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ABSTRACT

Recall, knowledge, and preference for masculine and feminine items were tested in 40 American, 5- and 8-year-old white boys and girls from working and professional middle class families. Children recalled, knew, and preferred same-sex items significantly more than opposite-sex items. Girls' scores were less rigidly sex-typed than boys'. Older children showed greater stereotype in preference tests than younger children. Sex differences in preference scores of older children were greater in the working than middle class. In comparison to the data on English 5-year olds, American girls were less sex-typed than their English counterparts, and accounted for the predicted decrease in sex polarity of preference scores. (Author/SET)

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SEX IDENTITY IN AMERICAN CHILDREN:

MEMORY, KNOWLEDGE, AND PREFERENCE TESTS

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Abstract

Recall, knowledge, and preference for masculine and feminine items were tested in 240 American five- and eight-year-old white boys and girls from working and professional middle class families. Children recalled, knew, and preferred same-sex items significantly more than opposite-sex items. Girls' scores were less rigidly sex-typed than boys'. Older children showed greater stereotypy in Preference tests than younger children. Sex differences in preference scores of older children were greater in the working than middle class. In comparison to the data on English five-year-olds (Nadelman, 1970), American girls were less sex-typed than their English counterparts, and accounted for the predicted decrease in sex polarity of preference scores.

SEX IDENTITY IN AMERICAN CHILDREN:

MEMORY, KNOWLEDGE, AND PREFERENCE TESTS[1]

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This is the second report of a cross-cultural investigation of sex identity in middle- and working-class children as related to their perception of their parents. In the first report (Nadelman, 1970), data on recall, recognition, knowledge, and preference for masculine and feminine items were presented for 100 London five-year-old white boys and girls in the two socioeconomic groups. In the current paper, similar data will first be presented for 240 white American five- and eight-year-old boys and girls, and then comparisons and contrasts made with the London sample.

Sex identity is conceptualized as a total pattern of characteristics that mark a person as masculine or feminine, both to himself and others (Miller and Swanson, 1960). A large battery of tests was used with our children to investigate various components of sex identity (sex-role preference, sex-role discrimination or knowledge, sex-role adoption, sex-role identification), in an effort to obtain a clearer picture of sex and class and age differences in these several aspects of sex identity, and how they relate to the child's perception of his parents. The Differential Memory, Knowledge, and Preference tests form a meaningful unit by virtue of their common stimulus materials, and provide the data for this report.

In the London five-year-olds sample (data collected in 1966), class differences on this portion of the battery generally did not reach statistical significance (Nadelman, 1970). Those trends that did surface were in the hypothesized direction: more cognizance of adult labeling and less sex-typed rigidity in preferences in

the professional as compared to the working class group. Sex differences, however, were more frequently apparent than class differences: both boys and girls preferred same-sex items to opposite-sex items (highly significant statistically); girls made fewer "errors" than boys (but not significantly so) in Recognition and Knowledge tasks; middle class boys showed the least stereotypy in Preference tests (although still stereotyped).

The headmasters and headmistresses of the London Infant Schools expressed surprise at the lack of statistically significant class differences. Several possible explanations were offered in the 1970 article, but the most provocative appear to come from the comparative studies of socialization in England, Germany, and the United States, by the Cornell group. While generally the patterns of treatment of boys and girls within these cultures appear to be little affected by socioeconomic status, Devereux (1965) states that in America, the differences in treatment of working class boys versus middle class boys, and of working class girls versus middle class girls tended to be fairly large; in England, the differences were generally small. If so, then our American replication should garner larger class differences than our English study (contrary to our biases!). If it is also true that the English father, in contrast to the American or German, is least involved in child-rearing concerns, and that the average difference in the way that boys and girls are treated appears to be substantially greater in England than in the United States (Devereux, 1965; Devereux, Bronfenbrenner, and Rodgers, 1969), then the sex polarization of the Preference Test scores found in our London sample should be somewhat modified in our American group.

In addition to the cross-cultural comparisons in the paragraph above, the hypotheses for the American sample were that children of the age range tested would remember and prefer same-sex items more than opposite-sex items, and that this would be more striking in boys than girls, and in the working than middle classes. Both boys and girls were hypothesized to have high knowledge of sex-typing by five years,

with girls more cognizant than boys, middle class (higher IQ) more cognizant than working class, and feminine items more familiar than masculine. Age changes were predicted to be in the direction of greater stereotypy of preferences in the older group, particularly for boys and working class.

