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AND FEMALES FROM A STUDENT POPULATION
AND FROM A BANK POPULATION

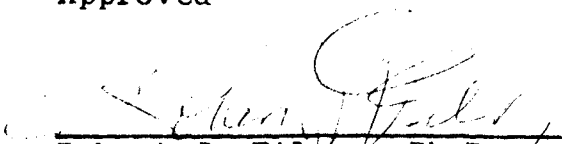
Edward H. Foley III

A thesis submitted in partial fulfillment
of the requirements for the degree of Master of Arts
in psychology in the Graduate School of the
University of Richmond


August, 1973

Measuring Attitudes Toward Work of Males
and Females from a Student Population
and from a Bank Population
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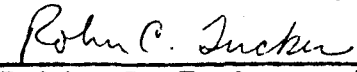
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ABSTRACT

An experiment was designed in order to measure the attitude toward work of 50 males and 50 females in a student sample and of 39 male managers and 39 female managers in a bank sample. The attitude scale, presented to the Ss, was designed by the author and contained 50 statements. Each of 44 statements pertained either to a Motivation factor, e.g. achievement, responsibility, etc. or to a Hygiene factor, e.g. salary, status, etc. with the remaining six used as Fillers. All statistical tests were performed at the .01 level of significance. An analysis of variance revealed a significant three factor interaction. Analysis of simple effects revealed: (1) Motivator scores were significantly higher than Hygiene scores for males in each sample; (2) Motivator scores were significantly higher than Hygiene scores for females in each sample; and (3) Motivator scores for female managers were significantly higher than Motivator scores for female students. There was no significant difference in Motivator scores or in Hygiene scores between sexes.

MEASURING ATTITUDES TOWARD WORK OF MALES
AND FEMALES FROM A STUDENT POPULATION
AND FROM A BANK POPULATION

Edward H. Foley III

University of Richmond

In each successive decade but one since 1890, women have accounted for an increased share of the growth of the work force (Hiestand, 1964, p. 11). By "work force" Hiestand is referring to the following three categories, each category containing sub-categories: (1) White collar section-- (a) professional and technical workers, (b) proprietors, managers, and officials, and (c) clerical and sales workers; (2) Manual and service section-- (a) skilled workers and foremen, and (b) semi-skilled workers, laborers, and service workers; and (3) Farm section-- (a) farmers (owners and tenants), and (b) farm laborers. Thus an individual interested in only one segment of women in the work population, e.g. those at the managerial level, could be misled by Hiestand's statement concerning women in the "work force". In order to prevent a false move, it would be advantageous to obtain the percentage of women managers in the work force across a 60 year span. In this manner information on the increase in growth of the work force due to women managers would become available.

In 1910, 19.9% of the work force was made up of

women with Proprietors, Managers, and Officials accounting for 1.2% of the work force. Moving ahead 20 years to 1930, 21.6% of the work force was made up of women with Proprietors, Managers, and Officials accounting for 1.1% of the work force. The last year for which Hiestand presented data was 1960. At this time 33.3% of the work force were women with Proprietors, Managers, and Officials accounting for 2.8% of the work force. The Department of Labor was able to supply data on women in the work force for 1970. While at this time 37.3% of the work force were women, only 2.4% of the work force were either Proprietors, Managers, or Officials. From these percentages, one can notice that women as Proprietors, Managers, and Officials have in the past (and apparently still in the present) contributed slightly to the work force. This fact could be a possible explanation for the almost complete lack of women as subjects in the studies of work attitudes conducted during the fifty years from 1910-1960.

A report from the Employee Relations Bureau of the National Retail Dry Goods Association (1939) revealed executives (all men) to be poor judges in deciding what their employees wanted. Executives ranked pay, first; and job security, second; as what they thought made for worker satisfaction, whereas their employees put credit for all work done, first; interesting work, second; pay, third; and security, eighth. Other studies appearing at approximately

that time probably created more questions than they answered. There appeared to be little continuity between the results as: Houser (1938) found wages most important to the skilled workers in one plant, Super (1939) found kind of work performed as most important, yet Roethlisberger and Dickson (1939) found working conditions (including supervision) as most important.

Stagner, Rich, and Britten (1941) questioned the results of the Employee Relations Bureau, Houser, Super, and Roethlisberger and Dickson, and they conducted their own study using machine-tool workers (all men) from two towns in the Connecticut River Valley. A type-written list of 24 questions, e.g. Do you feel the factory could afford to pay more?, was read to the worker, and his answer was recorded in terms of a 5-point scale as follows: emphatic yes; qualified yes; uncertain; qualified no; and emphatic no. Their results revealed that while this group of workers differed from most of those studied in the past, in that a pay question was ranked first, they differed only in relative sense. It was still strongly apparent that kind of work and recognition of the worker were important factors (Stagner, Rich, and Britten, 1941).

Campbell (1948), using only men as subjects, designed a study in which he used both interviews and questionnaires in the same attitude poll. As it turned out the general areas of employee dissatisfaction were readily determined

by the questionnaires, thus there was really no need for the interviews. Of these general areas, safety and training were apparently of greatest importance to the employees. The other areas could not be placed in any reliable order. Among the other areas of dissatisfaction frequently mentioned were: promotion practices, supervision, job satisfaction, merit rating, personnel practices at the time of hiring, shop practices, and knowledge of the company.

