

AD-A128 736

PERCEPTIONS OF AGE-TYPED OCCUPATION: A PRELIMINARY  
INVESTIGATION(U) PURDUE UNIV LAFAYETTE IN DEPT OF  
PSYCHOLOGICAL SCIENCES J L BARNES-FARRELL ET AL

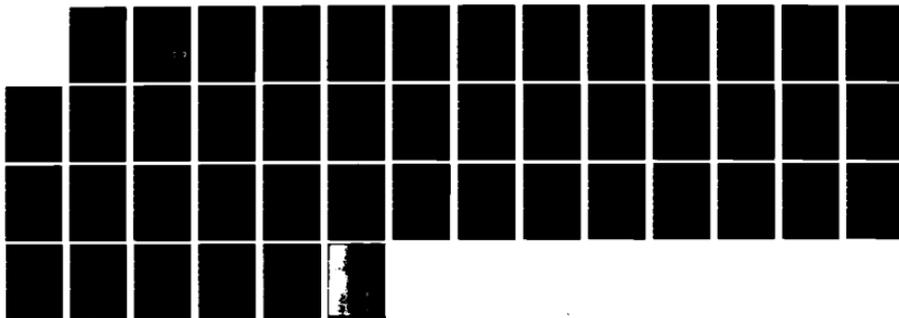
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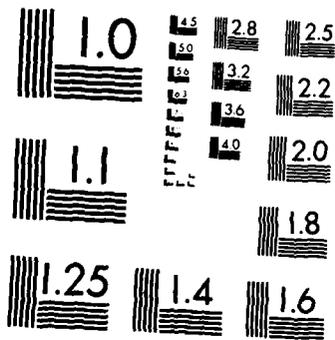
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SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

REPORT DOCUMENTATION PAGE		READ INSTRUCTIONS BEFORE COMPLETING FORM
1. REPORT NUMBER 83-1	2. GOVT ACCESSION NO. AD-A128736	3. RECIPIENT'S CATALOG NUMBER
4. TITLE (and Subtitle) Perceptions of Age-typed Occupation: A Preliminary Investigation		5. TYPE OF REPORT & PERIOD COVERED Interim
		6. PERFORMING ORG. REPORT NUMBER
7. AUTHOR(s) Janet L. Barnes-Farrell		8. CONTRACT OR GRANT NUMBER(s) N00014-82-K-0449
9. PERFORMING ORGANIZATION NAME AND ADDRESS Dept. of Psychological Sciences Purdue University West Lafayette, IN 47907		10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS 61153N 42 NR 170-940 RR04208 RR0420801
11. CONTROLLING OFFICE NAME AND ADDRESS Organizational Effectiveness Research Programs Office of Naval Research, Arlington, VA 22217		12. REPORT DATE March, 1983
		13. NUMBER OF PAGES 36
14. MONITORING AGENCY NAME & ADDRESS (if different from Controlling Office)		15. SECURITY CLASS. (of this report) Unclassified
		15a. DECLASSIFICATION/DOWNGRADING SCHEDULE
16. DISTRIBUTION STATEMENT (of this Report) Approved for public release; distribution unlimited. <del>Reproduction in whole or in part is permitted for any purpose of the U.S. Government.</del>		
17. DISTRIBUTION STATEMENT (of the abstract entered in Block 20, if different from Report)		
18. SUPPLEMENTARY NOTES		
19. KEY WORDS (Continue on reverse side if necessary and identify by block number) Age Discrimination, Occupational Age-typing, Gerontology.		
20. ABSTRACT (Continue on reverse side if necessary and identify by block number) An important influence on age-discrimination in employment settings may be the occupation for which a candidate is evaluated. Some occupations may be seen as age-appropriate for younger workers, while others are seen as age appropriate for older workers. In this study, several preliminary questions about the existence and processes of occupational age-typing were addressed. When subjects were asked to provide information about their perceptions of a wide variety of occupations, two classes of findings emerged. First, there		

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Perceptions of Age-typed Occupation: A Preliminary Investigation

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Prepared for  
Organizational Effectiveness Research Programs  
Office of Naval Research

**82**

Contract N00014-K-0449  
NR 170-940

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## Abstract

An important influence on age-discrimination in employment settings may be the occupation for which a candidate is evaluated. Some occupations may be seen as age-appropriate for younger workers, while others are seen as age appropriate for older workers. In this study, several preliminary questions about the existence and processes of occupational age-typing were addressed. When subjects were asked to provide information about their perceptions of a wide variety of occupations, two classes of findings emerged. First, there was consensus at the group level about the age-appropriateness of certain jobs. One-third of the 22 occupations presented were consistently perceived as either "older worker" jobs (14%) or "younger worker" jobs (18%). Another 18% of the occupations presented were consistently perceived as non-age-typed. Second, when age-typing was examined at the individual level, it was found that respondents' perceptions about the average age of incumbents and the relative importance of three classes of work skills were predictive of their decisions to age-type occupations as "older worker" jobs or "younger worker" jobs. These relationships were reduced, but not eliminated, when job level was introduced as a covariate. The implications of these findings for the viability of a matching hypothesis of age discrimination are discussed, and suggestions about the direction of future research are provided.

