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An Alternative Explanation for the Origin and Effects of Sex Roles

Mary F. Chewning

University of Richmond

An Alternative Explanation for the Origin and Effects of Sex Roles

Since the onset of the Women's Liberation movement in 1970, psychology literature has been flooded with studies investigating psychological sex differences, especially with regard to sex roles. This construct has been subdivided into the domains of masculine, feminine, androgynous, and undifferentiated, and persons classified under each of these categories have been examined in terms of how their "sex role" influences their overt and covert behaviors. This <u>ad hoc</u> procedure for studying sex roles is useful in describing behaviors, one of psychology's professed goals. It may even prove valuable in striving toward the more ubiquitous goal of predicting behavior from preceding events.

Nevertheless, there is a paucity of research which examines the origin of sex roles. Available studies have explored parents' sex roles (eg., Hartly, 1964; Orlansky, 1978), parenting styles (eg., Barry, Bacon, & Child, 1957; Sears, Maccoby, & Levin, 1957), and peers (eg., Spence, Helmreich, & Stapp, 1975). All of these, however, examine very specific variables without regard to any prevailing law, theory, or even theme. Thus, it is as Lenney (1979) termed, "a gigantic, jumbled jigsaw puzzle, where no one is trying to put the pieces together" (pg. 833). This phenomenon is most representative of Gergen's (1973) complaint that social psychology is not a true science, rather, it is a mere cataloguing of contemporary, non-repeatable facts, which fluctuate markedly over time. To Gergen, then, findings in social psychology are simply statements of relationships obtained at a particular time in history, and cannot be accorded the status of scientific laws on general principles. In a rebuttal to this attack, Schlenker (1974) argued that Gergen had confused an important distinction between "facts" and general "laws". Facts, he states, are merely descriptions of particular data, and as such are indeed limited both historically and culturally. Laws, in contrast, are abstract propositions which subsume numerous facts and which are stated in general enough terms to allow for and predict the effects of specific contingencies and/or social conditions. Thus, while facts are indeed subject to change over time and space, they are simply the raw material out of which social psychology formulates abstract scientific laws.

In adhering to the position that conclusions of sex role research are more parsimonious and communicable when stated as laws, this project attempts to "go one step further". It examines the original defining characteristics of a "sex role". It is this author's speculation that the questions: 1) What exactly is a "sex role", and 2) How is it acquired, can both be answered (at least generally) in terms of psychological, universal laws.

The first question is resolved merely via translation. A person is of a particular sex role if they exhibit those behaviors, determined by society and psychologists to be characteristic of a given sex-type. Other authors (eg., Bem, 1975,1977) would argue that sex role is an "attitude" that influences behaviors. This approach, however, cannot adequately explain the origin of that attitude. The behavioral approach, however provides a more sufficient explanation. By relabelling "attitude" as stimulus generalization, it can be stated that, in the presence of various stimuli, judged by a person to have a degree of similarity, that person emits similar responses. Thus, it would be apparent that those responses, in the face of those stimuli, had been reinforced in the past. Herein

arises the second question: How do "sex roles" develop? Again, behaviorists would speculate that they are derived from differential reinforcement for behaving in manners classified by society as being masculine or feminine. An androgynous person has been reinforced for both sets of behaviors; an undifferentiated person, neither. To test this tentative explanation, the following study was conducted:

Methods

Subjects and Procedure

Sixty male and female undergraduates participated in partial fulfillment of course requirement. Each had completed the Bem Sex Role Inventory (BSRI; Bem, 1974) in their introductory psychology classes several weeks prior to experimentation. This questionnaire has subjects describe themselves on a scale of 1 ("not at all like me") to 7 ("very much like me") to sixty masculine, feminine, and neutral adjectives. From this scale, a person's masculinity, femininity, and androgyny scores are computed.

