DOCUMENT RESUME

ED 334 476 CG 023 491

AUTHOR Signorello, Rose L.; And Others
TITLE The Development of Sex Role Identity in Gifted and Nongifted Children.
PUB DATE Apr 91
NOTE 60p.; Paper presented at the Annual Convention of the Southwestern Psychological Association (37th, New Orleans, LA, April 11-13, 1991).
PUB TYPE Reports - Research/Technical (143) -- Speeches/Conference Papers (150)

EDRS PRICE MF01/PC03 Plus Postage.
DESCRIPTORS *Academically Gifted; Elementary Education; Identification (Psychology); *Sex Role; *Sexual Identity
IDENTIFIERS Femininity; Masculinity

ABSTRACT

This study compared gifted elementary and middle school students to nongifted students to assess differences in levels of masculinity and femininity across grade levels. The following hypotheses were tested: in grades three through eight gifted females will have greater levels of masculinity than nongifted females and the differences between gifted and nongifted females will be greater than males classified similarly; and in grades three through eight gifted males will have greater levels of femininity than nongifted males and the differences between gifted and nongifted males will be greater than females classified similarly. The Children's Personal Attributes Questionnaire Short Form was administered to students in grades three through eight. Analysis of 386 questionnaires indicated that children classified as gifted and nongifted differed significantly in levels of masculinity. There was a significant interaction between gender and giftedness for femininity. Gifted males exhibited a significantly higher level of femininity than nongifted males, but females classified similarly did not differ. In addition, femininity tended to decline at higher grade levels for both males and females, both gifted and nongifted. This research provides data which indicate the gifted may interpret role patterns differently from the nongifted. The notion that the intellectually gifted may also be psychosocially distinct with respect to sex role identity is supported if the cognitive-developmental theoretical perspective is followed. (LLL)

The Development of Sex Role Identity in Gifted and Nongifted Children

Rose L. Signorello

John P. Gaa

Paul R. Swank

Norman I. Kagan

University of Houston

Paper Presented at the Annual Meeting of the
Southwestern Psychological Association
New Orleans, April 1991

The Development of Sex Role Identity in Gifted and Nongifted Children

Abstract

Gifted elementary and middle school students were compared to nongifted students to assess differences in levels of masculinity and femininity across grade levels. The results of administering the Children's Personal Attributes Questionnaire Short Form (CPAQ) (Hall & Halberstadt, 1980) to 394 students in grades three through eight indicated that children classified as gifted and nongifted differed significantly in levels of masculinity. There was a significant interaction between gender and giftedness for femininity. Gifted males exhibited a significantly higher level of femininity than nongifted males, but females classified similarly did not differ. In addition, femininity tended to decline at higher grade levels for both males and females, both gifted and nongifted. The findings are discussed in the context of a developmental perspective of sex role identity and possible socioemotional precocity of the gifted child.

The Development of Sex Role Identity in Gifted Children and Nongifted Children

Introduction

Historically, gifted children have been characterized as showing precocity in their intellectual development and academic performance as compared to their agemates. Much research supports the notion of advanced intellectual abilities in gifted children. Terman's (1925, 1947) longitudinal work accentuated this and directed attention toward other traits of gifted children including psychosocial and physical development. The focus has expanded to include areas such as creativity and other specific talents (Ingram & Todd, 1983). More recently, the literature reflects an interest in socioemotional developmental issues of the gifted, but limited research has focused on how the intellectually gifted compare to their same age peers. Since gifted children show a precocity in their intellectual and academic development, it may be that they also show a precocity in their social and emotional development.

The framework for the present research is an understanding cf the cognitive-developmental perspective (Piaget, 1973) on which several theories of sex role identity are based (Block, 1973; Kohlberg, 1966; Ullian, 1976). The Piagetian perspective views cognitive development as a process of continual change through which the child's behavior or thought allows for adaptation to the environment in increasingly more complex and satisfactory ways. According to Kohlberg (1966), basic sexual attitudes and sex role cognitions are patterned by the child's changing cognitive organization of his world. The action of the child's thought organizes role perceptions and role learnings around body and world concepts. The years between three and seven are emphasized when developing concepts become transformed into sex-typed preferences and values or sex role identification.

Ullian (1976) expanded on Kohlberg's model extending it into adolescence. Biological and social factors are recognized as having differential influence, but the individuals's perception and interpretation of differences between the sexes are

seen as most influential as the child moves from conformist to nonconformist within each stage. Significant developmental shifts occur in the qualitative nature of judgements about male and females, instead of the degree to which children approximate adult sterotypes. Ullian extends sex role development beyond Kohlberg's level of conformity to a higher level involving more inclusive notions of sex role identity, which are not dependent on sex-stereotyped characteristics. Principles of equality and freedom are used to describe ideals.

Block (1973) integrated changes in sex role identity with cognitive-developmental changes and Loevinger's tasks of ego development. Sex role is defined as "a synthesis of biological and cultural forces as they are mediated by cognitive and ego functions" (p. 65). Sex role development begins with self-labeling, and moves to the highest level of ego functioning in which an individually defined sex role is achieved. Ultimate development is an androgynous sense of self which incorporates aspects traditionally considered masculine and feminine.

Block's theory integrated Bakan's (1966) concepts of agency and communion. Bakan defined agency and communion as two "fundamental modalities" characteristic of all living forms. Agency (masculinity) is manifested as an interest in self. Communion (femininity) is being at one with others. The primary developmental task is the mitigation of agency and communion, or the moderating of masculinity and femininity. Unchecked agency or communion is detrimental, and a highly masculine or feminine emphasis impedes the development of mature ego functioning.

