

EQUITY AND JOB SATISFACTION:
THE EFFECTS OF EDUCATION AND TRAINING INPUTS
AMONG FEMALE CIVIL SERVICE WORKERS AT THE
UNIVERSITY OF KANSAS

by

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CHAPTER I

INTRODUCTION

For more than five decades, social scientists have been studying workers' satisfaction with their jobs, and more than 2,000 studies have been reported. To attempt to pull together the research in this area is indeed challenging. Of his own experience with this task, Herzberg (1966) writes:

In 1957, my colleagues and I . . . published a book that was an attempt to summarize the research and opinion that had been garnered in the area of job attitudes for the past half-century. The book was a saddening experience, because the major conclusion, I felt, was that we could document almost any position one wished to take with respect to what affected people at work. p.[148]

By far the larger part of job satisfaction research has taken the form of field observations with occasional attempts to manipulate variables such as supervisory style. Recently more experimental studies have been undertaken in connection with explorations of expectancy and equity theories.

Although the present study was derived from theory, a brief review and criticism of job satisfaction literature, as well as a section defining job satisfaction, precede the theoretical discussion.

Review of the Literature

During the past decade three helpful, though selective, summaries of the literature (Kahn, 1972; Robinson, Atanasiou, and Head, 1969; and Vroom, 1964) have appeared. These three summaries divide the literature into three main categories: (1) studies of the consequences of job satisfaction, (2) studies of the relationship between job characteristics and job satisfaction, and (3) studies of the relationship between personality and job satisfaction. A fourth category of research which was not identified in the summaries, but which is of emerging importance, involves the study of job satisfaction as it is related to demographic characteristics of workers. Some consideration will be given to each of these categories, with emphasis on the fourth. Definition of job satisfaction will also be discussed.

Studies of Consequences of Job Satisfaction

This portion of the literature deals with the relationships between job satisfaction and job related behaviors such as turnover, absenteeism, accidents, and performance. The only consistent finding in this work is that low job satisfaction is related to high turnover.¹

¹ For references to specific studies relevant to general findings reported here, see Vroom, 1964; Robinson et al., 1969; and Kahn, 1972. Relevant studies not summarized in the above reviews will be referenced herein.

Studies of the Relationship between Job Characteristics and Job Satisfaction

This is the largest category of research. Attempts have been made to determine the relationships between job satisfaction and job variables including various aspects of supervisory style, work group, job content, wages, promotional opportunities, hours of work, and organizational structure. The results have consistently indicated that high job satisfaction is associated with considerate, employee-oriented supervisory style (although Vroom questions their validity); opportunity to interact with congenial peers; occupational status, and small organizations. The results are inconsistent with regard to the other variables and conclusions do not seem justified at this point.

Studies of the Relationship between Personality and Job Satisfaction

Studies taking this little-used approach have attempted to relate job satisfaction to measures of personal adjustment or ego involvement. Findings in this area are mixed. Generally, the satisfied worker is flexible, well-adjusted, and realistic, but interesting exceptions have been found with respect to flexibility. Authoritarian persons have been found to be more satisfied than others when working under strongly directive supervisors.

Studies of the Relationship between Job Satisfaction and Demographic Characteristics of Workers

Over the years, scattered studies have attempted to relate job satisfaction to workers' age and level of education. Older workers consistently have been found to be more satisfied with their jobs than younger workers (Quinn et al., 1971; Quinnet al., 1973; and Vollmer and Kinney, 1955).

Findings with respect to level of education have been mixed, including negative, positive, and no relationship. For example, Morse (1953) found no relationship between education and job satisfaction in her sample of white-collar workers (mostly female). Vollmer and Kinney (1955), in their study of blue-collar workers (probably males only), found higher level of education to be related to lower job satisfaction (but less so among older men). And although Berg (1970) reports that Klein and Maher (1962) found a similar inverse relationship in a subject population of first-level managers (probably males) in an electronics industry, they actually found an inverse relationship between education and satisfaction with pay. Since pay is viewed as only one of several dimensions of job satisfaction, Berg's broad interpretation seems unjustified.

Berg (1970) summarized the literature relating education and job satisfaction in an attempt to support his hypothesis (which he did not test) that:

...[W]orkers' educational backgrounds may be a major determinant of their occupational expectations and hence of their satisfactions. Educational achievements can predictably be associated with higher job expectations; consequently, attitudes toward work would be more favorable among better-educated workers as their occupational skills increase. [p. 109]

Two recent large-scale surveys (Quinn et al., 1971; and Quinn et al., 1973), using national probability samples of 1,533 and 1,496 respectively, found a slight curvilinear relationship between education and job satisfaction, with persons having grade school educations and persons having college degrees slightly – but not significantly – more satisfied than other educational groups.

These two surveys, the 1969–70 Survey of Working Conditions and the 1972–73 Quality of Employment Survey, were the first large studies to take cognizance of a variety of worker's demographic characteristics. Both surveys were conducted by the Survey Research Center of the University of Michigan, and were identical except for a minor difference in sampling procedure.

Among the six goals of the surveys were: a) development of efficient measures of job satisfaction suitable for use with samples of workers in heterogeneous occupations under a variety of conditions of census and research, b) establishment of base-line statistics that might permit subsequent national surveys to reveal

any trends in the content areas originally investigated, and c) establishment of normative statistics that might permit other investigators to compare their data from more limited subsamples of workers with national norms.

The data were analyzed by demographic groups, including: a) age, b) sex; c) race (black and white only); d) marital status, and e) education, as well as by job characteristics, including level of income and major occupational group. Considering one variable at a time, in these surveys it was found that the most dissatisfied workers were a) the young (under 30); b) blacks; c) those making less than \$5,000 a year at their primary jobs; d) operatives; and e) non-farm laborers.

The Survey Research Center made data from the 1969-70 survey available to other researchers, and when Sheppard and Herrick (1972) reanalyzed it, they found that black workers under age 30 were the most dissatisfied group, followed by workers under 30 who had some college education, and by females under 30.

Both surveys found that women were less satisfied than men in terms of financial rewards and challenge of their jobs, but more satisfied in terms of comfort. Unmarried workers were less satisfied than married ones, and this difference increased with level of income. Blue-collar workers were less satisfied than all

white-collar workers except sales and clerical workers, who were less satisfied than many blue-collar workers.

Defining Job Satisfaction

There is general concensus that job satisfaction is a worker's affect toward his/her job, and the degree of a worker's satisfaction is inferred from his/her responses to one or more questions about the job. (See Vroom, 1964, p. 100). The concept applies to people who work for pay, but not to entrepreneurs (Jacques, 1961, p. 21).

Job satisfaction has been treated by most investigators as a rather complex set of variables, and satisfaction is usually measured by asking workers to rate their jobs on several dimensions. Over the years, numerous factor analytic studies have resulted in identification of the following dimensions or factors of job satisfaction: attitudes toward the employer; content of the job; promotion opportunities; financial rewards; supervision; working conditions; and co-workers. Vroom (1964, p. 102) notes the studies through which these dimensions have been identified. More recently, Mangione (1973) identified another dimension of satisfaction which he calls "resource adequacy." Some studies, however, have focused on only one job facet, most often pay, perhaps because it is so easy to measure.