During testing, subjects completed a consent form and were given a battery of personality questionnaires. The first of these, the Rosenberg (1964) Self-Esteem Scale was used here to test the efficacy of Spence and Helmreich's (1979) asseveration that self-esteem, rather than sex role is the major predictor of comfort with any given task.

The second scale, a Survey of Prior Experiences was composed via pilot work. Subjects indicated on a seven point scale ("1" being the least amount of some characteristic, "7" being the most, with "4" as the neutral point), a) how much prior exposure (familiarity) to, b) past reinforcement history with, c) feelings

toward, and d) personal perceptions of current reinforcement when participating in each of six masculine-typed and six feminine-typed tasks. The tasks were derived from Chewning and Walker (1980), and selected for their high sex-typed value. They were pretested for social desirability differences by having twent male and female undergraduates (who did not participate in the later study) rank order the male- and female-related items (separately), in terms of "most to least like to do". An item was deleted if it appeared in the upper or lower third of the list more than 60% of the time. The resulting scale appears in Appendix 1.

Results and Discussion

A stepwise multiple regression analysis using self-esteem (SE), prior exposure to masculine tasks (PEM), prior exposure to feminine tasks (PEF), past reinforcement history with masculine tasks (PRFM), past reinforcement with feminine tasks (PRFF), feelings toward masculine tasks (FEELM), and feelings toward feminine tasks (FEELF) to predict sex, masculinity, femininity, and androgyny was conducted.

Significant predictors, along with their simple correlations, multiple R drops, and betas are presented on Tables 1 through 4. For sex of subject, familiarity with feminine-typed tasks (PEF) and with masculine-typed tasks (PEM), and feelings toward female-related tasks (FEELF) are significant predictors. Signs

Insert Tables 1 through 4 about here.

of the correlations are the result of males being coded as "1" and females as "2".

For masculinity, self-esteem, familiarity with male-related tasks, and past reinforcement with male tasks are predictors. The self-esteem finding is surprizing only with regard to its non-significance in the prediction of androgyny. This is noted in light of Spence, Helmreich, and Stapp's (1975) finding that androgynous persons are highest in self-esteem, followed by masculine, and then feminine types.

Past reinforcement, feelings toward, and familiarity with female-related activities are predictive of femininity in subjects. For androgyny, familiarity with both types of tasks was a predictor.

Evidently, familiarity with, past reinforcement for the participation in, and feelings toward sex-appropriate and sex-inappropriate activities are predictive of sex and sex role. This study, however is not without flaws.

First, the employed method of scoring androgyny is in its experimental stages, and its validity, although promising, is still undetermined. That validity, of course, depends upon the theoretical conceptualization of androgyny that the researcher wishes to adopt.

Secondly, the sample size (N=60) was small, considering the number of variables used in prediction. Lindeman, Merenda, and Gold (1980) propose a ratio of 1:20. Here, it was 1:10.

Even so, the incipient analysis presented here was intended to be exploratory in nature, providing a hint of validity for the notion that it is past reinforcement history (which also determines "feelings" toward a task and amount of exposure one wishes to have with it) which determines a person's "sex role". Indeed, these findings seem to indicate that past reinforcement or familiarity with a class of activities, are major predictors of sex role. This is an interesting finding, especially since Bem and Lenney(1976) and Helmreich and Spence (1979)

concluded that lack of familiarity was not an explanation for any discomfort in task performance. This was concluded since both studies had (putatively) instilled familiarity by providing subjects with written instructions just prior to task performance. Logically, it would seem unlikely that such a scant familiarization process could instill in one person what it has takes another twenty years to acquire. To test this position, the following study was conducted:

Methods

Subjects

Fifty-four introductory psychology students participated in partial fulfillment of course requirement. Seven were dropped because they had not completed the BSRI during their class period, and one was dropped because of confounding suspicion with the experimental procedures. Thus, twenty-two males and twenty-four females (N=46) were used in data analysis.