The determination of which individuals are gifted is a difficult task, which has produced a great deal of disagreement with respect to the definition of giftedness. The U.S. Office of Education (cited in Davis & Rimm, 1985) offers one widely accepted definition of giftedness which uses a multitalent approach. The gifted and talented are defined as those children who are identified as having outstanding abilities and who are capable of outstanding

performance. They may have shown achievement and/or potential in any of the following areas: "1) General intellectual ability, 2) specific academic aptitude, 3) creative or productive thinking, 4) leadership ability, and 5) visual and performing arts" (p. 10). Renzulli (cited in Davis & Rimm, 1985) defined giftedness using a three-ring model which states that "gifted persons who truly make valuable contributions to society in all cases possess three critical traits: high creativity, high task commitment (motivation), and above average (but not necessarily high) intellectual ability" (pp. 11-12). These traits are seen as critical and independent. Unfortunately, these definitions, as well as others, tend to neglect psychosocial development.

In a cognitive-developmental perspective, sex role development is integrated with the child's changing thinking and social development. Of particular interest is the development of sex role identity.

Since sex role identity related to giftedness has not been extensively examined, other aspects of psychosocial development have been reviewed in an effort to provide parallels to sex role development.

An attempt has been made to find support in the literature for the relation between intellectual precocity and psychosocial precocity. The research has indicated varied results, yet certain patterns seem to emerge regarding self-concept, other related psychosocial factors, and sex role identity and attitudes.

Perhaps the most frequently studied aspect of socioemotional development of the gifted child is self-concept. This personality descriptor has been emphasized as having a relation to other characteristics including cognition. Self-concept is defined as "an amalgamation of reflected appraisals of significant others in the child's life" (Bracken, 1980, p.75). Although the research has indicated varied results, much support is shown for the notion that gifted children have a more positive self-concept than average ability or below average ability children (Coleman & Fults, 1983; Karnes & Wherry, 1981; Kelly & Colangelo, 1984; Lehman & Erdwins, 1981). Gifted children scored significantly higher on measures of self-concept than did nongifted children. Monks and

Ferguson (1982) reviewed the research on the gifted adolescent's socioemotional adjustment and concluded that gifted adolescents generally appear well-adjusted. Although, a large number of studies indicated that gifted adolescents possess a positive self-concept, Some research (Bracken, 1980; Karnes & Wherry, 1983) has not supported the argument that the gifted show higher levels of self-concept than nongifted individuals. Bracken's results do support the idea of a developmental precocity in the gifted. It was suggested that a homogeneous reference group (i.e., gifted classmates) may modify a child's self-perception, lowering self-concept (Bracken, 1980; Coleman & Fults, 1983).

In contrast, some research (Janos, Fung, & Robinson, 1986; Niehoff, 1983) indicated that some gifted children viewed themselves as "different" from their peers. Self-esteem scores of this group were significantly lower than the scores of the other gifted children.

Results (Bracken, 1980; Kelly & Colangelo, 1984) also indicated that gifted students had a significantly

higher academic and social self-concept as compared to their nongifted agemates. A relation between academic ability and academic and social self-concepts was supported. Kaplan (1983) maintained that gifted children often develop unrealistic self-concepts by placing too much value on their cognitive abilities. Gifted children have been shown to have higher academic than social self-concepts (Ross & Parker, 1980). Attitudes toward learning were more favorable for the gifted (Bracken, 1980).

Other aspects of psychosocial development have been researched in relation to giftedness. One dimension, locus of control, was found to be significantly higher for academically bright achievers than for academically bright underachievers, although self-concept scores showed no significant difference (Kanoy, Johnson, & Kanoy, 1980). In contrast, Loeb and Jay (1987) found no significant effects for measures of self-concept, locus of control, or self-satisfaction for the whole gifted group. A separate analysis showed gifted girls had higher self-concepts and more internal locus of control than nongifted girls, and frequently

described themselves as strong. Groth (1972) found bright high school students to have higher levels of autonomy and time perspective than their nongifted counterparts. These results supported the notion of psychosocial giftedness and a relation between autonomy and masculinity.

Abroms and Gollin (1980) suggested the notion of "gifted pluralism'. Their results supported the idea that psychosocial giftedness may best be measured by acts of prosocial behavior and may develop somewhat independently of intellectual giftedness.

Ritchie, Bernard, and Shertzer (1981) compared academically talented youngsters to academically average youngsters on the measure of interpersonal sensitivity. Interpersonal sensitivity was defined as "the ability to perceive and differentiate the behavioral interactions between others" (p. 106). Results did not support the notion of interpersonal sensitivity in the gifted group, but they did support the developmental nature of interpersonal sensitivity. These results lend support to the notion of "gifted pluralism" (Abroms & Gollin, 1980).

Limited research in the area of sex role identity and attitudes of the gifted has been done. Following the cognitive-developmental model and Block's theoretical perspective, one would expect to find higher levels of masculinity and femininity in the gifted than in the general population. Hollinger (1983, 1984) and Hollinger and Fleming (1985) showed that higher levels of instrumentality (masculinity) and expressiveness (femininity) were associated with higher levels of self-esteem in gifted female adolescents. The group distinguished by low social self-esteem scored significantly lowest of all groups on instrumentality and expressiveness. Both instrumentality and expressiveness were highlighted as central to the female adolescent's social self-esteem (Hollinger & Fleming, 1985). It was concluded that the gifted female adolescent seems to gain social self-esteem from sources which appear to go beyond gender specific boundaries. Wells, Peltier, and Glickauf-Hughes (1982) indicated that almost twice as many gifted female adolescents subscribed to an androgynous sex role orientation as did gifted male adolescents.

Three times as many gifted males as females subscribed to an undifferentiated orientation, one which is low in masculinity and femininity, which was associated with the lowest levels of self-esteem.

Mills (1980) researched the relation between sex role, self-esteem, and academic achievement. A "maturity" factor containing many masculine items was strongly related to girls' overall intellectural skills. Variables indicative of highly stereotyped characteristics were found to be negatively correlated to overall skills.

Robinson-Awana, Kehle, and Jensen (1986) found levels of self-esteem increased commensurately with higher academic achievement for each gender. Both genders assigned higher self-esteem to boys; an exception was that high achieving girls noted themselves significantly higher in self-esteem than boys.

