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*Validity of Work Histories
Obtained by Interview*

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Validity of Work Histories Obtained by Interview

Summary and Implications

Work histories for a period of at least five years were obtained from 325 individuals by means of structured interviews. Work history items included job title and duties, starting and ending dates, hours, starting pay and ending pay, kind of job training, promotions, and reason for separation. Validity data on these same items were obtained from employers by questionnaire. The validation procedure consisted of determining agreement (within predetermined limits) of interview data with employer data for each work history item. Invalid interview data were categorized as to type of invalidity. The influence of time, age, disability, education, occupation, and sex on the validity of interview data and on the occurrence of different types of invalidity was studied using chi-square analysis.

Following are the major findings:

1. The validity of work history information obtained by interview was not very high. On only three of the eleven work history items studied did the proportion of valid information exceed 70%. On four items, 40% or more of the interview information was invalid.

2. The validity of the interview information varied from item to item. The most valid information was reported for separation and hours, the least valid for pay items. Information on job title and duties, and length of job (which, with hours and pay items, are probably the most commonly used items) was valid in only about two-thirds of the cases studied.

3. Time (period between termination of job and the interview) was the factor which influenced validity most. For most items, validity decreased as time between job termination and interview increased. However, information for present job was no more valid than for past jobs.

4. Other factors (age, disability, education, occupation, and sex) had minor and specific (to certain items) influence on validity.

5. The upgrading type of invalidity occurred more frequently than the downgrading type. The ratio of upgrading to downgrading

varied from item to item, ranging from 5:1 for title and duties to 1:1 for ending date and pay increase.

6. Time, age, disability, education, occupation, and sex had minor and specific (to item) effects on the occurrence of different types of invalidity.

Some implications of these findings are:

1. The use of interview-obtained work history information without further verification is unwarranted, certainly for research purposes, and for applied, that is, practitioners' purposes as well. The fact that over 90% of employers responded to the validation questionnaire should encourage the routine verification of interview-obtained work history data.

2. Any discussion of validity of work history information can be meaningful only in relation to a specified item. Furthermore, validity differences among items indicate those items (such as separation and hours) which perhaps may be used without verification, and those (such as pay items) which especially require verification.

3. The influence of time on the validity of most items suggests that memory is an important factor in producing invalidity of work history information obtained by interview. However, the fact that upgrading was observed more frequently than downgrading suggests that memory distortion is not random, but rather, tends toward the more socially desirable direction. Furthermore, the absence of significant changes in type of invalidity with time may mean that the "social desirability" factor may be different and distinct from the memory factor. Since distortion due to social desirability was observed in a relatively "non-threatening" research situation, it could be expected to occur, perhaps to an even greater extent, in a more "threatening" selection situation, as in personnel interviews of job applicants.

4. There is no evidence, from the present study, that characteristics of the interviewee (such as age, disability, education, occupation, and sex) have any marked influence on the validity of work history information or on the frequency of the different types of invalidity. This finding offers no support to certain beliefs or expectations that the validity of work history information would be lower for older workers, disabled workers or less educated workers, or that these workers would tend to upgrade their work histories more frequently than other workers.

5. The same finding (i.e., absence of relationship between interviewee characteristics and validity or frequency of type of invalidity) permits wider generalizability for the major findings of this study. However, it would be desirable to obtain additional evidence concerning the lack of influence of these characteristics on validity.

A final methodological note: A comparison of the percentage of agreement method of determining validity and the use of correlational analysis showed different and even contradictory results (see Appendix C, p. 41). Without debating the merits and demerits of either method, the implication for the vocational rehabilitation research worker is clear: Findings and therefore conclusions cannot be separated from the methodology used. From this standpoint, methodology is of primary importance.

Introduction

The Industrial Relations Center's Vocational Rehabilitation Research Laboratory is presently engaged in a five-year study of work adjustment among the physically handicapped. The research plan calls for the collection of data on several indicators of work adjustment, the determination of relationships among these indicators, and the determination of factors associated with the indicators. These indicators were selected after a comprehensive review of the research literature, which is reported in Bulletin X of the present series.¹

One major set of indicators of work adjustment is to be found in the work history of the individual. Work adjustment is reflected in a person's history of employment and unemployment. Promotions and progression in wages are indicative of work adjustment. Data on job shifts and reasons for job separation provide clues to the manner in which the individual is adjusting to the world of work.

The paucity of studies on the validity of work history information obtained by interview or through questionnaires has been noted in Bulletin X. It is obvious that much more needs to be done by way of such validation studies.² It is also just as obvious that if work history information is to be used as research data, as planned in the present study of work adjustment, it is necessary to determine the validity of such data. As an important by-product of validation studies on work history information, it would be helpful for the vocational counselor or rehabilitation worker to know how much reliance he can place on such information, since he may have to decide on courses of action based in part on work history information.

This bulletin reports one such methodological study of the validity of work history information obtained by interview. As in a pilot study reported in the present series,³ the criterion of validity used in this study was information furnished by the employer. The study, then, involved a comparison of interview-obtained data with data provided by the employer. The amount of agreement between

¹ *Minnesota Studies in Vocational Rehabilitation: X. A Definition of Work Adjustment.* Bulletin 30, May, 1960.

² For examples of validation studies, see: Bancroft, Gertrude. Consistency of information from records and interviews. *J. Amer. Statist. Assn.*, 1940, 35, 377-381; Keating, Elizabeth, Paterson, D. G., and Stone, C. H. Validity of work histories obtained by interview. *J. appl. Psychol.*, 1950, 34, 6-11.

³ *Minnesota Studies in Vocational Rehabilitation: V. Methodological Problems in Rehabilitation Research.* Bulletin 25, December, 1958.

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the two sets of data would indicate the validity of work history information obtained by interview.

Method

The sample:

The sample for the present study consisted of the first 325 persons of the Work Adjustment Project sample for whom both interview and employer data on work history were obtained. The Work Adjustment Project sample was drawn from lists of known physically handicapped persons obtained from rehabilitation agencies and hospitals in the Minneapolis-St. Paul metropolitan area.⁴ Collection of data on the Work Adjustment Project sample is still in progress.

Table 1 summarizes the characteristics of the 325 persons in this study based on information reported in the interview, with the ex-

Table 1. Characteristics of the sample

Characteristic	N	Per cent ^a
1. Sex: Male	261	80
Female	64	20
2. Age: ^b below 30	118	36
30-44	123	38
45 and above	83	26
3. Education: ^b less than 12 years	130	40
12 years completed	119	37
more than 12 years	75	23
4. Occupation: white collar (D.O.T. 0 & 1)	116	36
blue collar (D.O.T. 4,5,6, & 7)	104	32
unskilled and service (D.O.T. 2,3,8, & 9)	105	32
5. Disability: orthopedic and neurological	106	33
other disabilities ^c	137	42
no known disability	82	25

^a Rounded off to the nearest whole number

^b One individual did not furnish data

^c Includes visual, hearing, cardiovascular, respiratory, neuropsychiatric, skin and allergic, generalized and systemic, genito-urinary, and mental retardation disabilities.

ception of disability information. Disability classification in Table 1 was provided by the cooperating agencies and hospitals from which the names of the persons were obtained.

