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SEX DIFFERENCES IN CONFORMITY

by

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Abstract

The conditions under which women exhibit greater conforming behavior than men are still very much in question. Cultural role conditioning, an hypothesis which appeared "obvious" to many researchers over the years is supported by Goldberg's (1974) findings that women who reject sex-role stereotypes are less conforming than women who don't. However, it may partially be an artifact of the use of male biased items by many experimenters in the field of conformity, an hypothesis supported by the work of Sistrunk and McDavid (1971) but questionable in the light of contradictory results found in other studies cited. An interaction effect between item bias and acceptance or rejection of traditional sex roles appeared probable. The question then became one of discovering the relative importance of each factor under specified conditions.

The present experiment attempted to parcel out the variables which influence conforming behavior in females and males, and to ascertain the relative importance of cultural expectations and sex-bias of test items in producing conformity. Several hypotheses were postulated concerning the relationship between measures of femininity, sex role acceptance, conformity, and the sex-bias and difficulty of items.

The overall results indicate strong support for the cultural-expectation theory of sex differences in conformity, with attitudes towards women's roles, sex of subject and psychological femininity contributing to conforming behavior.

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Introduction

Early Conformity Research

For some time, social psychologists have been interested in the effect of a group on its individual members. Allport (1920) first attempted to bring the study of social influence into the experimental laboratory when he compared a subject's evaluation of the pleasantness of odours and the magnitude of weights when the subject was alone and when the subject was with others. He found that the presence of others made a subject's judgment more conservative. Moore (1921) found a marked effect on individual judgments when subjects were exposed to a majority opinion on ethical judgment, language usage and musical preferences. The preferences of individual subjects became more like those of the majority when they were exposed to majority opinions.

Sherif (1935) used the autokinetic effect (apparent movement of a bright point of light observed continuously in darkness) to study group influences. A subject was presented with an extremely ambiguous task having no correct answer, which was judging the amount of movement produced by the light. Before he gave his own answer, the subject heard the other group members give answers which, unknown to the subject, were predetermined by the experimenter. Sherif found that a subject was influenced by the judgment of the others and that this effect tended to persist in the absence of the group members.

Asch (1951, 1952, 1956) used a very simple method, with unambiguous judgmental stimuli. He presented eight subjects with the task of deciding which of three comparison lines was equal to a given standard line and then requested them to report their decisions publicly to the experimenter. Unknown to one naive subject, the other group members were stooges for the experimenter and on 12 of 18 trials gave predetermined wrong answers. Since the naive subject was

always in the last or second to last position he heard the answers of most of the others before being required to give his own response. Since the wrong answers on the comparison tasks were clearly discrepant (from 3/4" to 1 3/4") a sharp conflict was induced between a subject's tendency to make the correct judgment and his tendency to yield to an incorrect judgment endorsed by a group of peers. Asch found that approximately one-third of the subjects yielded to the group on at least half the trials. He did not, however, observe an increase in the yielding effect over time. He found that if a subject yielded at all he tended to do so quite early in the series and those subjects who started out behaving independently continued to do so throughout the series.

Crutchfield (1955) automated Asch's experimental design so that as many as five naive subjects could be run concurrently. Subjects were seated side by side but screened from one another in individual booths. Each had a panel with a row of numbered switches to signal his judgment on the items and four rows of signal lights which supposedly indicated the judgments of the other four subjects. The task consisted of visual, information, and opinion items. However, the signal lights were actually manipulated by the experimenter who pressed predetermined answers and who also manipulated the situation so that, on the pressure trials (trials where the experimenter presented wrong answers), each subject thought he was the last to give an answer. This deception was necessary in order to ensure that the subjects perceived a majority opinion which was different from what they felt was true and to study how such a contingency would affect behavior. However, subjects were always thoroughly debriefed at the end of a session as the situation was often found to be somewhat disturbing. His results were much the same as those found by Asch (1951, 1952, 1956).

Pasternak (1972) further refined the basic Asch technique

and developed what he called the "naive majority" technique. In this situation all subjects are naive. Each group member is handed a set of stimulus cards and asked to announce his judgment concerning the right answer for each in turn. However, the fourth subject is given a set of stimulus items that is different from those given the other three and thus cannot have the same perceptions as the rest of the subjects. Pasternak feels that the advantage of this method is that it exposes subjects to natural, spontaneous responses of the majority, thus taking away some of the artificiality of the situation, and permits studying the effect of a nonconforming individual on the unsuspecting majority. Numerous other variations have been developed for various experimental purposes (e.g. Carrigan & Julian, 1966; Geller, Endler & Wiesenthal, 1973; Patel & Gordon, 1960) but were never replicated and therefore will not be reviewed.

Other experiments have been carried out studying the effects of the size of the majority (Asch, 1956), unanimity of the majority (Asch, 1951), ambiguity of the conformity situation (Asch, 1956; Conolly, 1964), and anonymity of the subject (Deutsch & Gerard, 1955) on conforming behavior. Personality factors which have been shown to affect conforming behavior are authoritarianism (Crutchfield, 1955; Vaughan & White, 1966), need for affiliation (Carrigan & Julian, 1966), self-esteem (Singh & Prasad, 1973), and perceived competence (Snyder, Hischel & Lott, 1966; Julian, Regula & Hollander, 1968; Endler & Hartley, 1973; Geller, Endler & Wiesenthal, 1973; Goldberg, 1974).

Women and Conformity

A common finding throughout the literature on conformity was that women were more conforming than men (Crutchfield, 1955; Iscoe & Williams, 1963; Endler, 1966; Julian, Regula & Hollander, 1968; Sistrunk, 1971). This finding was explained in terms of the traditional role expectations of women in our

society. Cultural expectations have placed limitations on the emergence of women as people. Their attainment of personal goals has been handicapped by the tradition that women are merely to be helpmates instead of powerful forces for improving the human condition (Janeway, 1971). For example, intimidations and restrictions have warped the female self-concept in the field of work (Horner, 1968, 1972; Bardwick, 1971).

Meyer (1962) feels women are still perceived as inferior to the male. She believes that in a society where intelligence, courage and determination have taken the place of mere physical strength this perception has no place. According to Horner (1968, 1972) women have a greater tendency to avoid success than do men as they anticipate negative consequences (e.g., being branded as unfeminine, a castrating female, neurotic, etc.), especially if success is in a traditionally male field.

Because women have had to depend on men for economic support, for identification as people, and as means of achieving their expected role in society, they have had to accomodate their behavior to men's wishes. The female personality has come to be defined in terms of narcissistic adornment to attract the male, passive acceptance of the burdens of child-bearing and rearing, and dependence upon a controlling male. This definition exerts a pervasive effect on women's interaction with the world at large.