Method

Subjects

The two hundred and forty children whose data are reported were obtained from four middle class public schools in Ann Arbor, and five working class schools in River Rouge, Dearborn, and Detroit. The younger group (kindergarten) ranged in age from 5-3 to 6-2, with a median age of 5-9. The older group (third grade) ranged from 8-0 to 9-2, with a median of 8-9. All were white, non-Jewish,[3] from intact families, lacking in outstanding emotional disturbance. Half were boys, half were girls. Half were working class, half professional middle class, as determined by occupation and education and residence and certainty of the teacher as to classification. The working class fathers were employed largely in unskilled or semi-skilled jobs; e.g., janitors, truck drivers, factory hands, and had no college background. The middle class children lived predominantly in one-family housing. Their fathers were all in occupations requiring much college education: doctors, teachers, chemists, lawyers, engineers, dentists. Most of their mothers had also had some college training. A gap was maintained between the two socioeconomic samples by omitting clerks, salesmen, bartenders, etc.

There were eight groups of subjects, with 30 children in each: middle class boys, kindergarten (MB-K), middle class boys, third grade (MB-3), working class boys, kindergarten (WB-K), and working class boys, third grade (WB-3), and the equivalent four groups of girls.

Schedule

To place the data in context, the entire battery is listed here briefly. Each child was seen twice by the same experimenter, one of three paid females, usually

within a one week period, for the following schedule of tests and interviews. The first session lasted about 35 minutes and included in sequence:

Who are you? ("I know your name is _____, but who are you? Tell me three things about yourself.")

Drawings A. Draw whatever you like.

B. Draw a person, a picture of someone.

Differential memory for masculine and feminine items: Recall test

Knowledge test

Preference test

Franck Drawing Completion test

The second session lasted about 25 minutes and included:

Peabody Picture Vocabulary Test, Form B

Perception of parental attributes (modified slightly from Kagan and Lemkin, 1960)

Material

There are 40 white cards, 5 x 3 inches, with black ink drawings of masculine and feminine items, as listed in Table 1. The prototype for these, used by the

Insert Table 1 about here

investigator and her students at Mount Holyoke College earlier (Beebe and Small, 1954; Dionne and Dressler, 1955), had been modified by eleven experts in London in 1965 for the English sample, and were readjusted by principals and teachers in 1967 for the American sample. This involved modifying a drawing (English footballs are round), or retaining the item and drawing but changing the wording or pronunciation of the label (mending a tap = fixing a faucet; using a tip-up lorry = using a dump truck), or replacing items (going to the beauty parlor replaced making pastry; playing baseball replaced playing cricket).

Procedure

Recall test. The first ten masculine and the first ten feminine items were presented in one of five predetermined random orders, on a table in front of the

child, in rapid succession (3 1/4 seconds viewing, 1 second changing, for a total of about 85 seconds), and "named" aloud twice by the experimenter. The child was then immediately asked to name as many as he could.

Knowledge. Cards 21-40 were added to the first twenty and shuffled. Black ink drawings of a girl ("Susie") and a boy ("Tommy") on white 8 x 5 inch cards were placed upright about six inches apart, no more than arm's distance from the child. The child was asked to sort the deck of 40 cards in front of Susie or Tommy, according to whether they belonged or went best with Susie and her mother, or Tommy and his father.

Preference. About half the children received the Preference test before the Knowledge sorting, half after. Eight cards (four masculine and four feminine) were randomly spread before the child, who picked the one he liked best, then second, third, and fourth best. This was repeated for each new group of eight cards. Then the child chose grand best of his five first choices.

More details and verbal instructions to the child appear in the 1970 article.

Results

Analysis of data

Means, medians, ranges, and S.D.s were computed for each group of children for each test. The means appear in Table 2. For the Recall and Knowledge tests,

Insert Table 2 about here

where each child had scores for both masculine and feminine items, a repeated measurement type of analysis of variance was used (Table 3). For Preference ratio

Insert Table 3 about here

scores, a three-way analysis of variance for class, sex, age effects and their interactions was run (Table 4). The frequency of children performing in various

Insert Table 4 about here

ways were tallied, and specific item tallies were run.

Recall

Boys recalled more masculine than feminine items; girls recalled more feminine than masculine items (Table 2). This interaction of sex x sex of items was highly significant (Table 3; $F = 24.73$, $df = 1/232$, $p < .01$).

Counting the frequency of children in each experimental group who recalled more masculine than feminine items, or an equal number of masculine and feminine items, or more feminine than masculine items, provides additional corroboration: more children recalled more same-sex than opposite-sex items. The only reversal was in the older working class boys group.

Class differences, and interaction of class with sex of item, were not significant. Age differences were highly significant: older children recalled more items than younger children ($F = 65.79$, $df = 1/232$, $p < .01$). There was better recall of items by kindergarten girls compared to kindergarten boys, but better by third grade boys than girls (age x sex interaction $F = 4.14$, $p < .05$).