The sample for the present study included 80% males and 20% females. Mean reported age was 36.6 years, with a standard devia-

⁴ Minnesota State DVR (main office and Minneapolis and St. Paul District Offices); Minnesota State Employment Service; State Services for the Blind; University of Minnesota Hospitals Rehabilitation Center; Student Counseling Bureau, University of Minnesota; Hennepin County Welfare Board; Ramsey County Welfare Board; Fairview Hospital (Rehabilitation Center), Goodwill Industries, Sister Kenny Institute (Physical Medicine Department and Rehabilitation Center), Curative Workshop, Opportunity Workshop, Inc., Salvation Army (Medical Services), Minneapolis Hearing Society, Swedish Hospital, United Cerebral Palsy, Minneapolis; Jewish Vocational Service, Minnesota Association for the Deaf, St. Paul Rehabilitation Center, St. Paul.

tion of 12 years. Mean reported education was 11.3 years, the standard deviation being 2.8 years. Reported occupations were categorized into three major groups, "white collar," "blue collar" (skilled and semiskilled), and "unskilled and service." This categorization yielded three groups of about equal size. The orthopedic and neurological groups were the two largest disability groups, constituting 18% and 15% respectively of the sample.

The present sample differs somewhat from the sample of Minneapolis-St. Paul DVR counselees reported on in Bulletin IV of the present series.⁵ The present sample has proportionately fewer females (20% vs. 37.5% for the DVR sample). It is older (median age of 34 years, compared with 21 years at acceptance and 23 years at closure for the DVR sample). It has had more schooling (median education of 12 years, compared with 10 years at acceptance for the DVR sample). Proportionately more of the DVR sample were in white collar jobs (54% vs. 36% for the present sample). However, among those with disabilities in both samples, about the same proportion had orthopedic and neurological disabilities (44% in the present sample compared with 40% in the DVR sample).

Obtaining interview data:

The work history information used in this study was obtained in a thirty-minute home interview with each individual in the sample. The information obtained included data on job title and duties, starting and ending dates, hours, starting and ending pay, kind of job training, promotions, and reason for separation. A standardized interview schedule was used (i.e., questions asked were worded in a standard manner used uniformly by all interviewers). Answers to the questions were entered on a standard form and recorded for each job separately. Copies of the interview schedule and job record form are included in Appendix A (p. 28).

Interviewers were graduate students and advanced undergraduates with prior experience in interviewing. Each interviewer was individually trained in the use of the standardized interview form, with emphasis placed on the nature of the information desired in answer to each question (kind, amount, detail).

The work history interview covered a five-year period and at least three jobs. Information was obtained on as many jobs as were

⁵ *Minnesota Studies in Vocational Rehabilitation: IV. A Study of 1,637 DVR Counselees.* Bulletin 24, November, 1958

necessary to account for a five-year period, and if this did not include three jobs, the interview was continued until three jobs had been accounted for (unless, of course, the interviewee had had less than three jobs).

The work history interview started with present job and proceeded backwards through each previous job. Care was taken to account for all periods of time in the work history, including periods of unemployment as well as periods when the individual was technically out of the labor force.

Each completed interview was carefully checked by a staff member for completeness and comprehensibility. Incomplete interviews (there were only two) were completed through telephone calls to the persons concerned. Check interviews were made by telephone on every tenth interview. Several questions asked in the interview were asked again of every tenth individual drawn for the check interview. A comparison was made between the two sets of data to determine whether interviewers were falsifying interviews. No instances of falsification were uncovered.

Obtaining validation data:

For each job reported by each individual in the sample, a questionnaire was sent to the employer⁶ asking for the following items of information: job title, job duties, starting and ending dates, hours, pay rates (starting and ending), type and length of job training, promotions and reason for separation. (See sample form in Appendix A, p. 32.) The questionnaire was sent with a cover letter briefly describing the nature of the project and soliciting the employer's cooperation.

To achieve maximum returns, unreturned questionnaires were followed-up at weekly intervals. The first and third follow-ups were post card reminders. The second follow-up included a copy of the questionnaire, return envelope, and "reminder" letter.

It was not possible to obtain employer information for all jobs held by the 325 individuals during the past five years (including present job and/or the last three jobs). A total of 922 jobs were re-

⁶ The address of each employer (on each job reported) was checked in telephone directories and/or city directories for accuracy. Jobs in firms which were no longer in business were eliminated from the study, as were those jobs for which the interviewee could not recall enough of the employer's name to permit identification. The number of jobs lost to the study as a result of these circumstances amounted to 14.9% of the total number of jobs reported.

ported in the interviews and employers could not be located for 137 jobs. Replies were received from 92% of the employers to whom questionnaires were sent, but usable data were obtained for only 607 jobs.

It also was not possible to obtain employer information for *all* work history items. As the Results section will show, information on some items (such as job title and duties) was obtained for more jobs and for more individuals than was the case for information on other items (such as pay).

Defining validity:

As previously mentioned, "validity" in this study was defined as the agreement of interview data with employer data (the criterion). However, there remained the problem of setting the limits of "agreement" which would operationally define "validity." Determination of these limits, in turn, would depend on the potential uses of these data.

Work history information obtained through interviews is used primarily in the vocational counseling and personnel fields. Practitioners in these fields generally do not require, for their purposes, that work history information be valid to the extent of exact agreement between the individual's statement and that of his employer. It is obviously not too important to vocational counselors or personnel men, for example, that an individual misreports his monthly salary by one dollar, or that an individual worked 41 hours per week rather than the forty he reports, or that his job lasted 37 months instead of 36 months. But how large a deviation from the exact criterion can the vocational counselor or personnel man tolerate and still consider the interview information valid?

After careful consideration of the probable uses of work history data, the following definitions of validity were adopted for the various items:

1. *Title and duties*—Validity for this item was defined as agreement with the modal employer code⁷ on the first three digits of the Dictionary of Occupational Titles (D.O.T.) classification code. The three-digit codings represent a practical compromise between the impractical stringency of five-digit codes, and the relative meaning-

⁷ "Modal" codes meant complete agreement on all three digits by at least two of the three coders.

lessness of the one-digit code (for purposes of identifying a specific job).⁸

2. *Starting date and ending date*—Interview information was classified as valid if it was within one month of the date reported by the employer.

3. *Length of job*—Validity here seemed to depend on how long the job actually lasted. For example, a deviation of one month has much more significance if the job actually lasted three months than if the job lasted for fifteen months. To allow for this notion of relative significance, a ten per cent range in either direction (i.e., $\pm 10\%$) was allowed around the figure stated by the employer. That is, the interview report had to be within plus or minus ten per cent of that stated by the employer to be classified as "valid."

4. *Hours*—For considerations of relative significance analogous to those above, validity was defined as a plus or minus ten per cent range around the data provided by employers.