Since there are many negative consequences for being an independent, thinking person outside the sphere of home, children, and kitchen, women have tended more to conformity than have men, whose cultural norm it is to follow their own path. Indeed the socialization of women has been toward exactly those characteristics found to correlate with a high degree of conformity: low self-confidence, perception of lesser competence than the rest of the group, being reinforced by having the same opinion as others, and perception that

success will have negative consequences.

With the changing concept of women to that of independent people capable of achievement equal to men, it would be expected that sex differences in conformity would decrease. Indeed this seems to be the case. Several studies (Sistrunk, 1969; Allen & Levine, 1969; Sistrunk & McDavid, 1971; Sistrunk, 1972; Wiesenthal, Endler & Geller, 1973; Endler & Hartley, 1973; Johnson & MacDonnell, 1974) have reported that there were no significant differences between the conformity scores of males and females. It has also been shown that females who rejected cultural role stereotypes (those who see women and men as equally capable in all spheres of endeavour), and also more masculine women (those who exhibit traits traditionally thought of as masculine such as independence or aggressiveness), are likely to be less conforming than more tradition-bound females (Goldberg, 1974).

Methodological Considerations

The evidence presented in the previous section would seem to support a cultural expectation theory of conformity differences, since the differences in conformity levels demonstrated by males and females seem to be decreasing as the role expectations for men and women in the North American culture are becoming more similar. However, Sistrunk & McDavid (1971) feel that this explanation is much too gross and that commonly observed sex related differences may be partly due to secondary factors associated with sex differences. They consider these factors to be considerably more complex than simple male-female cultural prescriptions for or against conformity. They argue that observed differences were an artifact of the various experimental situations, namely the use of tasks culturally more relevant to males than to females. McDavid (1965) developed a paper and pencil conformity measure which he called the Personal Opinions Inventory (POI). It consisted of 65 items of fact and opinion

with which a subject could agree or disagree. The inventory was made up of items that were male-biased (e.g., "On an automobile engine, the carburator regulates the amount of voltage distributed to the spark plugs"); female-biased (e.g., "The usual stitches in knitting are: knit, purl and baste"); or neutral (e.g., "Rolaids consume 47 times their own weight in excess stomach acid") as well as several filler items. Beside each item was listed the answer supposedly given by the majority of some specified reference group. It was used in several studies (Sistrunk, 1969, 1971; Sistrunk & McDavid, 1971) and yielded approximately the same proportion of conforming subjects as did Asch's (1951, 1952, 1956) and Crutchfield's (1955) measures. Unfortunately, none of these conformity measures have been cross-validated so it is difficult to say if they would produce similar results for the same subjects.

Sistrunk and McDavid (1971) used the POI in a series of experiments designed to ferret out the causes of sex differences in conformity. Sistrunk (1972) tested highly "feminine" females and highly "masculine" males using the POI and found no differences in conformity on unbiased items (i.e., items relevant to either sex), but females did conform significantly more than males on masculine items. He hypothesized that the results must be due to the bias of the items because he felt that a cultural artifact would result in significant differences in conformity over all items with such a polarized example. Sistrunk and McDavid (1971) also found that different sex groups conformed more in areas in which they were less knowledgeable. They concluded that, while cultural role prescriptions may be important, more fundamental factors are the person, the task and the situation. Goldberg (1974) was also interested in the problem of sex differences in conformity. He differentiated between masculinity-femininity and attitudes toward sex roles in society. In a sample of male and female college students

tested for masculinity-femininity on Gough's (1971) California Personality Inventory of Femininity he found that each sex conformed more on items relevant to the opposite sex. He also found that "feminine" subjects conformed significantly more than "masculine" subjects on male- and female-biased items, while the opposite was true on neutral items. In a second sample of subjects he found that women who were active members of the feminist National Organization of Women conformed significantly less than did nonactive females, despite the fact that he found no differences in psychological femininity (i.e., the possession of traits traditionally thought to be feminine such as passivity or reticence, as measured by a test of masculinity-femininity) between the two groups. He postulated that rejection of traditional cultural prescriptions for women and femininity are not related but that both influence conforming behavior. He concluded that the sex bias of the task is an important variable in the relationship between sex and conformity, but that sex role remains a crucial variable in determining conformity. Thus, the greater the rejection of the conventional women's role, manifested through psychological masculinity or active involvement with the women's movement (which he sees as independent factors), the lesser the degree of conformity.

The cultural role explanation does not account for the fact that seemingly male-biased methods often produce no difference between the sexes, while tasks which are presumably sexually unbiased sometimes find females to be more conforming. The Asch paradigm, a perceptual task of judging which of several comparison lines is the same length as a standard line, is one that intuitively appears unbiased. However, most studies using it have found women more conforming (Asch, 1951, 1952, 1956; Crowne & Liverant, 1963) and only one (Johnson & MacDonnell, 1974) has found no difference.

Crutchfield's (1955) technique seems to be one that is

very susceptible to the item-bias criticism, and has been shown to produce more conformity in women than in men (Tuddenham, MacBride & Zahn, 1958; Nakamura, 1958; Allen & Crutchfield, 1963). It is interesting to note, though, that in his first series of experiments with this paradigm, Crutchfield (1955) had one group of women who conformed less than any of his other groups, male or female. He explained this as due to subject selection. These females were a group of college alumnae who were selected for high socio-economic status, had a high degree of activity in community affairs, as well as having relatively stable personalities and being free from psychopathology, women who might be considered more "masculine" by prevailing social standards. Crutchfield's other subjects were not so advantageously selected. Allen and Levine (1969) also used the basic Crutchfield technique and found no differences in amount of conformity between the sexes.

Several investigators have used a modified Crutchfield technique in which subjects decide which of three blue lights was the first to extinguish. Even though this appears to be a neutral instrument, Julian, Regula & Hollander (1968); Julian, Ryckman & Hollander (1969); and, Iscoe & Williams (1963) found sex differences while Endler & Hartley (1973) found none.

From the above it would seem that both task-bias and sex-role expectation affect conforming behavior. Deutsch & Gerard (1955) suggested that there are two types of influence at work in the conformity situation, normative social influence and informational social influence. The former is an influence to conform with the positive expectations of another while the latter is an influence to accept information obtained from another as evidence about reality. Both may operate to a certain extent in all conformity situations. Sistrunk (1971) suggested that normative social influence is the more important factor for subjects who tend to conform across

all items regardless of the difficulty while informational social influence is more important for those conforming only on difficult items on which they lack competence.