## Perceptions of Age-typed Occupations:

### A Preliminary Investigation

During the past fifteen years, there has been a general upsurge of interest in the field of gerontology. One outcome of this increased awareness is the 1967 Age Discrimination Act which recognized formally, for the first time, what Sheppard (1971) calls "the older worker problem." During the past few years industrial/organizational psychologists have played a large part in the examination of personnel decisions as they affect other minority groups: e.g., women and blacks. A parallel can quite readily be drawn between many of the problems these groups have faced and some of the problems which confront the older worker in the job arena (cf. Palmore & Manton, 1973). Thus, it would seem important that industrial/organizational psychologists build a body of knowledge about this particular minority group - the older worker - which has been largely ignored.

We can document the fact that employers discriminate against older employees in a wide range of areas, despite a growing body of evidence that age per se is not a particularly useful or valid predictor of job competence. (Note: legally, the term "older worker" refers to employees and job applicants between the ages of 40 and 70 years.) We know that older workers, once unemployed, have a more difficult time securing new employment (Axelbank, 1972; Belbin, 1965; Harris & Associates, 1975). Furthermore, skill obsolescence and age

discrimination appear to be major factors in the "voluntary" withdrawal of middle-aged men from the work force (Parnes & Meyer, 1972). Not only are older workers less successful in becoming re-employed, but those who are re-employed have reduced upward mobility (Smith, 1967) and often must take pay cuts (Sheppard, 1971). In addition, there is documented employer bias against hiring older job-seekers, and prima facie evidence for age discrimination at the Employment Service level (Sheppard, 1971, 1972; McConnell, 1977). Investigations of the validity of a number of selection devices in the hiring of older employees further indicate that employers relying on current personnel selection tests and selection interviews may be unfairly discriminating against older job applicants (Arvey & Mussio, 1973; Haefner, 1977; Rosen & Jerdee, 1976a; Salvendy, 1974).

Age discrimination has also been reported in the recruitment of workers for training programs (Belbin, 1965; Havighurst, 1973; Sheppard, 1971), even though it has been clearly shown that problems with training the older worker reflect shortcomings in the training programs themselves (Belbin, 1965; Belbin & Belbin, 1969).

Beyond documentation of the objective difficulties of older workers in obtaining and retaining employment is evidence that older workers, as a group and as individuals, perceive that they are discriminated against in employment situations (Kasschau, 1976; McCauley, 1977), a finding which has implications for the motivation of employees and job-seekers.

The fact that employers discriminate among employees on the basis of age when making personnel decisions certainly poses a problem for the older worker or job-seeker. However, if it can be shown that age is not a valid predictor of job performance, such discrimination becomes the problem of both the organization and the individual. By unfairly discriminating against the older worker, the organization not only creates a problem for aging workers by restricting their employment opportunities, but it does a disservice to itself by using nonoptimal selection strategies. Evidence drawn from a number of fields regarding the nature of cognitive, sensorimotor, and job performance changes with age suggest that discrimination against the older worker is in fact unfair discrimination.

Certainly we realize that age does indeed bring changes with it, physically, mentally, and emotionally. However, it is not at all clear what the nature and extent of these changes are, or how they relate to a worker's competence to perform on the job. Fleishman (1957) has found that competence levels cannot be predicted by static ability tests, unless such factors as experience are taken into account. Thus it is proposed that criteria for success may themselves be dynamic (Ghiselli, 1956). In addition, the traditional assumption that the aging process is one of a continuous and inevitable decline of the body and mental faculties has been increasingly questioned. In many instances, it has been found that changes in skill levels which have been observed are not due to age, per se, but to a variety of ability-extraneous moderating variables, which range from educational level to self-concept

(cf. Haber, 1970; Hoyer, Labouvie, & Baltes, 1973; Schale, 1974).

However, it is still important to ask the question: Does job performance decrease with age? Several studies examining indices of performance have found no significant differences in productivity and performance of older versus younger workers. Absenteeism changes with age are mixed, as are accident rates, but turnover takes a sharp drop with age (Arvey & Mussio, 1973; Crook & Heinstein, 1958; Griew, 1964; Schwab & Heneman, 1977). Experiments in training (Belbin, 1965; Belbin & Belbin, 1969; OECD, 1967) have found no evidence to support the notion of the poorer trainability of older workers. To summarize the research with respect to age as a predictor of job performance, we may say that age per se is an inappropriate variable for estimating the adequacy of performance (Crook & Heinstein, 1958; Heron, 1962; Schale, 1974).

#### Sources of Age Discrimination

Why, then, does discrimination against the older worker exist and persist? It has been suggested that one of the major factors perpetuating the existence of age discrimination in employment decisions has been the negative stereotype of the aging worker prevalent in our society.