The reliably high positive intercorrelations between measures of satisfaction with the various dimensions has led to speculation that there is a general factor of job satisfaction. Mangione (1973) calls this "facet-free" satisfaction.

There is less concensus as to the operational definition of job satisfaction. Wanous and Lawler (1972) reviewed and compared nine different operational definitions which "specify different ways of measuring facet satisfaction and different approaches to combining data from facet satisfaction in order to measure overall satisfaction" (P. 95). One important question is whether certain facets should be weighted for importance. Wanous and Lawler found that weighting for importance was no better, and in several cases worse, than simple summations of ratings across facets. They conclude that there is "no one best way" to measure job satisfaction.

General Criticism of the Literature

Methodological and measurement problems have proliferated. By far the larger part of job satisfaction research has taken the form of field observations with occasional attempts to manipulate variables such as supervisory style. Control groups are lacking, and many reports do not even include an adequate description of the subjects, their jobs, or the job setting. Few studies were grounded in theory

until the past decade, when Herzberg's two-factor theory, expectancy theory, and equity theory influenced some research. Thus the job satisfaction literature consists of thousands of sets of unrelated data. Theory is sorely needed, along with acknowledgement that differences between workers as well as differences between jobs must be taken into account, as Vroom (1964, p. 162) and Morse (1953, p. 27) have previously noted.

Job-Satisfaction Theory

Two-Factor Theory

Those current studies of job satisfaction which are theoretically derived are influenced by the three theories named above. One of these is Herzberg's controversial two-factor theory, which holds that intrinsic qualities of a job (its content) are the source of satisfaction, while extrinsic qualities (e.g., wages and working conditions) are the source of dissatisfaction. Herzberg contends that satisfaction and dissatisfaction are two distinct concepts, rather than opposite poles of a single continuum. The theory has generated heated debates and numerous studies over a period of 15 years, but the question of its conceptual validity has not been resolved. Conceptual validity aside, the two-factor theory has no predictive value, since it does not specify the conditions under which satisfaction and dissatisfaction vary.

Expectancy Theory

A more useful theory is the expectancy theory of motivation, one of a class of incentive (or utility) theories based on the idea that:

the strength of a tendency to act in a certain way depends on the strength of an expectancy that the act will be followed by a given consequence (or outcome) and on the value or attractiveness of that consequence (or outcome) to the actor. [Lawler, 1973, p. 45]

Vroom (1964) made the first explicit application of expectancy theory to organizational behavior, and presented two models derived from it, a valence model and an effort model. Expectancy, as Vroom pointed out (1964, p. 18), is an "action–outcome association."

Furthermore, as Mitchell (1974) noted, "valence refers to the anticipated [italics mine] satisfaction associated with an outcome, and is distinguished from the value of the outcome -- the actual satisfaction resulting from attainment of the outcome. (p. 1053)" Thus, expectancy theory as expressed in Vroom's models seems well–suited to the study of occupational choice and job performance, which have to do with anticipated outcomes of behavioral choices, but not to the study of job satisfaction, which primarily has to do with actual outcomes.¹

¹ It should be noted that Mitchell (1974) cites several expectancy model studies in which job satisfaction is the dependent variable; however, a close examination of these studies indicates that the independent variables do not represent the expectancy model. Mitchell himself draws this conclusion about the whole of expectancy model research in the field of organizational behavior.

The notion that job satisfaction and job performance must be explained by different models is supported somewhat by results of a study by Brayfield and Crockett (1955). After an extensive review of the literature, they concluded that there was little evidence of any simple or appreciable relationship between employee attitudes and their job performance. Many people may feel strong negative effect toward their jobs and at the same time work hard at them in order to receive financial compensation which can be used to purchase other essential outcomes, such as food.

Another difficulty with expectancy theory is that it makes no allowance for an individual's capacity or opportunity to perform a given act, the valence of its outcomes notwithstanding.

Equity Theory

Seemingly better suited to the study of job satisfaction is equity theory, which grew out of dissonance theory. Equity theory holds that individuals strive to maximize their outcomes, and that individuals feel most comfortable when they perceive that they are receiving a fair return on their social investments. An individual determines what is "fair" by comparing his/her own inputs and outcomes of another person, a group or class of people, or even him/herself imagined in another situation. Adams (1965) posits equity theory as follows:

Inequity exists for Person whenever he perceives that the ratio of his outcomes to inputs and the ratio of Other's outcomes to Other's inputs are unequal. This may happen either (a) when he and Other are in a direct exchange relationship or (b) when both are in an exchange relationship with a third party and Person compares himself to Other. [p. 280]

Equity is an input-outcome association and is applicable to ongoing relationships, such as employment.

In an employment situation a person's inputs to the job may include his/her education, experience, seniority, training, skill, effort expended on the job, and/or whatever other variables the person perceives as being of value. The outcomes -- what the worker receives in return for his/her inputs -- may include pay, fringe benefits, status symbols, rewards intrinsic to the work, and/or whatever other variables the worker receives which are of value to him/her. A worker would be most comfortable, or, if you will, satisfied, when these outcomes are perceived as being a fair return on inputs.

There is some experimental support for this hypothesis. In a study of inequity in wages, Austin and Walster (1974) found that "Subjects who were treated equitably were more content and satisfied than were subjects who were either over- or under-rewarded. (p. 215)" Of course, satisfaction with wages earned as a subject in an experiment cannot be equated with satisfaction

with outcomes (of which pay is only one) derived from an on-going job. One study by Patchen (1961), which preceded equity theory and is often cited in equity literature, was conducted in the field, but it, too, concerned only satisfaction with wages.

Attractive as equity theory is, it will not be adequate to explain job satisfaction unless it also takes into account inputs which are available to the worker but not utilized in his/her job. A worker's capital is him/herself -- time, energy, talent, and credentials. But in order to earn returns, the capital must be invested. When a worker's talents and credentials are irrelevant to his/her work, and when they have the potential to earn him/her more valued outcomes in a different (perhaps hypothetical) job, he/she would surely feel the situation to be inequitable. This can be stated as a proposition: Job satisfaction will be diminished to the extent that an individual perceives his/her valuable available inputs are unused and thus unrewarded in his/her job.

Hypotheses

Two testable hypotheses may be derived from this proposition. Hypothesis I: Job satisfaction is diminished to the degree that one's level of education exceeds the requirements of one's present job.

If a college graduate goes to work in a job for which only high school graduation is required, then his/her educational inputs are not earning any returns. The question is : does a college graduate consider the degree to be a valued input? When Campbell and Eckerman (1964) asked aspiring college students and their parents what benefits they expected to gain from a college education, the most frequent answer was "a good job," but it is not clear whether that was the parents' or the student's response. What's more, some respondents -- perhaps a substantial number -- did not make the college education-good job association.