Summary and Conclusions

The conditions under which women exhibit greater conforming behavior than men are still very much in question. Cultural role conditioning, an hypothesis which appeared "obvious" to many researchers over the years is supported by Goldberg's (1974) findings that women who reject sex-role stereotypes are less conforming than women who don't. However, it may partially be an artifact of the use of male biased items by many experimenters in the field of conformity, an hypothesis supported by the work of Sistrunk and McDavid (1971) but questionable in the light of contradictory results found in other studies cited. An interaction effect between item bias and acceptance or rejection of traditional sex roles appears probable. The question then becomes one of discovering the relative importance of each factor under specified conditions.

In addition, Goldberg's (1974) research suggests that femininity (as measured by psychological tests) also contributes to conformity. His results point to greater femininity being related to greater conformity. His results also indicate that femininity is unrelated to acceptance of traditional cultural role prescriptions for women, but further evidence is needed to determine this.

Women who are traditionally socialized to see themselves as secondary to, and less capable than, men may be more conditioned to seek the male opinion and respect it as superior to the female opinion (Millet, 1969: Bardwick, 1971). Since they're expected to show more conformity than less traditional women, they may show normative social influence (Deutsch & Gerard, 1955), exhibiting a greater conformity to males on the easier items than the less traditional group.

On the other hand, less traditional subjects may be less likely to react to sex of the reference group, but may show informational social influence (i.e., conforming only on difficult items, regardless of sex of reference group).

Hypotheses

The present experiment attempted to parcel out the variables which influence conforming behavior in females and males, and to ascertain the relative importance of cultural expectations and sex-bias of test items in producing conformity. Several hypotheses were postulated concerning the relationship between measures of femininity, sex role acceptance, conformity, and the sex-bias and difficulty of items.

Hypothesis 1: Both men and women having liberal attitudes toward women would be significantly less conforming overall than those subjects having a conservative attitude concerning women's cultural roles. There is partial support for this hypothesis in Goldberg's (1974) finding that feminists were less conforming than non-feminists and Crutchfield's (1955) finding that his group of females selected for high education, socioeconomic level and community acitvity were less conforming than other male and female groups. However, there is no experimental of theoretical evidence concerning this factor for males so the question is being studied in the present experiment.

Hypothesis 2: People showing liberal attitudes toward women would tend to show informational social influence, conforming to the majority on difficult items regardless of the sex of the majority group, while those with conservative attitudes would exhibit normative social influence, conforming to the majority across all levels of difficulty, especially when the reference group is male. Deutsch & Gerard (1955) first made the distinction between normative and informational social influence and Sistrunk (1971) suggested that the different patterns of conformity are due to reliance on the two different social influences.

Hypothesis 3: There would be no relationship between psychological femininity and attitudes toward women, as has been

found by Goldberg (1974) and Spence and Helmreich (1972).

Hypothesis 4: Psychological femininity would be related to conformity with more "feminine" subjects being more conforming than "masculine" subjects. Goldberg's (1974) findings indicate that such a relationship does exist.

Hypothesis 5: There would be a sex difference by item-bias interaction with subjects conforming more on items biased in favor of the opposite sex, and not conforming differentially on neutral items. McDavid's (1965) Personal Opinions Inventory was designed to produce exactly this effect, with no overall differences in conformity by sex being expected.

Method

Participants

Subjects were 80 male and 80 female introductory psychology students from the University of Manitoba. These subjects were chosen from a pool of 247 female and 170 male introductory psychology students to whom the Attitudes Toward Women Scale (see below) had been administered. Equal groups (N=40) of males and females were randomly selected from the upper and lowere quartiles of the original sample.

Instruments

The instruments were three questionnaires:
1) Spence and Helmreich's (1972) Attitudes Toward Women Scale (AWS), a measure of a subject's conception of the rights and roles of females in today's society. The AWS (Appendix A) consists of 55 Likert-format statements bearing on the vocational, educational and intellectual roles of women's freedom and independence, dating, courtship and etiquette, sexual behavior, and marital relationships and obligations. The purpose of the scale is to distinguish between people who possess conventional, conservative attitudes toward women's roles and people who possess liberal, profeminist attitudes. Each item is rated on a four-point

scale from zero to three, so that each subject's score is obtained by summing the values for the individual items, with possible scores ranging from 0-165. High scores are indicative of liberal attitudes and low scores indicate conservative attitudes.

2) McDavid's (1965) Personal Opinions Inventory (POI), a conformity measure. The POI (Appendix B) is designed to measure conformity to attributed sources of influence. It consists of 45 standardized experimental items on which the majority has indicated an incorrect judgment or an opinion differing from that of subjects on whom the measure was pretested, interspersed with 20 filler items on which the majority has expressed correct judgments or opinions. In order to standardize the POI extensive pretesting was carried out. The final 65 items were chosen from a pool of 100 statements about a variety of everyday opinions and matters of fact which were judged by three standardization groups on one of the following three criterea: consistency of response to the items; whether the item was factually soluble or essentially an insoluble matter of personal preference; and, sex relatedness of the content. Thus, this paper and pencil device presents 65 statements of fact which differ in difficulty (easy, difficult or insoluble) and instructs subjects to indicate their agreement or disagreement with each statement. It is also designed to control for the effect of item sex-bias in conformity. It consists of items in areas of female knowledge (e.g., cooking and sewing), male knowledge (e.g., cars) and items which are free of sex bias (e.g., "Most Roman Catholics believe in birth control"). Social influence is provided by informing the subject on each statement of the judgment of the majority of persons having been questioned previously. The specific nature of the social influence is controlled in written instructions identifying the persons composing the supposed majority. A conforming response is scored when subjects agree with the majority on an experimental

item instead of giving a factually correct answer. Thus possible conformity scores range from 0-15 on each level of difficulty and for each area of sex-bias. Conformity can be scored for any of these subsets of items or for the entire test, which has a score range of 0-45.

3) Gough's (1971) California Personality Inventory of Femininity (CPIF). The CPIF (Appendix C) was developed as an instrument for the identification of femininity. It consists of 58 items which a subject answers true or false. It was designed to overcome the disadvantages of length, obviousness of content and relatedness to intellectual factors suffered by previous measures. Items are keyed to indicate feminine responses, and a femininity score is found by adding the number of items on which a subject scores in a feminine direction. Items chosen for the test consistently revealed significant differences between samples of males and females.