A survey of the relevant literature revealed that gifted children may develop a more androgynous sex role orientation. It may be that advanced development of the intellect in the gifted child has a corresponding

developmental precocity in their psychosocial development. Some of the literature in the general areas of identity development of the gifted supported this contention, especially in the related area of self-concept. Research which directly examines sex role development of the gifted child is limited. In summary, the research on sex role identity as it relates to giftedness generally indicates that the individual characterized as androgynous tends to have more positive feelings about self. Thus, higher levels of instrumentality and expressiveness are associated with higher levels of self-esteem. Individuals with highly stereotyped (high masculine or high feminine) roles show less positive measures of one's self-concept. The literature also supports the idea that gifted females are affected differently than males. Gifted females tend to be more androgynous than gifted males.

Research Questions

To address the issue of the development of sex role identity of gifted children using the theoretical developmental perspectives reviewed, four research

questions and two specific hypotheses were developed. The research questions asked the following:

1) To what extent do gifted females in grades three through eight differ in levels of masculinity and femininity from nongifted females in the same grades?
2) To what extent are the differences in levels of masculinity and femininity between gifted and nongifted females constant across grade levels?
3) To what extent do gifted males in grades three through eight differ in levels of masculinity and femininity from nongifted males in the same grades?
4) To what extent are the differences in levels of masculinity and femininity between gifted and nongifted males constant across grade levels?

These research questions were generated to compare the sex role identity development of the gifted child to the nongifted child. The literature (Mills, 1980: Wells, Peltier, & Glickauf-Hughers, 1982; Hollinger, 1983, 1984; Hollinger & Fleming, 1985) lends some support to the idea that gifted children may develop a

more androgynous sense of self which incorporates qualities traditionally considered masculine and feminine. Therefore, it can be argued that males who are gifted will be no less masculine that their nongifted peers, but will also have more feminine qualities. The gifted female is expected to be no less feminine than her nongifted counterpart, but she will have higher levels of masculinity. Since the onset of adolescence may affect sex role development, this study examined whether changes do occur in levels of masculinity and femininity between grades, although the literature does not necessarily suggest that changes will appear. These research questions led to the development of the following hypotheses.

Hypotheses

The following specific hypotheses were tested in this study.

H_1: In grades three through eight gifted females will have greater levels of masculinity than nongifted females and the difference between gifted and nongifted females will be greater than males

classified similarly.

H_2: In grades three through eight gifted males will have greater levels of femininity than nongifted males and the differences between gifted and nongifted males will be greater than females classified similarly.

Methodology

Sample

The subjects were comprised of 394 children in grades three through eight from the schools in a suburban school district in the greater Houston, Texas area. A school district with a well-established gifted program was chosen. For purposes of the investigation students were thought of as clustered in groups of two grades each to form levels. Grades three and four were grouped as Level 1, grades five and six comprised Level 2, and grades seven and eight made-up Level 3. The gifted students came from an intact population in the district's gifted pull-out program classrooms of third, fourth, fifth, sixth, seventh, and eighth graders which provided a minimum of 40 gifted students, with at least 20 males and 20 females, per grade level grouping.

Nongifted subjects in grades three, four, and five were students from regular heterogeneous homeroom classes, while sixth, seventh, and eighth graders were selected from social studies classes which were not ability grouped. As with the gifted students, the regular students were placed in grade level groupings to obtain a minimum of 40 students per level with at least 20 males and 20 females per level.

Instrument

The Children's Personal Attributes Questionnaire Short Form (CPAQ) (Hall & Halberstadt, 1980) was used to measure level of masculinity (instrumentality) and level of femininity (expressiveness). The questionnaire is composed of 21 items which describe personality characteristics. There are two eight-item scales within the instrument labeled Masculine and Feminine with items which are considered characteristically desirable for each gender, but which occur more often in the gender indicated. The third scale, Feminine-Masculine, consisting of five items is bipolar and contains attributes that are considered to have dissimilar social desirablity for each sex. A

four-point rating scale is employed for the respondents to rate themselves on each item.

The children's version of the Personal Attributes Questionnaire (PAQ) (Spence, Helmreich, & Stapp, 1974) was developed and used with elementary school children. High correlations were obtained between this version and adult forms indicating eqivalence of the children's form with the long and short adult form. As reported by Hall and Halberstadt (1980), two preliminary studies were conducted to equate the CPAQ and the PAQ which has been widely used with adults. The correlations between the CPAQ and the PAQ were .80, .86, and .86 ($p < .001$) for the Masculine scale, the Feminine scale, and the Feminine-Masculine scale, respectively. Additionally, the short form of the CPAQ and the short form of the PAQ were examined for equivalence. Correlations reported between these two forms were .73, .72, and .45 ($p < .001$) for the Masculine scale, the Feminine scale, and the Feminine-Masculine scale, respectively.

Several studies (Hall & Haberstadt, 1980) were conducted which assessed the internal consistency of the full-length CPAQ and the short form of the CPAQ and

the reliability between the two forms. Results showed that internal consistency of both the full-length and short forms were similar, averaging about .60 for each of the three scales, Masculine, Feminine, and Feminine-Masculine. The reliability between the full-length and the short CPAQ indicated a positive correlation between the two forms. Correlations between the full length CPAQ and the short form of the CPAQ were .58 for the Masculine scale, .61 for the Feminine scale, and .57 for the Feminine-Masculine scale ($p < .001$). Retest reliability of the CPAQ over one year averaged .44 for the three scales.

Procedure

In order to examine the hypotheses, the CPAQ Short Form was administered to subjects classified as gifted or nongifted in grades three through eight. The questionnaire was administered to each group during a single class meeting to students grouped by grade, or by level in the case of third and fourth grade gifted students. Gifted subjects were given the questionnaire in their gifted classrooms. Third, fourth, and fifth

grade nongifted subjects were given the instrument in their homerooms; nongifted sixth, seventh, and eighth graders were given the instrument during their social studies period. All students in each of the participating classes who had parental consent and who gave their assent were administered the questionnaire, even though the necessary number of subjects may have been exceeded. Some special education students in the regular classrooms in grades three, four, and five identified by their teachers did not participate due to comprehension or behavioral difficulties. Any student not participating was given an alternate activity to do during the testing period. Any protocol not completed was discarded; of the 394 protocols originally obtained 386 were analyzed. Gifted students who were in the regular classrooms at the time of that class's questionnaire administration did not participate and were given an alternate activity to complete.