Some researchers have offered evidence to document the existence of an "older worker" stereotype in our society. Douse (1961) noticed that age discrimination particularly affected non-manual workers: since non-manual jobs do not generally require strength or agility, he suggested that this

phenomenon supported the notion of a generalized negative age stereotype. The OECD Social Affairs Division (1967) seemed to corroborate Douse's conclusions. A list of reasons given by employers for (admitted) age discrimination painted a rather bleak picture of the aging worker. At least one-third of the reasons given were related to presumed mental and physical decrements. Resistance was also encountered in training older people, with many of the same reasons given. Early work reporting negative attitudes toward older workers (Aaronson, 1966; Tuckman & Lorge, 1952) is supported by more recent research which concludes that both young and old hold negative views of aging and the aging person (Bennett & Eckman, 1973; Sherman, 1977).

Finally, a study by Rosen and Jerdee (1976b) provides the most commonly cited evidence for the existence of an age stereotype which could only enhance the trend toward age discrimination in employment that has been fairly well established already. Rosen and Jerdee hypothesized that the well-documented decline in the status of older people may be due in large part to age stereotypes. They constructed a 65-item questionnaire to rate the "average" 60-year-old and the "average" 30-year-old on a number of job-related personality characteristics which represented four worker qualification dimensions: performance capacity, potential for development, stability, and inter-personal skills. As they had predicted, it was found that the mean rating of the 30-year-old was significantly higher than the mean rating of the 60-year-old for both performance capacity and potential for development;

the 60-year-old was rated as significantly more stable; and there was no significant difference between the 30-year-old and the 60-year-old in mean rating on the interpersonal skills dimension. It was concluded that age stereotypes do exist for such work-related dimensions as performance capacity, potential for development, and stability, even though the accuracy of such stereotypes is generally unsupported by research. These stereotypes depict the older person as generally less employable than a younger person, particularly for jobs requiring high performance and potential.

The previously cited literature makes a rather strong case for age stereotyping as the process underlying age bias in personnel procedures. However, there are some problems in simply accepting this explanation at face value. First, most age stereotyping studies have used as their referent group truly aged persons (often nursing home residents). There are clearly differences between this use of the term "old" and the use of the term "old" when we refer to active members of the work force between the age of 40 and 70 years. Second, the one study which has attempted to describe the content of our age stereotypes for older workers (Rosen & Jerdee, 1976b) has been attacked on methodological grounds: It might be argued that the demand characteristics of the research design alone may have been sufficient to induce the differences observed between descriptions of older and younger workers. Attempts to reproduce their results with improved designs have not been very successful (Barnes-Farell, Note 1; Cleveland, Note 2).

In addition, it has been noted that a variable moderating the degree of apparent age discrimination is the nature of the job itself. There are certain occupations which tend, more than others, to permit working past 65 years of age (Harris, et al., 1975). Arvey (1979) has suggested that there may also be age by job-type interactions. In other words, there may be some jobs which are perceived as "old" jobs, while others are seen as "young" jobs. This is an important point, and will serve as the focus of this paper.

#### Occupational Age-Typing

It is my thesis that an important influence on age discrimination in employment settings may be a type of ratee-situation interaction. I have already discussed the possibility that ratee age, as a variable, may be perceived to be intercorrelated with other ratee characteristics. This implicit personality theory, or age stereotype, is not general or necessarily negative; it is simply a presumed intercorrelation matrix of traits, characteristics, and abilities for persons classified as "old." (Even this, of course, is complicated by the fact that raters vary in their chronological definitions of the class "old" (See Barnes, Note 3). As Arvey (1979) has suggested, jobs may also be age-typed. We might think of some jobs as "older worker" jobs, in which age is assumed to be positively correlated with success, and other jobs as "younger worker" jobs, in which age is assumed to be negatively correlated with success. Preliminary data bearing on this issue (Barnes-Farrell, Note 4) support this notion. It would seem plausible, then, that raters faced

with an evaluation task do not consider ratee age in a vacuum, but in the context of a particular job. I am proposing that the process by which these two variables interact is a matching process. Older workers performing older worker jobs will be expected to perform successfully, while older workers performing younger worker jobs would not be expected to perform successfully. The same paradigm should hold for younger workers performing jobs which are thought to be either younger worker jobs or older worker jobs. From the perspective of age discrimination, this process would imply that older workers may be at an unfair disadvantage when performing a "younger worker" job, but may actually be at an advantage when being evaluated in an "older worker" job. This idea is not new; the same model has been applied in sex discrimination research, and has been fairly well supported (Heilman & Guzzo, 1978). From the more general perspective of trying to understand the process, however, this model falls somewhat short. For instance, we may ask: what is it that makes a job a "younger worker" job? Two alternatives come to mind. A younger worker job may be one which is commonly observed to be filled by young people. If this were the case, we would expect that categorizations of jobs by age-type should correspond to the distribution of employee age among these job titles. Alternatively, age typing of jobs may be based on a comparison of presumed job requirements to implicit personality theories (IPT's) for people in different age categories. Thus, a "younger worker" job would be one which is perceived to require the kinds of

skills, etc. which are a part of our IPT's for younger people; an older worker job would be one which is perceived to require the kinds of skills which are a part of our IPT's for older workers. Further, we might expect that some jobs are not age-typed, since the skills and traits they are thought to require are not a component of young or old IPT's.