Specific items. The most frequently recalled items for the total group of 240 children were dressing a dolly (146), smoking a cigar (115), repairing a car (103), wearing earrings and necklaces (101), fighting fires (97). The least frequently recalled items were dusting furniture (32), using a sewing machine (43), boxing (46), giving a tea party (51).

Knowledge

The children clearly know the sex-typing of the 40 items by their society, as indicated by the kindergarten mean of 39.00 and the third grade mean of 39.90 (Table 2). The analysis of variance divulged many statistically significant findings (Table 3); when redone with arc-sin transformed scores to adjust for the clumping of scores near the ceiling, the Fs were slightly lowered but maintained the same significance pattern. The three Fs that reached a p of $< .01$ indicated that the middle class children had higher knowledge scores than the working class children; the older children had higher scores than the younger ones; the children had better

knowledge of same-sex than opposite-sex items. The three Fs that reached a $p > .05$ permitted the following qualifications: a) The difference between middle class and working class knowledge scores was greater in kindergarten than in third grade (see class x age interaction F, Table 3). b) In kindergarten, the middle class children scored higher in knowledge of masculine than feminine items, 39.73 vs. 39.07; the working class children had better knowledge of feminine than masculine items, 38.70 vs. 38.50 (see class x age x sex of item interaction F). c) The better knowledge by the children of same over opposite-sex items was clearly apparent in kindergarten, but by third grade the girls did equally well on both groups of items (see sex x age x sex of item interaction F).

From the items tally data, the following observations can be made: There were more errors on feminine than masculine items (99 vs. 75); i.e., feminine items were more often placed in Tommy's pile than masculine items were placed in Susie's. This, however, appeared to be strongly a function of the 46 errors on using a thimble, by 35 boys and 11 girls, (10 middle class, 36 working class; 31 kindergartners, 15 third-graders). Aside from that one item, feminine items were better known than masculine items. Boys made more misplacements than girls did (120 vs. 54); about evenly divided among masculine and feminine items if the thimble item is omitted. Girls made more errors on the masculine than feminine items; i.e., they tended to place masculine items in front of the Susie doll more than they placed feminine items in front of the Tommy doll. Middle class children made far fewer misplacements than working class children; the class difference was most apparent on masculine items.

Specific items. The most common reversals were using a thimble (46) as mentioned earlier, and fixing a faucet (12), with laying bricks, playing skipping-rope, and being a zoo-keeper each with 9 errors. Nine of the 40 items were perfectly sorted by all the children; four items had one error; six items had two errors each.

Preference

Scoring. From the procedure described earlier, three Preference scores were calculated:

1. Preference 5. The child chose his most preferred item in each of five groups of eight cards each, and his score was expressed as the proportion of masculine choices to the total of 5 choices; i.e., if he chose all masculine items his score was 5/5 or 1.0; a child choosing all feminine items received 0/5 or 0.

2. Preference 20. In addition to his first choice, the child also made a second, third, and fourth choice in each of the five groups of eight cards, for a total of 20 choices. This score was expressed as the proportion of masculine choices to 20.

3. Best. The child chose the one best of his five first choices, and the item was noted.

In addition to means (Table 2), and analysis of variance for Preference 5 and Preference 20 scores (Table 4), various frequency tallies were also run. Data were additionally divided into groups based on the sequences of test-taking (Preference before Knowledge tests, Knowledge before Preference tests).

Preference 5. As can be seen from the means in Table 2 and the F Between Sexes of 1297.14 in Table 4, the children showed a highly significant sex difference in their preferences. Noting the closeness of the scores to the masculine 1.00 or feminine 0, (see Figure 1) it is clear that boys tended to be more rigidly masculine

Insert Figure 1 about here

in their choices than girls were feminine, although both were sex-typed. The significant F for sex x age interaction points to the increasing sex-typing of preference with age, with older boys of both classes most sex typed. Class differences were not statistically significant with this score.

The frequency tallies corroborate the relatively greater rigidity of the boys: 100 of 120 boys chose all five of their first choices from own-sex items, as compared to 82 of 120 girls.

The items tally data also confirm the above results. The total sample chose more masculine than feminine items (648 vs. 552); girls were less sex-typed in their choices than boys; more masculine items were preferred by boys (569) than feminine ones by girls (521); more masculine items were preferred by girls (79) than feminine preferred by boys (31). The older boys were more masculine in their choices than the younger boys of both classes; the older working class girls were more feminine; middle class girls showed little change with age.