Procedure

Several weeks before the experiment was to be run Spence & Helmreich's (1972) Attitudes Toward Women Scale was administered to introductory psychology students who volunteered to participate as part of their course credit. Later those students who had been chosen to participate were contacted and asked if they would participate in a study developing a new personality inventory. No mention was made of any connection with the AWS scale and student were told that they had been chosen on a completely random basis. The subjects were randomly assigned to the male or female majority group (sex of the majority group was indicated on the instruction sheet of the questionnaire) the purpose being to discover any differential conforming due to the sex of reference group. Subjects answered questionnaires in groups of 20 run by an experimenter who was blind to the group the students were in. Subjects were given standardized instructions

at the beginning of the session (Appendix D) and each subject was given a booklet containing the POI and the CPIF, in randomized order, and asked to fill in all the answers. When all subjects had handed back their booklets they were given a brief explanation concerning the experiment and allowed to ask questions.

Design Summary

The design was 2x2x2 (high or low AWS score x sex of subject x sex of majority group). One hundred sixty subjects participated with 20 subjects assigned randomly to each cell. The overall design is presented in Figure 1.

Results

Conformity scores were measured separately for three levels of item difficulty on the POI and a multivariate analysis of variance (MANOVA) was done over each level of difficulty. The multivariate analysis was done because there were three non-independent measures of conformity included in the analysis. These results are presented in Tables 1(a) and 1(b). A significant main effect was found for sex of subject in total conformity ($p<.01$), and on insoluble ($p<.05$) and difficult ($p<.01$) items, with women being more conforming than men in each case. A significant main effect in total conformity was also found for attitudes toward women ($p<.001$) and for each level of difficulty ($p<.001$), with subjects having conservative attitudes towards women's roles being more conforming than those having liberal attitudes, which supports hypothesis 1. A significant interaction was found between sex of subject and attitudes toward women ($p<.05$) with conformity decreasing from conservative females to liberal males, again supporting hypothesis 1. A significant interaction was also found between sex of reference group and attitudes toward women ($p<.05$) with conformity decreasing from conservative subjects with a male reference group to liberal subjects with a female reference group. No consistent effect for item difficulty was observed so that hypothesis 2 was not supported.

A second multivariate analysis was done with conformity

Figure I

Summary of Experimental Design:
Sex of Subject x Sex of Reference Group x Attitude Toward Women

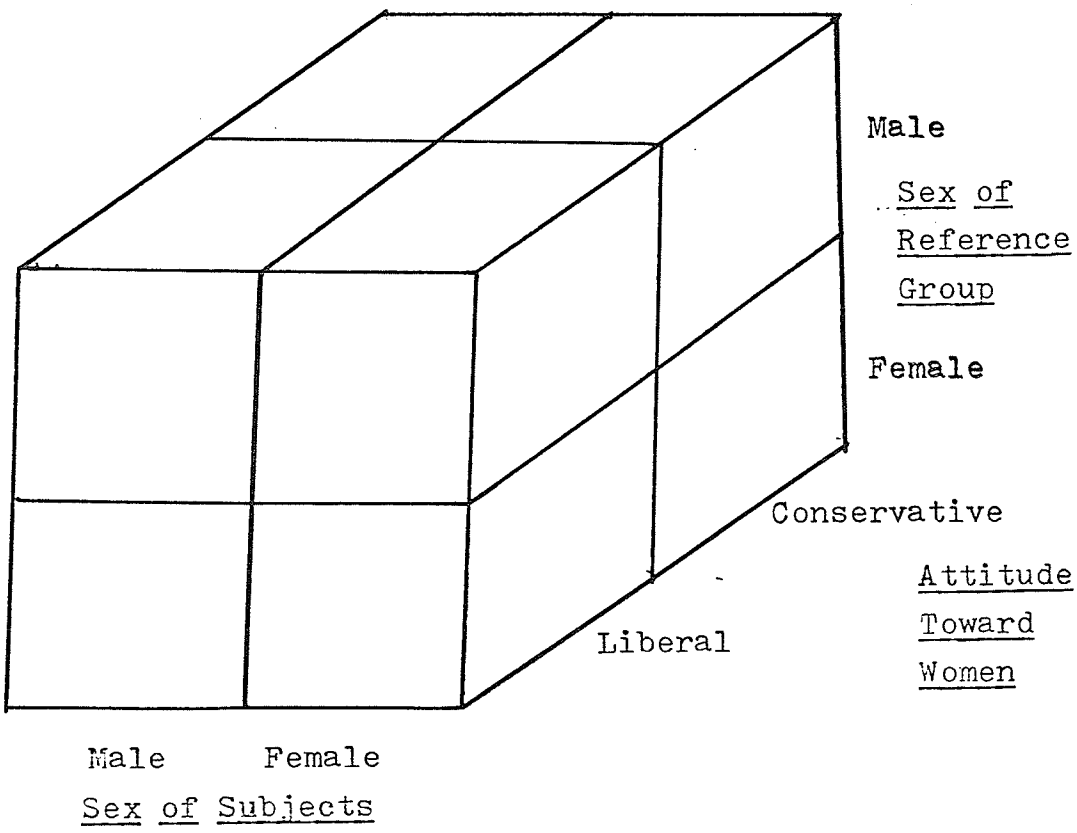

Table I(a)

Conformity by Sex of Subject, Sex of Reference Group, Attitude Toward Women, and Item Difficulty

Attitude Toward Women	Item Difficulty		Subjects: Female — Reference Group: Female $\bar{x}$	s.d.	Female — Reference Group: Male $\bar{x}$	s.d.	Female — Reference Group: Total $\bar{x}$	s.d.	Subjects: Male — Reference Group: Female $\bar{x}$	s.d.	Male — Reference Group: Male $\bar{x}$	s.d.	Male — Reference Group: Total $\bar{x}$	s.d.
Liberal		Easy	6.4	1.3	7.0	1.3	6.7	1.3	6.7	1.8	6.8	2.0	6.8	1.9
		Difficult	5.5	1.5	7.2	2.9	6.2	2.2	4.6	1.7	6.1	2.2	5.4	2.0
		Insoluble	5.0	1.6	5.4	1.5	5.2	1.6	5.5	1.6	5.1	2.3	5.3	2.0
		Total	16.9	3.5	19.6	4.5	18.2	4.2	16.8	3.6	18.0	5.0	17.4	4.4
Conservative	Item Difficulty	Easy	8.4	2.0	8.0	2.0	8.2	2.0	8.2	1.4	8.6	1.5	8.4	1.4
		Difficult	8.0	2.2	8.2	1.9	8.1	2.0	7.3	1.8	7.2	1.7	7.2	1.8
		Insoluble	8.2	2.5	8.2	2.1	8.2	2.3	6.3	1.8	7.0	1.8	6.6	1.8
		Total	24.6	5.9	24.4	4.8	24.5	5.4	21.8	3.7	22.8	3.3	22.4	3.5

