

IS SEX ROLE RELATED TO INTELLECTUAL ABILITIES?

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For a number of years the relationship between personality and intellectual development has intrigued researchers. Maccoby (1966) has suggested that personality characteristics may act as a mediating process in intellectual development and functioning. Evidence now appears to support such a link between certain personality characteristics associated with stereotypic sex roles and sex differences in intellectual skills, and particularly achievement. There is a great deal of evidence that points to a strong relationship between the acceptance of one's appropriate (appropriate in terms of what society has accepted as "appropriate" for your particular gender classification) sex role and the development or lack of development of specific cognitive skills. On the other hand, cross-sex typing or cross-sex identification (possession of interests, values, traits, and attitudes typically associated with the opposite sex) appears to confer an advantage on both sexes in the areas such as overall intelligence, creativity, originality, and high-level achievement in women.

If one examines the traditional sex roles in our society, the above-mentioned relationship between sex role identification and intellectual development or achievement is easily understood. The masculine sex role is based on a personality constellation that stresses an active, instrumental orientation in line with the personality characteristics related to the development of math ability, spatial ability, field independence, and achievement. On the other hand, the traditional feminine sex role is a relatively passive, expressive, communal orientation that stresses interpersonal skills.

An important point that must be made is that cross-sex identification does not necessarily imply a lack of those characteristics associated with the sex role assigned to one's gender. The creativity literature in particular emphasizes the importance of an integration of both "feminine" sensitivity and "masculine" purposive action (Barron, 1964; MacKinnon, 1962). What appears to be happening in

cross-sex identification is not a mere "trade-off" of characteristics more often found in one's own sex for those associated with the opposite sex, but rather a development and integration of both sets of characteristics.

The establishment of a relationship between personality characteristics associated with a particular sex role and specific intellectual abilities, and especially the utilization of already existing abilities has definite characteristics for educational and child development research. The recent questioning of the viability of traditional sex role stereotyping may result in a re-evaluation of long-held assumptions about the effects of sex-typing in our culture. New measurement techniques such as the *Bem Sex Role Inventory* (1974) offer an opportunity to examine individual differences in both personality development and sex role as they are related to intellectual functioning, thus emphasizing the similarities between the sexes - a reversal of past emphasis on the polarities.

A study has been undertaken by the author to investigate the relationship between personality and intellectual development. The study will utilize two main samples of adolescents. The first sample consists of 278 male and female contestants who participated in the December 1976 Mathematics Talent Search conducted by The Study of Mathematically Precocious Youth (SMPY) at The Johns Hopkins University and were invited back for further testing. For comparison purposes, as well as increased generalizability, a second sample of approximately 200 "average" ability boys and girls have been randomly selected from two junior high schools in the area.

All participants were administered the *Bem Sex Role Inventory*. Based on the relationship between an individual's scores on masculinity and femininity, he/she can be classified as either sex-typed (an emphasis on either masculinity or femininity) or balanced (scores on masculinity and femininity about equal, from both high to both low). All participants have also received the Femininity Scale from the *California Psychological Inventory* (Gough, 1952), a well-established, traditional measure of M-F, that will be used for comparison with the Bem. The Allport-Vernon-Lindzey "Study of Values" (1970) has also been given to all participants. Math Talent Search contestants have also been given several additional "affective" measures and several cognitive tests, including the SAT-M and SAT-V. Assessment of the relative verbal and math ability in the more average ability sample is through the Iowa Test of Basic Skills and the General School Ability Test.

Data collection is complete for the Math Talent Search participants and is now in progress for the comparison sample. Data analysis is only in Stage One for SMPY participants, and, therefore, only general impressions and some descriptive statistics can be given at this time. There is no normative data available for adolescents on the Bem. However, in college samples it has been found that approximately 60 % of the group will have a stereotypic sex role identification. Thus, 40 % of the group has a balanced personality style, characterized by an equal development of both the expressive and instrumental domains. In the Math Talent Search group, approximately 45 % had either a stereotypic masculine or stereotypic feminine sex role identity, and 55 % had a balanced development. It was interesting to note, however, that a higher percentage of girls had a balanced personality style. Within the boys 50 % had a stereotypic sex role identity and 50 % had a balance. Within the girls approximately 32 % had a stereotypic sex role identity (and about one-half of these had a stereotypic masculine identification, or cross-sex identity), and 68 % had a balanced development. This is consistent with the hypothesis that some cross-sex identification or the development of instrumental traits is related to math reasoning ability in girls. On the other hand, if instrumental traits are related to math reasoning ability, boys with either a stereotypic masculine identity or those with a balance will be equally represented in the high math reasoning group. Also consistent with the hypothesis that a balanced sex role identity is correlated with higher overall ability is the finding that in this gifted group of adolescents, a higher percentage of individuals (of both sexes) reported having a balanced personality style (55 %) as compared with a general sampling of college students (40 %).

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