Brayfield, Wells, and Strate (1957) conducted an investigation, comparing male and female employees, designed to assess the magnitude of the relationship between attitudes toward the job and attitudes toward life in general and to compare two different scales which by inspection might be considered to be measures of each of these attitudes. Their results were striking in at least one respect, as there were no statistically significant relationships between job satisfaction and general satisfaction among the female employees. Yet the measures of these same variables were significantly correlated in the male employee groups. The authors offered as a plausible hypothesis that work was a less important factor in the lives of the women used in the study than for the men. A closer examination of the males and females in this study provided support for this hypothesis.

The subjects were 41 male and 52 female civil service employees in a large midwestern city and were employed in

three departments of the city government-- License Bureau, Assessor's Office, and Office Services. All were in office type occupations. The men, predominantly, were in higher level classification which entailed some independent judgment and carried the higher salaries. The females occupied more routine clerical positions. The men, typically, were in their forties and the women in their thirties. Thus with differences in age, salary, and position, it appears that the males and females were too dissimilar to permit an accurate comparison.

Herzberg et al. (1957), using approximately 150 studies, found that the factor which was most apparently different in importance for male and female employees was working conditions. The combined results revealed working conditions to be substantially more important to women than to men. Also, ease of work ranked higher for women than for men, although other intrinsic aspects of the job were more important to men.

It is difficult to say exactly why there had been an apparent lack of studies involving women, at the managerial level and their attitudes toward work, through 1960. One reason as was noted earlier there just were not many women at the managerial level in the 50 years between 1910-1960. Another reason could be that these women at that level were looked on as being unique and considered poor representatives to use as subjects.

While, legally and statistically, the situation of women in the work population has improved in recent years, by the fact that in 1969 women's median earnings were only 60% of that received by men for full time year round work (Petersen and Bryant, 1972), one can see that gaps still exist between the female employee and her male counterpart. Today's economic and cultural conditions are much different, yet many employers and female employees continue to accept many of the unfounded discrepancies between male and female employees. The characteristics of the female worker have changed dramatically from that of the first female factory workers. Statistics show that more and more women are entering the labor force while they still have young children at home (Petersen and Bryant, 1972). Their work life expectancy is, therefore, longer than ever before. The old justification for filling unskilled, dead-end jobs with women and viewing training of them as a poor investment is outdated. More and more, marriage and family life are frequently combined compatibly with a career, a fact as yet not recognized by many women and employers. In fact the employers are probably the major target in the attack on discrimination by women and the law. However, the employers would not be under attack if they identified and corrected discriminatory practices. Management must first recognize areas of female under-utilization and take action accordingly. A top management policy must be initiated and enforced.

Problems are likely to arise which require attention and creative solutions at all levels of the organizations. Problem-solving will require focusing on the facts concerning female employment and dispelling the myths about women workers.

In exploding some of the myths regarding the working women, behavioral science-based research can best serve this purpose by comparing men and women on psychological parameters. It should be noted here that to date there have been very few behavioral science-based investigations of problems surrounding women in the work force. A recent survey (Schein, 1971) of articles published over the last six years in two major industrial psychology journals revealed that only 3.1% of the articles in one journal and 1% of those in the other dealt with topics pertaining to women or sex differences. The few studies of this nature that have been done, however, illustrate the potential such behavioral science-based research has for understanding and promoting changes for women in the labor force. For example, a commonly held assumption is that the needs and factors related to the job satisfaction are quite different for men and women (Schein, 1972). Yet Saleh and Lalljee (1969) in their study, which will receive more explanation later, used a sample of clerks and supervisors in a large, service-oriented organization and found no sex differences with regard to intrinsic or extrinsic job factors.

In 1959, Herzberg asked Ss in structured interviews to describe a few previous job experiences in which they felt exceptionally good or exceptionally bad about their jobs. They were also asked to rate the degree to which their feeling had been influenced- for better or worse- by each experience which they described. The recorded interview data were broken down into "thought units", each of which related to a single event or condition that led to a feeling, or a description of a single event, or a single characterization of a feeling. Five thousand such statements were classified into one of the categories to be mentioned later. Within each such category there were sub-categories that provided for various specific kinds and degrees of responses- both positive and negative. Probably the major phase of the analysis consisted of various comparisons between what Herzberg called the "high" job-attitude and the "low" job-attitude "sequences". A sequence was any one of the job experiences that were described during the interviews; these were divided into those in which "high" job-attitudes and "low" job-attitudes were expressed.

The major inferences from the obtained data related to the distinction between satisfiers (motivators) and dissatisfiers (maintenance or hygienes). The categories that were primarily associated with high job attitudes generally were associated directly or indirectly with the job activities. These categories were : Achievement, Recognition,

the Work Itself, Responsibilities, and Advancement. Since positive expressions relating to these factors were generally associated with high job-attitude situations, they were referred to as satisfiers. On the other hand, the factor categories that were associated with low job-attitude situations were those that were extrinsic to the work itself, that were primarily associated with the job context rather than with the job activities; the more important of these were: Company Policy and Administrations, Technical Supervision, Interpersonal Relations, and Working Conditions. Generally negative feelings regarding such factors dominated the reaction of people to the low job-attitude experiences they reported (Tiffin and McCormick, 1965, pp. 350-351).