5. *Starting pay, final pay, pay increase*—Similarly, validity for these items was defined as being plus or minus ten per cent of the employers' figures.

6. *Training, promotion, separation*—Since these items were all reported in categorical terms, rather than numerical (as were all previous items), validity was defined as exact agreement with employer data.

The validation procedure:

Upon return of a completed questionnaire from the employer, the two sets of data on a job (interview and employer data) were entered on a comparison sheet (see Appendix A, p. 39). Data were entered on the comparison sheet in exactly the way they appeared on the interview schedule and employer questionnaire, with the exception of the open-end responses in the interview to questions on training, promotion, and separation. These open-end responses were classified according to the predetermined categories used in the employer questionnaire. (Needless to say, the open-end responses were categorized without knowledge of employer information on the part of the staff members involved, in order to prevent contamination from that source.)

⁸ Studies of coder agreement showed three-digit codings to be reliable enough for use. See Appendix B, p. 40.

Three trained coders, working independently, coded job information (job title and duties) using the first-three-digit code of the D.O.T. Coding was done separately for interview and employer data (again, with provision to prevent contamination of data from one source by the other).

Modal codes for each job (identical codings by two of the three coders) were determined for the two sets of data. Where no modal codes could be determined, final judgment was undertaken by two senior staff members working together.

Data on length of job (inferred from starting and ending dates) were reduced to number of months. Data on pay were also converted to a standard per-month base.

Upon completion of data processing described above, validation comparisons were made for each work history item using the definitions of validity set forth above.

For the job-title-and-duties item, three judges independently evaluated *invalid* job information to determine if "upgrading" or "downgrading" was involved. A third category was used by the judges on *invalid* information in which D.O.T. codes differed but without any perceptible difference in job level (i.e., there was neither upgrading nor downgrading). Decision as to whether the *invalidity* involved upgrading or downgrading or "other" was based on agreement of at least two judges.⁹

Invalidity of other job information items was determined by direct comparison with employer-furnished data.

Analysis:

The primary purpose of this study was to determine the validity of work history information obtained by interview. A secondary purpose was to assess the nature and extent of *invalidity* for this type of data. In addition, analysis of the data was directed toward investigation of the following specific questions:

1. Does the validity of information obtained by interview differ for different items of work history?
2. Is the validity of work history information affected by the length of time since the job was held?
3. Does the validity of work history information differ for different occupational groups?

⁹ See Appendix B (p. 40) for reliability figures for these judgments.

4. Are factors such as sex, age, education, and disability related to the validity of work history information?

5. Are there differences in the *kind* of invalidity observed for different items of work history?

6. Do factors such as length of time since the job was held, occupation, sex, age, education, and disability influence the kind of invalidity observed?

After the completion of the validation procedure described previously, the interview data were cross-classified as follows:

1. Each of the 607 jobs was assigned to one of three major occupational groups: (a) white collar, which included all jobs classified in the D.O.T. under the first digits 0 and 1; (b) blue collar, which included all jobs classified in the D.O.T. under the first digits 4, 5, 6, and 7; and (c) unskilled and service, which included all jobs classified in the D.O.T. under the first digits 8, 9, 2, and 3 (all agricultural jobs involved in this study were at the unskilled level).

2. Each job was assigned to a time period group depending on when the job ended. Four time period groups were used: (a) present job, (b) jobs ending two years or less prior to the interview, (c) jobs ending from two to four years before the interview, and (d) jobs ending more than four years before the interview.

The cross-classification described above resulted in 12 sets of data, each representing an occupational-group-time-period combination. If an individual had more than one job in any occupational-group-time-period combination, one job was chosen randomly for inclusion and the others eliminated from the analysis. A total of 51 jobs were eliminated from the analysis by this procedure.

Analysis of the data proceeded as follows:

1. Taking each item of work history information separately, the proportion of individuals with valid information was computed for each occupation-time-period group.

2. Taking each time period separately, differences among occupational groups in the proportion of individuals with valid information were tested for significance, using the chi-square test.

3. Where no occupational differences were found, data for the three occupational groups were combined for the time period concerned. Again, if an individual had more than one job ending in any one time period, as a result of this combination of occupational

groups, one job was chosen randomly for inclusion and the rest eliminated from the analysis. Thirty-one jobs were eliminated at this point, making a total of 82 jobs eliminated from the analysis. (This was done so that no individual was represented by more than one job in any time period in the succeeding analyses.) Differences among time period groups were tested next for significance, using the chi-square test.

4. Where no time period differences were found, data for all time periods were combined. Within the remaining sets of data, the influence of age, disability, education, or sex was determined. This was done by (a) categorizing individuals in the set by sex, age, education, or disability (each factor being studied separately); (b) determining the significance of differences among groups in the proportions of individuals with valid information using the chi-square test. The age, education, and disability categories used are those shown in Table 1, viz., for age: less than 30 years, 30-44 years, and 45 years and above; for education: less than 12 years of schooling, completed 12 years, and more than 12 years; and for disability: orthopedic and neurological, other disabilities, and no known disability.

Because of the different combinations of data resulting from the process described above, it is necessary to distinguish between two types of groups when the data are reported in the Results section as "percentage of group reporting valid (or *invalid*) information." One type of group refers to *individuals* while the other type of group refers to *observations*. "Observations" is used when time-period groups are combined, each "observation" representing a job held by an individual in one time period. Thus, it is possible for one individual to be represented by as many "observations" as there are time periods being combined.

Results

Validity

Table 2 summarizes the validity data for each work history item and each time period. Validity is expressed in terms of percentage of the group reporting valid information. Each group includes all individuals (regardless of occupational group¹⁰) with jobs terminating in the given time period. For example, on the "separation" item, validity data were obtained for 98 individuals with jobs ending two years or less prior to the interview, for 91 individuals with jobs ending two to four years before the interview, etc. Of the 98 individuals in the two-year-or-less time-period group, 86% reported valid information on separation; 82% of the 91 individuals in the two-to-four-year time period gave valid separation data, etc.

Table 2 also shows, for each item, the "mean per cent with valid information" which is the mean of the percentages obtained for each time group.¹¹ For example, validity on the separation item for the three time periods was 86%, 82%, and 82%, and the mean of these percentages is 83%.

The last column of Table 2 gives the probability that there is no difference in proportion of valid information among the time period groups. A high probability value would mean that the time factor did not affect the validity of the data; conversely, a low probability value (.05 or less) would indicate that validity of the data was influenced by length of time since the job was held. For example, Table 2 shows that time did not affect the validity of separation data, but did affect the validity of promotion data.

Work history items are listed in Table 2 in rank order of mean validity. Differences in mean validity among the eleven items were significant well beyond the .01 level. Table 2 shows that mean validity ranged from 83% for the separation item, to 38% for the pay increase item. Median mean validity (across items) was 67%. Items referring to pay were consistently less valid than most other work history items, varying in mean validity from 38% to 60%.¹²

¹⁰ No differences in validity were found among occupational groups for each time period and each item; therefore, the data for separate occupational groups were combined for presentation in Table 2.