The items most chosen were driving a motorcycle (63), playing baseball (61), wearing earrings and necklaces (53), baking cupcakes (52), building model airplanes (52). The least preferred were smoking a pipe and smoking a cigar with 5 votes each, using a thimble (6), dusting furniture (9). The older working class boys picked no feminine item; the older middle class boys chose a total of 4, out of 150 choices; and the older working class girls only chose 7 opposite-sex items.

Preference 20. With 20 choices permitted from the 40 cards, all eight groups of children lessened the sex-typed rigidity of their choices (see Table 2 and Figure 1), although maintaining their significant sex differences in preferences (Table 4, $F = 1310.50$, $p < .01$). Class differences were highly significant, with middle class children making more masculine choices than working class (especially noticeable among older girls). With increased age, both classes of boys were more masculine in preference, but middle class girls barely changed, while working class girls became more feminine in their preferences.

The frequency of children tallies indicate, again, the lesser rigidity of the girls: 22 girls and 42 boys chose all 20 items of their same sex.

Best. When limited to one choice, more masculine than feminine items were selected by the 240 children (130 vs. 110). 100% of the working class boys, both ages, chose a masculine item; 97% of the older middle class boys and working class girls were sex-typed. The girls were relatively less stereotyped than the boys -- 88% vs. boys 97% chose same-sex items.

The items most preferred were wearing earrings and necklaces (27) and driving a motorcycle (25). There were two masculine items and one feminine item that were best preferred by no child: smoking a cigar, laying bricks, washing clothes.

Discussion

Recall

The hypothesis that children of these ages recall same-sex items more than opposite-sex items was confirmed at the .01 point of significance, and was additionally supported by the item tallies and frequency of children tallies. The hypothesis that this differential recall effect is stronger in boys than girls also received some tentative support: While boys and girls do not differ in the total number of items recalled, and both recall more same-sex than opposite-sex items, and there is no significant difference in the mean number of masculine and feminine items recalled by the total sample (3.19 vs. 3.09), it is observable in Table 2 that boys recall slightly more masculine items than girls recall feminine ones, and girls recall more opposite-sex items than boys do. This trend had been noted fitfully in early studies by my students (Beebe and Small, 1954; Dionne and Dressler, 1955) but did not surface in the London 1966 data (Nadelman, 1970). It may be another indication, although a statistically weak one, of cross-cultural differences in sex-typing, discussed later in this section. The hypothesis that the differential recall effect is stronger in working than middle classes was not confirmed, in that the F for class, F for class x sex of item, and F for class x sex of child x sex of item are all lacking in statistical significance (Table 3).

Knowledge

The hypotheses that both boys and girls would have high knowledge of sex-typing by five years, with middle class more cognizant than working class, were both confirmed. The difference between boys and girls was in the direction hypothesized (girls with higher scores) but was not statistically significant. What was statistically significant was that children knew the sex-typing of the same-sex

item better than the opposite-sex item, the same kind of interaction apparent in the recall data.

The finding that class differences in knowledge scores were larger in kindergarten than in third grade, may be attributable to the ceiling effect: by third grade, both classes are almost perfect. In view of the ceiling effect and the total lack of significant differences in the London knowledge data, it is noteworthy that six significant Fs were found in the American data (Table 3) which confirmed the various hypotheses.

The many errors on the using a thimble item paralleled the London data and appeared, from the children's comments, to be due more to a lack of familiarity with the item than a lack of knowledge of its sex-typing. That feminine items were better known than masculine items (when the thimble item is omitted) fits our knowledge of child-rearing realities, with the young child obtaining a clearer picture of female-associated activities than male ones.

It may be worthwhile to repeat the caution about the use of the misleading word "error." It refers to the lack of congruence between the child's sorting decision and the adult stereotype or labeling. A child placing an alleged Susie item in a Tommy pile is not making a mistake, but asserting that for him item X is a masculine item. The scoring, in other words, is by adult norms, and what is strikingly confirmed, in this and similar studies, is the very high correspondence between adult and child labelings, even at five years.

Preference

The Preference 5 and Preference 20 data agreed in confirming the hypotheses that children would prefer same-sex items more than opposite-sex items, that this preference would be stronger in boys than girls, and that older boys and older working class children of both sexes would show greater stereotypy of preferences than the younger groups.

Given the well-documented effect of sex-labeling on children's play choices (Bryan and Clark, 1955; Bryan, Handlon, and Nadelman, 1957; Hartup, Moore, and

Sager, 1963; Kohlberg, 1966; Miller and Commons, 1973, Montemayor, 1972), and the fact that the knowledge sorting task alerted the younger children to the masculine-feminine nature of the items, it is to be expected that preference tested after the knowledge test would be more stereotyped than preference tested before the knowledge test. This effect was slight, and more noticeable with girls than boys, and with younger working class children.