Burke (1966) made an attempt to determine the relative importance for female and male college students of sample job characteristics representing both Motivator and Hygiene factors. Thirty-two female and 85 male college students enrolled in an Introductory Industrial Psychology course served as SS. They were asked to rank order 10 job characteristics from the point of view of how important each of the job characteristics was to them. Each subject was given enough time to complete the task to his satisfaction. The 10 job characteristics represented 5-Motivators and 5-Hygienes. The Motivators included: Challenges Ability, High Responsibility, Importance of the Job, Opportunities

for Advancement, and Voice in Decisions. The Hygienes included: Good Boss, Good Physical Working Conditions, Good Salary, Job Security, and Liberal Fringe Benefits. The 10 characteristics were placed in a random order and each S was given the same list. The results obtained showed that both females and males tended to rank Motivators more important than Hygienes. In fact both sexes placed four of the five Motivators among their most important characteristics.

Saleh and Lalljee (1969) conducted research which consisted of three separate studies: A, B, and C. In an effort to replicate Burke's results, Study A was conducted on a college population, which consisted of 40 males and 44 females. The Job Attitude Scale (JAS) designed by Saleh was given to this class in a group session. The scale consisted of sixteen statements representing six intrinsic and ten extrinsic factors. The intrinsic factors were: Achievement, Recognition, Advancement, Growth in Skill, Responsibility, and Nature of Work. The extrinsic factors were: Company Policy, Working Conditions, Relationship with Peers, Relationship with Supervisor, Relationship with Subordinates, Technical Supervision, Status, Salary, Job Security, and Personal Life. Each statement was paired with every other in a forced-choice format. Only items in which intrinsic factors were paired with extrinsic ones were considered in the scoring, which made for about 60 items. The choice of the intrinsic statement was given a score of one, while no

score was given if the extrinsic statement was checked. Thus, the higher the score on the JAS, the greater the intrinsic orientation. Results here showed that there were no sex differences in job orientation, as both sexes selected the intrinsic factors more than the extrinsic factors.

Study B was carried out to investigate the relationship between sex and job orientation using a working population and controlling for job level. The sample for this study consisted of 101 public school teachers, 68 males and 33 females. Both groups could have been characterized as middle-aged. As in the first study, the JAS was used to indicate job orientation. As before, there were no sex differences, however both sexes selected the intrinsic factors as often as they selected the extrinsic factors.

Study C was conducted in a technical division of a large service-orientated organization. In this case, job orientation was indicated using an item in an attitude survey. On this item the S was required to rank twelve factors, six intrinsic and six extrinsic. The intrinsic factors were: Achievement, Recognition, Advancement, Responsibility, Nature of Work, and Growth in Skill; the extrinsic factors were: Working Conditions, Security, Salary, Prestige and Status, Relationships Among Employees, and Supervision. The population was 259 males and 143 females. Since there were not enough males and females equated for education, job level, and age in the division, an extra number of

employees in two job categories was selected randomly from other divisions of the organization which were located in the immediate area of the original division. The group in the first job category (clerks) consisted of 26 employees, 13 males and 13 females. The group in the second job category was 64 first-level supervisors of whom 32 were males and 32 were females. Education and age of both male and female supervisors were also quite similar. Both the clerks and the supervisors were given the JAS to determine job orientation. The general results (no controls) of this division study showed that males were significantly more intrinsically-oriented than females.

The objective of the last analysis in these studies was to investigate the relationships between job satisfaction and sex in an organization where age, education, and job level were controlled. The results showed that there were no significant differences in job orientation between male and female clerks or between male and female supervisors. The difference between all clerks and all supervisors was significant. As far as female clerks and female supervisors, there was no significant difference. It is of importance to note that female supervisors were significantly more intrinsically-oriented than male clerks, which indicated that job level was more important than sex as a determinant of job orientation (Saleh and Lalljee, 1969).

Manhardt (1972) addressed a study to the question of

whether men and women who have accepted employment on similar jobs in business also have similar orientations to their jobs. Since 1966, all college graduates, appointed at normal starting levels for college graduates in the organization (Prudential Insurance Company of America), were asked to complete a questionnaire which contained, in addition to biographical and interest items, 25 job characteristics which were rated on a 5-point scale of importance. The results showed that there was little overall sex differences in intrinsic job orientation which was consistent with Saleh and Lalljee (1969). However, the major overall difference between men and women apparently lay in the importance placed on long-range aspects of a job which are related to career success, and that these differences could be largely accounted for by the existence of a sub-group of women who do not expect a career to be a significant factor in their lives and for whom aspects of a job related to long-range career success are essentially irrelevant since they may not expect to be working for more than a few years (Manhardt, 1972).