Hypothesis II: Job satisfaction will be greatest for workers who report that their educations have prepared them for their jobs, next greatest for those who report that their educations have not prepared them for any specific kind of work, and least for those who report that their educations prepared them for work different from that which they are doing now.

This hypothesis is based on reasoning that if a person undertakes a course of study which prepares and qualifies him/her to enter an occupation, it is because the person is attracted to the set of outcomes associated with that kind of work. (Here the action-outcome association of expectancy theory is relevant.) After having invested time, effort, and money in acquisition of the requisite inputs,

the person would come to value -- and identify with -- the particular set of outcomes associated with this kind of work. The gestalt of the occupation would have become part of the person's self-image, for an occupation may be as much something one decides to be as it is something one decides to do.

If the person subsequently were to find employment in that field, job satisfaction should be high (outcomes equal). If the person were not able to find that kind of job and had to settle for something else, he/she would not be receiving expected outcomes and would be less satisfied than an occupationally matched person. As for the person whose education is not subjectively perceived as job training, he/she would not be committed to any particular set of outcomes, and would have only vague employment expectations. This untrained person would be less satisfied than the occupationally matched person (who is getting pretty much what he/she wanted), but more satisfied than the mismatched person (who is not getting what he/she wanted).

There appears to be no job satisfaction literature explicitly pertinent to this hypothesis.

CHAPTER II

METHOD

The purpose of this study was to test the hypotheses stated above relating the effects of unused education and unused job training on job satisfaction, with controls for the possibly confounding effects of age and level of income. Job satisfaction was operationally defined as subjects' responses to Jobsat 72 (Mangione, 1973), measuring satisfaction with 7 specific work facets as well as general satisfaction. Job satisfaction and personal data questionnaires were mailed with a cover letter to female clerical workers and a control group of other female Civil Service workers at the University of Kansas.

The University is situated in a small midwestern city (population 46,128) and is a major employer in the county. Other employment opportunities are limited to retail businesses, other small businesses, and light industry. At the time of the survey unemployment in the county was 2.8 percent.

The cover letter stated that the investigator had become concerned about the work experiences of Civil Service personnel through her work in affirmative action and was conducting a survey in which the worker was invited to evaluate her job anonymously

and to make additional comments if she wished. The letter stated that the survey data would be compiled and forwarded to University administrators together with recommendations based on survey results.

Questionnaires were mailed to 423 female clerical workers, including those classified as Secretary I, II, and III; Clerk I, II, III, IV, and V; Clerk Stenographer I and II; and Clerk Typist I and II. Although job requirements for these positions include only high school graduation and two or more years of job experience, the group includes women with education levels ranging from high school through master's degrees. Males, who constitute only 3 percent of the clerical work force and are mostly classified as Messengers, were not included in the survey.

Questionnaires were also mailed to 72 other female Civil Service workers in job classifications as follows: Accountant, Dietitian, Engineering Technician, Extension Representative, Graduate Nurse, Informational Writer, Language Translation Clerk, Library Assistant, Medical Records Technician, Medical Technologist, and Pharmacist. These subjects were included as a control group for the college graduates among the clerical workers, and were chosen because their jobs require completion of post-high school training or education. When the education hypothesis was

tested, these workers were treated as a control group, but when the training hypothesis was tested, they were included with the clerical workers.

Subjects for the study were limited to Civil Service personnel in order to control for possible effects of Civil Service regulations on job satisfaction. Thus, fringe benefits for all subjects are exactly the same, all subjects have taken Civil Service qualifying examinations in order to get their jobs, and all subjects were assumed to have met the Civil Service qualifications for their respective job classifications.

Fifty-nine percent of the questionnaires were returned, and after those with missing essential data (such as job classification) and those from persons who had worked at The University less than three months were eliminated, the subject pool consisted of 221 clerical workers and 36 other Civil Service workers -- a total of 257. Some subjects were dropped from certain statistical analyses because of other missing data, such as age or level of income.

Job satisfaction was measured by Jobsat 72¹, developed at the Survey Research Center of the University of Michigan (Mangione, 1973) for use in nationwide surveys conducted there. Part One contains 23 items which measure satisfaction with specific job factors:

¹Jobsat 72 is included in its entirety in Appendix A

1) Challenge, 2) Comfort, 3) Financial Rewards, 4) Resource Adequacy, and 5) Relations with Co-Workers.² Seven items were added to the instrument: five related to a factor labeled "Communication," and two related to a factor called "Pride in Institution." Pride in Institution items had been eliminated from the original Jobsat 72 because the instrument was to be used in a survey which included self-employed persons. Since all of the subjects in this survey were employees of a university, Pride in Institution items were restored to the instrument. Items related to communication on the job were included in an effort to assess the role of communication in job satisfaction. They were derived from discussions with a group of 65 clerical workers, who indicated that communication was important to them. The term communication as used in this study refers to communication between employee and supervisor.

Factor-specific items in Part One of Jobsat 72 take the form of statements, such as "The pay is good," each of which is rated by the respondent on the following scale: 4=very true; 3=somewhat true; 2=a little true; and 1=not at all true. Factor scores are the means of items related to each factor.

Part Two of Jobsat 72 consists of five items which measure facet-free, or general, job satisfaction. An overall job satisfaction

² The relationship of items to factors is described in Appendix B.

score (called Jobsat 72) is a z score which is the mean of 2 z scores -- one derived from the mean of all items in Part One and the other derived from the mean of all items in Part Two, following the methodology of Mangione (1973). Thus, Jobsat 72 is a measure of both facet-free and facet-specific job satisfaction, consistent with the accepted complexity of the job satisfaction concept.

The personal data questionnaire³ included job classification, age, income level, level and type of education, and two questions designed to determine the relevance of the subject's job training to her present job. Data from these items are summarized in Table 1.

³ The personal data questionnaire is included in its entirety in Appendix A.

TABLE 1

Summary of Subjects' Personal Data

ITEM	CLERICAL GROUP	CONTROL GROUP
AGE:		
30 and under	N=142	N=17
over 30	77	19
EDUCATION:		
high school	49	2
business school	17	0
business school and some college	7	0
some college	93	1
college graduate	54	33
INCOME:		
up to \$4,999	48	4
\$5,000 to \$7,499	140	21
\$7,500 or more	28	9
TRAINING:		
prepared for specific kind of work	142	28
now doing that kind of work	93	17

CHAPTER III

RESULTS

Analyses of variance were employed to test hypotheses relating to the effects of unused education and unused job training on job satisfaction. Dependent variables in each analysis were Jobsat 72 (overall job satisfaction, a combination of scores on factor-specific and facet-free measures), as well as scores on each of the seven factors -- Challenge, Comfort, Financial Rewards, Relations with Co-Workers, Resource Adequacy, Communication, and Pride in Institution. Analyses of separate factors made it possible to trace differences in overall satisfaction to the influence of certain factors. Additionally, t tests were used to compare the three training groups on Jobsat 72. Intercorrelations of the seven job satisfaction factors measured by Part One of the instrument were also determined.¹ Although no hypotheses were derived regarding age or level of income, analyses of variance were employed to test their possible effects on job satisfaction, and to compare these with the effects of the education and training variables. Percentages of workers in the three training categories were calculated.