The point to be made here is this: In order to understand the ways in which the age-typing of occupations might impinge upon the decisions made about older workers (e.g. selection and promotion decisions, performance evaluations), a number of questions about occupational age-typing must first be answered. At the most basic level we must address such issues as: What is meant by the term "age-typed occupation"? Do people age-type occupations? In addition, we need to understand what factors contribute to the age-typing of occupations. For instance, if we think of occupational age-typing as the process of categorizing jobs as "older worker" jobs or "younger worker" jobs, we might ask what cues lead us to choose one category or another: i.e. why is one job perceived as belonging to the category "younger worker job" while another is assigned to the category "older worker job?" As mentioned earlier, one plausible hypothesis is that age-typing may simply be a reflection of observations of the age distributions in various occupations (and this most likely provides at least a partial explanation for age-typing, if it is demonstrated.) However, there may be other factors which are considered in the categorization process, such as the skills thought to be necessary to success on the job.

The current study was an attempt to provide preliminary answers to some of the questions that have been raised with regard to the existence and process of occupational age-typing. Subjects in the study were asked to consider a number of occupations, and then answered several questions about their perceptions of those occupations. It was my hypothesis that subjects would, in fact, consistently perceive some jobs as age-appropriate for either younger or older workers. Further, it was expected that the category to which a job was assigned would be related to such perceptual variables as: the perceived age distribution of incumbents in that occupation; the age at which an employee was assigned to the category "older worker"; and the skills necessary for effective performance on that job. The last variable was included as a first step toward a test of the hypothesis developed earlier: that the process of age-typing may be one of matching the perceived skill requisites of a job with the perceived skill levels typifying an age group. Since research delineating the content of such older worker/younger worker stereotypes is sparse, data supporting the hypothesis that age-typed category assignment for jobs is related to perceived requisite skills can only tell us whether people consider skills in making category assignments, but not whether those skills are being matched with age-typed implicit personality theories. Although we can make some reasonable speculations about the kinds of skills that we might expect to be associated with "older worker" and "younger worker" (and even "neutral") jobs, a

priori hypothesis are not really warranted at this time. Therefore, this experiment was not designed to test a matching hypothesis for age discrimination at this point. The current study was instead designed as a preliminary exploration of the potential viability of a matching hypothesis as a description of the process underlying age discrimination in organizational decisions. The first step is to establish the existence of occupational age-typing and attempt to identify the bases of this phenomenon.

#### METHOD

Subjects. Subjects were 217 college students recruited from introductory psychology classes and industrial psychology classes. The mean age of the sample was 20 years (range 18 years to 42 years); 57.6% were male, 42.4% were female. All subjects received experimental credit or extra credit for participation in the study.

Materials and Procedure. A pilot investigation was conducted to identify job titles with which college student populations would have some familiarity. An independent panel of undergraduate students and graduate students assigned a job level rating of 1, 2, or 3 to each job. A final list of 22 job titles was selected from among these, on the basis of the following criteria: (1) job titles were selected to cover a broad range of occupational fields and (2) job titles representing job levels 1, 2, and 3 were selected in approximately equal proportions. (Examples of job titles included on the final list are: secretary, truck driver (level 1); carpenter, salesperson (level 2); pilot, college professor,

(level 3).)

A questionnaire was developed as the vehicle for gathering information from subjects about their perceptions of these occupations. The instrument consisted of the list of 22 job titles (presented in random order) and a series of five questions. The questions to which subjects were asked to respond elicited information about the following variables (the complete text of these items is reproduced in Table 1):

- 1) familiarity with the occupation;
- 2) perceived mean age of incumbents in the occupation;
- 3) relative importance of three categories of job skills (physical skills, mental skills, interpersonal skills) to successful performance on the job--respondents were asked to rank order these skills in terms of their importance vis a vis successful job performance;
- 4) perceived age-appropriateness of the job, operationalized as assignment to the category "older worker" job, "younger worker" job, or "neither",
- 5) perceived boundary age for the category "older worker."

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Insert Table 1 about here  
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Subjects were asked to answer all five questions for each occupation listed. In addition, each subject was asked to provide information about his/her age and sex.

The instrument was administered to groups of 20 to 50 subjects in single-sitting sessions. Most respondents required

approximately 30-40 minutes to complete the questionnaire.