A study (based on information gathered from a representative group of American workers) conducted by the Institute for Social Research Survey of Working Conditions has shown that the American working woman does not fit many of the stereotypes that have been created for her. The popular notions about women that were revealed to be

untrue were the following: (1) Women work only for "pin money"; (2) They are more often satisfied than men with intellectually undemanding jobs; and (3) They are less concerned that a job help them realize their full potential. Thus this could suggest that women are closer to an intrinsic-orientation than many feel.

While many stereotypes proved false, men and women did show several noticeable differences in their attitudes toward their jobs. For example, the study found that women were much less inclined than men to say that they could continue to work if they could be freed from the economic necessity to do so. Also, women showed more concern for their physical work surroundings, with the hours of work, and with travel to and from work than did men, and women were less likely to say that taking the initiative on a job was important to them (ISR Survey of Working Conditions, 1972). However, much of the difference in attitudes and beliefs, the authors concluded, could be attributed to early childhood socialization which prepares males and females to fulfill different work and family roles as adults.

The present study was designed in a manner similar to the studies by Burke (1966), Saleh and Lalljee (1969), and Manhardt (1972), in that a business sample (bank managers) and a student sample (those interested in a career in business) were used. Vroom (1964) stated that most investigators of job attitudes usually used a "tailor-made" instrument

for the particular population they were studying. In the present study, the attitude scale used was designed by the author and was balanced containing no neutral or uncertain point. This step was prompted by the research of Matell and Jacoby (1972), who felt that the decision as to whether or not a neutral point should be used depended solely on the amount of neutrality one could tolerate, since this author felt that for his study neutrality would only cloud the issues it was removed.

Hypotheses One tested by the present study was that in a student sample and in a business sample the Motivator scores would be significantly higher than Hygiene scores for both males and females. Hypothesis Two tested by the present study stated that there would be no significant difference on the Motivator scores between males and females in either sample and there would be no significant difference in the Hygiene scores between males and females in each sample.

Up to this point the present study has differed only slightly (new instrument of measurement) from the research of Burke (1966), Saleh and Lalljee (1969), and Manhardt (1972). It was at Hypothesis Three that the present study varied from all previously mentioned research. A comparison was made between the business sample used and the student sample used, to determine if a significant difference existed on (a) Motivator scores and on (b) Hygiene scores,

with the prediction (Hypothesis Three) being that the business sample used would have significantly higher Hygiene scores than the student sample used. Breaking down the comparison by sex on each type of statement, it was predicted that male bank managers would have significantly higher Hygiene scores than male students would have, and female bank managers would have significantly higher Hygiene scores than female students would have.

It is difficult to support the preceding predictions with studies because as Fourmet, Distefang, and Pryer (1966) noted a problem in working with age as a factor in job attitudes is that it is difficult to compare or contrast, the findings of many studies because most studies do not give the ages of the workers used as Ss, and when ages were given, they were often given only in general terms. Therefore, what could be a young group in one study might be an older group for another study. However, Herzberg et al. (1957) proposed that age does have a significant effect on job attitudes. They found that the older the employee, the more important pay and security become, thus he or she could turn to a Hygiene-orientation.

METHOD

Subjects.

A total of 178 Ss were employed in obtaining the necessary data, with a break down of 100 students (inter-

ested in a business career) and 78 bank managers. Fifty of these students, 25 males and 25 females, were obtained from the University of Richmond and the remaining 50, 25 males and 25 females, were obtained from Virginia Commonwealth University. The 78 bank managers, 39 males and 39 females, were obtained from the following banks: Bank of Virginia, Central National Bank, First and Merchants, Southern Bank, and United Virginia Bank. Mean age of the students was 20.5 years, while the mean age of the managers was 31.5 yrs.

Apparatus.

The material used was a two page attitude scale constructed for this investigation. The scale contained 50 statements: 22 related to Hygiene factors, e.g. salary, status, etc.; 22 related to Motivator factors, e.g. achievement, responsibility, etc.; and 6 Fillers. No time limit was placed on the Ss. Each statement was preceded by a blank in which Ss were to express their opinion using one of the following: 5 (Strongly Agree), 4 (Moderately Agree), 2 (Moderately Disagree), or 1 (Strongly Disagree).

Procedure.

Most of the attitude scales administered to both samples were done in a group situation, but a few were administered individually. Few verbal instructions were given. Ss were asked to indicate their age according to one of the following categories: 18-23, 24-29, 30-35, 36-41, 42-47, or above 47. They were also asked their sex, college

major, and future or present vocational plans. The biographical information was followed by the instructions for completing the attitude scale. This read as follows:

On the following pages, you will find some statements. While reading these statements imagine yourself in a work situation and state your feelings about each statement using one of the following choices: 5 (Strongly Agree), 4 (Moderately Agree), 2 (Moderately Disagree), or 1 (Strongly Disagree). Please place the number of your choice in the blank at left of the statement.

Although no time limit was imposed on the Ss, Ss usually completed the scale in about 10 minutes.

