related most strongly with the use of social action (e.g., letting others know what is of concern and enlisting support by writing petitions or organizing an activity such as a meeting or a rally) as a coping strategy. Both cohesion and adaptability were found to be related significantly to using problem-solving as a coping strategy, which the authors noted may be related to the more frequent use of problem-solving as a coping approach among gifted students in general. Finally, like the results of studies that examined the relative importance of family cohesion and family adaptability on the social competence of the general population, Callahan et al. found that family cohesion related more highly to adolescent coping strategies than family adaptability among gifted students as well.

Of particular interest, two studies found not only that many of the characteristics of cohesive and flexible family environments were positively correlated with social competence in gifted children as well as those of average ability, but also and importantly that gifted children tended to be more responsive to family environment factors than nongifted children (Abelman 1991; Dwairy, 2004). Abelman's (1991) study of more than 1,000 families across four states, found that both gifted and nongifted students were significantly better at identifying and engaging in prosocial behavior if they came from households in which parents favored a

communication style that stressed the use of reasoning and valued the child's accomplishments

(as opposed to one that relied primarily on the use of physical punishment, deprivation of

material objects or privileges, force, or threat). However, he also found that gifted students from

families with a more authoritative communication style scored higher on measures of prosocial

indices than non-labeled students from similar family environments. Similarly, Dwairy's (2004)

study of more than 200 gifted and nongifted adolescents found that while the psychosocial

adjustment of both gifted and nongifted students was positively related to authoritative parenting

styles, an authoritarian parenting style negatively impacted the mental health of the gifted

students but not the nongifted students. Together, these students indicate that family environment

may have a stronger impact on the social competence of gifted students than their nongifted

peers.

In summary, while gifted students generally tend to have average or above average social

competence, there is very likely just as much diversity in levels of social competence among

gifted children as there is in the population as a whole. Some gifted students may face challenges

within the social sphere that may indeed be related to their academic abilities, specifically the

asynchronous development of some abilities compared to others or compared to social abilities,

the sense of being different from their peers, and/or challenges that may be related to a

combination of factors. This study, however, attempts to go beyond identifying these challenges

and take a closer look at some of the factors that are linked to optimal social development among

gifted students. In other words, this study examines factors—in particular, factors related to

family environment and social climate—that support and may impact positively the development

of the adaptive behaviors and social skills gifted students need in order to build healthy peer

relationships despite whatever challenges they may face related to their giftedness. To that end, our specific research questions are:

(1) How do students and parents perceive their family environment, particularly the level of cohesion (vs. disengagement or enmeshment), flexibility (vs. rigidity or chaos), and communication among family members and within the family? Are they satisfied with their family atmosphere and interactions with the family members?

(2) What is the relationship between students' perceived social competence and their ratings of their family environment and interactions with the family members?

(3) Do students and parents differ in their perceptions of aspects of their family environment? Is the perceived discrepancy between students and parents related to the students' level of social competence?

Purpose of the Study

The major goal of this study was to examine relationships between academically gifted students' social competence and their family environment. Students' social competence was measured using items assessing students' interpersonal ability and peer relationships, specifically their abilities to interact with other people including peers, maintain good relationships with others, build friendships, and have trusted confidantes. The characteristics of family environment were assessed using *the Family Adaptability and Cohesion Evaluation Scale (FACES) IV Package* (Olson, Gorall, & Tiesel, 2006), a scale that consists of items measuring the level of emotional closeness, intensity, attachment, rigidity, satisfaction, and communication among family members and in the family overall. By including both students and parents, we examined differences in perceived intimacy and intensity among family members and aspects of family environment, and if discrepancies between students and parents vary by the students' level of

social competence (e.g., more salient differences among students of higher social competence than of lower social competence).

<div align="center">Method</div>

Participants

Students ($N = 1,526$) and their parents, either mother or father, were the participants of this study. The students had participated in the Northwestern University Midwest Academic Talent Search (NUMATS) and/or the Center for Talent Development (CTD) summer, weekend, or distance learning programs during the three-year period between 2005 and 2008. They took EXLORE, SAT, or ACT in grade 6, 7, or 8 through NUMATS, a talent search program designed to enable academically gifted students to take above grade level tests followed by information regarding their levels and areas of academic ability. To participate in NUMATS, students must score in the top 90th to 99th percentile on a nationally normed in-grade achievement test or a state achievement test; be nominated by teachers or parents for NUMATS; and/or have qualified for in-school gifted programs. To qualify for CTD's educational programs, students must either obtain appropriate scores on the off-level tests which vary by their grade level and choice of courses or submit an admission portfolio. CTD has used an admission portfolio for students who have not participated in a talent search and/or do not meet test score criteria. The admission portfolio consists of indices of academic ability or achievement, such as teacher recommendations, recent scores on a nationally normed in-grade achievement test, a recent school report card or transcript, and/or a graded writing assignment.