¹¹ On items for which time period differences were significant, "mean per cent with valid information" is simply a summary figure for the purpose of comparing overall validity of items. For items on which time period differences were not significant, however, the "mean per cent with valid information" represents the best estimates of the validity of these items regardless of when the job ended.

¹² The reader may suspect that the low validity of pay items may be due to the interviewee's reporting "take-home" pay while the employer reported gross pay. Care

Significant differences in validity among the work history items were also observed for each time period taken separately. For present job, data were obtained on only four items (title and duties, hours, starting pay, and starting date), and validity for these items ranged from 81% for hours to 60% for starting pay. For jobs ending two years or less prior to the interview, validity across the 11 items ranged from 86% for separation to 39% for pay increase, with a median validity of 71%. For jobs ending two to four years before the interview, validity ranged from 82% (for separation) to 41% (for pay increase) with a median of 65%. For jobs ending more than four years before the interview, validity ranged from 82% (for separation) to 34% (for pay increase), with a median of 60%.

Factors related to validity

Validity of interview information might be influenced by factors such as time (memory) and the characteristics of the interviewee (such as age, sex, etc.). Accordingly, the relation of six factors (time, age, disability, education, occupation, and sex) to validity of interviewee information was studied as described in the Analysis section above. Each work history item was studied separately. Table 3 summarizes the relationships between these factors and validity on each item. Significant differences among groups classified by a factor are indicated by "yes" in Table 3. Differences were considered significant at the .05 level. These differences are discussed below. Time group differences in validity are considered first, since time (memory) was thought to be the major factor relating to validity of work history information.

a. *Time.* Table 3 shows that time period differences in validity were significant for only three of the 11 items: promotion, ending date, and final pay. For ending date and final pay, data on the more recently held jobs were the more valid. For example, validity for final pay data was 68% on jobs ending two years or less prior to the interview, 62% on jobs ending two to four years before the interview, and 50% on jobs ending more than four years before the interview (see Table 2, p. 16). For promotion data, however, validity was highest (81%) on jobs ending two to four years before the in-

was taken in both interview and employer questionnaire to ask for "pay rate before deductions." In addition, a different question in the interview asks for "take-home" pay in an added attempt to draw a distinction between "take-home" pay and "pay rate before deductions."

Table 2. Validity of work history information by item and time period

Item	Time periods ^a								Mean % with valid information ^b	P of signifi- cance of time period dif- ferences ^c
	Present		2 years or less		2 - 4 years		More than 4 years			
	N indi- viduals	% with valid infor- mation	N indi- viduals	% with valid infor- mation	N indi- viduals	% with valid infor- mation	N indi- viduals	% with valid infor- mation		
1. Separation			98	86	91	82	121	82	83	.80—.70
2. Hours	164	81	97	80	86	72	110	77	78	.50—.30
3. Starting date	132	80	88	72	76	70	67	64	71	.10—.05
4. Promotion			88	68	80	81	97	60	70	>.01
5. Training			87	71	80	75	123	61	69	.10—.05
6. Title and duties	171	70	106	75	97	65	133	60	67	.10—.05
7. Ending date			91	77	76	60	79	62	66	.05—.02
8. Final pay			91	68	78	62	86	50	60	.05—.02
9. Length of job			85	68	72	58	61	52	60	.20—.10
10. Starting pay	127	60	88	62	75	56	85	44	55	.10—.05
11. Pay increase			82	39	71	41	84	34	38	.80—.70

^a Read: Jobs held at time of interview; jobs terminated two years or less (1 to 24 months) prior to the interview; jobs terminated two to four years (25 to 48 months) before the interview; jobs terminated more than four years (48 months) before the interview.

^b Mean validity across all time periods (see p. 14).

^c Probability of the null hypothesis (no difference among time period groups) being correct.

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Table 3. Relationship of factors to validity of work history information

Item	Factors					
	Time	Age	Disability	Education	Occupation	Sex
1. Separation						
2. Hours						
3. Starting date				yes		
4. Promotion	yes					
5. Training						
6. Title and duties		yes				
7. Ending date	yes					
8. Final pay	yes		yes			
9. Length of job						
10. Starting pay						
11. Pay increase						

terview, next highest (68%) on jobs ending two years or less before the interview, and lowest (60%) on jobs ending more than four years before the interview.

While the effect of time on validity was found to be significant for only three items, Table 2 shows that time period differences did approach significance ($.10 > P > .05$) for four other items: starting date, training, title and duties, and starting pay. With the exception of data on training, data on these items were more valid the more recently in time the jobs were held. For the training item, data on jobs ending two to four years before the interview were slightly more valid than data on jobs ending just before the interview (75% vs. 71%), but these data were more valid than that on jobs ending more than four years before the interview, which had 61% validity.

b. *Age.* Differences in validity percentages due to age appeared on one item, job title and duties. These differences are shown in Table 4. For this item, workers 45 years of age and older reported the most valid information, and validity tended to increase with age.

c. *Disability.* Differences among disability groups occurred only on the final pay item for jobs ending in the first two years preceded-

Table 4. Validity of information on job title and duties, by age group

Age group	N observations ^a	% giving valid information
1. less than 30 years old	195	62
2. 30-44 years old	196	68
3. 45 years and older	115	76

^a Data for all time periods were combined.

ing the interview. This finding is shown in Table 5. For the final pay item, individuals with orthopedic and neurological (visible or obvious) disabilities gave the most valid information, followed by those with no known disability, while persons with disabilities other than neurological and orthopedic gave the least valid information.

Table 5. Validity of information on final pay for jobs ending two years or less prior to the interview, by disability group

Disability group	N individuals	% giving valid information
1. Orthopedic and neurological	35	83
2. Other*	41	56
3. No known disability	15	67

* Includes visual, hearing, cardiovascular, respiratory, neuropsychiatric, skin and allergic, generalized and systemic, genito-urinary, and mental retardation disabilities.

d. *Education.* Table 6 shows the differences in validity of starting date data obtained for three groups classified by education. For this item, validity increased consistently with education, being lowest for the less educated group and highest for the more educated group.

Table 6. Validity of information on starting date, by education group

Education group	N observations*	% giving valid information
1. with less than 12 years of education	141	67
2. with 12 years of education	138	74
3. with more than 12 years of education	83	82

* Data for all time periods were combined.

e. *Occupation.* No differences in validity were found among the three occupational groups used in this study. This was true for the total group of jobs and for all time groups taken separately. The absence of occupational differences may indicate that occupational factors do not substantially affect validity of this type of information. However, for some items occupational differences did approach statistical significance. This would suggest that the lack of significant occupational differences might well have resulted from limitations in the representativeness of the samples and/or in the choice of the occupational classifications used in the study of occupational differences. Further study of occupational differences in validity would seem to be indicated.

f. *Sex.* No sex differences in validity of information were found. This finding, however, is limited by the relatively small number of females in the study.

Summary. The most important finding is that the validity of work history information varied with the specific item of work history being considered. Any meaningful discussion of validity of work history information must concern itself primarily with the validity of particular items of work history.