RESULTS

The data were analyzed by adding up the point values for the Motivator statements then for the Hygiene statements for each S. Thus there were four scores in each sample: Bank Managers- Male Motivators, Male Hygienes, Female Motivators, and Female Hygienes; and Students- Male Motivators, Male Hygienes, Female Motivators, and Female Hygienes. Having obtained these figures a 2X2X2 Analysis of Variance was then performed on the data, with the three factors being: A (Motivators vs Hygienes), B (Males vs Females), and C (Bank Managers vs Students). The results at the .01 level of significance revealed:

- (1) the three factor interaction (AXBXC) was significant,
- (2) the two factor interaction (AXC) was significant, and
- (3) Motivator scores were significantly higher than Hygiene

scores (Factor A). A summary of the ANOV is presented in Table 1. The graph of the significant three factor inter-

Insert Table 1 About Here

action (AXBXC) and the significance in Factor A are presented in Figure 1. The graph of the significant two

Insert Figure 1 About Here

factor interaction (AXC) is presented in Figure 2.

Insert Figure 2 About Here

The significant interaction permitted the investigation of simple effects to determine at which factor the significance lay. The analysis of simple effects at the .01 level of significance indicated that the two factor interaction (AXC) was significant at b_1 and b_2 . However, the other two factor interactions (AXB) and (BXC) were not significant. A summary of the analysis of simple effects is presented in Table 2.

Insert Table 2 About Here

A Newman-Keuls test of ordered means was then per-

TABLE 1
ANALYSIS OF VARIANCE
JOB FACTORS X SEX X POPULATION

Source	SS	DF	MS	F
A	40,901.20	1	40,901.20	601.49**
B	113.48	1	113.48	1.67
C	16.96	1	16.96	<1
AB	12.17	1	12.17	<1
AC	1,241.86	1	1,241.86	18.26**
BC	14.78	1	14.78	<1
ABC	11,501.40	1	11,501.40	169.14**
ERROR	23,665.64	348	68	

**F.99 (1,∞) = 6.63, P < .01.

*F.95 (1,∞) = 3.84, P < .05.