Student demographics. A slightly higher proportion of the participating students were males (52.5% males versus 47.5% females) with the majority of students in grades 5 to 8 (69.7%) and about one-third (30.3%) in grades 9 to 12. Overwhelmingly, the students were

Caucasian (85.5%), followed by 8.4% Asian, 2.4% African American, 1.7% Hispanic and 2.0% other ethnicities[1]. Respondents were comparable to nonrespondents except that respondents included more Caucasian students and nonrespondents included more students who listed their race/ethnicity as other, which may reflect changes in the ways students chose to report race/ethnicity from the time they initially participated in NUMATS to the time of the study. The majority of the students attended public schools (76.8%), 15.7% attended parochial or private schools, 4.2% attended special schools for gifted students, and 3.3% were homeschooled.

Half (52.3%) of the students responded that they had participated in gifted programs in or outside of school. Among the students who had experience with gifted programs of any type, a quarter had participated in gifted programs at school, and 43% had participated in outside-of-school gifted programs (e.g., summer, weekend or online programs). The numbers of years enrolled in in-school gifted programs were 3 to 5 years (43.2%), 5 years or above (33.7%), and 1 to 2 years (23.2%), while those who participated in the outside-of-school programs had done so mostly for 1 to 2 years (27.5%), in summer (48.4%) and/or weekend (28.2%) programs. Only 9.6% of the students had ever accelerated by a whole grade, while about two-thirds (67.4%) of the students had accelerated in a subject area, mostly in math (41.5%) and reading/language arts (31.7%).

Parent demographics. One third of the parents, either mothers or fathers, held graduate degrees (master's or above) and about 20% held Bachelor's degree. Among the parents who reported their occupational status (64.1%), approximately one-third of them placed their job in the professional category (35.9% fathers and 31.3% mothers), followed by officials or managers

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[1] Gender and ethnicity distributions of students who were sent an invitation to participate in the study but did not respond were as follows: male 53.8% and female 46.1%; Caucasian 63.2%, Asian 10.1%, African American 3.8%, Hispanic 1.5%, multiracial 2.8%, and other 18.6%.

(14.1% fathers and 6.1% mothers), technicians (2.8% fathers and 1.5% mothers), and sales

workers (2.3% fathers and 2.0% mothers). See Table 1 for more information about student and

parent participants.

[Insert Table 1 about here]

Instrument

An online survey, consisting of two parts, measuring students' family environment and

social competence, was used for this study. For items on family environment, the entire *FACES*

IV Package (Olson, Gorall, & Tiesel, 2006) was used. Items measuring social competence were

based on three scales, the *Interpersonal Competence Questionnaire-Revised* (ICQ-R:

Buhrmester, 1988), *Socioemotional Survey* (SS: Buhrmester, 1989), and the *Self Perception*

Profile for Adolescents (SPPA: Harter, 1988). Students responded to items on both family

environment and social competence, while parents responded only to the family items.

Items on family environment. The *FACES IV Package* (Olson, Gorall, & Tiesel, 2006)

contains 62 items total across 8 subscales, including two "balanced" scales—cohesion (a balance

between disengagement and enmeshment) and flexibility (a balance between rigidity and chaos);

four "unbalanced" scales--disengagement, enmeshment, rigidity, and chaos; one family

communication scale; and one family satisfaction scale. Of the two balanced subscales, the

cohesion subscale measures the level of emotional closeness, support, involvement (e.g., time

spent together), and engagement (e.g., shared family activities) among family members, while

the flexibility subscale assesses whether families try new ways of dealing with problems, the

presence of fairness, shared leadership, responsibility, discipline and rules in family functioning.

Items on the unbalanced subscales examine distance, independence, and disinterest among

family members (i.e., disengagement); over-dependence, connection, and low level of freedom

within the family (i.e., enmeshment); highly organized, strict rules, and subsequent consequences in the family (i.e., rigidity); and highly disorganized, the absence of leadership and responsibility in the family (i.e., chaos). Besides these balanced and unbalanced subscales, two additional subscales are included to measure the level and quality of communication and satisfaction among family members and in the family overall. All of the items are rated on a five-point likert scale.