Instruments

The Bem Sex Role Inventory (BSRI; Bem, 1974) was used, as opposed to other measures of sex role self-description, since a major objective of this study was to offer a more parsimonious alternative to Bem's (1975) nearubiquitous theory of sex roles.

During experimentation, subjects completed three additional scales, all of which were composed of the same six "masculine" and six "feminine" tasks. The tasks were derived from Chewning and Walker (1980), and chosen for their high masculine and feminine stereotypic values. Subjects assigned a number from 1 (least amount of a given state) to 7 (most amount of a given state), with a

"4" representing the neutral point, to each item on each scale. The first scale, a Prior Exposure Survey, had subjects indicate the amount of prior experience that they have had with each task. Following verbal manipulations, subjects completed a "Comfort Scale", on which they rated their degree of perceived comfort in demonstrating each task in front of a group of adolescents. After further manipulations (instilling of familiarity), a final "Comfort Scale", measuring subjects' perceived comfort, providing familiarity, was administered. Procedure

The BSRI was administered to all introductory psychology classes several weeks prior to experimental manipulation. The tests were scored by an independent helper only after all manipulations were complete. To control for sex of experimenter effects, one male and one female undergraduate served as experimenters. They were blind with respect to subjects' sex role and hypotheses. Both used identical scripts.

Upon arrival at the experimental room, subjects were asked to complete a "survey on college populations" (Prior Exposure Scale). This scale was collected, and manipulations began.

Subjects were led to believe that, during the next day of their introductory class (eg., Monday), a group of children, classified as "slow learners" would be in the psychology department; also that introductory students were selected to be allowed to serve as demonstrators of the various tasks (in partial fulfillment of course requirement). Subjects were told that they would be selected to demonstrate one of the tasks (to be chosen at random by the experimenter), and that they would be allwoed to miss the first ten minutes of their class Monday in order to participate. Subjects were assured that written instructions would

be provided to them at the time of demonstration, so they "need not worry about whether or not they know how to perform the task." I should be noted that this manipulation was identical to the one employed by Bem and Lenney (1976) used to instill familiarity. Subjects were then asked to complete the first "Comfort Scale", "merely for data use in a study to be conducted next semester."

Following collection of this scale, subjects were informed of an additional facet of the experiment; that is, that a different group of children would be on campus "two weeks from Monday." Subjects chosen for this second session would be given the written instructions during their next introductory class, so that they could become well acquainted with the tasks before the presentation. They were then told that they could leave, "but before you go, you're supposed to complete this form (Comfort Scale), on the assumption that you'll be chosen for the second session where you will have been able to practice." The scale was collected, manipulation checks were issued, subjects were debriefed, and the necessity of deception was explained.

Results

Manipulation Checks

While subjects were completing the scales, experimenters were instructed to inconspicuously report subjects' reactions to manipulations. As was previously mentioned, only one person was overly suspicious of the experimental procedure, and was therefore deleted from the analyses.

Androgyny Score

Bem (1977) has called for the use of regression analysis to take advantage of the continuum of scores produced by the BSRI. She now decries the categorical

system (masculine, feminine, androgynous, or undifferentiated) as wasteful with regard to tested differences. Walker (1980a, 1980b) has proposed a new androgyny score for use in regression analysis. By multiplying the dimensions of femininity and masculinity, a continuum of scores is produced. High scores on both dimensions produce extremely high scores (eg., $7 \times 7=49$), while low on both produce extremely low scores ($1 \times 1 = 1$). A combination of moderate scores ($4 \times 4 = 16$) produces a higher score than a high/low combination ($7 \times 1 = 7$). Thus the continuum would adhere to Bem's original notion of an androgynous person being high in both masculinity and femininity (Bem, 1974). Masculinity and femininity are each standardized prior to this multiplication to prevent one from being more influential in the overall weighting. Variance attributable to masculinity and to femininity are then statistically removed from the product. What remains is a score independent of the two original scores which is a measure of relative coincidental appearance of them. This new score is referred to here as ANDRO.