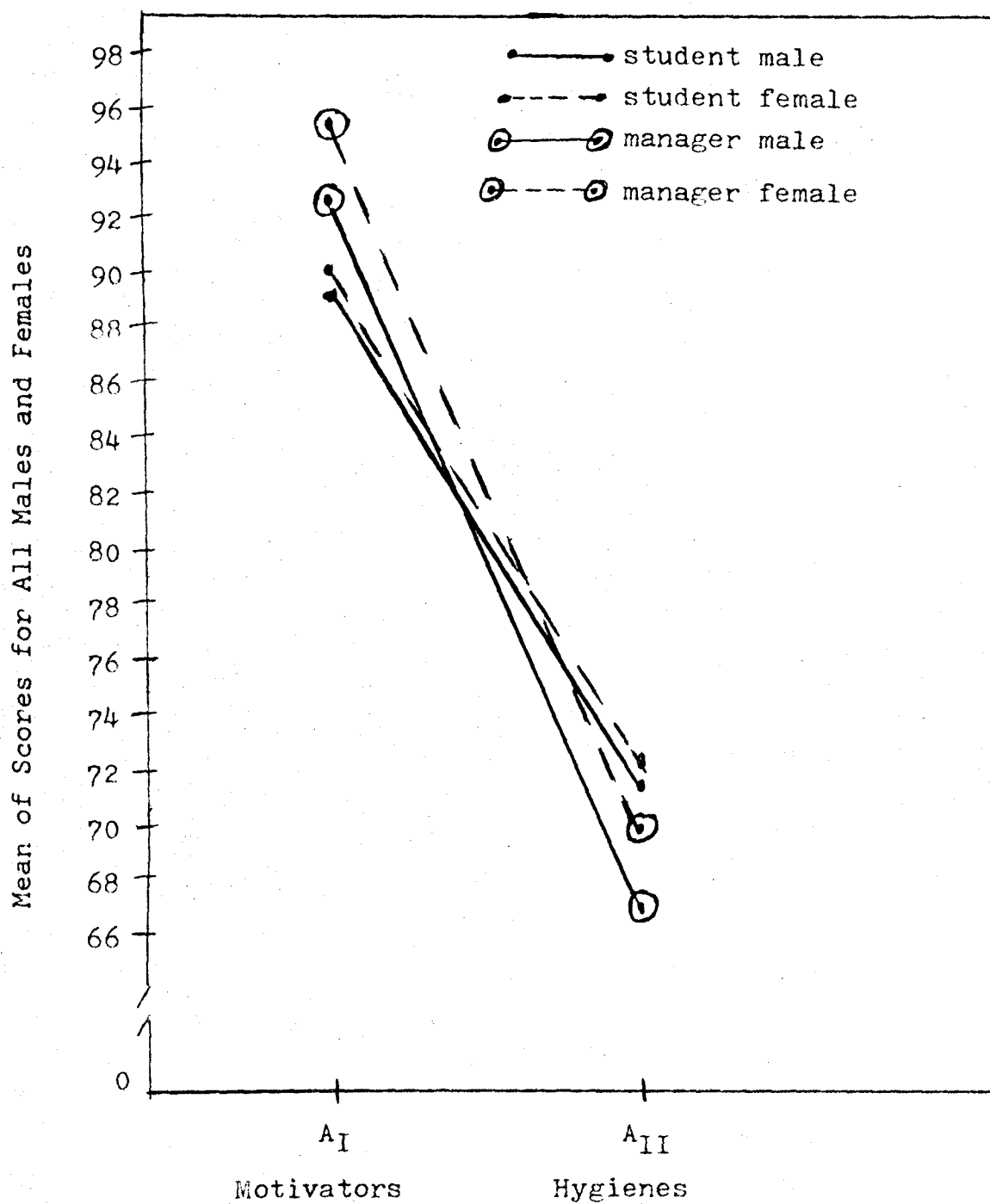


Fig. 1 Mean scores for Motivators and Hygienes per sex and per sample.

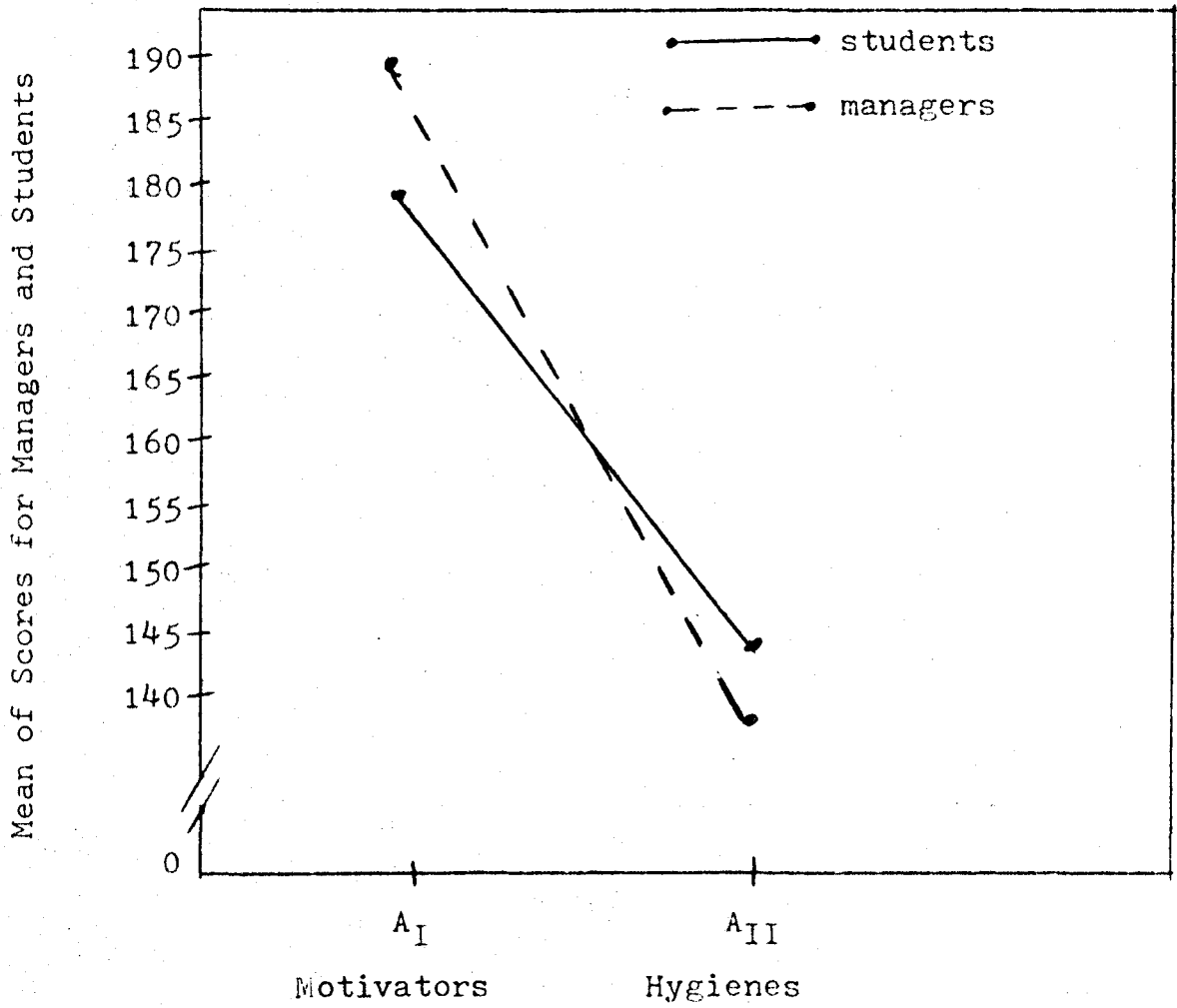


Fig. 2 Mean of scores for Motivators and Hygienes per sample.