¹ A table of these intercorrelations appears in Appendix C.

The Effects of Age and Level of Income on Job Satisfaction

A one-way analysis of variance revealed that on Jobsat 72, workers over 30 were significantly more satisfied with their jobs than workers 30 and under ($F = 23.799$, $df = 1/240$, $p < .001$). This trend was especially strong for Challenge ($F = 21.405$, $p < .001$), Comfort ($F = 8.109$, $p < .005$), Financial Rewards ($F = 10.614$, $p < .001$), Resource Adequacy ($F = 4.890$, $p < .05$), and Pride in Institution ($F = 35.864$, $p < .001$). It should be noted that these results are most probably due to self-selection, whereby older workers who were dissatisfied would have moved on to other jobs.

The subjects were divided into three income categories: 1) up to \$4,999, 2) \$5,000 to \$7,499, and 3) \$7,500 and over. A one-way analysis of variance showed that, on Jobsat 72, job satisfaction increased significantly with level of income ($F = 4.420$, $df = 2/230$, $p < .005$). According to the separate factor analyses, income significantly affected satisfaction with Challenge ($F = 4.819$, $p < .005$), Financial Rewards ($F = 7.311$, $p < .001$), and Pride in Institution ($F = 4.959$, $p < .005$).

Effects of Education on Job Satisfaction

Clerical subjects were divided into five educational categories: 1) high school graduates, 2) those with vocational business school training, 3) those with business school training and some college,

and 5) college graduates. One-way analyses of variance revealed no significant differences between these five groups on either Jobsat 72 or the specific factors, nor did the control group differ significantly from the clerical college graduates in a separate analysis. The first hypothesis therefore was not confirmed.

An education by age analysis of variance resulted in significant interaction effects on two specific factors: Challenge ($F = 2.800$, $df = 4/204$, $p < .05$), and Communication ($F = 2.722$, $p < .05$). These two interactions show that only among subjects with vocational business school training does satisfaction with Challenge and Communication decrease with age. This relationship is illustrated in Figure 1.

A similar interaction effect appeared in the education by income analysis. Only among the subjects with vocational business school training does satisfaction with Communication decline as level of income increases ($F = 2.365$, $df = 8/205$, $p < .05$).

Effects of Job Training on Job Satisfaction

Subjects were divided into three groups: 1) untrained (those who reported that their educations had not prepared them to do a specific kind of work), 2) mismatched (those who reported that although their educations had prepared them to do a specific kind of work, they were not now doing it), and 3) matched (those who reported that their educations had prepared them to do a specific kind of work

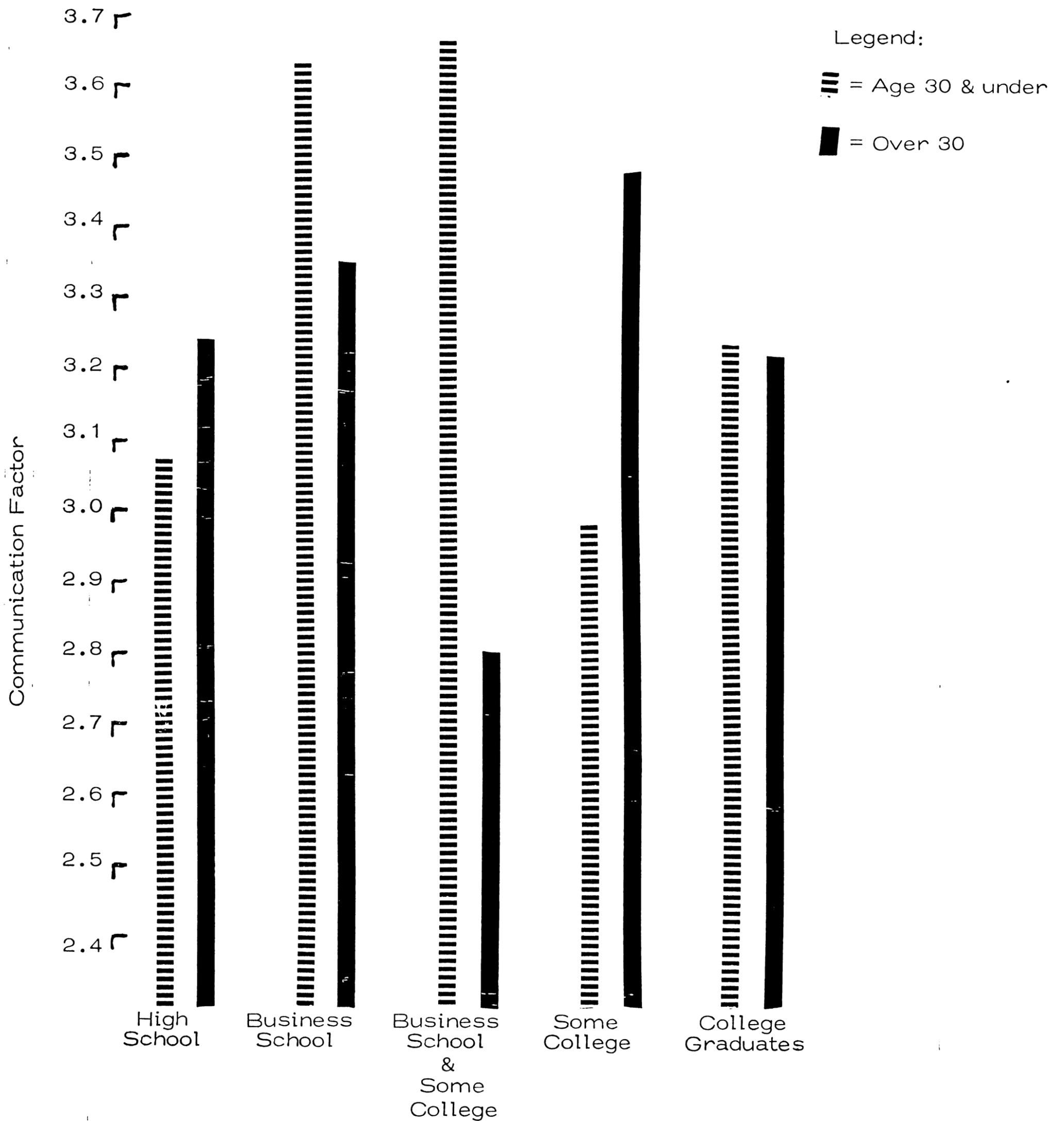


Fig. 1. The relationship of education and age to satisfaction with communication

which they were doing). Table 2 shows that these training categories cut across all the educational groups (including non-clerical Civil Service subjects), although all but three of the subjects having business school training fell into the matched category.