Analyses

Means and standard deviations for the BSRI and research questions are presented for the sexes separately and overall in Table 5. A series of t-tests confirmed differences between males and females for all variables (p <.05), with the exception of ANDRO. A separate test provided evidence that the familiarity manipulation used here was more efficacious than that employed by previous researchers. A significant difference between the initial and post-familiarization comfort rating (p <.01), and differences in means, indicated that the manipulation used by Bem and Lenney(1976) and Helmreich and Spence (1979) may not have been adequate for complete familiarization. Correlations between each of the BSRI

scores and each scale administered to subjects appear in Table 6. Responses to six separate task items were summed to produce each of the scores prior

Insert Tables 5 and 6 about here.

exposure to masculine tasks (PEMASC), prior exposure to feminine tasks (PEFEM), comfort with masculine tasks (COMASC), comfort with feminine tasks (COMFEM), comfort with masculine tasks after familiarization (FAMASC), and comfort with feminine tasks after familiarization (FAMFEM).

Correlations are presented separately for the sexes. Masculinity for males is significantly (p<.05) associated with PEMASC (pos.), PEFEM (neg.), COMASC (pos.), and FAMASC (pos.). For females, masculinity scores were positively related to PEMASC and COMASC. Femininity in males was associated (negatively) with PEMASC, COMASC, and FAMASC. For females, femininity was related only to PEFEM (pos.). Androgyny was related positively to all responses for feminine tasks for males.

A <u>post hoc</u> analysis, combining initial comfort scores (COMASC + COMFEM) indicated that only ANDRO was significantly associated with this general index (r = .32). Although MASC correlated next highest with total comfort, contrary to Helmreich and Spence (1979), it was not significant.

Discussion

Patterns of results are of interest beyond the simple correlations in Table 6. As expected, the traditional male has apparently engaged in activities of a male orientation more often than those with a feminine orientation. The reverse seems to hold true for the traditional female. Females' masculinity scores are associated with prior exposure to male tasks. Males' femininity scores, however, are not correlated with prior exposure to female tasks, with the exception of that part of femininity contributing to the androgyny score. The same patterns are repeated for the measures of comfort and comfort providing familiarization.

Previous research has inferred that masculinity in males has an affect analogous to that of femininity in females. The data presented here indicate that this may not be the case. This finding could be the result of the scale utilized (BSRI), although Wiggins and Holzmuller (1978) have noted that at least androgyny is manifest differentially in males and females.

Other explanations include the possibility that the sample of males and females was not parallel, or even that masculinity and femininity in the opposite sex operate differently. The explanation probably lies in all of these (Bem, Martyna, and Watson, 1976). Since only incipient evidence is provided here, that the manifestations of sex-types in either sex are not parallel, this variable should be examined more closely in further studies.

Nevertheless, it has been demonstrated that males and females are treated differently for cross-sex behavior (Falbo, 1977). They should therefore engage in it more or less frequently, depending upon whether the behavior has been rewarded or punished. Interestingly, in this study, the males who indicated comfort with feminine tasks were high in both masculinity and femininity. With females, however, comfort with masculine tasks is associated only with masculinity. Initially, this seems to posit evidence for the notion that college women are more "liberal" and have broken away from traditional stereotypes more than

have college men (eg., Chewning and Walker, 1980; Parelius, 1975). However, the afforementioned position that masculinity and femininity in the same and opposite sex operate differently appears, at the present, to be a more realistic interpretation of the data. Although the speculation may be premature. it is likely that social learning is responsible for the differential manifestations of sex role. It is thus logically speculated that differential reinforcement, in the case of a sex-typed person, yields more prior exposure, and thus more familiarity with same sex-related activities. Androgynous persons, then, may have received more encouragement to participate in, and therefore are more familiar with both sex-typed activities. Studies are needed to more thoroughly investigate this notion. If indeed this postulate were to be evidenced in future research, it may prove well worth therapists' time to employ a lengthy familiarization process such as the one used by Gulanick, Howard, and Moreland (1979). These authors had feminine-typed women undergo a series of assertiveness training tasks, role playing, and skills training, all requiring utilization of the stereotypically masculine role. All of the women's androgyny scores were significantly raised, even at a six month followup check. Those women who continued to use their newly acquired skills maintained higher androgyny scores. while those who discontinued practicing these skills showed a decrease of the androgyny scores.