TABLE 2
ANALYSIS OF VARIANCE
SIMPLE EFFECTS OF SIGNIFICANT INTERACTION

Source	SS	DF	MS	F
AB at c ₁	1.23	1	1.23	<1
AB at c ₂	2.86	1	2.86	<1
AC at b ₁	738.12	1	738.12	10.86**
AC at b ₂	794.59	1	794.59	11.69**
BC at a ₁	10.48	1	10.48	<1
BC at a ₂	4.83	1	4.83	<1
ERROR	23,665.64	348	68	

**F.99 (1,∞) = 6.63, P < .01.

*F.95 (1,∞) = 3.84, P < .05.

formed on the means of the two factor interaction (AXC) for all males, and a summary of the results is shown in Table 3.

 Insert Table 3 About Here

Significant differences at the .01 level of significance were the following: (1) Motivator scores for male students (MSM) were significantly higher than Hygiene scores for male managers (MMH); (2) Motivator scores for male managers (MMM) were significantly higher than Hygiene scores for male managers; (3) Motivator scores for male students were significantly higher than Hygiene scores for male students (MSH); and (4) Motivator scores for male managers were significantly higher than Hygiene scores for male students.

A Newman-Keuls test of ordered means was then performed on the means of the two factor interaction (AXC) for all females, and a summary of the results is shown in Table 4. Significant differences at the .01 level of sig-

 Insert Table 4 About Here

nificance were the following: (1) Motivator scores for female students (FSM) were significantly higher than Hygiene scores for female managers (FMH); (2) Motivator scores for female managers (FMM) were significantly higher than Hygiene scores for female managers (FMH); (3) Motivator

TABLE 3
 NEWMAN-KEULS TEST OF DIFFERENCES
 BETWEEN MEANS OF TWO FACTOR INTERACTION (AXC) FOR MALES

Treatments					
		1	2	3	4
Means	67.97	72.06	89.26	93.41	
MMH	67.97	4.09	21.29	25.44	
MSH	72.06		17.20	21.35	
MSM	89.26			4.15	
MMM	93.41				
	K	2	3	4	
	$q_{.99}(K, \infty)$	3.64	4.12	4.40	
	$s_x q_{.99}(K, \infty)$	4.55	5.15	5.50	
	$q_{.95}(K, \infty)$	2.77	3.31	3.63	
	$s_x q_{.95}(K, \infty)$	3.46	4.14	4.44	
	MMH	MSH	MSM	MMM	
MMH		*	**	**	
MSH			**	**	
MSM				*	
MMM					

**P < .01.

*P < .05.

TABLE 4
 NEWMAN-KEULS TEST OF DIFFERENCES
 BETWEEN MEANS OF TWO FACTOR INTERACTION (AXC) FOR FEMALES

Treatments					
		1	2	3	4
	Means	69.08	72.50	90.28	95.41
FMH	69.08		3.42	21.20	26.33
FSH	72.50			17.70	22.91
FSM	90.28				5.13
FMM	95.41				
	K		2	3	4
	$q_{.99}(K, \infty)$		3.64	4.12	4.40
	$s_{\bar{x}q_{.99}(K, \infty)}$		4.55	5.15	5.50
	$q_{.95}(K, \infty)$		2.77	3.31	3.63
	$s_{\bar{x}q_{.95}(K, \infty)}$		3.46	4.14	4.44
		MMH	MSH	MSM	FMM
FMH				**	**
FSH				**	**
FSM					**
FMM					

**P < .01.

*P < .05.

scores for female students were significantly higher than Hygiene scores for female students (FSH); (4) Motivator scores for female managers were significantly higher than Hygiene scores for female students; and (5) Motivator scores for female managers were significantly higher than Motivator scores for female students.

DISCUSSION

As can be seen from the preceding Results section, Hypothesis One and Hypothesis Two were both found to be true for the obtained data. Hypothesis One was substantiated by Factor A, as Motivator scores were significantly higher than Hygiene scores for all Ss (See Table 1), plus: (1) MMM scores were significantly higher than MMH scores; (2) MSM scores were significantly higher than MSH scores; (3) FMM scores were significantly higher than FMH scores; and (4) FSM scores were significantly higher than FSH scores, as shown by the Newman-Keuls test for ordered means (See Tables 3 and 4). Hypothesis Two was substantiated by lack of significance of Factor B (Males vs Females), plus neither two factor interaction (AXE) or (BXC) were significant which would indicate that no sex differences were present (See Table 1). The occurrence of the following: (1) MSM scores significantly higher than MMH scores; (2) MMM scores significantly higher than MSH scores; (3) FMM scores significantly higher than FSH

scores; and (4) FSM scores significantly higher than FMH scores, was to be expected since all Motivator scores were found to be significantly higher than all Hygiene scores (Hypothesis One) plus there were no sex differences found on either Motivator scores or on Hygiene scores (Hypothesis Two). These results were similar to those Burke (1966), Saleh and Lalljee (1969), and Foley (1972) found when they used student samples, and similar to the results of Saleh and Lalljee (1969), Manhardt (1972), and the Institute of Social Research of Working Conditions (1972) when they used business samples.