A second important finding is that time affected the validity of the data for some work history items but not for others. Validity for promotion, ending date, and final pay was affected by time; validity for separation, hours, and pay increase was not. Validity was generally highest for the most recently held jobs, decreasing as the time between job termination and the interview increased.

Within the limitations of the data available, factors such as age, disability, education, occupation, and sex had little influence on the validity of work history information obtained by interview. In the absence of research evidence to the contrary from other sources, it must be concluded that these factors are not important in determining the validity of reported work histories.

Invalidity

Differences in types of *invalidity* were studied for the eleven items. For eight items (hours, starting date, ending date, title and duties, length of job, final pay, starting pay, and pay increase), *invalidity* was studied as "upgrading" or "downgrading" with reference to social desirability. When, for instance, in the interview an employee exaggerates the amount of pay he has received for a job, or reports that he held the job longer than he actually did, he would be "upgrading" the information he gives in the direction of social desirability. If on the contrary, he reported his pay as lower, or his stay on the job as shorter, than it actually was, then he would be "downgrading" the information he gives, since in the current social framework this might be considered less desirable. For the remaining three items (promotion, training, and separation) *invalidity* consisted of several types, and was not translatable into upgrading and downgrading terms.

Data on the types of *invalidity* are shown in Table 7. The items are listed in Table 7 in the same order as they appeared in Table 2, i.e., in the order of validity. Table 7 shows, for each work history

Table 7. Invalidity of work history information by item, type of invalidity and time period.

		Time Periods ^b									
		Present		2 yrs. or less		2 to 4 years		More than 4 yrs.		Mean	P of significance of time period differences ^d
Item	Type of Invalidity ^a	N individuals	% with invalid information	N individuals	% with invalid information	N individuals	% with invalid information	N individuals	% with invalid information	% with invalid information ^c	
1. Separation	Total	.....	.....	98	14	91	18	121	18	17	Not tested
2. Hours		164		97		86		110			.30—.20
	Upgrading		16		18		23		15	18	
	Downgrading		3		2		5		7	4	
3. Starting date		132		88		76		67			.50—.30
	Upgrading		9		20		18		21	17	
	Downgrading		11		8		12		15	11	
4. Promotion	Total	.....	.....	88	32	80	19	97	40	30	Not tested
5. Training	Total	.....	.....	87	29	80	25	123	39	31	Not tested
6. Title and duties		171		106		97		133			> .01
	Upgrading		5		8		10		16	10	
	Downgrading		0		1		2		5	2	
	Other		25		16		23		19	21	
7. Ending date		.....	.....	91		76		79			.95—.90
	Upgrading				12		18		18	16	
	Downgrading				11		21		20	17	

Table 7. Invalidity of work history information by item, type of invalidity and time period—Continued

Item	Type of Invalidity	Time Periods ^b								P of significance of time period differences ^d	
		Present		2 yrs. or less		2 to 4 years		More than 4 yrs.			Mean % with invalid information ^c
		N individuals	% with invalid information	N individuals	% with invalid information	N individuals	% with invalid information	N individuals	% with invalid information		
8. Final pay				91		78		86			.50—.30
	Upgrading				19		30		33	27	
	Downgrading				13		9		17	13	
9. Length of job				85		72		61			.20—.10
	Upgrading				26		24		30	26	
	Downgrading				6		18		18	14	
10. Starting pay		127		88		75		85			.90—.80
	Upgrading		24		22		29		36	28	
	Downgrading		16		16		15		20	17	
11. Pay increase				82		71		84			.80—.70
	Upgrading				27		31		31	30	
	Downgrading				34		28		34	32	

^a "Total" invalidity is given for items in which the types of invalidity cannot be classified on an upgrading-downgrading dimension. "Other" also refers to invalid information which is neither upgrading nor downgrading, but is used for items which have upgrading and downgrading types of invalidity.

^b Read: Jobs held at time of interview; jobs terminated two years or less (1 to 24 months) prior to interview; jobs terminated two to four years (25 to 48 months) before the interview; jobs terminated more than four years (48 months) before interview.

^c Mean invalidity across all time periods.

^d Probability of the null hypothesis (no difference among time periods in the proportion of different types of invalidity) being correct.

item and each time period, the proportion of *individuals* reporting each type of *invalid* information. For example, on the "hours" item, 16% of 164 persons on present jobs gave "upgraded" information while 3% gave "downgraded" information. On the same item, of 97 persons giving data on jobs ending two years or less prior to the interview, 18% were "upgrading," and 2% were "downgrading" the data.

Table 7 also shows the "mean per cent with *invalid* information" of the different types. These percentages refer to the mean of the percentages of *invalidity* for the three (or four) time periods on each item (see p. 14).

Table 7 shows that upgrading was the predominant type of *invalidity* for the eight items where up- or down-grading occurred. If *invalidity* were due to random forgetting, we would expect an approximate ratio of 1:1 between the two types of *invalidity*. The actual ratios (upgrading to downgrading) based on mean *invalidity* data were: hours, 4:1; starting date, 1.4:1; title and duties, 5:1; ending date, 1:1; final pay, 2:1; length of job, 1.8:1; starting pay, 1.6:1; and pay increase, 1:1. While the percentages involved in these ratios were small, there is some support to the contention that a certain amount of "upgrading" of work history information occurs in the interview.

Although upgrading exceeded downgrading five times for the title and duties item, the predominant type of *invalidity* for this item was that of neither upgrading nor downgrading. This finding indicates some tendency for employees to describe jobs in terms somewhat different from their employers' descriptions without necessarily attempting to change the level of the job in its description. This suggests a difference between employer and employee in their respective perceptions of the duties in a job.

Invalidity of information on separation, promotion, and training is shown in Tables 8, 9, and 10, respectively. For these tables, the data are cross-classified by source of information (i.e., interview vs. employer). In Table 8, for example, of 247 instances in the interview in which the employee categorized his mode of separation as "quit," 85% were verified by employers, 8% were reported by employers as being "lay-offs," and 7% as being "fires." Of 86 reports of "lay-offs" in the interview, 72% were verified, 20% were actually "quits" and 8% "fires," according to employers. There were only five reports by employees of having been fired, four of which were

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verified and the remaining case reported by the employer as a "quit."

Table 8. Invalidity of information on separation

Interview Information	N observations	Employer information		
		Quit	Laid off	Fired
		Per cent of N		
Quit	247	85	8	7
Laid off	86	20	72	8
Fired	5	20	0	80

Table 9 shows the data for different types of *invalidity* in interview information concerning promotion. Since validity differed for the different time periods (see Table 2), the data are given in Table 9 for each time period as well as for all observations combined. Table 9 shows that about one-fourth of all interview reports of "no promotions" actually involved promotions in pay, according to employers. Another 3% involved promotions in title or in both pay and title. This total *invalidity* figure of 27% actually represents "downgrading." Of the 159 interview reports of promotions in pay, 11% were not promotions at all, according to employers, while 23% were promotions in both pay and title. The former (11%) may be considered as "upgrading." The lower half of Table 9 is of no particular consequence because of the small number of observations involved.