Each subscale score was found to be highly reliable for our sample of students and parents. Cronbach's alphas on each subscale ranged from .93 (e.g., enmeshment) to .99 (e.g., cohesion, communication, satisfaction) for students and .94 (e.g., disengagement, enmeshment) to .99 (e.g., cohesion, communication, satisfaction) for parents, confirming very high levels of reliability estimate.

Each subscale of the *FACES IV Package* has been validated and normed based on multiple small studies with sample sizes from 50 to 150, and a variety of studies are currently in progress in countries including South Korea[2]. For example, the initial normative sample consisted of undergraduate students who took a family studies class and recruited family members, relatives and friends, resulting in a heterogeneous sample of mainly Caucasian middle to upper middle class families with a range of intellectual abilities (D. Olson, personal communication, January 15th, 2013). The final normative sample was comprised of 469 people ranging from 18 to 59 years of age with an average age of 28, predominately Caucasians (80%), followed by Asian American (7%), African American (6%), Hispanic (2%), and Native American (2%). Approximately, two-thirds of the sample was single and female, and one third was married. About half reported a $50,000 or higher annual income (Olson, 2011).

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[2] Information was based on an email communication with Olson on January 11th, 2013.

Items on social competence. Items from three scales were used to measure students'

social competence. First, the ICQ-R (Buhrmester et al., 1988) consists of 40 items assessing

multiple aspects of interpersonal abilities, for example, abilities to initiate relationships, provide

emotional support to other people, assert influence by convincing other people, unveil personal

thoughts, feelings or opinions, and resolve conflicts. There are five subscales in the ICQ-R and

the entire items of the scale were used for this study.

Second, the SS (Buhrmester, 1989) was developed to measure individuals' social and

emotional characteristics, such as sociability, anxiety, hostility, and depression. The scale

consists of 40 items, 10 items for each of the four subscales. This study only used the 10 items

from the sociability subscale, which measures abilities to get along and work well with other

people, get involved in relationships with other people, and be popular among peers.

Third, the SPPA (Harter, 1988) is a well known measure for multiple domains of self-

concept including scholastic competence, social acceptance, athletic competence, physical

appearance, job competence, romantic appeal, behavioral conduct, close friendship and global

self-worth. It consists of five items for each subscale, and this study used items only on the

subscales of social acceptance and close friendships. Both subscales assess aspects of students'

social abilities, such as forming and maintaining good relationships with other people including

peers, and having close friends whom they trust and can share secret things with.

Scoring

Items on family environment. Scoring of the *FACES IV Package* followed the guidelines

described in the administration manual (Olson, Gorall, & Tiesel, 2006). Scores range from 7 to

35 based on a five-point scale for the cohesion, flexibility, disengagement, enmeshment, rigidity,

and chaos subscales, and 10 to 50 for the communication and satisfaction subscales. Four

subscales (i.e., disengagement, enmeshment, rigidity, and chaos) use the same cut off score for

"very high" to "very low" levels, while the other four subscales--cohesion, flexibility,

communication, and satisfaction--use different cut off scores with different categorical levels

("very connected" to "somewhat connected" for cohesion, "very flexible" to "somewhat

flexible" for flexibility and "very high" to "very low" both for communication and satisfaction).

For cohesion, flexibility, communication, and satisfaction, higher scores indicate

healthier family environment characterized as having appropriate levels of closeness and

flexibility in the family, feeling positive about the quality and quantity of communication among

family members, and being satisfied with most aspects of family life. Higher scores for

disengagement, enmeshment, rigidity and chaos subscales identify less healthy and more

uncompromising, complicated, and conflicting family environment, with an extreme level of

involvement and/or noninvolvement between family members, inflexibility in the family,

negative feelings about the quantity and quality of communication among family members, and

overall dissatisfaction with family members and family life in general.

Using scores from both balanced and unbalanced subscales, composite scores, including

the cohesion, flexibility, and total circumplex ratio scores[3], are generated (see Olson, Gorall, &

Tiesel, 2006). Each score corresponds to the ratio of the balanced to unbalanced subscales and

assesses the degree to which a family is balanced or unbalanced on cohesion and flexibility. The

higher the ratio score is above 1, the more balanced and functional the family environment, while

the lower the ratio score is below 1, the more unbalanced and dysfunctional the family

environment. (Olson, Gorall, & Tiesel, 2006; Olson, 2011).