To control for varying reading ability of subjects, administration of the questionnaire was accompanied by an initial oral reading of each item by the examiner. Subjects listened during the reading

then completed the questionnaire individually. They were given the opportunity to ask for word clarification within instrument items during the administration. The same examiner was present for all instrument administrations. Subjects were told that the investigator wanted to learn more about people their age, about their likes and dislikes, and about what students in their grades felt about how certain characteristics apply to them.

Analysis

A 2x2x3 design based on the classification of gifted or nongifted, gender of subjects, and level (grade groupings) was employed. Descriptive statistics (means and standard deviations) were calculated to examine the differences in levels of masculinity and femininity.

Data analysis was conducted using a linear models technique. The criterion variables were masculinity and femininity, and the predictor variables were giftedness, gender, and grade level. The two-way interactions for giftedness by gender, giftedness by grade level, and gender by grade level were included;

the three-way interaction for giftedness by gender by grade level was also examined.

Analysis involved specification and testing of a series of models beginning with the one containing all the predictor variables and the interactions among them. Variables were progressively deleted from the model testing those variables related to the assumptions first before testing the variables in the model related to the specific hypotheses. When all variables in the model contributed significantly to the model, no further analyses were made. For masculinity, five restricted models were reviewed; for femininity, three restricted models were examined. Due to differences in reaching significance for the model as a whole for each of the criterion variables, different numbers of restricted models were examined for masculinity and femininity.

Assumptions made in conducting the analysis included: (1) homogeneity of variances, (2) that the criterion variables, masculinity and femininity, were normally distributed, (3) independence of observations, and (4) the models were true models.

Results

The means and standard deviations for the measures of masculinity and femininity for males and females in the gifted and nongifted categories according to grade level groupings are presented in Tables 1, 2, and 3.

Insert Tables 1, 2, and 3 about here

Tables 1, 2, and 3 display the means for comparison. Generally, the tables indicate that there are lower levels of femininity associated with higher grade levels. The tables further show that gifted males and females, regardless of grade level, have higher levels of masculinity and femininity than their nongifted counterparts. Cell examination demonstrates that males scored higher than females for masculinity, except for the nongifted Level 1 (grades 3, 4) group in which females were slightly higher than the males. For femininity, females consistently scored higher than males.

Standard deviations from the cell means ranged from a low of 2.23 points to a high of 4.51 points.

Thus, there were not large differences in the standard deviations obtained.

Scale means from Hall and Halberstadt's (1980) two studies in which the CPAQ short form was developed and then cross-validated with an independent group of elementary school children are provided in Table 4. They provide comparisons to the means in Tables 1, 2,

---

Insert Table 4 about here

---

and 3. By reviewing Table 4 it can be seen that in the current research, mean scores for both masculinity and femininity for males and females in gifted and nongifted groups at all grade levels generally fell at or above the mean of those scores obtained by Hall and Halberstadt (1980). This showed consistency between the means of the current study with the means acquired previously with a similar sample. The greatest difference (3.48 points) in obtained means between the previous research (Hall & Halberstadt, 1980) and the current work was between femininity scores for gifted males in Level 1 (grades 3, 4) ($\bar{X}$ = 26.12) as compared

to femininity scores for one group of their males ($\bar{X}$ = 22.64). All other differences between the mean scores obtained by Hall and Halberstadt (1980) and this research were smaller. However, it should be noted that gifted males and females as a whole fell above the means of Hall and Halberstadt's (1980) samples. The means for gifted females in the current research for masculinity and femininity were above the means reported for the females in the previous research (Hall & Halberstadt, 1980). Gifted males followed a similar pattern with only one exception in which gifted males at Level 3 (grades 7, 8) had a lower mean score than the males in Study 2 of Hall and Halberstadt (1980). The nongifted males and females from the current research generally had more similarity in their mean scores to those of Hall and Halberstadt's groups. The nongifted groups sometimes fell slightly above or below the means of Hall and Halberstadt.

Analysis proceeded using a linear models technique. Initially, a full model was tested with grade level as a classification variable comparing it to a restricted model where grade level was an ordered

variable to test for deviations from linearity by grade level. No deviations from linearity were found for masculinity (F (4, 374) = 1.11; p > .05) or femininity (F (4, 374) = 0.16; p > .05). Analysis proceeded, with grade level defined as an ordered variable, to evaluate the relation between the predictor variables and the criterion variables. The overall model was significant for both masculinity (F (7, 378) = 6.60; p < .05) and femininity (F (7, 378) = 18.17; p < .05). However, not all predictor variables and interactions contributed equally to that prediction.

A series of restricted models tested variables from the full model. The interactions by grade level were tested first to determine if the relation of grade level to level of masculinity and femininity was the same for males and females gifted or nongifted. Therefore, grade level was used as a control variable. Beginning with the three-way interaction for gender by giftedness by grade level, the slope of the relation between grade level and masculinity, and grade level and femininity, across groups of gifted and nongifted males and females was tested. The three-way

interaction was not significant for masculinity (F (1, 378) = 0.80; p >.05) or for femininity (F (1, 378) = 0.52; p >.05). This indicates that gender, giftedness, and grade level do not interact together in a constant fashion to influence changes in levels of masculinity and femininity.

The two-way interactions for giftedness by grade level and gender by grade level were then tested. The first two-way interaction for giftedness by grade level was not significant for masculinity (F (1, 379) = 0.01; p > .05) or femininity (F (1, 379) = 0.06; p > .05), nor was the two-way interaction for gender by grade level significant for masculinity (F (1, 380) = 0.03; p >.05) or femininity (F (1, 380) = 2.82; .05 < p < .10), although it approached significance for femininity. This seems to indicate that the relation between grade level and masculinity and femininity is the same for each gender, giftedness level, or gender by giftedness combination. Next, grade level was tested to determine if the relation between grade level and masculinity and femininity was significant. It did not show significance for masculinity (F (1, 385) = 0.14; p

> .05), but significance was indicated for femininity (F (1, 385) = 14.04; p < .05). Grade level was, therefore, dropped from the model for masculinity, but retained for femininity, since it had predictive value for femininity scores.