Table I(b)
Sources of Conformity Variance

Source of Variance	df	MS	F
Sex of Subject (A)	3,150	56.43	4.28**
Insoluble	1,152	20.31	5.38*
Difficult	"	35.16	8.53**
Easy	"	0.22	0.08
Sex of Reference Group (B)	3,150	29.59	2.54
Insoluble	1,152	1.05	0.28
Difficult	"	28.06	6.81**
Easy	"	0.90	0.31
Attitude Toward Women (C)	3,150	435.40	21.68***
Insoluble	1,152	191.41	50.67***
Difficult	"	135.16	32.77***
Easy	"	102.42	35.47***
A x B	3,150	0.80	0.11
Insoluble	1,152	0.06	0.01
Difficult	"	0.51	0.12
Easy	"	0.22	0.08
A x C	3,150	27.37	3.66*
Insoluble	1,152	26.41	6.99**
Difficult	"	0.31	0.07
Easy	"	0.22	0.08
B x C	3,150	23.20	2.96*
Insoluble	1,152	1.06	0.28
Difficult	"	21.75	5.28*
Easy	"	0.90	0.31
A x B x C	3,150	11.24	1.22
Insoluble	1,152	6.81	1.80
Difficult	"	0.06	0.02
Easy	"	4.22	1.46

* $p<.05$

** $p<.01$

*** $p<.001$

scores broken down over three levels of item bias (male, female and neutral). These results are shown in Tables II(a) and II(b). A significant main effect was found for sex of subject ($p < .001$), with women conforming more than men, a finding opposite to that predicted by hypothesis 5. This significance was contributed to mainly by the significant difference ($p < .001$) on female-biased items where females conformed more than males, however male-biased and neutral items did not produce significant sex differences so that hypotheses 5 was again not supported. Attitudes toward women also proved to be a significant factor ($p < .001$), with conservative subjects conforming more than liberal subjects. A significant interaction was found between sex of subject and attitude toward women ($p < .01$) with females having conservative attitudes being most conforming and males having liberal attitudes being least conforming. The difference between male and female subjects with conservative attitudes was much more striking than the difference between male and female subjects with liberal attitudes. It should be noted that the results of this analysis closely parallel the results of the first analysis. No consistent effect for item bias was observed.

After studying the data it seemed that liberal attitudes levelled out sex differences so further analysis was undertaken to check on this. T-tests done for both liberal and conservative subjects (Cooley & Lohnes, 1971) showed no difference in degree of conformity between male and female liberals ($t=1.643$, N.S.) while female conservative subjects conformed significantly more than male conservative subjects ($t=4.078$, $p < .001$).

To test hypothesis 3 a Pearson correlation coefficient between psychological femininity and attitudes toward women was carried out. It did not reach statistical significance ($r = +.12$, $p < .10$) so the hypothesis was supported. A second correlation coefficient between psychological femininity and conformity tended toward but did not reach significance ($r = +.15$, $p < .10$) so that hypothesis 4 was not strongly supported.

Table II(a)

Conformity by Sex of Subject, Sex of Reference Group, Attitude Toward Women, and Item Bias

Attitude Toward Women	Item Bias		Subjects: Female — Reference Group: Female x̄	Female — Female s.d.	Female — Male x̄	Female — Male s.d.	Female — Total x̄	Female — Total s.d.	Subjects: Male — Reference Group: Female x̄	Male — Female s.d.	Male — Male x̄	Male — Male s.d.	Male — Total x̄	Male — Total s.d.
Liberal	Item Bias	Male	5.6	1.8	6.0	1.9	5.8	1.8	6.0	1.4	6.3	2.4	6.2	1.8
		Female	6.2	1.9	6.8	2.1	6.5	2.0	4.3	1.9	5.5	1.8	4.9	1.8
		Neutral	4.8	1.7	6.8	2.0	5.8	1.8	6.3	1.8	6.1	2.0	6.2	1.9
		Total	16.6	3.3	19.6	4.4	18.2	4.2	16.6	3.7	17.9	5.1	17.4	4.4
Conservative	Item Bias	Male	8.1	2.5	8.3	2.5	8.2	2.5	7.9	1.9	8.5	1.5	8.2	1.7
		Female	7.5	2.2	7.4	1.8	7.4	2.0	7.0	1.6	6.0	1.1	6.5	1.4
		Neutral	9.0	2.3	8.8	2.1	8.9	2.2	7.0	2.2	7.8	2.6	7.4	2.4
		Total	24.6	5.9	24.5	4.8	24.5	5.4	21.9	3.7	22.3	3.2	22.4	3.5

Table II(b)
Sources of Conformity Variance

Sources of Variance	df	MS	F
Sex of Subject (A)	3,150	21.94	7.93***
Male Bias	1,152	1.22	0.29
Female Bias	"	66.31	19.56***
Neutral	"	13.81	3.14
Sex of Reference Group (B)	3,150	22.38	1.24
Male Bias	1,152	7.22	1.73
Female Bias	"	1.06	0.31
Neutral	"	13.81	3.14
Attitude Toward Women (C)	3,150	453.11	22.11***
Male Bias	1,152	198.01	47.48***
Female Bias	"	66.31	19.56***
Neutral	"	182.76	41.58***
A x B	3,150	4.53	0.45
Male Bias	1,152	0.40	0.10
Female Bias	"	0.16	0.05
Neutral	"	3.91	0.89
A x C	3,150	40.44	4.35**
Male Bias	1,152	0.90	0.22
Female Bias	"	2.76	0.81
Neutral	"	37.06	8.43**
B x C	3,150	25.40	2.35
Male Bias	1,152	0.0	0.00
Female Bias	"	21.76	6.42*
Neutral	"	3.31	0.75
A x B x C	3,150	32.79	3.82*
Male Bias	1,152	0.62	0.15
Female Bias	"	5.26	1.55
Neutral	"	26.41	6.01*

* $p < .05$

** $p < .01$

*** $p < .001$

Discussion

The present experiment was designed to ascertain the relative importance of cultural expectations and sex-bias of test items in producing conformity and to parcel out the variables which influence conforming in males and females. The hypothesis that both men and women having liberal attitudes towards women's roles in society would be less conforming than men and women having conservative attitudes was confirmed. This result supports the cultural expectation theory of sex differences in conformity as opposed to the item-bias theory proposed by Sistrunk & McDavid (1971). In analyses by both item difficulty and item bias, liberal males were the least conforming group, with liberal females next, followed by conservative males, with conservative females being the most conforming group. The fact that liberal attitudes were found to level out sex differences was also supportive of a cultural-expectation theory of sex differences.