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[3] cohesion ratio = balanced cohesion/[(disengagement + enmeshment)/2], flexibility ratio = balanced flexibility /[(rigidity + chaos)/2], total circumplex ratio = (balanced cohesion + balanced flexibility)/[(disengagement + enmeshment + rigidity + chaos)/2].

Items on social competence. The subscale scores of ICQ-R (Buhrmester et al., 1988) and SS (Buhrmester, 1989) were computed based on a five-point response category, ranging from either "poor at this (1)" to "extremely good at this (5)" or "never or not true (1)" to "quite often or very true (5)." Higher mean scores represent a greater likelihood to display each aspect of the scale. On the SPPA (Harter, 1988), responses were computed according to a four-point scoring range from competent" (4) to "incompetent" (1). Mean scores for the social acceptance and close friendship subscales were computed, preceded by a reverse coding for items worded in a negative direction. All of the subscale scores from the ICQ-R, SS, and SPPA were combined and added to produce a composite social competence index, with a Cronbach alpha of .96, confirming a high internal consistency.

Using the percentile ranking on the social competence index, students were placed into two groups--highly socially capable versus less socially capable. A total of 232 (15.2%) and 226 (14.8%) students were identified as highly socially capable and less socially capable, respectively by ranking in the highest and lowest quartile on the social competence index. Of the students in the high social competence group, 56.9% were females and 43.1% were males, while in the low social competence group, more male than female students were found (males 63.6% vs. 36.4%).

Data Collection

Data were collected in the fall of 2008 at the Northwestern University Center for Talent Development (CTD). Approximately, 26,000 students who had previously participated in the Northwestern University Midwest Academic Talent Search (NUMATS) and/or CTD's academic programs between 2005 and 2008 and their parents (either mothers or fathers) were initially contacted via email as potential participants. Over 1,500 ($N = 1,526$) students and their parents

completed the survey, which led to a 5.0% response rate. Generally, response rates for online

surveys have been reported to be as high as 20 to 30%[4], and thus our response rate is

considerably lower than the typical response rates, probably due to the length (i.e., number of

items) of our survey as well as large number of recipients, both of which have been shown to

have a negative impact on response rate.

Data Analysis

Descriptive statistics were computed and compared with normative data and/or samples if

reported in the administration manuals of the survey instruments. Comparisons with the

normative data for ratio scores given in the technical manual (Olson, Gorall, & Tiesel, 2006)

were conducted in order to examine how our sample of gifted students and parents perceived

their families differently compared to the norming sample of mixed-ability students.

Comparisons were made between students and parents and by the level of students'

perceived social competence, using paired sample t-tests and independent t-tests, respectively.

Multiple regression analyses were conducted to examine relationships between perceived social

competence and family environment variables and to find better family variables, predicting of

students' social competence. To control for the inflated Type I error, the Bonferroni method was

used which divided the significant level ($p = .05$) by the number of comparisons or dependent

variables.

<div align="center">Results</div>

Student and Parent Perceptions of Family Environment

The average levels of family cohesion and flexibility qualified as "connected" (*Mean* =

28.2, 60th percentile) and "flexible" (*Mean* = 25.1, 60th percentile) for students and "very

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[4] For response rates for online surveys, see www.peoplepulse.com.au/Survey-Response-Rates.htm

connected" (*Mean* = 30.8, 81st percentile) and "very flexible" (*Mean* = 27.2, 70th percentile) for

parents. Specifically, both students and parents responded that their family members were (very)

close to and supportive of each other, involved in each other's lives, flexible in adjusting to

changes and able to compromise, had a good balance of separation and closeness, and share fair

discipline in the family (see Table 2). As for the unbalanced scales, our students and parents

rated their families similarly as "very low" (*Mean* ≤ 16, 26th percentile or below) on the

disengaged, enmeshed and chaotic scales and "low" (17 ≤ *Mean* ≤ 21, 30th to 40th percentile) on

rigidity.

    For the balanced/unbalanced ratio scores on cohesion and flexibility, effect sizes[5] for

mean differences between our students and the norming sample, and between our parents and the

norming sample ranged from very small to small (*d* cohesion = .22, flexibility = .25 for students;

cohesion = .35, flexibility = .04 for parents), which subsequently led to negligible (*d* = .07 for

parents) to small (*d* = .41 for parents) effect sizes in the total circumplex ratio scores. Therefore,

our sample and the norming sample were not significantly different in their perceived level of

functional (balanced) versus dysfunctional (unbalanced) behaviors of their family members (see

Table 2).