A one-way analysis of variance using training as the independent variable resulted in significant effects on Jobsat 72 and four factors (see Table 3). Although the matched group was most satisfied, the untrained group next most satisfied, and the mismatched group least satisfied, t tests showed that while the matched group was significantly different from the untrained ($t = 3.003$, $df = 2/232$, $p < .01$) and mismatched ($t = 3.614$, $p < .01$), there was no significant difference between the mismatched and untrained groups on Jobsat 72. Only on the Challenge factor did all three groups differ significantly (see Table 4). Thus, the second hypothesis was partially confirmed.

A 3 x 3 analysis of variance was then used to determine the effects of training and income taken together. For Jobsat 72, this analysis revealed a main effect for training ($F = 3.761$, $df = 2/202$, $p < .05$), indicating that within each income level the effects of training held. This analysis also resulted in an interaction when the effect on Challenge was assessed ($F = 2.659$, $df = 4/202$, $p < .05$). This

TABLE 2
 All Subjects Categorized by Education and
 Perceived Job Training

	HIGH SCHOOL	BUSINESS SCHOOL & SOME COLLEGE	BUSINESS SCHOOL	SOME COLLEGE	COLLEGE DEGREE
MATCHED	N=33	14	6	39	24
MISMATCHED	3	1	0	13	38
UNTRAINED	13	1	1	43	23

TABLE 3
Effects of Perceived Training On Jobsat 72
and 7 Factors

	MATCHED \bar{M} SCORE	UNTRAINED \bar{M} SCORE	MISMATCHED \bar{M} SCORE	F	SIG.*
JOBSAT 72	25.28875	-15.11847	-31.70259	8.19160	<.001
Challenge	3.23104	3.00175	2.75502	10.52067	<.001
Comfort	3.06640	2.93733	2.87000	2.56429	ns
Financial Rewards	3.04166	2.83968	2.81600	3.00497	=.05
Relations w/ Co-Workers	3.36111	3.24684	3.15625	1.95477	ns
Resource Adequacy	3.31405	3.05063	3.03819	5.92189	<.005
Communi- cation	3.26019	3.05063	3.10000	2.03848	ns
Pride in Institution	3.03241	2.76582	2.65625	4.27051	<.05

*df = 2/232

TABLE 4

t Tests Between Training Groups on Challenge Factor

COMPARISON	N	CHALLENGE M SCORE	\bar{M}^2 M ERROR	<u>t</u>	SIG.
UNTRAINED	79	3.00175	.37495	2.202	<u>p</u> < .01
MISMATCHED	48	2.75502			
UNTRAINED	79	3.00175	.37495	2.529	<u>p</u> < .01
MATCHED	108	3.23104			
MATCHED	108	3.23104	.37495	4.482	<u>p</u> < .01
MISMATCHED	48	2.75502			

effect is illustrated in Figure 2, which shows that while satisfaction with the challenge of the job rises with level of income for untrained subjects, this relationship is diminished in the mismatched and matched groups.

Next, a 3 x 2 analysis of variance using training and age as independent variables was employed. For Jobsat 72 main effects were shown for training ($F = 7.604$, $df = 2/229$, $p < .001$) and for age ($F = 5.385$, $p < .05$), as well as an interaction effect ($F = 5.385$, $p < .005$), which is illustrated in Figure 3. It shows that the usual effect of age on job satisfaction was reversed in the mismatched group. That is, only in the mismatched group does job satisfaction decline with age. This is perhaps an artifact of self-selection -- a small group of mismatched older workers who stayed with their jobs. This interpretation is supported by the ratio of younger to older workers in each training group: matched 56/52, untrained 54/25, and mismatched 38/10.

In the training by age analysis there were main effects on the Challenge factor for both training ($F = 9.529$, $df = 2/229$, $p < .001$) and age ($F = 7.289$, $p < .01$), as well as an interaction effect ($F = 5.081$, $p < .01$). The patterns of this interaction parallels the interaction effect on Jobsat 72, which was illustrated in Figure 3. This analysis also resulted in an interaction effect on the Communication factor ($F = 4.407$, $p < .05$), which is illustrated in Figure 4. These interactions show that while satisfaction with Challenge and

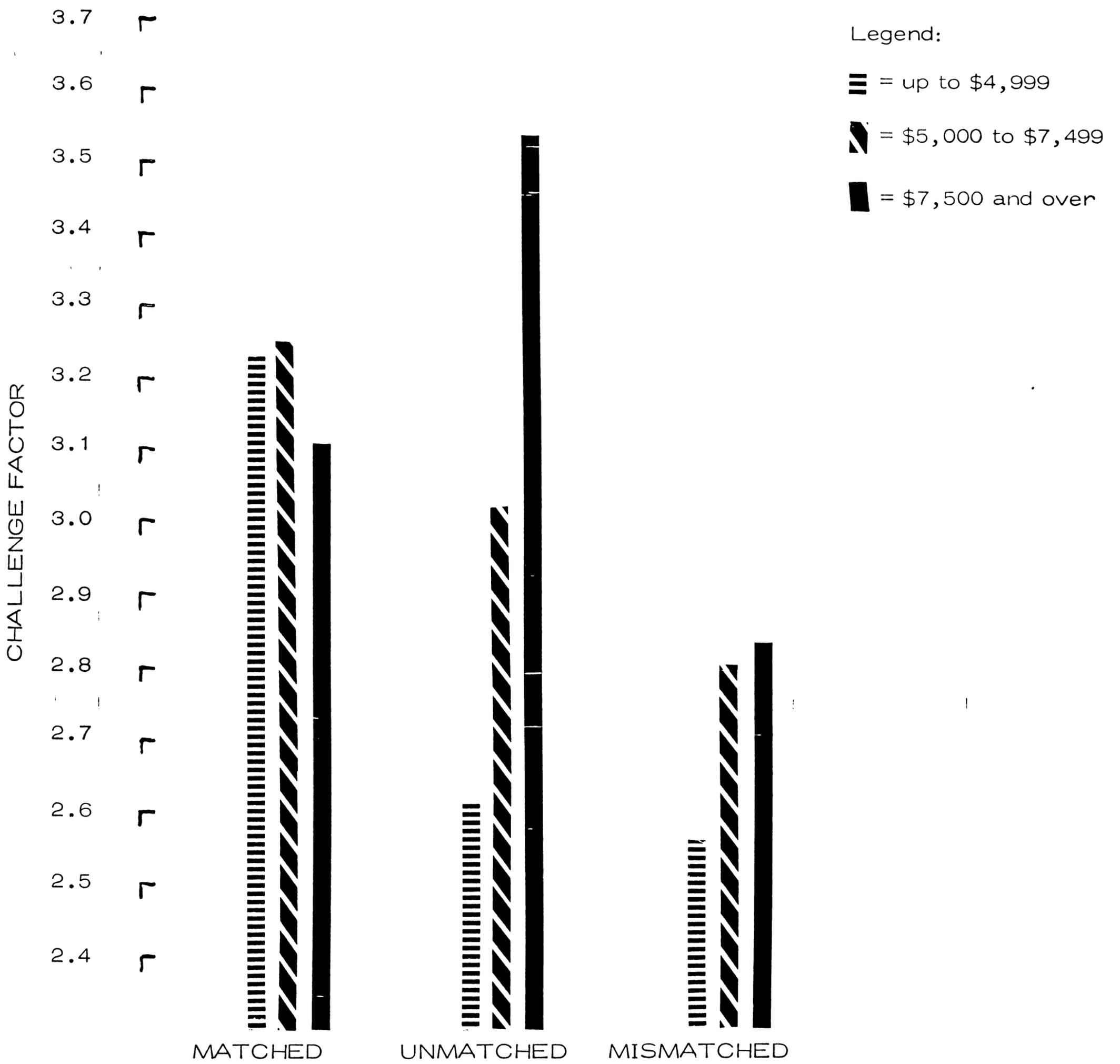


Fig. 2. The relationship of perceived training and income to satisfaction with job challenge.