The fact that sex of subject proved to be a significant main effect on a neutral instrument is perhaps surprising, particularly in view of the fact that many of the more recent conformity studies (Allen & Levine, 1969; Sistrunk & McDavid, 1971; Sistrunk, 1972; Wiesenthal, Endler & Geller, 1973; Johnson & MacDonnell, 1974) have found no overall sex differences in conforming behavior. All the studies cited used university students as subjects, and a variety of conformity measures including the PCI were used, so these do not seem to be factors mediating the difference in findings. Looking at the results of the various analyses it would seem that the reason for the significant difference in conformity between the sexes in the present study is due largely to the difference between the male and female conservative subjects. Only two other studies (Goldberg, 1974; Johnson & MacDonnell, 1974) have separated subjects according to their cultural outlook. Of these, one (Goldberg, 1974) used only female subjects broken down by affiliation or non-affiliation

with a feminist organization. The other (Johnson & MacDonnell, 1974) used male and female subjects but had a truncated range of scores so that the extremes of the distribution were not represented. The present study used conservative and liberal subjects from the extremes of the distribution which allows the differences between the two groups to show up more distinctly. Thus the highly significant differences between the sexes at the conservative end of the distribution influenced the overall sex difference so that it, too, showed a significant difference between the sexes.

Differences between male and female subjects in amount of conforming shown is again strongly supportive of a cultural-expectation theory of conformity. If item-bias were the cause of differential conformity between the sexes it is not likely that these differences would show up only with the conservative subjects. However a cultural-expectation theory predicts this pattern exactly, as it is the conservative population which advocates differing roles for men and women, with women deferring to the opinions of others. It would appear that, at least among conservative subjects, women are still less self-confident than men.

Examination of the relationship between psychological femininity and conformity showed a tendency for greater femininity to be correlated with more conformity. This finding also supports a cultural-expectation theory of sex differences in conformity. As a group, women were found to be significantly more conforming than men. Since we would expect women to be, on the average, more "feminine" than men, it seems logical that this relationship should occur. Goldberg (1974) also found a relationship between femininity and conformity. Psychological femininity appears to be culturally determined (Mead, 1949). Therefore the same influences which determine how "masculine" or "feminine" a person is may also determine how much that individual will conform to a majority position differing from his/her own.

The hypothesis that liberal subjects would show informational social influence while conservative subjects would show normative social influence was not supported. Subjects with differing attitudes did not appear to vary their conformity patterns as level of item difficulty changed. There were highly significant differences between liberal and conservative subjects at all levels of difficulty. It was also found that item bias was not a significant factor in differentiating between the groups of subjects.

The hypothesis that there would be no relationship between psychological femininity and attitudes toward women was supported. This is an interesting finding in view of the fact that both attitudes toward women and psychological femininity appear to be related to subject conformity. It may be that the two represent overlapping but separate cultural factors influencing conformity. There is some support for the finding of independence between the two factors, as Goldberg (1974) found no relationship between subject's masculinity-femininity and their rejection or acceptance of cultural role stereotypes. Spence and Helmreich (1972) also failed to find a relationship between these two factors.

There was no strong tendency for subjects of different sexes to conform differently according to the supposed bias of items on the PCI, except on female-biased items where females conformed significantly more than males. This finding contradicts previous research and has no apparent theoretical explanation. However, it was highly significant in the present study and should be examined further in future work.

The overall results indicate strong support for the cultural-expectation theory of sex differences in conformity, with attitudes towards women's roles, sex of subject and psychological femininity contributing to conforming behavior.

Future research on sex differences in conformity should take into account the cultural expectations of the subjects since they seem tied so closely to subject conformity. It would be interesting to look at how liberal and conservative

subjects differ aside from conformity to see if there are overall personality differences between the two types of subjects. Subjects in the mid-range on the cultural expectations measure could be studied to see in what ways they differ from subjects at either extreme and in looking at this midrange subject the factors which determine conformity or non-conformity might be more clearly ascertained. The study of conformity as it relates to cultural expectations could be taken into the real world to see if there is any generalization from the laboratory or if we are dealing with concepts which have no real meaning in daily living. From such studies we can see more clearly what environmental factors control conformity behavior and whether degree of conformity is a stable trait in any one person or whether it varies situationally and what determines such variance. The changes in cultural expectations and their relationship with conformity could be studied over different age groups, in various geographical locales, or with several socioeconomic groups to see whether these factors influence the relationship between the two measures and in what direction the influence works.

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Appendix A

Attitudes Toward Women Scale

I'm doing a survey concerning attitudes towards the role of women in society held by different groups of people I would like you to respond to the questionnaires I'm passing out which are made up of 55 personal opinion items to which there are no right or wrong answers. You are asked to express your feelings about each statement by indicating whether you Agree Strongly, Agree Mildly, Disagree Mildly or Disagree Strongly.

Put your answers on the answer sheet in the following manner:

Agree Strongly	column 1
Agree Mildly	column 2
Disagree Mildly	column 3
Disagree Strongly	column 4

Please answer all items.

The data will be kept strictly confidential. However, since there may be some follow-up questionnaires in a month or two I would appreciate it if you would put your name, student no., address, phone number and sex on the answer sheets.

1. Women have an obligation to be faithful to their husbands.

2. Swearing and obscenity is more repulsive in the speech of a woman than a man.

3. The satisfaction of her husband's sexual desires is a fundamental obligation of every wife.

4. Divorced men should help support their children byt should not be required to pay alimony if their wives are capable of working.

5. Under ordinary circumstances, men should be expected to pay all the expenses while they're out on a date.

6. Women should take increasing responsibility for leadership in solving the intellectual and social problems of the day.

7. It is all right for wives to have an occasional, casual, extramarital affair.

8. Special attentions like stanking up for a woman who comes into a room or giving her a seat on a crowded bus are outmoded and should be discontinued.

9. Vocational and professional schools should admit the best qualified students, independent of sex.

10. Both husband and wife should be allowed the same grounds for divorce.

11. Telling dirty jokes should be mostly a masculine prerogative.

12. Husbands and wives should be equal partners in planning the family budget.

13. Men should continue to show courtesies to women such as holding open the door or helping them on with their coats.

14. Women should claim alimony not as persons incapable of self-support but only when there are children to provide for or when the burden of starting life anew after the divorce is obviously heavier for the wife.

15. Intoxication among women is worse than intoxication among men.

16. The initiative in dating should come from the man.

17. Under modern economic conditions with women being active outside the home, men should share in household tasks such as washing dishes and doing the laundry.