    As for the level of family communication and family satisfaction, responses from the

students and parents qualified in the "high" category for family communication (students mean =

37.7, 62nd percentile; parents mean = 40.2, 70th percentile) and "moderate" category for family

satisfaction (students mean = 36.5, 45th percentile; parents mean = 38.2, 51st percentile). Mean

differences between our sample and the norming sample were negligible (*d* < .2) except for

family communication which yielded a medium effect size (*d* = .54), favoring our group of

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[5] Effect sizes were computed for Cohen's *d,* ranging from small (.2 ≤ *d* < .5), medium (.5 ≤ *d* < .8) to large (*d* ≥ .8).

parents. Compared to the norming sample, our parents were more positive about the quality and quantity of communication among their family members. See Table 2 for details about comparisons with the norm.

[Insert Table 2 about here]

Students: Comparisons Between Highly versus Less Socially Competent Groups

Students of high social competence rated their families more positively than those of low social competence for all of the family subscales ($p < .006$). Higher mean scores were found for students in the group of high social competence on cohesion, flexibility, rigidity, family communication and satisfaction subscales than students in the low social competence group ($p < .006$). Particularly, large effect sizes were found for the differences between these groups on cohesion ($d = .92$), flexibility ($d = .85$), communication ($d = .85$), and satisfaction ($d = 1.06$). On the disengagement, enmeshment, and chaos subscales, students in the low social competence group had higher means than in the high social competence group with small to medium effect sizes for these differences ($.29 \leq d \leq .58$). See Table 3.

Parents: Comparisons Between Highly versus Less Socially Competent Student Groups

When parents' responses were compared by their child's level of social competence, statistically significant differences ($p < .006$) were found for most of the subscales except cohesion, disengagement, and enmeshment. Similar to the students' perceptions, the parents of the students in the high social competence group gave higher ratings to their families, particularly on flexibility, rigidity, and communication, and were more satisfied with their families compared to parents of less socially capable students. On the chaos subscale, a higher mean score was obtained for the parents of students in the low social competence group than the

parents of students in the high social competence group. Effect sizes for all of these mean

differences ranged from negligible to medium ($.05 \leq d \leq .42$, see Table 3 for details).

[Insert Table 3 about here]

Relationships Between Social Competence and Family Environment

Correlations

For students, correlation coefficients were statistically significant between the social

competence index and all of the subscales measuring family environment ($p < .01$). High positive

correlations were found between the social competence index and the subscales of cohesion,

flexibility, rigidity, communication, and satisfaction, while strong negative correlations were

found between the social competence index and the rest of the unbalanced subscales measuring

disengagement, enmeshment, and chaos in the family. Similar patterns of correlations were

found between the student social competence index and their parents' perceptions of family

environment, except for disengagement which yielded no significant correlation with the

students' social competence (see Table 4).

[Insert Table 4 about here]

Predicting Social Competence

A multiple regression analysis was conducted to examine relationships between students'

social competence and family environment variables. Two ratio scores--the cohesion and

flexibility ratio scores--representing the extent of functional versus dysfunctional behaviors

based on the ratio of balanced to unbalanced subscales and the two subscale scores of family

communication and family satisfaction were used as predictors of students' perceived social

competence. The social competence index was used as a global measure of students' social

competence. Results showed a significant regression equation with these family variables, $R^2 =$

.17, adjusted $R^2 = .16$, $F (8, 804) = 20.75$, $p = .000$. It confirmed that approximately 17% of the variance of the social competence index, consisting of interpersonal ability and peer relationships, was accounted for by the linear combination of the family variables.

Of these family variables, multiple regressions were also conducted to examine how well each variable (i.e., students' versus parents' perceptions of their family environment) accounted for students' social competence over and above the other predictors. There was a significant relationship between students' perceptions of their family and their social competence, $R^2 = .17$, $F (4, 808) = 41.49$, $p < .001$, and between parents' perceptions of their family and their child's social competence, $R^2 = .04$, $F (4, 808) = 7.39$, $p < .001$. Both equations showed that students' and parents' perceived family environment explained a significant amount of the students' social competence. However, parents' ratings of their family did not significantly predict students' social competence after controlling for students' ratings, R^2 change $= .001$, $F (4, 804) = .17$, $p = .95$, while students' perceptions of their family significantly predicted their social competence even after controlling for their parents' perceptions, R^2 change $= .14$, $F (4, 804) = 32.93$, $p < .001$. Results of the bivariate correlations also showed significant ($p < .001$) correlation coefficients between the social competence index and each of the family variables for both students (cohesion $r = .38$, flexibility $r = .34$, communication $r = .30$, satisfaction $r = .36$) and parents (cohesion $r = .16$, flexibility $r = .13$, communication $r = .14$, satisfaction $r = .16$). Therefore, for our sample, both students' and parents' ratings of their families were good predictors for the students' social competence. In particular, the students' perceptions of their family environment were more strongly related to interpreting their interpersonal ability and peer relationships than were their parents.