Comparison of English (Nadelman, 1970) and American data

Since an eight year old sample was not tested in London, and the Recognition test was dropped in the American battery, these comparisons are limited to data from five year olds on Recall, Knowledge, and Preference 5 tests. That there were many similar findings is not surprising, either on an intuitive level or on the basis of deductions from other empirical work: Both cultures "lie within the mainstream of western culture,... are heavily industrialized and urbanized, and ... family life centers about the small nuclear household (Devereux, 1965)." The responses of American and English children in their sixth school year to questions on the child-rearing practices employed by their fathers and mothers revealed many similarities in reported patterns of parent behavior; e.g., children in both countries agreed in seeing their parents as being more supporting and demanding than controlling and punishing, reported receiving more of virtually every kind of treatment from their mothers than from their fathers, and reported generally similar patterns of parental role differentiation (Devereux, Bronfenbrenner, and Rodgers, 1969). Given this context of basic similarity, the appearance of differences in our test scores warrant special attention as pointers, perhaps, to salient aspects of socialization processes between cultures, or between sub-groups of a particular culture.

1. One gross difference between our English and American data is the greater frequency of statistically significant findings in the American sample. (The only F in the comparable English analyses that reached statistical significance was the sex effect for the Preference 5 test, although many of the findings were in the

predicted directions.) An informal inspection of absolute and relative standard deviations did not provide a possible explanation, nor does the testing time span of two years appear a sufficient reason. One can speculate about possible effects of the prototypes of the test materials being American (despite their revisions by English experts), or that the London tester was American (although familiar to the children). Forthcoming analyses of the remainder of the battery may provide better clues.

2. An important difference between the data for the two cultures relates to sex comparisons. In London, the girls were slightly more sex-typed in their preferences than the boys, in both classes. In America, the reverse was true; the girls were less sex-typed than the boys. (In Figure 1, note the distances of the respective groups to the 0 and 1.00 poles.) Papanek (1969), using questionnaires and interviews on American adolescents and parents, found that girls give less emphasis than boys to differences between the roles of boy and girl, and that husbands emphasize differentiation of boy and girl roles rather strongly. Lynn (1969) refers frequently to material (for example, Goodenough, 1957) that seems to indicate the stronger identification of American boys than girls with same-sex role, and the greater concern of the father, compared to the mother, in differentiating sex-typed roles and acting more strongly as the sex-typer. The Cornell comparative studies (Devereux, 1965; Devereux, Bronfenbrenner, and Rodgers, 1969) indicate that American families treat boys and girls more nearly alike than do English families, according to children's reports; the pattern of role differentiation between mothers and fathers is sharper in England; English parents are portrayed by the children as less affectionate and supportive, as less demanding and controlling, as more punitive; English children report lesser involvement of the English father in child-rearing concerns. Thus, American and cross-cultural research reports seem congruent with our finding of lesser stereotypy in sex-typing in the American five year old girl compared either to the American boy or to the English girl.

3. With regard to class comparisons, the London working class children, both boys and girls, were more rigid or polarized in their preferences than the middle class children (although this did not reach the .05 significance point), with the middle class boys least sex-typed (Figure 1). In America, in the same young age group, and with the preference choices also limited to five choices out of 40 pictures, there was similarly no significant class difference, but there was no tendency for the working-class youngster to be more sex-typed in his preferences than the middle class. The finding that the five year old American girls in both classes were less sex-typed than the boys (a reversal of the London trend) has already been stressed.

The Recall test did not generate significant class differences in either culture--both classes in both cultures recalled more same-sex than opposite-sex items. The Knowledge test generated significant class differences only in America, although in both countries the middle class children sorted more of the items in accord with adult labels than the working class children. Since this finding can be interpreted either in terms of the sex-typing literature or in terms of the established class differences in intelligence scores on the Goodenough Draw-a-man Scale and Peabody Picture Vocabulary Test, it need not be belabored here. Important class differences did emerge in the American sample, but in the eight year olds and in the Preference 20 tests, for which we do not have comparison English data.

Certain cautions about cross-cultural comparisons should be stressed. With 100 London area children and 240 Detroit-Ann Arbor area children, and given the importance of intra-cultural variability, we do not assume we are comparing the English child with the American child. Care was taken in the selection and description of the samples, and the London headmistresses and headmasters were importuned to discover occupations, information which does not usually appear on school records. Despite these efforts, it is likely that the parents of the American sample had more years of schooling for the same occupations; e.g., Ph.D.'s were not as frequent in the London group; doctors have shorter training there. Also, as pointed out

earlier (Nadelman, 1970), the upper middle class which sends its children to the no-tuition-fees schools in London (from which our sample came) may differ in unspecified ways from the upper middle class which uses "public" (paid, American version = private) schools. A last caution refers to the test items, which had to be modified slightly, as described earlier, and are therefore not absolutely identical.