Analyses. The percentage of respondents classifying each job as an "older worker" job (O), "younger worker" job (Y) or neither (N) was calculated and was cross-tabulated with familiarity with job. Means and standard deviations for the following variables were calculated for each job and for each subject: acquaintance with an employee in the occupation (Familiarity), estimated average age of incumbents (Average Age), age at which an employee becomes an older worker (Boundary Age), importance ranking assigned to physical skills, mental skills, and interpersonal skills (Work Skills P, M, and I), and age-category assignment for each occupation (Age Category O, Y, N). Mean job level (Job Level) of those occupations classified as O or Y was also calculated for each subject.

Before pooling data for personally familiar and non-familiar jobs, a 2 x 3 table cross-tabulating Familiarity with Age-Category was constructed. A chi-square analysis was used to test the hypothesis that age-category assignments were significantly related to subjects' familiarity/non-familiarity with someone performing the job.

To answer the question of whether some occupations can be identified as age-typed occupations, the percentage of respondents choosing each category (O, Y, or N) was examined. A 22 x 3 fold contingency table was constructed to summarize the relationship between occupation and age-category assignment. Chi-square was used to test the hypothesis that occupation is related to subject's choice of an age-appropriate

category. Cramer's  $V$  was calculated to estimate the strength of the relationship between the two variables. Finally, responses to each job title were examined individually. A criterion of 50% agreement was used to decide whether each job title was perceived as belonging to one of the categories O, Y, or N. Any job title which was assigned to a category by at least 50% of the sample was considered to belong to that category. Any job which was not assigned to one category by at least 50% of the sample was considered to be unclassifiable for purposes of this analysis.

The next analysis examined the perceptions subjects had about jobs which they considered to be age-typed. For each subject, Job Level, estimates of Average Age and Boundary Age, and ranked importance of Work Skills were aggregated and averaged for those occupations which had been classified by the respondent as either O or Y. Age Category (O vs Y) was then used as the dependent variable in a series of multiple regression analyses using Work Skills, Average Age, Boundary Age, and Job Level as predictors. The following hypotheses regarding the relationships among these variables were tested via multiple regression analysis:

- (1) Perceptual variables (Average Age, Boundary Age, and importance of Work Skills) are predictive of Age Category assignment. All perceptual variables were entered simultaneously into a multiple regression equation with Age Category as the dependent variable. The significance of  $R^2$  for the full equation was used

to test this hypothesis.

- (2) The perceived Importance of Work Skills (defined as the set of predictors: Physical Skills, Mental Skills, and Interpersonal Skills) is predictive of Age Category assignment. All three work Skills were entered simultaneously into a multiple regression equation with Age Category as the dependent variable. The significance of  $R^2$  for the full equation was used to test this hypothesis.
- (3) Perceptual variables are predictive of Age Category assignment, even when Job Level is held constant. Job Level was entered on the first step of a hierarchical regression analysis, and all perceptual variables were entered simultaneously into the equation on the second step. The significance of the increment in  $R^2$  on step two was used to test this hypothesis.
- (4) The perceived importance of Work Skills is predictive of Age Category assignment, even when Job Level is held constant. Job Level was entered on the first step of a hierarchical regression analysis, and all three Work Skills were entered simultaneously into the equation on the second step. The significance of the increment in  $R^2$  on step two was used to test this hypothesis.

## Results

A chi-square analysis indicated no significant relationship between the classification of an occupation as O, Y, or N, and subjects' familiarity with someone employed in that occupation ( $\chi^2 = 7.7$ ,  $df = 2$ , n.s.). Therefore all subsequent calculations were collapsed across both levels of familiarity.

A chi-square test of the relationship between Occupation and assigned Age-Category was significant ( $\chi^2 = 1849.7$ ,  $df = 42$ ,  $p = <.00$ ). Cramer's V estimate of the strength of this relationship was .44. When the percentage of respondents classifying each job title as O, Y, or N is examined (see Table 2), it can be seen that there was consensus among respondents (> 50% agreement) about the classification of several jobs. Of the 22 occupations presented, there was a clear consensus on 11 (50%) of them about the age-typing (O or Y) or non-age-typing (N) of the job. Approximately one-third (32%) of the occupations were perceived as age-typed: 14% were classified as older worker jobs; 18% were classified as younger worker jobs. The remaining 18% of the occupations for which there was consensus were classified as non-age-typed. These observations tend to support the hypothesis that, at a group level, there are consistent perceptions about the age-appropriateness of certain jobs. It can also be seen from a comparison of Job Level and Consensus Category columns in Table 2 that occupations which are age-typed tend to come from different job levels. Older worker jobs were all level 3 jobs; younger worker jobs were level 1 and level 2 occupations. All three

job levels were represented in the non-age-typed occupations.