Thus, it is apparent that familiarity with a group of behaviors which are operationally defined as masculine or feminine is an important predictor of "sex role". Speaking in general terms, however, "familiarity" is merely a construct representing a person's past reinforcement history for engaging in

certain behaviors in the presence of stimuli defined as sex-typed. Both stimulus and response generalization occur, and responses are reinforced, thus making it more likely that a similar response will occur in the presence of a similar stimulus. Therefore, repeated experiences with a group of behaviors makes a person more sure that he or she will be reinforced (or not) for exhibiting a given behavior, thus making them feel more comfortable when producing that response in the presence of a given stimulus.

Despit the generality and universality advantage, translation of sex roles into laws presents an inherent problem. That is, in both studies, subjects have been classified as masculine, feminine, androgynous, or undifferentiated, on the basis of their scores on the Bem Sex Role Inventory. This scale assigns sex role labels by eliciting subjects' degree of similarity to sixty adjectives which describe personality (a construct) variables (notice, behavior is ignored). As behavior is indicative of sex role (or attitude, or past reinforcement with a given class of activities), then behaviors, not attitudes should be measured. It was based on this notion that the following examination was conducted:

Methods and Results

Items from the Survey of Prior Experiences derived from the first study were subjectd to a factor analysis, using a Varimax Rotation with a Kaiser normalization. Results, presented in Table 7 indicate the presence of two separate factors within the scale, labelled here as masculinity and femininity. Variables loading on masculinity were prior exposure to masculine tasks (PEM), past reinforcement for masculine tasks (PRM), feelings toward masculine tasks (FEELM), and personal perceptions of potential current reinforcement for male

tasks (CURM). Variables loading on femininity were prior exposure to feminine tasks (PEF), past reinforcement for engaging in feminine tasks (PRF), feelings toward feminine-related tasks (FEELF), and personal perceptions of potential current reinforcement for female tasks (CURF). Communalities ranged from .72 to .93. The two factors accounted for 100% of the variance.

Discussion

Although, as with the initial study, the "too few subjects" problem prevails, the results presented here are at least encouraging. There is an absence of a scale in the literature which describes and measures "sex roles" in terms of behavior. The current findings suggest that the utilized "Survey of Prior Experiences" may be appropriate for such an endeavor. The test of this speculation is yet to come. Approximately 1,000 college students across the United States will complete these scales, data will be collected, and results published. It is this author's intention to contribute to sex role's liberation from its cyclical impasse. Defining the construct in terms of directly observable behaviors is the first step.

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Masculinity (R=.855)

Predictors	Simple r*	R ² Change	Beta	
SE	.651	.423	.054	
PRFM	.721	.212	.026	
PEM	•659	.041	.025	

*p<.05

Table 2

Sex of Subject (R=.918)

Predictors	Simple r*	R ² Change	Beta
Pef	.871	•706	•023
Pem	520	•040	••022
Feelf	.867	•038	•013

*p<.05

Femininity (R=.695)

Predictors	Simple r*	R ² Change	Beta
FEELF	.683	•054	.029
PEF	.613	•346	.027
PRFF	.633	•020	.020

*p2.05

<u>, , , , , , , , , , , , , , , , , , , </u>	Ta	ble 4					
	Androgyny (R=.691)						
Predictors	Simple r*	R ² Change	Beta				
Pef Pem	.482 .393	•166 •053	.049 .056				