Table 10 presents data on the *invalidity* of interview information on training. In 297 reports of "no training" in the interview, 30% actually involved on-the-job training, according to employers. Thirteen of 17 interview reports of on-the-job training were verified by employers. The remaining four involved no training at all. Only four reports of off-the-job training were made, none of which were verified by employers.

Factors related to types of invalidity

Table 11 shows the relationship of time, age, disability, education, occupation, and sex to types of *invalidity*. Analysis consisted of classifying individuals according to the factor being studied and determining if significant differences in the proportion of the different types of *invalidity* existed among the groups. The same categories used in a similar analysis reported above (see pp. 12-13) were utilized in this analysis. Because of the small number of observations available for this analysis, differences among time period groups were not

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Table 9. Invalidity of information on promotion, by time period

Interview Information	Time period ^a	N individuals	No promotion	Employer information		
				Promotion in pay only	Promotion in title only	Promotion in pay and title
No promotion:				Per cent of N		
	2 years or less	41	71	27	2	0
	2-4 years	40	82	15	0	2
	More than 4 years	46	65	30	0	4
	Total ^b	127 ^c	72	24	1	2
Promotion in pay only:						
	2 years or less	56	14	64	2	20
	2-4 years	47	8	77	0	15
	More than 4 years	56	11	55	2	32
	Total	159	11	65	1	23
Promotion in title only:						
	2 years or less	1	0	0	0	100
	2-4 years	0	0	0	0	0
	More than 4 years	1	0	100	0	0
	Total	2	0	50	0	50
Promotion in pay & title:						
	2 years or less	3	0	0	0	100
	2-4 years	4	0	0	0	100
	More than 4 years	3	0	0	0	100
	Total	10	0	0	0	100

Note: Bold figures represent valid information.

^a Read: Jobs terminated two years or less (1 to 24 months) prior to interview; jobs terminated two to four years (25 to 48 months) before the interview; jobs terminated more than four years (48 months) before interview.

^b All observations combined.

^c N's for totals refer to observations, not individuals.

Table 10. Invalidity of information on training

Interview Information	N observations	Employer information		
		No training	On-the-job training	Off-the-job training
		Per cent of N		
No training	297	68	30	1
On-the-job training	17	23	76	0
Off-the-job training	4	50	50	0

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taken into account in determining the significance of differences among groups based on the other factors. Differences were considered significant at the .05 level. Significant differences found are indicated by a "yes" in Table 11.

Table 11. Relationship of factors to types of invalidity of work history information

Item	Factors					
	Time	Age	Disability	Education	Occupation	Sex
1. Separation						
2. Hours						
3. Starting date				yes		
4. Promotion						
5. Training						
6. Title and duties	yes				yes	
7. Ending date						
8. Final pay						
9. Length of job		yes		yes		
10. Starting pay						
11. Pay increase						yes

a. *Time.* Differences in types of *invalidity* attributable to time were found only on the title and duties item. These differences are shown in Table 7. For this item, both upgrading and downgrading types of *invalidity* increased consistently with time. Upgrading increased from 5% for present job to about 16% for jobs ending more than four years before the interview. Downgrading increased from 0% to 5% over the same time period. The proportion of *invalidity* which was neither upgrading nor downgrading varied inconsistently with time, being highest for present jobs (25%) and lowest for jobs ending two years or less prior to the interview (16%). In relation to combined upgrading and downgrading *invalidity*, the third type (neither up- nor down-grading) changed from that of predominance on present job to equality on jobs in the most distant time period. In other words, for jobs ending more than four years before the interview, *invalidity* of the upgrading or downgrading type is as likely as *invalidity* without upgrading or downgrading.

b. *Age.* Age differences in types of *invalidity* were significant for the length of job item. These differences are shown in Table 12. For workers under 45 years of age, there was relatively more upgrading, (reporting jobs as lasting longer than they actually did) than there was downgrading (reporting jobs as of shorter duration than actuality). The reverse was true for older workers. Older workers (over

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45 years of age) reported jobs as being of shorter duration than indicated by employers' reports.

Table 12. Differences in types of invalidity for information on length of job, by age groups

Age group	N observations	% upgrading	% downgrading
1. less than 30 years old	95	30	10
2. 30-44 years old	81	28	11
3. 45 years and older	42	14	24

c. *Disability.* No significant differences in invalidity attributable to type of disability were obtained.

d. *Education.* Table 13 summarizes differences in invalidity on starting date and length of job for groups classified by education. For both items, the higher the educational level of the group, the stronger the tendency toward upgrading. From a 1-to-1 upgrading-to-downgrading ratio for persons with less than 12 years of education, the relationship changed to a ratio of about 8-to-1 in the group of workers with more than 12 years education. For both items, invalidity of the downgrading type declined with education. On the other hand, upgrading remained at about the 16% level for starting date and increased from 18% to 36% for length of job.

Table 13. Differences in types of invalidity for information on starting date and length of job, by education groups

Education group	Starting date			Length of job		
	N observations	% upgrading	% downgrading	N observations	% upgrading	% downgrading
1. less than 12 years	141	16	17	83	18	19
2. 12 years completed	138	16	10	84	29	13
3. more than 12 years	83	16	2	50	36	4

e. *Occupation.* Occupational differences in types of invalidity were obtained for the title and duties item. The three occupational groups did not differ much in frequency of downgrading or of invalidity which was neither upgrading nor downgrading. However, upgrading was least frequent in the unskilled and service group, and

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most frequent in the blue collar group of workers. These results are shown in Table 14.

Table 14. Differences in types of invalidity for information on job title and duties, by occupational group

Occupational group	N observations	% upgrading	% downgrading	% invalid but neither up- nor downgrading
1. white collar workers	192	11	2	24
2. blue collar workers	185	15	2	18
3. unskilled and service workers	163	4	3	21

f. *Sex.* Differences in types of invalidity attributable to sex occurred only for the pay increase item. Table 15 shows that upgrading occurred as frequently as downgrading for males, while for females, downgrading occurred more frequently than upgrading.

Table 15. Differences in types of invalidity for information on pay increase, by sex groups

Sex	N observations	% upgrading	% downgrading
1. Male	189	33	31
2. Female	48	17	40

Summary. The major finding is that the various types of invalidity were found in different degrees among the work history items studied. Invalidity of the upgrading type was found most frequently in a majority of the items. Time, age, disability, education, occupation, and sex were not important factors in determining the types of invalidity observed.

APPENDIX A

Forms Used in the Study

1. INTERVIEW SCHEDULE

Work Adjustment Project
Industrial Relations Center
University of Minnesota

Code No.