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Insert Table 2 about here  
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The correlational analyses conducted next examined age-typing at the individual level. The question posed was this: When individual respondents do perceive an occupation as age-typed, what kinds of variables influence whether the occupation will be labelled an older worker job (O) or a younger worker job (Y)? The following variables were considered as potential predictors: Work Skills (Physical, Mental, and Interpersonal), Average Age, Boundary Age, and Job Level. (For these analyses, each subject's responses were aggregated only for those jobs which he/she had categorized as older (O) or younger (Y). Since there were individual differences in these assignments and in the proportion of jobs which were perceived as non-age-typed, job level was not a constant. Previous observations suggested that job level is associated with age-category for age-typed occupations, so Job Level was included as a covariate in regression analyses three and four.) The zero-order correlation matrix on which regression analyses were based is presented in Table 3. Examination of the first row in this table indicates that several predictor variables were significantly related to Age Category for occupations perceived as age-typed. With the exception of Interpersonal Skills and Boundary Age, all of the perceptual variables considered in this study were significantly correlated with Age Category ( $p < .01$ ). Age Category was negatively correlated with the ranked

Importance of Physical Skills ( $r = -.32$ ) and positively correlated with the ranked Importance of Mental Skills ( $r = .36$ ). That is, Mental Skills were perceived to be more important to success for occupations assigned to category 0 than for those assigned to category Y. The opposite relationship held true for Physical Skills. (Note: the zero-order correlations for each of the individual Work Skills should be interpreted with caution, because of the ipsative nature of the data on which they are based. For this reason, Work Skills are used and interpreted as a set of variables in the regression analyses which follow; individual contributions are not considered further, as they may be misleading.) As expected, the estimated Average Age of Incumbents was positively correlated with Age Category ( $r = .42$ ). In addition, a strong positive correlation was observed between Job Level and the Age Category to which an occupation was assigned. Thus, the same trend noted earlier in the group level consensus data was manifest also in this individual level analysis.

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Insert Table 3 about here  
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A summary of the results of the four multiple regression analyses conducted is displayed in Table 4. As hypothesized, perceptual variables account for a significant proportion of the variance in assigned Age Category for occupations which are seen as age-typed ( $R^2 = .30$ ,  $p < .001$ ). Work Skills alone accounted for 19% of the variance in Age Category ( $p < .001$ ). Since the Age Category to which age-typed occupations were

assigned was so closely associated with Job Level ( $R^2 = .36$ ), Job Level was used as a covariate in analyses three and four, in order to test the hypotheses that perceptual variables, and specifically perceptions of the importance of Work Skills, accounted for variance in Age Category after the influence of Job Level was removed. Both hypotheses were supported. After Job Level was entered on step 1 of a hierarchical multiple regression analysis, the increment in  $R^2$  due to the addition of all Perceptual Variables on step 2 was still significant ( $R^2 = .08, p < .001$ ). Likewise, the increment in  $R^2$  due to the addition of Work Skills alone on step 2 was small but significant ( $R^2 = .04, p < .001$ ).

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Insert Table 4 about here  
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#### DISCUSSION

The results of this preliminary exploration of occupational age-typing support two general kinds of conclusions.

First, there was clear support for the hypothesis that age-typing of occupations is a real phenomenon. That is, a variety of occupations can be identified for which there are shared expectations about the relationship between age and successful performance on the job. By this statement, I do not mean to imply that age-appropriateness is a feature of our perceptions of all occupations. Certainly the data suggest otherwise. For half of the occupations presented in this study, there was no clear agreement among respondents about the

category to which each occupation belonged (O, Y, or N). Furthermore, for 18% of the occupations, there was clear agreement that worker age would not be expected to affect job performance (i.e. those occupations that were consistently assigned to category N). However, the remaining occupations (32% of the original list) were consistently perceived as either "older" or "younger" worker jobs.

Also noteworthy is the very strong relationship observed between Age Category and Job Level among those occupations. "Older worker" occupations, without exception, were occupations that had been independently rated high (3) on Job Level. This observation is consistent with an "experience leads to high performance" type of explanation for age-typing, since level 3 occupations predominantly consist of jobs which require several years of specialized training and supervised experience, and experience is generally correlated with age. Another possibility is that level 3 jobs are characterized by a need for a skill akin to "wiseness" which is assumed to accrue as a function of experience. For jobs in which experience is not an important variable, the "experience leads to high performance" explanation would not make age-typing predictions. "Younger worker" occupations were identified however, and they came from levels 1 and 2. These tended to be either entry level jobs (e.g. secretary, cashier) or jobs which have a large physical component (construction worker, professional athlete). This classification trend is probably most consistent with a classification strategy suggested earlier: observation of the

typical age of incumbents.