18. It is insulting to women to have the "obey" clause remain in the marriage service.

19. There should be a strict merit system in job appointment and promotion without regard to sex.

20. A woman should be as free as a man to propose marriage.

21. Parental authority and responsibility for discipline of the children should be equally divided between husbands and wife.

22. Women should worry less about their rights and more about becoming good wives and mothers.

23. Women earning as much as their dates should bear equally the expense when they go out together.

24. Women should assume their rightful place in business and all the professions along with men.

25. A woman should not expect to go to exactly the same places or to have quite the same freedom of action as a man.

26. Sons in a family should be given more encouragement to go to college than daughters.

27. It is ridiculous for a woman to run a locomotive and for a man to darn socks.

28. It is childish for a woman to assert herself by retaining her maiden name after marriage.

29. Society should regard the services rendered by the women workers as valuable as those of men.

30. It is only fair that male workers should receive more pay than women even for identical work.

31. In general, the father should have greater authority than the mother in the bringing up of children.

32. Women should be encouraged not to become sexually intimate with anyone before marriage, even their fiances.

33. Women should demand money for household and personal expenses as a right rather than as a gift.

34. The husband should not be favored by law over the wife in the disposal of family property or income.

35. Wifely submission is an outworn virtue.

36. There are some professions and types of businesses that are more suitable for men than women.

37. Women should be concerned with their duties of child-rearing and housetending, rather than with desires for professional and business careers.

38. The intellectual leadership of a community should be largely in the hands of men.

39. A wife should make every dffort to minimize irritation and inconvenience to the male head of the family.

40. There should be no greater barrier to an unmarried woman having sex with a casual acquaintance than having dinner with him.

41. Economic and social freedom is worth far more to women than acceptance of the ideal of femininity which has been set up by men.

42. Women should take the passive role in courtship.

43. On the average, women should be regarded as less capable of contribution to economic production than are men.

44. The intellectual equality of woman with man is perfectly obvious.

45. Women should have full control of their persons and give or withhold sex intinacy as they choose.

46. The husband has in general no obligation to inform his wife of his financial plans.

47. There are many jobs in which men should be given preference over women in being hired or promoted.

48. Women with children should not work outside the home if they don't have to financially.

49. Women should be given equal opportunity with men for apprenticeship in the various trades.

50. The relative amounts of time and energy to be devoted to household duties on the one hand and to a career on the other should be determined by personal desires and interests rather than by sex.

51. As head of the household, the husband should have more responsibility for the family's financial plans than his wife.

52. If both hauband and wife agree that sexual fidelity isn't important, there's no reason why both shouldn't have extramarital affairs if they want to.

53. The husband should be regarded as the legal represantative of the family group in all matters of law.

54. The modern girl is entitled to the same freedom from regulation and control that is given to the modern boy.

55. Most women need and want the kind of protection and support that men have traditionally given them.

After several revisions, the final form of the AWS was standardized on 713 male and 768 female first year university students, as well as on 292 mothers of these students and 232 of their fathers. The mean scores for the male and female students were 89.3 (s.d.=22.5) and 98.2 (s.d.=23.2) respectively. Similar means (87, s.d.=18.0 and 101.8, s.d.=19.4 for males and females respectively) were found by Johnson and MacDonnell (1974) on a much smaller sample (30 males and 30 females) of introductory psychology students.

Appendix B

Personal Opinions Inventory

Because this is an experimental form of the new instruement, we have added a column to the right of the statements indicating for each statement whether the majority of the initial sample of students agreed or disagreed. These majority responses were given by males, but now we want to obtain responses from both sexes. This information is not actually relevant to the purposes of the test, but it may be of some interest to you. In amy case, you are free to look at this information or ignore it, as you wish.

Please do not make any marks in this booklet. Mark your answers on the answer sheet. Place your answers in the answer book as follows:

Agree	column 1
Disagree	column 2

DO NOT OMIT ANY ITEMS. It is important that you do not skip any items, since data are needed for every item in the test inventory. Make certain that you indicate agreement or disagreement for every one of the sixty-five items.

	MAJORITY RESPONSE
1. Psychology is defined as the scientific study of behavior.	Agree
2. The word "ochre" means a cruel monster.	Disagree
3. It is desirable to express one's feelings and thoughts.	Disagree
4. The smallest rodent in the world is the capybara.	Agree
5. Leo Tolstoy wrote the novel War and Peace.	Disagree
6. The Mao Brothers are famous for their folksinging.	Disagree
7. God made the earth in six days.	Agree
8. Ballet and opera are among the most entertaining forms of art.	Disagree
9. About 5% of the women in this country have their children by Caesarian section.	Disagree
10. Revlon is a big name in women's cosmetics.	Disagree
11. Most people want to be just average persons.	Disagree
12. Participant sports are more fun than spectator sports.	Disagree
13. On some sailboats, the baggy wrinkles keep the mainsail from fraying against the mainstays.	Disagree
14. A Jaguar is an Italian sportscar.	Agree
15. Most Roman Catholics believe in birth control.	Disagree
16. Of every ten people in the United States, seven are over sixty-five years of age.	Disagree
17. People should usually try to be still and quiet.	Agree
18. If a zoologist said, "I just suffered a contusion on my olecrenon process," one might say that he had hit his funny bone.	Disagree
19. The Republican party's national symbol is the donkey.	Agree
20. The capital of Kentucky is Frankfort.	Agree

	MAJORITY RESPONSE
21. Little girls look best in frilly dresses.	Disagree
22. In cooking, one-quarter pound of butter is equal to one-half cup.	Disagree
23. In sewing, a dart is a type of seam.	Disagree
24. Mascara is worn on the eyelids..	Disagree
25. It is fun to travel long distances on foot.	Agree
26. Experts suggest that live shrimp is the most appropriate bait to use when trolling for sailfish.	Agree
27. On an automobile engine, the carburetor regulates the amount of voltage distributed to the spark plugs.	Agree
28. Rolaids consume 47 times their own weight in excess stomach acid.	Agree
29. It is a good thing to watch people closely.	Agree
30. In scientific terminology, the ring finger is called the annulus.	Agree
31. The theory of evolution claims that men and apes had a common ancestor.	Disagree
32. One of the criteria for differentiating the major human races is to compare hair textures.	Agree
33. Women should be quiet and subdued.	Agree
34. The usual stitches in knitting are: knit, purl, and baste.	Agree
35. A French twist is a type of dance.	Agree
36. I like to sing.	Agree
37. It is desirable to seek to do bold and unusual acts.	Agree
38. The fastest car in the world holds a speed record of over 500 miles per hour.	Disagree
39. Mathematics is concerned solely with measurement.	Agree