CONFIDENTIAL

Date: _____ Interviewer: _____ Time Started: _____ am
pm
Place: _____

(Sex: Male Female)

1. How long have you been living in the Twin Cities? _____ months
_____ years
2. How old were you on your last birthday? _____ years
3. Where were you born? _____
4. Where did you grow up? _____
5. How many brothers and sisters did you have? _____ (total)
- 5a. How many years older or younger than you is each of them?
[I = interviewee; S = sister; B = brother—include
number of years older (+) or younger (-)]

+	_____	—
+	_____	—
+	I _____	—
+	_____	—
+	_____	—

6. What was your father's occupation? _____

7. How many years of school did he complete?

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
grade school								high school				college				graduate school			

7a. Graduate? _____ 7b. Degree? _____

YES

NO

8. During your childhood, did your mother have any other job besides being
a housewife? NO

8a. YES _____ full-time
part-time

8b. Was this steady work? YES NO

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9. How many years of school did she complete?

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20
 grade school high school college graduate school

9a. Graduate?

YES
 NO

9b. Degree? _____

10. How many years of school did you complete?

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20
 grade school high school college graduate school

10a. Graduate?

YES
 NO

10b. Degree? _____

10c. What is the name of the last elementary school you attended?

Where is it located? _____

What year did you leave there? _____

10d. What high school did you go to? _____

Where? _____

What course did you take? _____

When did you leave? _____

10e. What college did you go to? _____

Where? _____

What was your course of study? _____

What year did you leave? _____

11. Did you ever study in a trade school, business school, or correspondence school? NO

YES: What was the name of the school? _____

Where is it? _____

What were you studying? _____

How long were you studying there? _____

12. Do you remember having taken any tests, such as trade tests, aptitude tests, or interest tests while at school? NO

YES: What tests? _____

Where? _____

13. Are you married? single divorced widowed separated

YES: Married

Is your wife (husband) employed? NO

YES: (job) _____ full-time
 _____ part-time

What was her (his) take-home pay last month? _____

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14. How many dependents do you have **other than yourself**? _____
15. Do you have a job?
- YES**

What was your total take-home pay last month? \$ _____

Do you have any other sources of income besides your job, such as these? (show card 1) NO

YES: A B C D E F G H I J K L _____

How much income did you receive from these sources last month? \$ _____

NO

Are you looking for a job? YES NO

Did you work last month? NO

YES: What was your total take-home pay last month? \$ _____

What are your present sources of income? (show card 1) A B C D E F G H I J K L _____

How much income did you receive from these sources last month? \$ _____
16. Are you a veteran? NO
- YES: WWI WWII Korean Peacetime Service
- Do you have any service-connected disability? NO
- YES: What for? _____
- What per cent disability? _____ %
- How much do you receive for this? \$ _____ per mo.
- Did you receive any special training or attend any service schools? NO
- YES: What kind of training? _____
- How long was this training? _____ months
17. Are you a union member? NO
- YES: What union? _____ Local Number: _____
- How long have you been a union member? _____ yrs.
- Do you attend meetings? NO Regularly Sometimes
18. What is your height? _____ feet _____ inches
19. What is your weight? _____ pounds
20. Has your weight changed much in the last five years? NO
- YES: How much? + _____
- _____
21. Do you wear glasses? NO
- YES: How long have you been wearing glasses? _____ yrs.
- What for? _____
22. Have you any trouble with your hearing? YES NO
23. Have you ever had any serious sickness that kept you in bed two weeks or longer? NO
- YES: How would you describe this illness? _____

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How old were you when this happened?_____yrs.

How long were you sick?_____weeks months years

Were you working at the time? NO

YES: Who was your employer?

Name:_____

Address:_____

Did you return to that company after your illness?

YES

NO: What company employed you after your illness?

Name:_____

Address:_____

(check here if supplementary sheet is used_____)

24. Have you ever had any bad accidents or injuries? NO

YES: How would you describe this injury?_____

How old were you when this happened?_____

How long were you in the hospital?_____weeks months years

Were you working at the time? NO

YES: Who was your employer?

Name:_____

Address:_____

Did you return to that company after your injury? YES

NO: What company employed you after your injury?

Name:_____

Address:_____

(check if supplementary sheet is used_____)

25. Do you have any physical condition now that limits the kind of work you can do or the amount of work you can do? NO

YES: How would you describe this condition?_____

How does it limit the kind or amount of work you can do?_____

Have you had any special training in a hospital or rehabilitation center that prepared you for employment? NO

YES: For what kind of job?_____

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When did you have this training?_____

How long were you in training?_____weeks months years

23a }
24a } (if YES to 23, 24, or 25): Have you received any help from any public agen-
25a } cies, such as these? (show card 2) NO

YES: A B C D E_____

What kind of assistance? (show card 2a)

A B C D E F G_____

26. Have you ever done any job planning with a counselor, vocational counselor, or psychologist? NO

YES: Who was this person?_____

Where was this job planning done?_____

When?_____

27. Did your present employer ask about your physical health or condition at the time you applied for the job? NO

YES: (If accident, injury or illness was previously reported)

Did you mention your illness (accident or injury) when you applied? YES NO

28. Were you required to take a medical examination in order to get your present job? NO

YES: (If accident, injury or illness was previously reported)

Did you tell the doctor about your illness (accident, injury) at that time? YES NO

Did the doctor put any restrictions on the type of work you could do for this company? NO

YES: What were these restrictions?_____

The next questions I want to ask you are about your occupation, your present job and the jobs you have had in the past. First, would you answer these questions about your present job?

(administer Job Satisfaction Blank, then ask Work History Questions for present job, and record answers on following Work History Record Sheet.)

Now let's talk about the job you had just before the one you just told me about.

(ask Work History Questions for All Other Jobs until three jobs and a five-year period have been covered. Record on the following sheets.)

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WORK HISTORY RECORD SHEET

PRESENT JOB:

29. title:_____
30. duties:_____
31. starting date:_____19
32. name:_____
33. address:_____
34. place of employment YES
NO:_____
35. hours_____week
36. pay-\$_____hour day week month
37. starting pay YES
NO: \$_____hour day week month
38. training NO
YES: kind_____
- length_____days weeks months
39. obtaining job A B C D E F G
H _____
40. only job? NO (record other jobs
separately)
YES: (start immed?) YES
NO: (looking for job?)
YES: (continue "UNEMPLOYED")
NO: (continue "OUT OF
LABOR FORCE")

ALL OTHER JOBS:

41. title:_____
42. duties:_____
43. dates: starting:_____19
ending:_____19
44. name:_____
45. address:_____
46. place of employment YES
NO:_____
47. hours_____week
48. final pay \$_____hour day week
month
49. starting pay \$_____hour day week
month
50. training NO
YES: kind_____
- length_____days weeks months
51. obtaining job A B C D E F G
H _____
52. leave job_____
53. only job? NO (record other jobs
separately)
YES: (start immed?) YES
NO: (looking for job?)
YES: (continued "UNEMPLOYED")
NO: (continue "OUT OF
LABOR FORCE")

NOTE: A minimum of three jobs and a minimum five-year period must be accounted for.

ALL OTHER JOBS:

41. title_____
42. duties_____
43. dates: starting_____19
ending_____19
44. name_____
45. address_____

ALL OTHER JOBS:

41. title_____
42. duties_____
43. dates: starting_____19
ending_____19
44. name_____
45. address_____

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ALL OTHER JOBS (cont.)