General comments

Selcer and Hilton (1972) are concerned that the implicit assumptions of much sex-role research are that it is psychologically healthier for children to develop stereotyped sex-roles, and that there is one "correct" pattern of sex-roles. These are not our assumptions. In fact, the knowledge test had initially been included in the battery to make it possible to score the children's preference choices on the basis of their labeling of items as masculine and feminine, were the latter to differ much from adult labeling.

References to the narrowing of the gap between American social classes in their patterns of child rearing (Bronfenbrenner, 1961a; Devereux, Bronfenbrenner, and Suci, 1962) appear in the literature simultaneously with an emphasis on the marked variation in parental and child behavior as a function of the family's social class position (Bronfenbrenner, 1961b; Devereux, Bronfenbrenner, and Suci, 1962; Hall and Keith, 1964; Hartley, 1960; Hartley and Hardesty, 1964; Rabban, 1950; Rosen, 1964). When one adds to this the newer cross-cultural research it is obvious that the culture, the sex of child, the sex of parent, and the socioeconomic status of the family interact in complex fashions.

For example, analyses made on a large sample of children in Germany from different socioeconomic levels ascribe quite different patterns of behavior to their parents (Devereux, Bronfenbrenner, and Suci, 1962). In the English and American samples, there was "relatively little difference in styles of child-rearing reported by children in different classes;" ... "to the extent that child-rearing patterns vary with socioeconomic status, the nature and directions of variation are substantially similar in both countries (Devereux, Bronfenbrenner, Rodgers, 1969, p. 265)."

Interacting with these, research on differential treatment of children by fathers and mothers indicates that the differential trends are pronounced only at lower class levels (Bronfenbrenner, 1961b). We can thus begin to see some of the consonances and dissonances in our data. We did get larger sex differences among working class children than among upper middle class children (5 year olds in London, 8 year olds in America); class differences in the English sample did not reach statistical significance; class differences in the American sample that did reach statistical significance were confined to tests that could be affected by intellective as much as sex-typing variables, or to the older girls; American five year old boys were not less sex-typed than their English counterparts (to the contrary!), American girls were less sex-typed.

In more systematic summary:

1. For the total American sample, children recall, have knowledge of, and prefer same-sex items significantly more than opposite-sex items. In addition, girls recall, have knowledge of, and prefer opposite-sex items more than boys do.

2. Data from our five year olds in England and America indicate that:

a) American girls are less sex-typed than American boys or London girls.

b) There is the predicted lessening of polarity in preference scores in the American sample as contrasted to the English, but attributable to the girls. American upper middle class boys appear more sex-typed than their English counterparts.

c) Class differences in limited preference test scores are larger in England than America, but not statistically significant in either group.

c) Sex differences in preference scores in the working class children are greater in England than in America.

3. Data from our eight year olds in America only indicate that:

a) Upper middle class girls remain least sex-typed in their preferences.

b) Older children are more sex-typed in their preferences than the younger ones.

c) There are large class differences among the girls, not the boys, in preference scores.

d) Sex differences in preference scores are greater in the working class children than the upper middle class children.

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Footnotes

1. A portion of this paper was presented at the biennial meetings of the Society for Research in Child Development, Philadelphia, March 29, 1973. Data gathering and analyses were assisted by grant number 36619 from the University of Michigan Office of Research Administration. Keith Smith gave statistical advice, Elaine Hochman was the computer programmer, Denine Tarras keypunched. The testers were Maureen Blumenthal, Marian J. Johns, and Linda L. Johnson. Hearty appreciation is also expressed to the children, faculty, and administration of the following schools: Bader, Burns Park, Newport, and Thurston, in Ann Arbor; Salina, and Long-Layham, in Dearborn; Dunn, and Ann Visger, in River Rouge; Coolidge, in Detroit. American data were collected in 1968.

2. Requests for reprints should be sent to Lorraine Nadelman, Psychology Department, University of Michigan, Ann Arbor, Michigan 48104.

3. This was the result of several concerns: the overrepresentation of Jewish subjects in the psychological literature in relation to their proportion of the population (c. 3%); the difficulty of matching numbers across cultures and across sub-groups; the differences in sex-typing traditions between practicing Orthodox Jews and other Jewish groups. It is likely that several Jewish children were included by the teachers in this study.