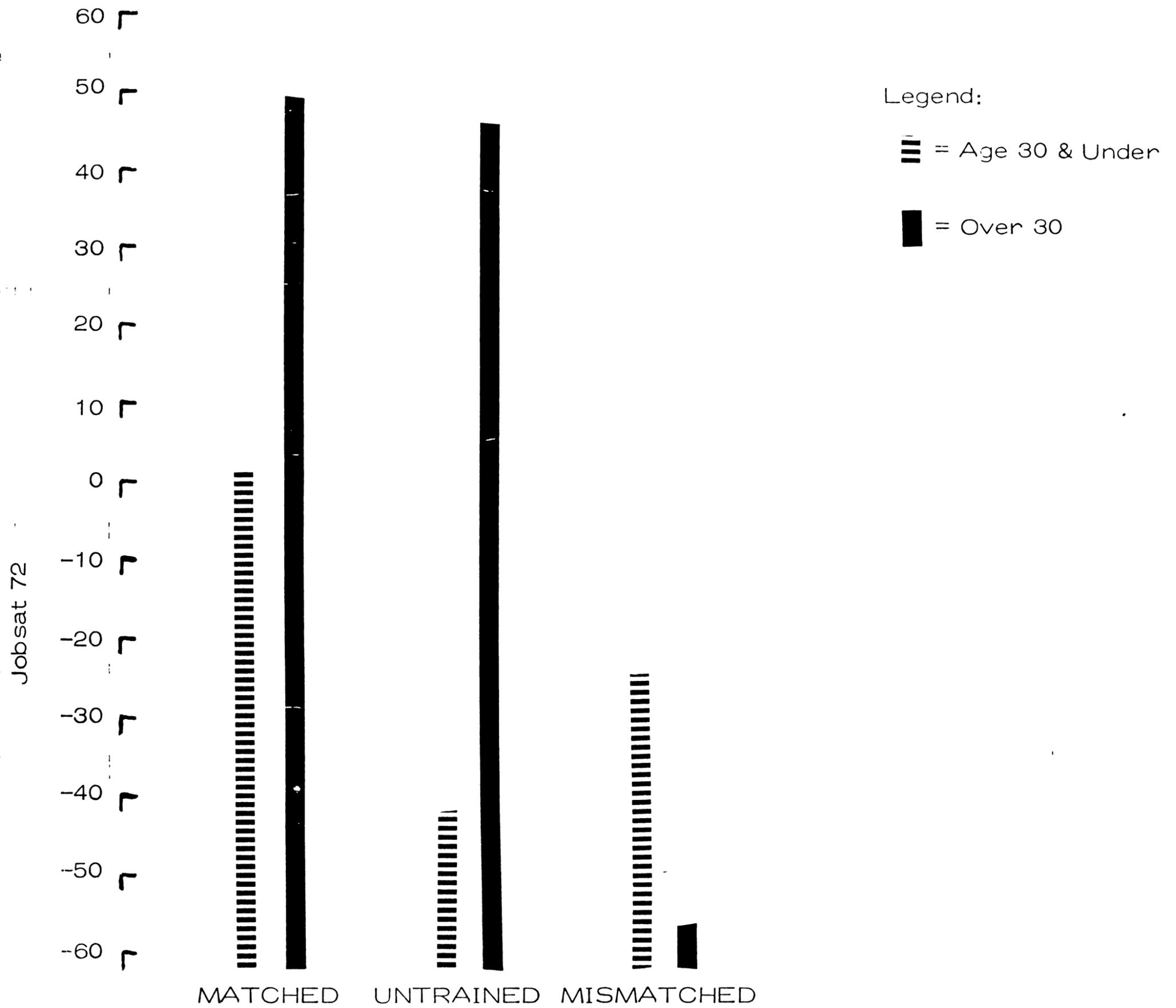


Fig. 3. The relationship of perceived training and age to Jobsat 72

Communication increase with age among matched and untrained workers, satisfaction with these factors declines significantly among older mismatched workers.

Intention to Turn Over

In process of establishing criterion validity of Jobsat 72, Mangione (1973) found that the measure not only correlates significantly with intention to turn over, but also predicts actual turnover. For this reason, subjects in the present study were categorized by age and training and the percent of each group intending to turn over was calculated. These data appear in Table 5.

TABLE 5

Intention to Turn Over of Subjects Categorized by
Training and Age

	Age	Percent Permanent	Percent Undecided	Percent Temporary	No Response
MATCHED	Over 30 N=58	60.0	24.0	12.0	4.0
	30 & Under N=63	27.0	12.7	55.5	4.8
UNTRAINED	Over 30 N=26	61.5	15.4	7.6	15.5
	30 & Under N=52	15.4	23.0	59.6	20.0
MISMATCHED	Over 30 N=13	30.7	23.0	30.7	15.6
	30 & Under N=41	7.0	19.5	68.0	5.5