	MAJORITY RESPONSE
40. Apple pie with cheese is better than apple pie a la mode.	Disagree
41. People should ordinarily try to be solemn and serious.	Agree
42. Rolex wristwatches are manufactured in Turkey.	Agree.
43. The novel Gone With the Wind was written by Marcel Proust.	Agree
44. I like to do things in a casual way.	Agree
45. Composing poetry is an enteraining and useful pasttime.	Agree
46. Flour is used in baking ice-box cookies.	Disagree
47. A cake should be baked with the oven temperature set at "broil".	Agree
48. Whereas a pine tree is evergreen, a poplar is deciduous.	Agree
49. It is desirable to be tough and hardy.	Agree
50. Chivas Regal is the name of a Puerto Rican rum.	Agree
51. Football is played on a diamond.	Agree
52. Most people admire a fearless person.	Agree
53. It is a good thing to laugh quietly at yourself.	Agree
54. Gerentology is the scientific study of the aged.	Disagree
55. The Supreme Court was dedicated to the "Supremes".	Agree
56. A "wetback" is a slang for United States paper money.	Disagree
57. Women should be dainty and delicate.	Agree
58. Women's hat sizes are measured exactly like men's.	Agree

	MAJORITY RESPONSE
59. "Basting" means the same in cooking as in sewing.	Agree
60. Singer is a brand name vacuum cleaner.	Disagree
61. Science is "Man's best friend."	Disagree
62. Odetta is the name of an expensive new German car.	Agree
63. All "blue chip" stocks are by definition worth at least $100. per share.	Agree
64. When camping, the garbage pit should always be placed upwind from the camp.	Disagree
65. One's fingernails will harden as a result of taking gelatin capsules daily.	Agree

The Personal Opinions Inventory is designed to measure conformity to attributed sources of influence. In order to standardize the POI, extensive pretesting was carried out. The final 65 items were chosen from a pool of 100 statements about a variety of everyday opinions and matters of fact which were presented to three standardization groups. The first group indicated whether they agreed, disagreed, or were undecided about a question and the data were used to judge the consistency of response which might be expected on the items by a similar population. The second group rated items as matters of fact or opinion so that items could be categorized as factually soluble or as essentially insoluble matters of personal preference. The third group judged the sex-relatedness of the items. The inventory was then tested on several groups of high school, college and university students and found to produce consistent results.

Appendix C

California Personality Inventory of Femininity

Answer the following questions on the answer sheet. Answer each item true or false according to whether or not the statement fits your feelings about yourself. It is important that you answer every item.

The answers should be placed on the answer sheet in the following manner:

True	column 1
False	column 2

1. I want to be an important person in the community.

2. I'm not the type to be a political leader.

3. When someone talks against certain groups or nationalities, I always speak up against such talk even though it makes me unpopular.

4. I like mechanics magazines.

5. I think I would like the work of a librarian.

6. I'm pretty sure I know how we can settle the international problems we face today.

7. I would never feel right if I thought I wasn't doing my share of the hard work of any group I belonged to.

8. People seem naturally to turn to me when decisions have to be made.

9. I must admit I feel sort of scared when I move to a strange place.

10. I like to go to parties and other affairs where there is lots of loud fun.

11. If I were a reporter I would like very much to report news of the theater.

12. I would like to be a nurse.

13. It is hard for me to "bawl out" someone who is not doing his job properly.

14. If I get too much change in a store I always give it back.

15. I very much like hunting.

16. Some of my family have habits that bother and annoy me very much.

17. I would like to be a soldier.

18. I think I could do better than most of the present politicians if I were in office.

19. I like to be with a crowd who play jokes on one another.

20. It is hard for me to start a conversation with strangers.

21.I often get feelings like crawling, burning, tingling, or "going to sleep" in different parts of my body.

22. I hate to have to rush when working.

23. In school I was sometimes sent to the principal for cutting up.

24. I think I would like the work of a building contracter.

25. When I work at something I like to read and study about it.

26. I think that I am stricter about right and wrong than most people.

27. I am somewhat afraid of the dark.

28. I am very slow in making up my mind.

29. I am hardly ever bothered by a skin condition, such as athelete's foot, rash, etc.

30. I like to boast about my achievements every now and then.

31. Sometimes I cross the street just to avoid meeting someone.

32. I would do almsot anything on a dare.

33. I think I would like to drive a racing car.

34. I must admit that I enjoy playing practical jokes on people.

35. I always tried to make the best school grades that I could.

36. I am inclined to take things hard.

37. At times I feel like picking a fist fight with someone.

38. I am apt to hide my feelings in some things, to the point that people may hurt me without their knowing about it.

39. Sometimes I have the same dream over and over.

40. The thought of being in an automobile accident is very frightening to me.

41. The average person is not able to appreciate art and music very well.

42. I prefer a shower to a bath tub.

43. I am often a little uneasy about handling knives and other sharp-bladed instruements.

44. Sometimes I feel that I am about to go to pieces.

45. I like adventure stories better than romantic stories.

46. I like to be in many social activities.

47. I was hardly ever spanked or whipped as a child.

49. A windstorm terrifies me.

50. I get excited very easily.

51. I become quite irritated when I see someone spit on the sidewalk.

52. I think I would like the work of a dress designer.

53. I have a certain talent for understanding the other person, and for sympathizing with his problems.

54. It makes me very nervous when I get blamed for making a mistake.

55. I often get disgusted with myself.

56. I always like to keep my things neat and tidy and in good order.

57. I think I would like the work of a clerk in a large department store.

58. I get very tense and anxious when I think other people are disapproving of me.

The California Personality Inventory of Femininity was developed by assembling a large pool of items presumed (either on empirical or speculative grounds) to have some relationship to psychological femininity. The pool of items was administered to successive samples of high school and college groups and reduced to a final preliminary pool of 112 items. These 112 items were presented as a personality scale to two samples (high school and college students) and an item analysis of the responses of males and females within each sample was conducted. The 65 items selected to make up the final "femininity" scale are those which showed significant differences between males and females in the expected direction.

Further information on the validation and cross-validation of this measure are available in Gough (1971).

Appendix D

Instructions

This booklet contains two questionnaires. One is a personality inventory which has been used for a number of years. The other is a set of various information, belief and opinion items which are being developed as a possible mew general personality inventory. The results of the inventory which has been in use for some time are to be used as a comparison for the results of the inventory we are developing. We are not interested in looking at individual data, or evaluating individual results, what we are interested in is a comparison of the results on the inventories.