Table 1

Masculine and Feminine Items

Used in Recall, Knowledge, and Preference Tests

1.	owning a train set	2.	wheeling a baby buggy
3.	playing football	4.	dressing a dolly
5.	boxing	6.	giving a tea party
7.	smoking a pipe	8.	wearing high-heeled shoes
9.	smoking a cigar	10.	using perfume
11.	fighting fires	12.	using lipstick
13.	laying bricks	14.	dusting furniture
15.	repairing a car	16.	using a sewing machine
17.	driving a motorcycle	18.	ironing
19.	working a crane	20.	wearing earrings and necklaces
21.	building model airplanes	22.	having pigtails or braids
23.	playing baseball	24.	wearing a skirt
25.	using a dump-truck	26.	going to the beauty parlor
27.	owning a tool set	28.	wearing a petticoat or slip
29.	fixing a faucet	30.	using a thimble
31.	driving a truck	32.	washing clothes
33.	being a zoo-keeper	34.	bathing the baby
35.	chopping wood	36.	baking cupcakes
37.	hunting tigers	38.	cleaning the house
39.	building a house	40.	playing skipping-rope

Table 2

Summary of Means for Recall, Knowledge, and Preference Tests

Group	Recall				Knowledge			Preference			
	m	f	T	m/T	m	f	T	5 choices m/5 ratio	20 choices m/20 ratio	m	f
MB-K	3.03	2.13	5.17	.63	19.93	19.40	39.33	.94	.84	16.87	3.13
MG-K	2.43	2.73	5.17	.45	19.80	19.67	39.47	.17	.22	4.43	15.57
MB-3	4.17	3.47	7.63	.56	20.00	19.97	39.97	.99	.96	19.10	.90
MG-3	3.43	3.87	7.30	.46	19.97	19.97	39.93	.15	.21	4.23	15.77
WB-K	3.10	1.80	4.90	.63	19.30	19.03	38.33	.91	.80	16.10	3.90
WG-K	2.60	3.23	5.83	.45	19.20	19.67	38.87	.16	.21	4.23	15.77
WB-3	3.73	3.77	7.50	.50	19.97	19.83	39.80	1.00	.92	18.43	1.57
WG-3	3.00	3.73	6.73	.45	19.97	19.97	39.93	.05	.09	1.83	18.17
Middle	3.27	3.05	6.32		19.92	19.75	39.67	.56	.56		
Working	3.11	3.13	6.24		19.61	19.62	39.23	.53	.51		
Boy	3.51	2.79	6.30		19.80	19.56	39.36	.96	.88		
Girls	2.87	3.39	6.26		19.73	19.82	39.55	.13	.18		
Kdg	2.79	2.48	5.27		19.56	19.44	39.00	.54	.52		
3rd Gr.	3.58	3.71	7.29		19.97	19.93	39.90	.55	.54		
TOTAL	3.19	3.09	6.28		19.77	19.69	39.46	.545	.53		

Note. - m refers to masculine items, f to feminine items, T = m + f. The groups are MB = Middle class boys, MG = Middle class girls, WB = Working class boys, WG = Working class girls. 30 children in in each group. K = Kindergarten; 3 = Third grade.

Table 3

Summary of Pseudo 5-way Analysis of Variance

for Recall and Knowledge Scores

Source of Variation	Recall			Knowledge	
	df	Mean Square	F	Mean Square	F
Between Classes (A)	1	.17		5.85	8.36**
Between Sexes (B)	1	.05		1.10	1.57
Between Ages (C)	1	123.02	65.79**	24.75	35.36**
Interaction: A x B	1	.47		.60	
A x C	1	2.27	1.21	3.85	5.50*
B x C	1	7.75	4.14*	.60	
A x B x C	1	3.50	1.87	.10	
Within groups	232/239	1.87		.70	
Between Sex of Item (T)	1	1.10		.75	2.34
Interaction: A x T	1	1.75		1.10	3.44
B x T	1	46.25	24.73**	3.17	9.91**
C x T	1	5.85	3.13	.17	
A x B x T	1	.17		.35	1.09
A x C x T	1	2.27	1.21	1.75	5.47*
B x C x T	1	3.17	1.70	1.75	5.47*
A x B x C x T	1	2.55	1.36	.10	
Pooled Ss x T	232/240	1.87		.32	
Total	479				

Note. - For 1 and 232 df, F = 3.89 and 6.76 at .05 and .01, respectively.