Finally, tests of the hypotheses were made. For masculinity, the model was comprised of the two predictor variables, gender and giftedness, and the two-way interaction, gender by giftedness. Since this interaction only approached significance (F (1, 382) = 2.78; .05 < p < .10), it was omitted from the model.

Table 5 provides a comparison of the means for

Insert Table 5 about here

---

masculinity and femininity across all three grade levels for the gifted and nongifted groups. A trend is indicated in the expected direction for the two-way interaction, gender by giftedness, for masculinity. Gifted females had greater levels of masculinity than nongifted females. However, by examining the means, it is evident that the difference (2.9 points) between

gifted and nongifted males for masculinity was greater than the difference (1.7 points) between female groups, contrary to what hypothesis one predicted. Interestingly, there were also no differences in the means between nongifted males and females for masculinity.

In the succeeding model for masculinity containing the predictors gender and giftedness, gender only approached significance (F (1, 383) = 3.54; .05 < p < .10), resulting in gender being omitted from the model. The final model for masculinity evaluated just the variable, giftedness, which was significant (F (1, 384) = 38.78; p < .05). As indicated in Table 5, both gifted males and females scored significantly higher on masculinity than did the nongifted groups. Parameter estimates in Table 6 showed also that gifted children tended to have higher levels of masculinity than those who were nongifted.

Insert Table 6 about here

Although the interaction of gender by giftedness was not significant for masculinity, the predictor giftedness reached significance. This means that while gifted females in grades three through eight demonstrated higher levels of masculinity than their nongifted counterparts, the differences in those levels were not greater than the differences between gifted and nongifted males classified similarly.

To test the hypothesis for femininity, the three predictor variables, gender, giftedness, and grade level; and the two-way interaction, gender by giftedness, were included in the model. The two-way interaction, gender by giftedness, was significant in this model (F (1, 381) = 3.87; $p < .05$), and therefore, it became the final model for femininity (F (4, 381) = 30.92; $p < .05$). Significance was shown for each of the other variables; gender (F (1, 381) = 68.53; $p < .05$), giftedness (F (1, 381) = 9.07; $p < .05$), and grade level (F (1, 381) = 14.04; $p < .05$).

As can be substantiated from Table 5, females had greater levels of femininity (27.5) than males (24.1) and gifted students had greater levels of femininity

(26.6) than nongifted students (25.3), but the interaction is demonstrated by the fact that the differences in femininity for gifted and nongifted males (2.0) is greater than the same difference between gifted and nongifted females (.2). Looking at these results from another angle, the difference in femininity for gifted males and females was smaller (2.7) than the difference between nongifted males and females (4.0). These results are reiterated by the parameter estimates in Table 6. In addition, the parameter estimate for grade level in Table 6 indicates that femininity scores were lower at the higher grade levels and, in the absence of interactions with grade level, these results appear to be consistent for males and females, both gifted and nongifted.

Looking at the expectancies of predicted levels of femininity for giftedness and grade levels in Table 7 based on parameter estimates for the final model for femininity in Table 6, it can be seen that there are

---

Insert Table 7 about here

---

greater differences between gifted and nongifted males than between gifted and nongifted females in predicted levels of femininity. Results indicated that in grades three through eight gifted males had higher levels of femininity than nongifted males and that the differences between gifted and nongifted males were greater as a whole than the differences between gifted and nongifted females.

Discussion

The primary purpose of this study was to assess the relation of giftedness and gender to children's sex-role identity as measured by level of masculinity (instrumentality or agency) and level of femininity (expressiveness or communion). This area is especially interesting since much of the research regarding the socioemotional development of the gifted child reviews issues such as self-esteem, self-concept, and locus of control, but not sex role identity. Limited research has focused on how the gifted child's sense of sex role identity compares to the child's same age peers.

It was predicted that gifted females would be no less feminine than nongifted females, but would

demonstrate higher levels of masculinity, while gifted males would be no less masculine than their nongifted peers, but would demonstrate higher levels of femininity. This prediction seemed plausible if we accept the idea that gifted children may be precocious intellectually and psychosocially. Sex role identity development is just one aspect of psychosocial development that may be advanced. According to Block, a more androgynous sex role identity is indicated in the individual who reaches maximum development. This androgynous sex role identity combines qualities traditionally considered masculine (instrumental) and feminine (expressive). An androgynous identity combines both aspects of the personality without depleting one quality as the other one increases.

Hypothesis one which states that in grades three through eight gifted females will have greater levels of masculinity than nongifted females, and that the difference between gifted and nongifted females will be greater than the difference between gifted and nongifted males, was not statistically supported. Gifted subjects did demonstrate higher masculinity

scores than did the nongifted subjects; however, as stated in the results, the interaction of gifted by gender only approached significance ($p < .10$) for masculinity. Thus, hypothsis one was only partially supported. Gifted females did have greater levels of masculinity than nongifted females; however, the difference in level of masculinity between the male groups was greater than the difference for the female groups, but not significantly so.

According to the literature and the theoretical basis presented, it would be expected that gifted females would be androgynous, high in both masculinity and femininity. The current study lends partial support to this notion, with the gifted females having higher levels of masculinity than the nongifted females. However, results showed that all gifted subjects had greater masculinity than the nongifted groups, but the difference between the female groups was somewhat smaller than the difference between the male groups. The reasons for this lack of results with regard to the gender by giftedness interaction is unclear. Although no interaction by grade level

existed in the present study, different results may be obtained with an older group (i.e., adolescents). Perhaps there are less differences between children at younger ages in levels of masculinity. For future research a sample from a more diverse population is recommended.