Before we move on, some potential limitations to the inferences drawn from these data should be noted. First, these perceptual data were gathered from a sample of college students. Although care was taken to ensure that the occupations used as stimulus objects were familiar to a college population, the distribution of ages within this type of sample is highly restricted. It is possible that the proportion and kinds of occupations perceived as age-typed may be affected by age. Until this study has been replicated in samples spanning various age groups, these conclusions are appropriate only to this rather age- and experience-restricted population. I was not interested in identifying a comprehensive list of all occupations that are or are not age-typed. However, there is no particular reason to believe that the sample of occupations presented in this study is atypically loaded with jobs in which performance is age-related. Finally, the possibility exists that the age-typing of occupations which was observed was primarily a function of demand characteristics. This alternative explanation for the results obtained is highly unlikely for three reasons. Subjects were offered not only older/younger worker categories (O, Y), but also were offered a non-age-typed category (N). Furthermore, they used this "neither" category: in fact, N was the most frequently chosen category overall (40% of all age category assignments were N). Finally, the fact that age category responses were not randomly assigned, but were instead associated with particular occupations for the whole sample (including occupations which

were consistently assigned to category N), suggests that demand characteristics did not play an important role in Age Category Assignments.

If we turn to the second set of analyses, another, more tentative set of conclusions appears to be warranted by the data. Although the group level analyses discussed earlier suggest that there are shared group expectations about the age appropriateness of some occupations, they tell us little about the processes underlying occupational age-typing in individuals. Of particular interest are those processes that lead to the decision to assign an occupation to category O rather than category Y (and vice versa) in those cases where age is perceived to be related to job success. Three kinds of variables were useful in differentiating between these two age category assignments: Job Level, Average Age, and Work Skills. (It should be pointed out that although Job Level was independently measured, Average Age and Work Skills are variables which were measured as part of the same instrument which measured Age Category. Therefore, interpretation of the predictive power of Average Age and Work Skills must be tempered by the recognition that response-response bias may have inflated the observed intercorrelations among variables measured in the same questionnaire.)

Job Level was very closely related to Age Category assignments, accounting for 36% of the variance in Age Category. This is interesting, since it runs counter to the general vein of reports documenting age discrimination against

older job applicants. Perhaps age discrimination only becomes a problem when workers choose (or are forced) to change occupations. Under those circumstances, they would be seeking entry-level kinds of jobs, which are more likely to be seen as "younger worker" occupations. On the other hand, as pointed out earlier, we can only postulate why Job Level is positively correlated with Age Category assignment. Most likely, Job Level is confounded with other, more explanatory variables (e.g. experience, physical requirements, "wiseness", etc.).

The positive relationship between Age Category and estimated Average Age of Incumbents was certainly less than surprising. What was perhaps more surprising was the fact that the relationship between these two variables was not even stronger, for in some sense, estimated Average Age might be thought of as an alternative operationalization of age-typing. The two variables were not, however, isomorphic. An interesting question, which unfortunately cannot be answered by these data, concerns the causal relationship between the two variables. Is a decision about the age-appropriate category for an occupation a natural outgrowth of observations of the age distribution in that occupation, or are estimates of the average age of incumbents in an occupation distorted by perceptions of age-appropriateness of that occupation? Normative data on the true age distributions in each of these occupations must be gathered before this question can be answered.

The final set of variables (and the set central to stereotyping explanations of age-discrimination) found to be

useful In predicting Age Category assignment was Work Skills. Both In combination with other perceptual variables and alone, Work Skills accounted for a significant proportion of variation In Individual decisions to label an occupation as "older" or "younger". Even when Job Level was held constant, Work Skills accounted for unique variance in Age Category assignment, which indicates that this is an effect which exists within job levels as well as between levels. Earlier it was pointed out that any Interpretation of the results for individual work skills must be made with extreme caution, due to the ipsative nature of the data. In the spirit of exploration, however, it would seem useful to go beyond the very safe conclusion that, as hypothesized, the relative importance of Work Skills is predictive of Age Category assignments. In this vein, I would tentatively suggest that occupations for which Physical Skills are perceived to be most important to successful performance are more likely to be labelled "younger worker" jobs; occupations for which Mental Skills are perceived to be most important are more likely to be labelled "older worker" jobs; and occupations for which Interpersonal Skills are perceived to be most important are not consistently assigned to one category or the other. The very sparse literature which exists to delineate the nature of our stereotypes of older and younger workers, is generally consistent with these tentative conclusions about the nature of our stereotypes of "older" and "younger" occupations (cf. Bennett & Eckman, 1977; Rosen & Jerdee, 1976b; Sherman, 1977). Again, there is no way of

drawing inferences about the direction of causal relationships between Work Skills and Age Category, but the results of this study do provide the groundwork necessary to guide future research in this area.

Specifically, the results of this study suggest that it is plausible to postulate the existence of age-appropriate "implicit personality theories" for occupations. Future research should address the task of refining our understanding of the nature of such implicit theories (stereotypes). For example, it would be reasonable to suggest that very basic work categories of work skills such as Mental Skills might be further refined into several varieties of mental skills (e.g. decision-making, problem-solving, abstract reasoning, idea generation, etc.), some which are important to "older worker" occupations, and some which are important to "younger worker" occupations. A parallel research development should be the acquisition of a more complete understanding of the nature of "older worker" and "younger worker" stereotypes. Once these tasks are accomplished, we can proceed with the business of testing the usefulness of matching hypotheses such as the one proposed earlier in this paper, and exploring other questions related to the motivational and cognitive bases underlying age bias in organizational decisions.