Table 4

2 x 2 x 2 Analysis of Variance for

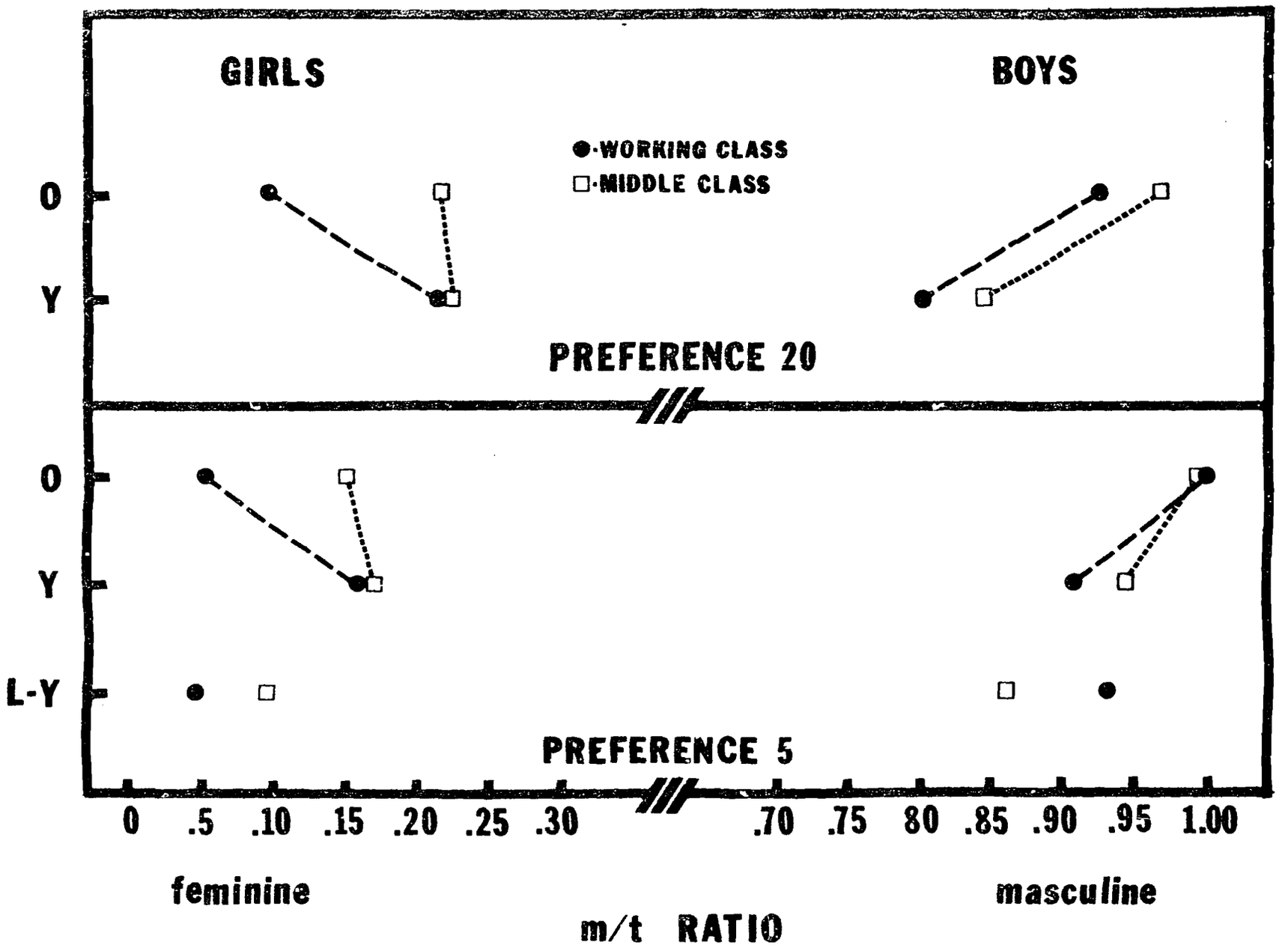
Preference 5 and Preference 20 Scores

Source	df	Preference 5		Preference 20	
		Mean Square	F	Mean Square	F
Between Classes	1	.067	2.11	.153	6.86**
Between Sexes	1	41.003	1297.14**	29.155	1310.50**
Between Ages	1	.001	.02	.036	1.63
Interactions:					
Class x Sex	1	.033	1.03	.013	.57
Class x Age	1	.011	.34	.041	1.86
Sex x Age	1	.267	8.43**	.482	21.64**
Class x Sex x Age	1	.081	2.56	.050	2.23
Error (within cell)	232	.032		.022	
Total	239				

Note. - For 1 and 232 df, F = 3.89 and 6.76 at .05 and .01, respectively.

Figure Captions

Figure 1. -- Mean scores for the Preference 5 and Preference 20 tests, London and American samples. (L = London; Y = Young or 5 year olds; O = Old or 8 year olds. Scoring is explained in text.)


GIRLS
BOYS
●-WORKING CLASS
□-MIDDLE CLASS
O
Y
PREFERENCE 20
O
Y
L-Y
PREFERENCE 5
0 .5 .10 .15 .20 .25 .30 .70 .75 80 .85 .90 .95 1.00
feminine
masculine
m/t RATIO