Comparisons between Students and Parents

Aspects of Family Environment

Differences were found between students and parents in that generally the parents were more positive about characteristics of their family environment than were their children. Paired sample t-tests found statistically significant differences ($p < .006$) between parents and students except for the rigidity subscale. The parents had higher mean scores than their child on the two balanced subscales and both family communication and satisfaction subscales, while lower scores were found for the parents than the students on the two unbalanced scales--disengagement and rigidity. Effect sizes for the mean differences were medium ($.5 \leq d < .8$) for cohesion, flexibility and disengagement; small ($.2 \leq d < .5$) for family communication, family satisfaction, and enmeshment; and negligible ($d = .03$) for rigidity.

A larger proportion of parents than students rated their family as "very connected" (80.6% vs. 54.4%) and "very flexible" (72.2% vs. 51.3%), and the parents, more than the students, were either "highly or very highly" satisfied with the quality and quantity of communication among their family members (73.3% vs. 55.8%) and aspects of overall family life (44.2% vs. 39.1%). Of the four unbalanced subscales, a greater number of parents than students responded "very low" on the disengaged (90.7% vs. 67.3%), enmeshed (89.0% vs. 82.4%), chaotic (78.6% vs. 66.0%), and rigidity (15.7% vs. 12.7%) subscales. Therefore, compared to the students, the parents identified their family more as intimate, cohesive, flexible in dealing with issues; felt more positively about the quality and quantity of communication among family members; and were more satisfied with aspects of their family. The students perceived their family members operating more independently of each other with less interest and support among family members and being more rule governed than their parents. The levels

of cohesion and rigidity perceived by students still indicated that these families were overall connected and flexible. See Table 5 for comparisons between students and parents.

Differences by Students' Level of Social Competence

Differences between students and parents were also found by the students' level of social competence. In the low social competence group, most of the family variables yielded significant mean differences between students and parents, favoring the parents on the positive variables and the students on the negative variables ($p < .006$). In the high social competence group, students and parents differed only on family satisfaction with a higher mean for the students than the parents ($p < .006$). Effect sizes for the mean differences confirmed larger discrepancies between students and parents in the low social competence group ($.02 \leq d \leq .96$) than students and parents in the high social competence group ($.00 \leq d \leq .27$). Particularly, in the low social competence group, the parents perceived a high level of cohesion in their families ($d = .96$), while their child felt disengaged with the family members ($d = .76$). There was no difference between socially capable students and their parents on these two variables. Also, unlike the low social competence group where the parents reported greater satisfaction with their families than did students, in the high social competence group, the students more than their parents expressed satisfaction with their families.

[Insert Table 5 about here]

Summary and Discussion

Overall, our sample of gifted students and their parents rated their family environment positively, at levels comparable to the norming sample. Both students and parents in our sample characterized their family environment as connected, flexible, supportive, and affectionate as a whole with a fair balance of independence and closeness, and discipline and autonomy. With

respect to family atmosphere and relationships among family members, our sample did not perceive chaos, disengagement, rigidity, and disorganization within their families as highly as the norming sample. Another finding was that the quality and quantity of communication among family members was rated more positively by the parents, but not necessarily the students, in our sample when compared to the norming sample. Within our sample, higher ratings were consistently given by the parents to various family variables than by their children. Parents generally felt more positive than their children about relationships and communication between their family members and perceived more intimacy, connection, cohesiveness, and flexibility within their family. The students, by contrast, were more likely than their parents to characterize their families as somewhat more rigid, with a greater emphasis on rules and subsequent consequences. This is consistent with Noller and colleagues' findings (Noller & Callan, 1986; Noller, Seth-Smith, Bouma, & Schweitzer, 1992) that parents rated family environments more positively than did their adolescent children. This finding is not surprising, as adolescents are beginning to differentiate themselves and renegotiate their relationships with their parents at this stage in their development (Csikszentmihalyi, Rathunde, & Whalen, 1997). It may also be that parents are more likely to want to believe that their family is operating well and that their family members are intimate, affectionate, and supportive of each other (Noller & Callan, 1986; Noller, Seth-Smith, Bouma, & Schweitzer, 1992). Yet, both students and parents were similar in their overall high ratings of their families for positive characteristics and low ratings on the dysfunctional aspects, and both students and parents were generally satisfied with their family life.