Footnote

1. This research was supported in part by U.S. Office of Naval Research Contract N0014-82-K-0449, Janet L. Barnes-Farrell and Daniel R. Ilgen, co-principle investigators.

I would like to express my appreciation to Lynn Harland-Dura, Jane Ann Hill, and Michael Melchioris for their assistance in collecting and coding the data for this study.

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Table 1

Occupational Perceptions Questionnaire Items

On the following page, you will find a list of 22 occupations. I would like you to answer the following questions: (A through E) for each occupation listed. Please answer these questions carefully and honestly. There are no right or wrong answers - I am interested in your feelings and thoughts about these questions.

- A. Do you personally know one or more people who have been employed in this occupation? (Circle Yes or No for each question.)
- B. What would you estimate is the average age of workers in this occupation (in years)?
- C. For this occupation, which group of skills from the list below would you say is most important to successful performance, and which group of skills would you say is least important to successful performance? For each occupation circle the letter of the most important group of skills, and place an X over the letter of the least important group of skills.

P - physical skills  
M - mental skills  
I - interpersonal (social) skills

- D. There are some jobs which may be considered to be more appropriate for older workers (jobs at which you would expect older workers would be better performers), and other jobs which may be considered to be more appropriate for younger workers (jobs at which you would expect younger workers would be better performers). For each occupation on your list, answer the following questions:

Would you consider this job to be an "older worker" job (circle O), a "younger worker" job (circle Y), or neither (circle N)?

- E. At what age would you consider an employee in this occupation to be an "older worker?"

Table 2

Percentage of Respondents Assigning Occupations to Each Age Category

Occupation (Job level) <sup>2</sup>	Assigned Age Category <sup>1</sup>			Consensus Category <sup>3</sup>
	O	Y	N	
1. Carpenter (2)	29	34	37	
2. Secretary (1)	9	58	33	Y
3. Dentist (3)	64	4	32	O
4. Professional athlete (2)	0	98	2	Y
5. Short order cook (1)	13	45	43	
6. Pilot (2)	48	20	32	
7. College professor (3)	77	2	22	O
8. Auto mechanic (2)	7	44	48	
9. Factory worker (1)	15	26	59	N
10. Cashier (1)	5	54	41	Y
11. Teacher (2)	27	22	51	N
12. Truck driver (1)	19	29	52	
13. Salesperson (2)	11	40	49	
14. Computer programmer (3)	17	39	43	
15. Physician (3)	77	3	20	O
16. Construction worker (1)	6	69	26	Y
17. Police officer (2)	13	37	49	
18. Manager (2)	39	14	47	
19. Architect (3)	38	12	49	
20. Nurse (2)	15	35	50	N
21. Accountant (3)	37	13	49	
22. Engineer (3)	39	11	50	N

<sup>1</sup> 0 = older worker job Y = younger worker job N = neither

<sup>2</sup> 1 = low 2 = moderate 3 = high

<sup>3</sup> Category to which this occupation was assigned by at least 50% of the sample.

Table 3  
 Intercorrelation Matrix for Age Category and Predictor Variables  
 (N = 217)

Variable	1	2	3	4	5	6	7
<u>Dependent Variable</u>							
1. Age Category	--	-.32*	.36*	.02	.42*	.04	.60*
<u>Predictor Variables</u>							
2. Physical Skills <sup>2</sup>		--	-.30*	-.19*	-.21*	-.04	-.35*
3. Mental Skills <sup>2</sup>			--	-.32*	.15	.01	-.02
4. Interpersonal Skills <sup>2</sup>				--	-.02	.01	-.02
5. Average Age					--	.20*	.36*
6. Boundary Age						--	.11
7. Job Level							--

<sup>1</sup>  
 Y = 1, 0 = 2

<sup>2</sup>  
 1 = least important; 3 = most important

\*p < .01

Table 4  
 Regression Analyses with Age Category  
 as Dependent Variable (N = 217)

<u>Analysis</u>	<u>Step</u>	<u>Predictor Variable(s)</u>	<u>R</u>	<u>R</u> <sup>2</sup>	<u>ΔR</u> <sup>2</sup>	<u>F for change</u>
1.	1	Perceptual Variables: Work Skills Average Age Boundary Age	.55	.30	.30	18.04*
2.	1	Work Skills: Physical Skills Mental Skills Interpers. Skills	.43	.19	.19	16.04*
3.	1	Job Level	.60	.36	.36	121.74*
	2	Perceptual Variables Work Skills Average Age Boundary Age	.67	.44	.08	30.0*
4.	1	Job Level	.60	.36	.36	121.74*
	2	Work Skills Physical Skills Mental Skills Interpers. Skills	.63	.40	.04	14.13*

\*p < .001

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