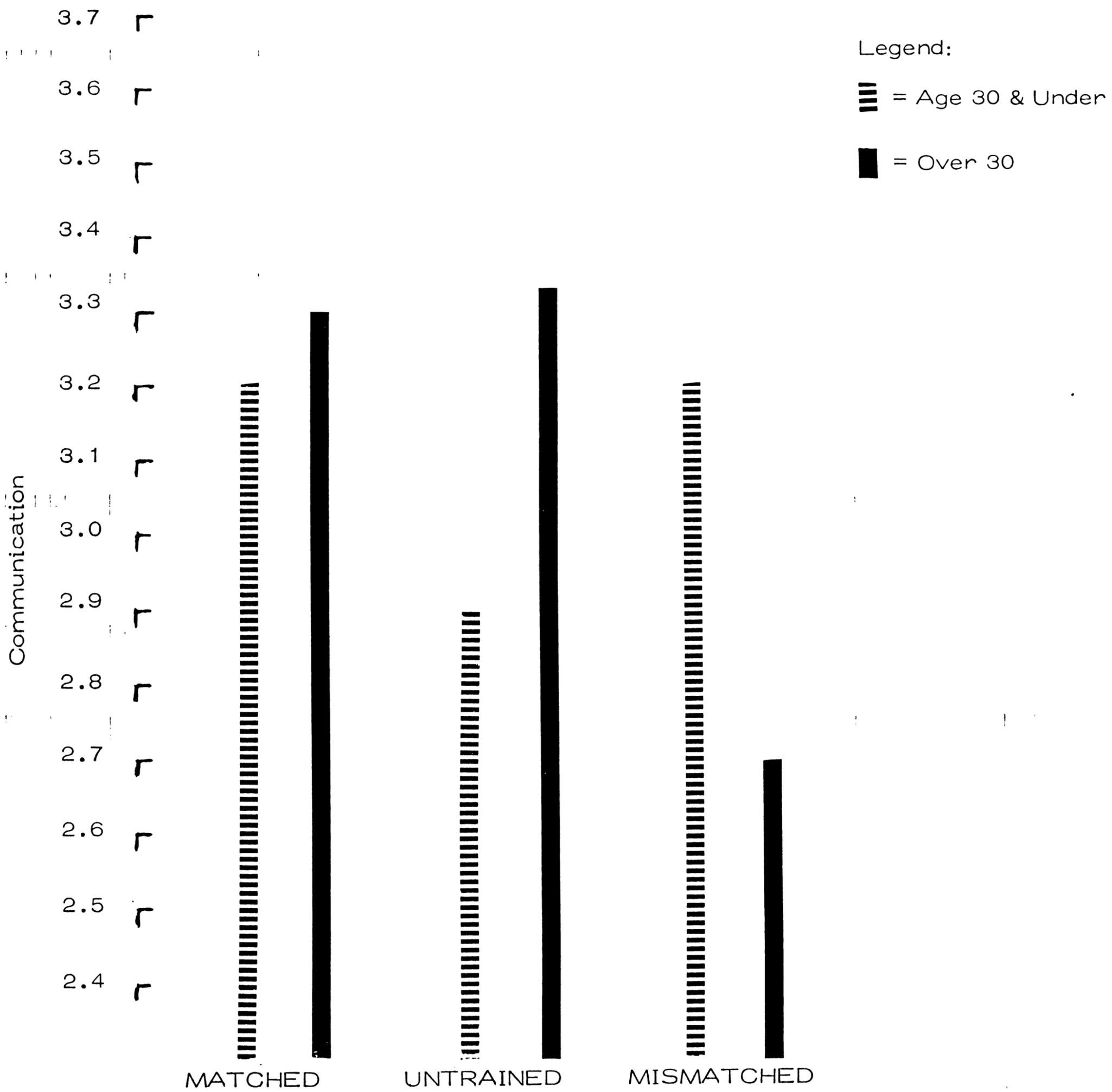


Fig. 4. The relationship of perceived training and age to satisfaction with Communication

CHAPTER IV

DISCUSSION

The results of this study show that satisfaction with job challenge is greatest for workers who report that their educations have prepared them for their jobs, next greatest for those who report that their educations have not prepared them for any specific kind of work, and least for those who report that their educations prepared them for work different from that which they are now doing. However, on overall job satisfaction, it is the matched training group which is significantly more satisfied than either the untrained or mismatched groups. The importance of the training variable is reflected in the findings that it was more powerful than the age variable and the level of income variable, each of which had significant effects when tested alone.

In light of these results, the proposition from which the training hypothesis was derived must be revised as follows: Job satisfaction is increased when special training inputs as perceived by the worker are available and utilized in the job. Perhaps researchers who are active in the development of equity theory will find this proposition adaptable to other applications of the theory.

The differences between the three training groups are clearly illustrated by an analysis of their intention to turn over (Table 5). While considering these data, we should bear in mind that turnover is affected by a number of variables in addition to job satisfaction. If no other work is available, if there is a high unemployment rate, or if the worker is geographically immobile, she may have no choice but to continue in her present job regardless of her dissatisfaction with it. Conversely, if a worker's family is moving away, or if she is offered a better job, she may turn over even if she is highly satisfied with her present job. In light of these and other variables which affect turnover, the differences between the three training groups are even more striking. While only 7.6% of the older untrained workers and 12% of the older matched workers intend to turn over, 30.7% of the older mismatched workers intend to do so. Even among younger workers, who can be expected to turn over frequently regardless of training, a higher percentage of mismatched workers intends to turn over. It is regrettable that a follow-up study of actual turnover is not possible, due to the fact that responses to the survey were anonymous.

Most of the other results are self-explanatory, but some points should be elaborated. One is that as level of income rises, only the untrained group shows a corresponding increase in

satisfaction with the Challenge factor, which seems to indicate that pay is a more valued outcome for untrained workers than for trained ones. For the matched group, satisfaction on this factor is relatively high and stable across all income groups, while the mismatched group find their jobs relatively unchallenging regardless of pay level. Although no causal relationship can be inferred, income and job challenge are positively linked for workers who perceive themselves as untrained, but not for workers who perceive themselves as trained. This finding should help clarify the relationship between income and job satisfaction, which has been a puzzling problem.

Second, an interesting phenomenon appeared among subjects with vocational business school training in an education x income analysis. Their satisfaction with Communication decreased significantly as level of income increased. The reader should bear in mind that all but three of these subjects fell into the matched training category, in which satisfaction with Communication was stable across income levels. A similar phenomenon occurred among these vocational business school subjects in an education x age analysis (Fig. 1), in which the older women's satisfaction was significantly lower on the Communication and Challenge factors. Noting that the younger vocational business school subjects were more satisfied with Challenge and Communication than any

other age or educational group, we conclude that the career expectations of these women are not realized over time, and that the value of their accruing on-the-job experience is not appropriately rewarded. Clerical work offers little opportunity for advancement. It appears that while these workers grow in their profession, their jobs do not, nor do their ideas and opinions seem to be given adequate hearing. Although this interpretation could be tested in further research, the findings of this study are clear enough to alert employers to the career needs of this type of employee. In terms of affirmative action, we would say that they are underutilized.

The education hypothesis was not supported, which is not surprising in view of the fact that the three training groups cut rather evenly across all educational categories except vocational business school. We conclude that a person does not necessarily consider education to be related to employment. Some people apparently consider education to be an end unto itself, of no value whatsoever, or of value only for other jobs -- not the one they have.

Although women in the control group were generally in higher-status, higher paying jobs than the college-graduate clerical workers, they were not significantly more satisfied with their jobs. Thus, Berg's (1972) hypothesis that job satisfaction increases with job level for college graduates was not supported in this study.

Wanous and Lawler (1972), in their study comparing several ways of measuring job satisfaction, conclude that "...theory and research are needed which map in detail the relationships among the different ways of measuring satisfaction, the various kinds of facet satisfaction, and a number of independent and dependent variables." (p. 105) The chaotic state of job satisfaction literature substantiates this conclusion, and although it was not the primary purpose of the present study, a facet-by-facet listing of significant findings may be of value.

Analyses showed that satisfaction with job Challenge was significantly higher among vocational business school graduates under age 30, among workers whose training matched their jobs, among all workers in the upper income category, among untrained workers as their income increased, and among older workers generally. Satisfaction with this factor was significantly lower among older vocational business school graduates.