The second hypothesis which states that in grades three through eight gifted males will have greater levels of femininity than nongifted males and the differences between gifted and nongifted males will be greater than the differences between females classified similarly was supported by the results. The difference in levels of femininity between gifted males and nongifted males was greater than the difference between gifted and nongifted females. Or looking at it another way, differences between males and females was greater for the nongifted than for the gifted on femininity. The gifted had higher levels of femininity than their nongifted counterparts. As hypothesized, the interaction effect of gender by giftedness showed that the difference in levels of femininity between gifted and nongifted males was greater than the difference

between gifted and nongifted females.

The significant interaction for giftedness and gender suggests that although females as a group had higher femininity scores than males, this is of less interest. Generally, one would anticipate that females would have greater levels of femininity than males. However, it is noteworthy that gifted males had higher levels of femininity than nongifted males and, therefore, are more similar to females than are nongifted males. Surprisingly, as the means in Table 5 indicate, gifted males had greater masculinity and femininity than the nongifted males. The difference between gifted and nongifted males was greater for the level of masculinity than for femininity.

Results showed that as a group, the gifted had significantly higher masculinity than the nongifted group. The means in Table 5, however, show that there was a greater difference between scores of the gifted and nongifted males than between the female groups on masculinity. This reflects the fact that the giftedness by gender interaction approached significance. It is interesting to consider how

cultural expectations may be influencing the gifted male to have higher masculinity than his nongifted counterpart. The stereotype of the gifted young male portrays him as bookish and somewhat isolated from male peers, which would lead one to believe that he may be less masculine. Perhaps, instead, the gifted male has masculine or instrumental qualities of leadership, decisiveness, assertiveness, self-confidence, and persistence, which the CPAQ appears to measure. Males have cultural permission and encouragement to exhibit these behaviors. It could be that gifted males receive even more encouragement for manifesting these characteristics than the average male and, thus, gifted males would score higher on masculine traits as defined by the CPAQ.

Conversely, it is likely that females are not culturally reinforced as frequently to exercise these traits, thus, these dimensions would be exhibited less by them. However, the gifted female may demonstrate more masculinity since her intellectual prowess may assist her in developing qualities such as leadership, decisiveness, and self-confidence. It's very likely

that gifted females, especially those in gifted programs, will be placed in situations where they are allowed, expected, and encouraged to exhibit traits which appear on the masculine scale. As the means in Table 5 demonstrate, there is a greater difference between gifted and nongifted females for masculinity than for femininity. There is also a greater difference between males and females on femininity than on masculinity, which is similar to Table 4. The masculinity mean is lower than femininity. Likewise, for males, there is a greater difference between the means of the gifted and nongifted groups for masculinity and less of a difference between the male groups for femininity.

For femininity, the interaction demonstrates that the difference in femininity scores for the male groups is different than the difference in these scores for the female groups. This interaction was statistically significant. The relation of the predictor variables to femininity is expressed in the expectancy table. Table 7 demonstrates that femininity scores are higher for gifted females as compared to nongifted females.

but only slightly for the most part. Gifted males scored higher as compared to their nongifted counterparts on femininity. Looking at the means for femininity in Table 5, it can be seen that there is a much greater difference between the means of the male groups than the means of the females. Table 7 also suggests that older children have less femininity than younger ones. It may be speculated that older children exhibit less femininity than younger ones, because culturally, feminine characteristics are less rewarded than masculine ones. As children mature, traditional masculine attributes such as independence and assertiveness may be viewed as more valuable than traditional feminine traits of nurturance and expressiveness. Children learn to display those traits which are more highly regarded. Additionally, the normal developmental shift which occurs in adolescence in which youth move away from dependency on adults toward carving out an identity of their own, striving for independence and autonomy, may account for the lower levels of femininity at higher grade levels. This may explain why the variance in masculinity scores

is not as predictable as the variance in femininity.

Femininity scores are greater in gifted males than nongifted males at all grade levels, which supports research hypothesis two. Furthermore, femininity scores are greater in gifted females than nongifted females, but there is less of a difference between females than between male groups. Femininity is greatest for the youngest gifted females. Although the gender by grade level interaction was not significant for femininity, it closely approached significance ($p < .10$). One might expect that femininity scores would be higher for gifted females than the nongifted group, since it may be argued that the gifted would tend to be androgynous. Androgyny would include masculine and feminine levels above the median. The developmental changes which occur in adolescence in which youth strive for their own identity and autonomy, and the different cultural values attributed to masculine and feminine traits previously mentioned may also be operating here.

The current research provides data which indicates that the gifted may interpret role patterns differently

from the nongifted. The notion that the intellectually gifted may also be psychosocially distinct with respect to sex role identity is supported if the cognitive-developmental theoretical perspective is followed, especially Block's model. According to Block, the androgynous person who integrates an individualized combination of masculine and feminine characteristics is at a higher developmental level than the person who adopts a stereotyped sex role identiy. A more androgynous sex role identity seems to have been adopted by gifted males who had higher levels of femininity and who also had levels of masculinity similar to nongifted males. This was also detected (although, not significant) for gifted females with higher levels of masculinity who also had levels of femininity similar to nongifted females.

The theoretical understanding is directly related to the argument that the precocity of the gifted child's cognitive development (if such precocity exists) may be related to precocity in psychosocial development. This argument appears to be supported by the present research if precocity or advanced

development in sex role identity is defined as individuals who incorporate aspects considered traditionally masculine (instrumentality) and traditionally feminine (expressiveness) into a sense of self.

The present study was inconsistent with the results reported by Wells, Peltier, and Glickauf-Hughes (1982), which found a discrepancy showing a greater number of gifted females subscribing to an androgynous sex role than gifted males did. In fact, the current work implies the opposite since significant differences in level of masculinity were not found at all grade levels, but gifted males showed significantly higher levels of femininity at all grade levels as compared to their nongifted counterparts.

Some factors of the sample's characteristics may have influenced the results. The socioeconomic status of the group was generally middle class in a primarily suburban, white neighborhood. It included only third through eighth graders. The sample may have been too homogeneous. Therefore, generalizability is limited. Sampling a more diverse population and extending the

age range to include a high school, and even a young adult population, would provide more complete information. It would be valuable to see if the trend for older children to show less femininity continued when an older age range was included. The generalizability of results is limited to the relation between giftedness and two specific traits, level of masculinity (instrumentality) and level of femininity (expressiveness), in third through eighth grade middle class students. Longitudinal research as opposed to merely a cross-sectional study would also be valuable.