Interestingly, some of our results suggest that rigidity was not perceived as a negative family characteristic as it was intended to be in the *FACES Package*. Although rigidity is

included as an unbalanced subscale, our students and parents responded somewhat differently on this subscale (in comparison to the other three unbalanced subscales of disengagement, enmeshment, and chaos). Even though overall ratings indicated low levels of rigidity amongst families in the study, they were not "very low," as they were for disengagement, enmeshment, and chaos in the family. Additionally, both the negative correlations found between rigidity and the other unbalanced subscales, and the positive correlations between rigidity and the balanced, functional subscales (i.e., cohesion, flexibility, communication, satisfaction) suggest that our sample had a more positive orientation toward "rigidity" in the family. There may be several reasons why parents and students in our sample cited somewhat more rigidity in their families. Parents of gifted children tend to be very involved in their child's activities, both in-school and outside-of-school. The children themselves tend to participate in lots of extracurricular and community-based programs. More rules and discipline may enable highly active families to manage a complex schedule. The balance of appropriate discipline and rules within the family with the finding of flexibility and independence in our sample are consistent with favoring an authoritative parenting style, characterized as allowing both freedom and independence with structure in child rearing, which contributes to good parent-child relationships (Abelman 1991; Dornbush et al., 1987; Dwairy, 2004; Grotevant & Cooper, 1985; Hauser et al., 1985; Lamborn, Mounts, Steinberg, & Dornbusch, 1991; Maccoby & Martin, 1983; Nelson, 1984; Shulman et al., 1987). Research has documented that parents play a crucial role in talent development as initial identifiers of giftedness and later on as facilitators and supporters by endorsing both autonomy and independent thinking with appropriate emotional intimacy and involvement with their children (Csikszentmihalyi, Raathunde, & Whalen, 1997; Cornell & Grossberg, 1987; Karnes,

Shwedel, & Steinberg, 1984; Olszewski-Kubilius, 2008; Rudasill, Adelson, Callahan, Houlihan, & Keizer, 2013; Snowden & Christian, 1999).

Another notable result was that our students differed in rating of their families according to their level of social competence. Socially capable students rated aspects of their families more highly, while less socially capable students perceived greater disengagement, enmeshment, and chaos in their families. Particularly, there were differences in family cohesion, flexibility, communication, and overall satisfaction, all favoring the socially capable group. The parents of these students also differed in several aspects of the family environment. Similar to their child, the parents of socially capable students perceived greater flexibility, rigidity, communication in the family and were more satisfied with their families than those of less socially capable students. However, differences between parents of the high versus low social competence group were not as noticeable as differences between students from the high versus low social competence group. Unlike students, parents from both groups of high and low social competence were not significantly different in their perceptions of emotional closeness and involvement with their family members. The correlational and regression analyses revealed positive relationships between the social competence and perceived family environment, reinforcing the importance of affectionate, supportive, and respectful family environments in developing functional interpersonal ability and peer relationships for children. Students' perceptions of the family were also better predictors of their social competence than parents' perceptions, which is consistent with previous research (Gecase & Schwalbe, 1986; Ohannessian, Lerner, Lerner & von Eye, 1995).

Discrepancies were found between student and parent perceptions of family functioning according to the students' level of social competence, which corroborated potential effects of

family environment on children's social competence. Our study found few differences between students' and parents' ratings of their family functioning when the students were identified as socially capable, while differences were present for students with lower social competence. In addition, students of low social competence rated their families more negatively than their parents compared to students of high social competence. These results are similar to those of Ohannessian and colleagues (1995), who found that greater differences in parents' and children's perceptions of family functioning were linked to indications of psychological distress in children, including depression and anxiety.