McDavid and Haraii (1968) gave as one of the characteristics of attitudes their relative stability, yet from this statement one should not form the impression that attitudes are neither so fluid and changing as to be unpredictable from moment to moment, nor so fixed and rigid as to be unchangeable. How could an attitude change? Since attitudes are the product of accumulated experience, the more an individual is able to accumulate further experience with an object, the more likely his or her attitude toward the object would be subject to some degree of change, either for or against that object. It is quite possible that to accumulate enough information for a change to occur could take years, that is to say a person may have one attitude toward certain objects, e.g. salary or status, at one age, say 20 and then have possibly an opposite atti-

tude toward those same objects thirty years later, at age 50. Unfortunately, a desired difference in ages, which would have been about 30 years, could not be obtained for this study due to a restricted business sample (caused by a lack of willing organizations), causing the mean age difference to only be 11 years.

This emphasis on age differences is tied in with Hypothesis Three, which involved the direct comparison of the two samples employed in the present study. As previously mentioned, Herzberg et al. (1957) felt that as a person ages the Hygiene factors become increasing more important. Related to the present study, one would expect the Ss of the business sample to have significantly higher Hygiene scores than the Ss of the student sample used. For the male managers this was not the case. A Newman-Keuls test for ordered means (Table 3) revealed no significant difference between the Hygiene scores of the male managers used and the Hygiene scores of the male students used. A possible explanation for the obtained results was that the mean age difference of 9 years (mean age of male students- 20.5 yrs., mean age of male managers 29.5 yrs.) just was not large enough to produce the results that had previously been obtained by Herzberg. Similar results were found for the females. There was no significant difference between the Hygiene scores of the female managers and the Hygiene scores of the female students. As

previously mentioned this finding was not what was predicted by Herzberg's results and was possibly due again to a narrow mean age span (mean age female students- 20.5 yrs., mean age female managers- 33.5 yrs.).

An important finding was one that appears to be contrary to what Herzberg et al. (1957) found. The Motivator scores for the female managers were significantly higher than the Motivator scores for female students. Herzberg (1957) suggested more or less the opposite, feeling that age would bring a decrease in the importance of Motivators. If this be so, then why the obtained results? While by no means should this completely rule out Herzberg's findings there is a plausible explanation. The women making up the business sample used are products of their environment. While it has been easier over the last ten years or so for women to move into executive positions than in the last 30 years, it has still been quite a struggle. Thus the women who reached these positions would probably have to have a lot of momentum and must keep this momentum longer than her male counterpart. On the other hand the female students have not as yet been faced with type of struggle, thus she has probably not built up the momentum the female in business, at the managerial level, has. Plus the female student while interested in a business career could probably still have some uncertainty about her future in this field, while the female in

business at the managerial level has a fairly good idea about her future and probably has set reasonable goals based on her past experiences.

Since the predicted results for the comparison of Hygiene scores between the two samples was not found, another attempt was made to replicate Herzberg's (1957) findings this time by increasing the mean age span and concentrating only on the Hygiene factor. For this purpose, a business sample was used comprised of Ss who were 30 or above, a total of 38 Ss (mean age 38.5 yrs.) with 14 males and 24 females. Next 38 students, 14 males and 24 females, were selected randomly, each student was 23 or under (mean age 20.5 yrs.). The Hygiene scores were obtained for each S in the two samples. A 1X2X2 ANOV was then performed on the data, with A (Hygiene scores), B (Males vs Females), and C (Managers vs Students). The results showed the two factor interaction (BXC) to be significant at the .01 level of significance, plus Factor C was significant at the .01 level of significance. Analysis of simple effects revealed the Hygiene scores of the female students to be significantly higher than the Hygiene scores for the female managers. This finding could be considered fairly consistent with the earlier finding of this study that the Motivator scores for female managers were significantly higher than the Motivator scores for female students.

A possible explanation for the lack of a significant difference between males in the two samples is that again the mean age span was just not great enough to provide the predicted results, those felt to occur by Herzberg et al. (1957). The significant difference on Factor C with student Hygiene scores significantly higher than manager Hygiene scores could be due to the possibility that one of the more important factors that a college student considers after four years in school is the Hygiene factor of salary and other money related matters. It is quite possible that the results concerning the obtained differences in Motivator scores and Hygiene scores were due mainly to the female managers, they are striving to make a place for themselves in a man's world. They may need to present themselves as superior in drive to males. In turn they could probably not afford the luxury of giving the attention to Hygiene factors that could be enjoyed by females in school, who in reality may tend to be idealized and not realize the actual competitive fight faced by females in business.

One glaring weakness in the present study is the restricted business population used. As noted, the entire business sample was drawn from a population of only bank managers. Yet an effort had been made during the course of this experiment to enlarge the population. However, various organizations graciously declined to participate, thus

the population was confined to one area. Unfortunately, because of this others may consider the result confined to this particular business population and not wish to generalize to all business populations. Future research in this area must take this into consideration. It is quite possible that the same results could be obtained with a less restricted population, but predictions should not be made until the enlarged population is obtained.

A second improvement would be concerned with the age span. By including more SS it should be possible to increase the age span or at least obtain a mean age span to equal a generation (33 years), which could give the results felt to exist by Herzberg on Hygiene factors. If by doing this the results obtained were similar to the results obtained by the present study then it would be time to reconsider Herzberg's position, which after all is now 16 years old and may be in need of modification.

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