One concern about the results is that there may have been some difficulty in comprehension of certain instrument items for some of the lower level nongifted children. During the admininstration the nongifted third graders asked the most questions for item clarification, especially for item 12, a feminine item, which states, "I am a considerate person". Some children at different levels expressed difficulty in answering numbers 16 and 19, both feminine items which read, "I like art and music" and "My artwork and my ideas are creative and original"' respectively. They

expressed that only half of each of those statements applied to them and that it was very difficult to make a choice which fit.

Another variable may have altered the results. The third through fifth grade nongifted students were housed at one elementary school and the sixth through eighth grade gifted and nongifted students were enrolled at one junior high school, but the gifted elementary students were pulled from different schools across the district. This heterogeneity in the elementary school gifted group may have been an influence.

Since limited research has been done which directly assesses the issue of how giftedness may be related to sex role identity, this study provides some groundwork in this area. The original problem asked how sex role identity development of the gifted child compares to a nongifted group. More research addressing this issue is warranted.

References

Abroms, K., & Gollin, J. (1980). Developmental study of gifted preschool and measures of psychosocial giftedness. Exceptional Children, 46(5), 334-341.

Anatasi, A. (1982). Psychological testing. New York, NY: Collier Macmillian.

Bakan, D. (1966). The duality of human existence. Chicago: Rand McNally.

Block, J. H. (1973). Conceptions of sex role. American Psychologist, 28(6), 512-526.

Block, J. H. (1984). Differential sex role socialization and psychological functioning. In Sex role identity and ego development (pp. 253-281). San Francisco, CA: Jossey-Bass, Inc.

Bracken, B. (1980). Comparison of self-attitudes of gifted children and children in a non-gifted normative group. Psychological Reports, 47(3, pt. 1), 715-717.

Coleman, J. M., & Gults, B. A. (1983). Self-concept and the gifted child. Roeper Review, 5(4), 44-47.

Davis, G. A., & Rimm, S. B. (1985). Education of the gifted and talented. Englewood Cliffs, NJ:

Prentice-Hall, Inc.

Groth, N. J. (1973). Achievement of autonomy and other developmental tasks in bright and average adolescents. The Gifted Child Quarterly, 2, 64-67.

Hall, J. A., & Halberstadt, A. G. (1980). Masculinity and femininity in children: Development of the children's personal attributes questionnaire. Developmental Psychology, 16(4), 270-280.

Hollinger, C. L. (1983). Counseling the gifted and talented female adolescent: The relationship between social self-esteem and traits of instrumentality and expressiveness. Gifted Child Quarterly, 28(4), 157-161.

Hollinger, C. L. (1984). Internal barriers to the realization of potential: Correlates and interrelationships among gifted and talented female adolescents. Gifted Child Quarterly, 28(3), 135-139.

Hollinger, C. L., & Fleming, E. S. (1985). Social orientation and the social self-esteem of gifted and talented female adolescents. Journal of Youth and Adolescence, 14(5), 389-399.

Ingram, C. F., & Todd, S. M. (1983). You and the gifted child. Springfield, IL: Charles C. Thomas.

Janos, P. M., Fung, H. C., & Robinson, N. M. (1985). Self-concept, self-esteem, and peer relations among gifted children who feel "different". Gifted Child Quarterly, 29(2), 78-82.

Kanoy, R. C., Johnson, B. W., & Kanoy, K. W. (1980). Locus of control and self-concept in achieving and underachieving bright elementary students. Psychology in the Schools, 17, 395-399.

Kaplan, L. (1983). Mistakes gifted young people too often make. Roeper Review, 6(2), 73-77.

Karnes, F. A., & Wherry, J. N. (1981). Self-concepts of gifted students as measured by the Piers-Harris Self-Concept Scale. Psychological Reports, 49, 903-906.

Kelly, K. R., & Colangelo, N. (1984). Academic and social self-concepts of gifted, general, and special students. Exceptional Children, 50(6), 551-554.

Kerlinger, F. N. (1986). Foundations of behavioral research. New York, NY: Holt, Rinehart and Winston.

Kirk, R. (1982). Experimental design: Procedures for

the behavioral sciences. Belmont, CA: Brooks, Cole.

Kohlberg, L. (1966). A cognitive-developmental analysis of children's sex role concepts and attitudes. In E. E. Maccoby (Ed.), The development of sex differences (pp. 82-173). Stanford, CA: Stanford University Press.

Kohlberg, L., & Zigler, E. (1976). Psychological development, cognitive development, and socialization antecedents of children's sex-role attitudes. In P. C. Lee & R. S. Stewart (Eds.), Sex differences (pp. 435-443). New York: Urizen Press.

Lehman, E. B., & Erdwins, C. J. (1981). The social and emotional adjustment of young intellectually-gifted children. Gifted Child Quarterly, 25(3), 134-137.

Loeb, R. C., & Jay, G. (1987). Self-concept in gifted children: Differential impact in boys and girls. Gifted Child Quarterly, 31(1), 9-14.

McKinley, T. (1986). A developmental consideration of sex role identity in gifted children. Unpublished manuscript, University of Houston.

Mills, C. (1980). Sex role related personality

correlates of intellectual abilities in adolescents. Roeper Review, 23, 29-31.

Monks, F., & Ferguson, T. (1983). Gifted adolscents: An analysis of their psychosocial development. Journal of Youth and Adolescence, 12(1), 1-17.

Niehoff, M. (1983). Psychological perceptions of special needs children: The gifted and talented. Individual Psychology, 39(4), 402-407.

Piaget, J. (1973). The child and reality. New York: Grossman.

Ritchie, A. C., Bernard, J. M., & Shertzer, B. E. (1982). A comparison of academically talented children and academically average children on interpersonal sensitivity. Gifted Child Quarterly, 26(3), 105-109.