It is not surprising that more cohesive families who support one another, provide organized environments and have psychologically healthy relationships between members would produce students who are more socially competent. Our data did not account for how differences on perceptions of family functioning among family members would specifically affect children's social competence. For example, it may be that the dissonance between parents and families is indicative of family conflict that negatively drains students' emotional energy and resources for interacting with peers. Or in families with disagreement about family functioning, parents may provide fewer opportunities to model and practice positive interactive behaviors in the home that students then apply to peer relationships. Yet, our study bolsters that respectful and affirming relationships with family members, including parents and siblings could be the basis for good relationships outside of the family with peers and others (Callahan et al., 2004; Campbell, 2002; Cohn, Patterson, & Christopoulous, 1991; Cornell, Callahan, & Loyd, 1991; Harrist, Pettit, Dodge, & Bates, 1994; Papini & Rogman, 1992; Pettit, Harrist, Bates & Dodge, 1991; Pettit & Harrist, 1993; Pettit & Mize, 1993; Putallaz, 1987; Robinson et al., 2002) and that children tend to be more socially capable when parents and children feel alike about their family (Ohannessian

et al., 1995). Positive, supportive family relationships may encourage children to develop self-confidence, resilience, and self-efficacy, all characteristics that enable them to move successfully beyond the family, form friendships, interact appropriately with others, and seek support from others (Cornell & Grossberg, 1987; Enright & Ruzicka, 1989; Enright, 2001; Gavazzi et al., 1993).

In summary, our study is promising in that it provides a potential path for the possible formation and development of social competence of gifted students via their family and home environment. It has been an ongoing controversy whether academically gifted students are as capable socially as they are academically. We wonder if the positively perceived family environment of gifted students buffers against any stress resulting from their academic giftedness and contributes to their progressive interpersonal ability and peer relationships. Our results indicate that the students in our sample who were among the more highly socially competent tended to also have the most positive perceptions of their family functioning. If the family environment is one powerful variable explaining students' social competence, our study provides the cornerstone for future examinations.

<div align="center">Limitations and Future Considerations</div>

A major limitation of the study was a very low response rate. The length of the online survey may have contributed to this as well as the content of the questions regarding family environment and relationships with family members which parents and students might not feel comfortable revealing. Parents' emails were the primary contact addresses, and changes and inaccuracy of emails might also lead to the low response rate. Obtaining the updated and accurate contact address and facilitating responses using different modes of communication (e.g., phone, postcard, etc.) are strongly suggested.

Another limitation has to do with the use of data garnered through self-report. On the one hand, students may be the most accurate assessors of their social competence and their family. On the other hand, all self-ratings are subjective however, and can be biased particularly if respondents want to portray themselves or their families in a positive light. We suspect that this may account for the discrepancy between parent and student ratings with more positive ratings given by parents throughout the study. It may also be that parents base their ratings on their experiences with a range of other families, including their own families of origin and siblings, or that of extended family members or close friends, and these comparison contribute to their more positive ratings. Using multiple sources of data can reduce this potential bias, and the inclusion of various forms of data, such as observation and interviews, is suggested for future studies.

This study used the normative data (i.e., cut off scores and categories) reported in the manual of the *FACES IV Package* for comparisons with our sample. Although the normative sample was quite comparable to our sample of gifted students in terms of gender, ethnicity, and annual household income level, it mainly comprised a heterogeneous group of Caucasian with a range of intellectual abilities. Our subjects elected to participate in NUMATS, a fee-based program, and thus, may not be representative of all gifted students also. It is unknown how our gifted students and the *FACES* norming group compared on other variables (e.g., geography, family characteristics). Securing a broad pool of research participants beyond the NUMATS students would be important to assess the generalizability of our findings to a broader population of gifted students. Also, an ideal comparison group would be non-gifted students who were matched more systematically on background variables.

Both students and parents responded to the family inventory but only students were asked to rate their social competence. Although our study revealed that the students' rating of their

family was better predictors of their social competence than were their parents' ratings, we did not examine the parents' own perceived social competence nor their perceptions of their child's social competence. It would be interesting to see if gifted children with lower levels of social competence have parents with lower levels, because parents' modeling of social skills may have a strong impact on the development of social skills in their children. It would also be useful to see if parents perceptions of their child's social competence match their child's perceptions and generally to understand the basis of children's low ratings of their social competence. In consideration of parents as a crucial role model for their children, it would be worth examining how parents' social competence influences their children's relationships with other people, including similar age peers, outside of the family.

Lastly, we identified highly socially capable students versus less socially capable students based on the percentile ranking on the created social competence index and compared their ratings of the family environment. As reported in a recent study (see Lee, Olszewski-Kubilius, & Thomson, 2012) confirming a gender difference in social competence favoring females over males, we found more females in the high social competence group and more males in the low social competence group. Future research may want to expand if gender, besides the level of social competence, plays a significant role in student perceptions of family environment.

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