Satisfaction with job Comfort was highest among workers over age 30. This facet was not significantly affected by any other variable tested.

Financial Rewards satisfaction, of course, increased significantly with level of income. Significantly higher satisfaction with this factor also appeared among subjects whose training

matched their jobs, and among older (over 30) workers.

Satisfaction with the Relations with Co-Workers factor was not significantly affected by any of the independent variables tested in this study.

The Resource Adequacy factor was affected only by the training variable, with the result that matched workers were significantly more satisfied than others.

Three groups of workers were significantly less satisfied than others with respect to Communication: older clerical workers with vocational business school education, vocational business school graduates in the upper income category, and older workers whose training did not match their jobs. What these three groups have in common is not certain, but there appears to be an element of disappointment or unmet expectations in each case.

Satisfaction with Pride in Institution was significantly affected by three variables. Older workers, workers in higher income categories, and workers whose training matched their jobs were significantly more satisfied with this factor.

In summary, Challenge, Financial Rewards, and Pride in Institution factors were significantly affected by training, age, and income. Additionally, Challenge was affected by a training x income interaction. Comfort was affected only by age, and Resource

Adequacy was affected only by training. Relations with Co-Workers showed no effects whatsoever. Communication was affected by interactions between education and age, education and income, and training and age.

Finally, an important set of questions remains unanswered. Since the most satisfied workers are those whose training matches their jobs, how do some people happen to be working in jobs which are inappropriate to their training (20% in this study)? Are the fields in which they are trained overcrowded? Have the mismatched workers already tried the kind of work for which they were trained, only to find it not to their liking? In either case, there would be a need for better pre-training counseling of students. Is mismatching a result of geographical separation of people and available jobs? Not much could be done about that problem, unless the workers were free to relocate. Is there a lack of communication between job applicants and personnel officers? If this is a cause, then both the applicants and personnel officers could benefit from training in interpersonal communication.

Perhaps occupational mismatching is a problem only for female workers. Prior to the advent of affirmative action programs, women's employment needs usually were not taken very seriously. Even in job satisfaction research this attitude prevailed. In their

large national survey, Gurin, Veroff, and Feld (1960) simply discarded data on female workers, reasoning that work hasn't the importance for women that it has for men. The training hypothesis tested in this study should be tested again on a sample of male

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APPENDIX A

JOB QUESTIONNAIRE - Part One

Please indicate how true each of the following statements is of your job. Beside each statement write the appropriate number from the following scale:

4= very true 3 = somewhat true 2 = a little true 1 = not at all true

- ___ 1. The hours are good.
- ___ 2. I am free from the conflicting demands that other people make on me.
- ___ 3. I have enough time to get the job done.
- ___ 4. I can forget about my personal problems.
- ___ 5. I have plenty of opportunity to communicate with my supervisor.
- ___ 6. I can see the results of my work.
- ___ 7. I have enough information to get the job done.
- ___ 8. The physical surroundings are pleasant.
- ___ 9. My fringe benefits are good.
- ___ 10. I am kept informed of decisions which affect me in my work.
- ___ 11. I have enough authority to do my job.
- ___ 12. My responsibilities are clearly defined.
- ___ 13. People are favorably impressed when I tell them I work at K.U.
- ___ 14. My supervisor is competent in doing his/her job.
- ___ 15. The problems I am expected to solve are hard enough.
- ___ 16. I am given a chance to do the things I do best.
- ___ 17. I am given a lot of freedom to decide how I do my own work.
- ___ 18. The pay is good.
- ___ 19. My supervisor tries to solve job-related problems of those who work under him/her.
- ___ 20. The work is interesting.
- ___ 21. I am not asked to do excessive amounts of work.
- ___ 22. I receive enough help and equipment to get the job done.
- ___ 23. Travel to and from work is convenient.
- ___ 24. I have an opportunity to develop my own special abilities.
- ___ 25. My coworkers are friendly and helpful.
- ___ 26. I am given a lot of chances to make friends.
- ___ 27. The security is good.
- ___ 28. My supervisor is willing to take the time to listen to what I have to say.
- ___ 29. I am treated with respect.
- ___ 30. I am proud to work at K.U.

JOB QUESTIONNAIRE - Part Two

Please check one response to each of these five questions.

1. All in all, how satisfied would you say you are with your job?

- very satisfied
- somewhat satisfied
- not too satisfied
- not at all satisfied

2. If a good friend of yours told you that he/she was interested in working in a job like yours for the University, what would you tell him/her?

- strongly recommend this job
- have doubts about recommending it
- strongly advise against this sort of job

3. Knowing what you know now, if you had to decide all over again whether to take the job you now have, what would you decide?

- decide without any hesitation to take the same job
- have some second thoughts
- decide definitely not to take the same job

4. In general how well would you say that your job measures up to the sort of job you wanted when you took it?

- very much the job you wanted
- somewhat like the job you wanted
- not very much like the job you wanted

5. The purpose of this question is to find out what kind of job you would most like to have. If you were free to go into any type of job you wanted, what would your choice be?

- the same job you have now
 - something else -- please indicate what _____
-

APPENDIX B

JOB SATISFACTION FACTORS MEASURED BY PART ONE

1. Comfort:

The hours are good.
I am free from the conflicting demands that other people make of me.
I have enough time to get the job done.
I can forget about my personal problems.
The physical surroundings are pleasant.
I am not asked to do excessive amounts of work.
Travel to and from work is convenient.

2. Resource Adequacy:

I have enough information to get the job done.
My responsibilities are clearly defined.
My supervisor is competent in doing his/her job.
I receive enough help and equipment to get the job done.

3. Challenge:

I can see the results of my work.
I have enough authority to do my job.
The problems I am expected to solve are hard enough.
I am given a chance to do the things I do best.
I am given a lot of freedom to decide how I do my own work.
The work is interesting.
I have an opportunity to develop my own special abilities.

4. Financial Rewards:

My fringe benefits are good.
The pay is good.
The security is good.

5. Relations with Co-Workers:

My coworkers are friendly and helpful.
I am given a lot of chances to make friends.

6. Communication:

My supervisor is willing to take time to listen to what I have to say.
I am treated with respect.
My supervisor tries to solve job-related problems of those who work under him/her.
I am kept informed of decisions which effect me in my work.
I have plenty of opportunity to communicate with my supervisor.

APPENDIX C

Intercorrelations Among the Job Satisfaction Factors

Job Satisfaction Scales	1	2	3	4	5	6	7
Challenge (1)	-						
Comfort (2)	.38						
Financial Rewards (3)	.34	.37					
Relations with Co-Workers (4)	.43	.27	.33				
Resource Adequacy (5)	.47	.53	.19	.29			
Communication (6)	.57	.43	.22	.43	.68		
Pride in Institution (7)	.51	.35	.49	.36	.25	.33	
Facet-Free Satisfaction	.71	.56	.44	.48	.48	.58	.51

N = 257, with some fluctuation due to missing data.