Robinson-Awana, P., Kehle, T. J., & Jenson, W. R. (1986). But what about smart girls? Adolescent self-esteem and sex role perceptions as a function of academic achievement. Journal of Educational Psychology, 78(3), 179-183.

Ross, A., & Parker, M. (1980). Academic and social self-concepts of the academically gifted.

Exceptional Children, 47(1), 6-10.

Spence, J. T., & Helmreich, R. L., & Stapp, J. (1974). The Personal Attributes Questionnaire: A measure of sex-role stereotypes and masculinity-femininity. JSAS Catalogue of Selected Documents in Psychology, 4, 43 (MS. No. 617).

Terman, L. M. (1925). Genetic studies of genius: Vol. I Mental and physical traits of a thousand gifted children. Stanford, CA: Stanford University Press.

Terman, L. M., & Ogden, M. (1947). Genetic studies of genius: The gifted child grows up: Twenty-five years follow-up of a superior group. (Vol. 4). Stanford, CA: Stanford University Press.

Ullian, D. Z. (1976). The development of conceptions of masculinity and femininity. In B. Lloyd & J. Archer (Eds.), Exploring sex differences (pp. 25-47). New York: Academic Press, Inc.

Ullian, D. Z. (1984). "Why girls are good": A constructivist view. Sex Roles, 113/4), 241-256.

Wells, M., Pelteir, S., & Glickauf-Hughes, C. (1982). The analysis of the sex role orientation of gifted male and female adolescents. Roeper Review, 4(4), 46-48.

Table 1

Means and Standard Deviations of Subjects for Level of Masculinity and Level of Femininity for Level 1 (Grades 3, 4)

	Masculinity		
	Gifted	Nongifted	
Males	24.68 (3.52) n = 25	21.38 (3.02) n = 26	23.0
Females	23.72 (3.06) n = 29	22.18 (3.58) n = 34	22.89
	24.16	21.83	22.94

	Femininity		
	Gifted	Nongifted	
Males	26.12 (2.74) n = 25	24.58 (4.27) n = 26	25.33
Females	28.72 (2.23) n = 29	27.53 (3.26) n = 34	28.08
	27.52	26.25	26.85

Note. ( ) = standard deviation. n = cell size. Maximum score for each scale, Masculinity and Femininity, is 32.

Table 2

Means and Standard Deviations of Subjects for Level of Masculinity and Level of Femininity for Level 2 (Grades 5, 6)

Masculinity

	Gifted	Nongifted	
Males	25.58 (2.64) n = 31	22.43 (4.51) n = 42	23.77
Females	22.97 (3.70) n = 34	21.80 (4.01) n = 45	22.30
	24.21	22.10	23.01

Femininity

	Gifted	Nongifted	
Males	25.55 (3.95) n = 31	23.10 (4.18) n = 42	24.14
Females	27.88 (2.56) n = 34	27.02 (4.18) n = 45	27.39
	26.77	25.13	25.83

Note. ( ) = standard deviation. n = cell size. Maximum score for each scale, Masculinity and Femininity, is 32.

Table 3

Means and standard Deviations of Subjects for Level of Masculinity and Level of Femininity for Level 3 (Grades 7, 8)

Masculinity

	Gifted	Nongifted	
Males	24.46 (3.05) n = 28	22.16 (3.62) n = 37	23.15
Females	24.36 (3.55) n = 22	21.91 (2.85) n = 33	22.89
	24.42	22.04	23.03

Femininity

	Gifted	Nongifted	
Males	23.82 (3.75) n = 28	21.78 (4.35) n = 37	22.66
Females	26.95 (3.57) n = 22	26.94 (2.84) n = 33	26.94
	25.20	24.21	24.62

Note. ( ) = standard deviation. n = cell size. Maximum score for each scale, Masculinity and Femininity, is 32.

Table 4

Means and Standard Deviations of Children's Personal Attributes Questionnaire (CPAQ) Short Form from Hall and Halberstadt's Studies (1980)

	Masculinity	
	Study 2	Study 3
Males	22.79 (3.07) n = 42	23.68 (3.68) n = 75-77
Females	21.24 (3.22) n = 41	22.63 (3.76) n = 82

	Femininity	
	Study 2	Study 3
Males	24.36 (3.86) n = 42	22.64 (3.53) n = 75-77
Females	25.88 (2.57) n = 41	25.60 (3.72) n = 82

Note. ( ) = standard deviation. Maximum score for each scale, Masculinity and Femininity, is 32.

Table 5

Mean of the Means of Subjects for Level of Masculinity and Femininity Across Levels 1, 2, and 3 (Grades 3-8)

Masculinity

	Gifted	Nongifted	
Males	24.9 n = 84	22.0 n =105	23.29
Females	23.7 n = 85	22.0 n = 112	22.73
	24.3	22.0	23.01

Femininity

	Gifted	Nongifted	
Males	25.2 n = 84	23.2 n = 105	24.09
Females	27.9 n = 85	27.2 n = 112	27.50
	26.56	25.26	25.83

Note. n = cell size. Maximum score for each scale, Masculinity and Femininity, is 32.

Table 6

Parameter Estimates for the Final Model for Masculinity

Parameter	Estimate	t
Intercept	22.000	91.60*
Giftedness	2.260	6.23*

Parameter Estimates for the Final Model for Femininity

Parameter	Estimate	t
Intercept	20.810	22.15*
Gender	4.051	8.28*
Giftedness	3.533	3.01*
Level	-0.885	-3.75*
Gender*Giftedness	-1.451	-1.97*

*p < .05.

Table 7

Expectancies of Predicted Levels of Femininity for Giftedness and Grade Levels Based on Parameter Estimates

	Gifted Males	Nongifted Males	Gifted Females	Nongifted Females
Level 1 (Gr. 3, 4)	25.06	23.98	28.66	28.03
Level 2 (Gr. 5, 6)	25.18	23.10	27.78	27.15
Level 3 (Gr. 7, 8)	24.30	22.22	26.90	23.37

Note. Maximum score for Femininity is 32.