*p<.05

Means and Standard Deviations for All Measures by Sex and Overall

Variable	and a second	les		ales	<u>Ove</u>	Overall		
	x	S	X	S	x	8		
MASC	4.99	.60	4.48	.71	4.69	•6 9		
Fem	4.41	•31	5.17	.55	4.84	.59		
ANDRO	21.36	2.09	21.31	2.13	21.33	2.11		
Prior exposure (masc. tasks) (PEMASC)	27.10	5.10	17.65	3.98	21.87	6.42		
Prior exposure (fem. tasks) (PEFEM)	13.00	4.45	29.92	5.40	22.59	8.82		
Comfort (masc. tasks) (COMASC)	30.15	4.23	15.65	5.23	21.96	8.69		
Comfort (fem. tasks) (COMFEM)	13.65	5.68	28.88	4.66	22.26	9.16		
Familiarization (masc. tasks) (FAMASC)	35.90	4.44	29.00	6.31	32.00	6.51		
Familiarization (fem. tasks) (FAMFEM)	26.40	6.28	35.65	7.03	31.63	7.02		

Correlations Between Scores on the BSRI And Measures of Prior Exposure to and Comfort With Masculine and Feminine Tasks

Variables	males	<u>1ASC</u> females	males	<u>FEM</u> females	_ <u>A</u> males	<u>NDRO</u> females
PEMASC	•33*	•27*	51*	04	02	.07
PEFEM	52*	13	20	•43*	。 35*	.10
COMASC	•33*	. 34 *	38*	13	•13	.09
Comfem	13	.19	- .03	.21	. 28 *	07
FAMASC	، 33 *	.06	- •42*	.11	•07	.08
Famfem	.25	.10	09	.25	•35*	.04

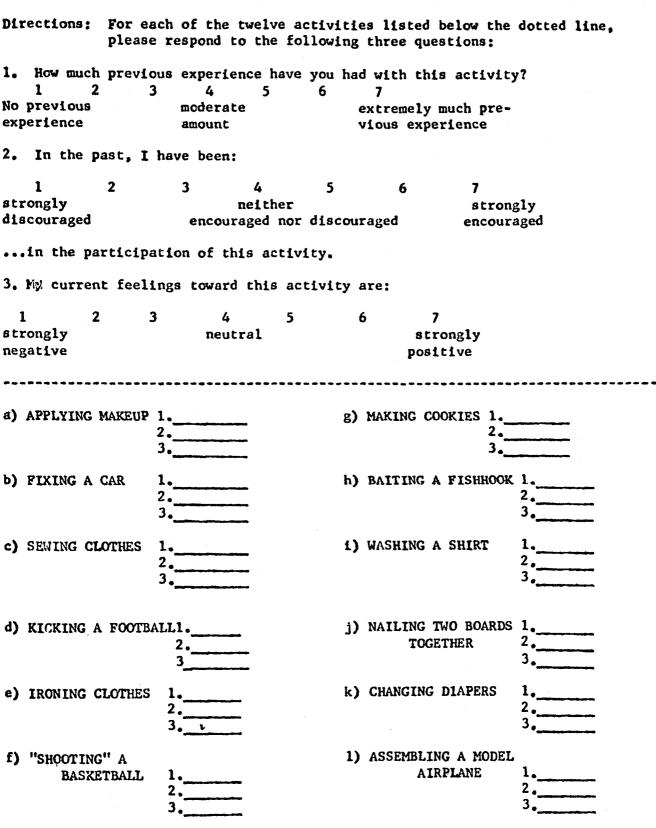
*p4.05

Factor Analysis of Items on Survey of Prior Experiences Scale

		Factor 1 (Eigenvalue=5.4)	Factor 2 (Eigenvalue=3.4)
Item	Communalities	Femininity	Masculinity
PEM	. 86	34	.88
PEF	•86	34 .92	14
PRM	.91	17	•94
PRF	• 92	.96	06
FEELM	. 87	05	.93
FEELF	•93	.96	10
CURM	. 72	.08	.84
CURF	.72	.84	- .09

Percent of variance accounted for by Factors

Factor 1 - 46.7 % Factor 2 53.3 % Appendix 1 SURVEY OF PRIOR EXPERIENCES



Appendix 2

PERSONALITY SCALE

Read each question carefully and answer it as <u>honestly</u> as possible. Please answer each question using a four point scale with "strongly acree" = 1, "disagree" = 3, "strongly disagree" = 4.

۱.	I feel that I'm a person of worth, at least on an equal plane with others
2.	I feel I have a number of good qualities
3.	All in all, I am inclined to feel that I am a failure
Ą.	I am able to do things as well as most people
5.	I feel I do not have much to proud of
6.	I take a positive attitude toward myself
7.	On the whole, I am satisfied with myself
8.	I wish I could have more respect for myself
9.	I certainly feel useless at times
10.	At times I feel I am no good at all

DESCRIBE YOURSELF

1.	2		4	5	6	7
A	_				-	
NEVER CR Almost Lever True	USUALLY NOT TRUE	Schetines but Infrequently True	occas ionally True	of ten Teuz	usually True	ALHAYS OR Alhost Alhays Trus

Self-relient	Belieble	T
and the second		╉╼┥
Tielding	Analytical	
Golpful	Sympathatic	
Jalends cun balleso	Jeslous	
Cheerful	Has leadership abilities	
Hacdy	Sensitive to the needs of others	
Independent	Truthful	
8ty	Willing to take risks	
Goascientious	Understanding	
Athlatic	Secretive	
Affectionste	Nekas decisions costly	
Theotrical	Compassionate	
Assertáva	Sincere	
Flattorable	Self-sufficient	
Enppy	Eager to soothe burt feelings	
Streng personality	Conceited	
Loyal	Dominant	
Vepredictable	Soft-spoken	
Forceful	Likaable	
Pozinino	Masculius	

A STATE OF

Varn	
Solean	
Willing to take a stand	
Tender	
Friendly	
Assressive	
Gullible	
Inefficient	
Acts as a leader	
Childlike	and the second second
Adaptable	
Individualistic	
Does not use harsh language	
Unsystematic	
Computitive	
Loves children	
Tactful	
Ambitious	
Gentle	
Conventional	

Name					Sex	M.P	
Yr. in School	l Fr	Soph	Jr	Şr	Intended	Hajor	
Telephone No.	•						

On the next page you will be shown a large number of personality characteristics. We would like you to use those characteristics in order to describe yourself. That is, we would like you to indicate, on a scale from 1 to 7. how true of you these various characteristics are. Please do not leave any characteristic unmarked.

Example: sly

Mark a 1 if it is <u>NEVER OR ALMOST NEVER TRUE</u> that you are sly. Hark a 2 if it is <u>USUALLY ROT TRUE</u> that you are sly. Mark a 3 if it is <u>SCHETIMES BUT INFREQUENTLY TRUE</u> that you are sly. Mark a 4 if it is <u>OCCASIONALLY TRUE</u> that you are sly. Mark a 5 if it is <u>DETEN TRUE</u> that you are sly. Mark a 6 if it is <u>DETEN TRUE</u> that you are sly. Mark a 6 if it is <u>ALMAYS TRUE</u> that you are sly. Mark a 7 if it is <u>ALMAYS TRUE</u> GR ALMOST ALWAYS TRUE that you are sly. Thus, if you feel it is <u>sometimes but infrequently</u> true that you are "sly", <u>never or slmost never true</u> that you are "malicious", <u>aRmays or almost giways true</u> that you are "irresponsible", and often true that you are "carefree", then you would rate these

characteristics as follows:

Sly	3	e An tra	Irresponsible	7
Malicious	1		Carefree	5