46. place of employment YES
NO: _____
47. hours _____ week
48. final pay \$ _____ hour day week mo.
49. starting pay \$ _____ hour day week mo.
50. training NO
YES: Kind _____
length _____ days weeks mos.
51. obtaining job A B C D E F G
H _____
52. leave job _____
53. only job? NO (record other jobs separately)
YES: (start immed?) YES
NO: (looking for job?)
YES: (continue "UNEMPLOYED")
NO: (continue "OUT OF LABOR FORCE")

ALL OTHER JOBS (cont.)

46. place of employment YES
NO: _____
47. hours _____ week
48. final pay \$ _____ hour day week mo.
49. starting pay \$ _____ hour day week mo.
50. training NO
YES: Kind _____
length _____ days weeks mos.
51. obtaining job A B C D E F G
H _____
52. leave job _____
53. only job? NO (record other jobs separately)
YES: (start immed?) YES
NO: (looking for job?)
YES: (continue "UNEMPLOYED")
NO: (continue "OUT OF LABOR FORCE")

NOTE: A minimum of three jobs and a minimum five-year period must be accounted for.

(check if additional sheets are used _____)

(after information has been obtained for three jobs and a five-year period)

Now I have just a few more short questions I would like to ask you.

54. Of all the jobs you have just mentioned, which were you most satisfied with?
_____ Why? _____
55. What was the very first full-time job you ever held? _____
56. What would you call your usual occupation (line-of-work)? _____
57. If you could go back to the age of 18 and start life over again, would you choose a different occupation? NO
YES: Which would you choose? _____

VALIDITY OF WORK HISTORIES OBTAINED BY INTERVIEW

58. If you had every opportunity to follow any occupation you wished, but still had to work for a living, what occupation would you choose? _____

(ascertain "ideal" occupation.)

Here are some statements which might be the reasons why you think of _____ as your ideal occupation. Would you please fill out this questionnaire with your ideal occupation in mind.
(administer N-Factors Questionnaire)

Thank you very much for your cooperation.

time completed _____ am
_____ pm

☐ testing positive

☐ testing negative

reason: _____

Comments: _____

Interview checked: by _____ date: _____

2. WORK HISTORY QUESTIONS

PRESENT JOB

29. What is your present job called? _____ (title)

30. What exactly do you do on this job? _____ (duties)

31. When did this job start? _____ (starting date)

32. Who is your employer? _____ (name)

33. Where is he located? _____ (address)

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34. Is that where you work? (place of employment)
 —if NO: Where do you work?
35. How many hours a week do you usually work on this job? (hours)
36. What is the pay rate of this job? (pay)
37. Was this the starting pay rate? (starting pay)
 —if NO: What was the starting pay rate?
38. Did you have any special training for this job? (training)
 —if YES: What kind of training did you have?
 How long was this training?
39. How did you get this job? (show card 3) (obtaining job)
40. Is this the only job you have held with this company? (only job?)
 —if YES: Did you start this job right after the job before it ended?
 —if NO: Were you looking for a job during this time between the two
 jobs?

ALL OTHER JOBS

41. What was this job called? (title)
42. What exactly did you do on this job? (duties)
43. When did this job start? When did it end? (dates)
44. Who was your employer? (name)
45. Where was he located? (address)
46. Was that where you worked? (place of employment)
 —if NO: Where did you work?
47. How many hours a week did you usually work on this job? (hours)
48. What was the pay rate of this job when you left? (final pay)
49. What was the starting pay rate of this job? (starting pay)
50. Did you have any special training for this job? (training)
 —if YES: What kind of training?
 How long was this training?
51. How did you get this job? (show card 3) (obtaining job)
52. Why did you leave this job? (leave job)
53. Was this the only job you held with this company? (only job?)
 —if YES: Did you start this job right after the job before it ended?
 —if NO: Were you looking for a job during this time between jobs?

VALIDITY OF WORK HISTORIES OBTAINED BY INTERVIEW

3. COVER LETTER

UNIVERSITY OF MINNESOTA
INDUSTRIAL RELATIONS CENTER
MINNEAPOLIS 14

Dear Sir:

The Industrial Relations Center at the University of Minnesota is studying employment patterns of a sample of individuals in the Twin Cities area. As part of this study, we are now trying to determine the accuracy of the information which people give us about jobs they have had. The accuracy of work history information is important to us for research purposes. We believe this knowledge could be important to you also in evaluating the information people give you when they apply for a job. If you wish, we will send you a summary of the results of this study as soon as it is completed.

The brief questionnaire enclosed asks about someone who has worked for you in the past. Would you please fill it out and return it to us? It is very important to us that we get this information.

The information you give us will be kept strictly confidential and will be seen by no one outside of our research staff.

If you would like a summary of the results of this study on its completion, please fill in the bottom of the enclosed sheet.

Thank you very much for your cooperation.

Sincerely yours,

RENE V. DAWIS

Research Associate & Project Director
Industrial Relations Center

FE 2-8158 Ext. 7127

MINNESOTA STUDIES IN VOCATIONAL REHABILITATION

4. EMPLOYER QUESTIONNAIRE

Confidential

Would you please give us the following information about: _____
who was employed by you during: _____

1. What was his (her) job called? _____
2. What exactly did he (she) do on this job? _____

3. When did he start working for you? _____ 19
When did he stop working for you? _____ 19

4. How many hours a week did he usually work on this job? _____

5. What was his starting pay rate (before deductions) on this job?

\$ _____ per (circle one) Hour Day Week Month

What was his final pay rate (before deductions) on this job?

\$ _____ per (circle one) Hour Day Week Month

6. Did he have any special training for this job? (check one)

☐ None

☐ On-the-job: How long was this training? _____ days
weeks
months

☐ Company sponsored off-the-job:

Where was this training? _____

How long was this training? _____ days weeks months

7. While he worked for you, did he receive a promotion? (check one)

☐ increase in pay only

☐ increase in rank only

☐ increase in pay and rank

☐ no promotion

8. Why did he leave this job? (check one)

☐ employee quit

☐ employee was laid off

☐ employee was fired

☐ employee was released by the
company for other reasons

(please specify) _____

Thank you again for your cooperation.

I would like to receive a summary of the results of this work history information study, on its completion.

NAME: _____

COMPANY: _____

ADDRESS: _____

VALIDITY OF WORK HISTORIES OBTAINED BY INTERVIEW

5. COMPARISON FORM

Validity Study

_____ to _____

item	INTERVIEW	EMPLOYER
title	_____	_____
duties	_____	_____
Dates:		
starting	_____ 19	_____ 19
ending	_____ 19	_____ 19
time elapsed	_____ months	_____ months
hours	_____ per week	_____ per week
Pay:		
starting	per h d w m \$ _____	\$ _____ per h d w m
final	per h d w m \$ _____	\$ _____ per h d w m
increase	\$ _____	\$ _____
Training:		
kind	kind: _____ none _____	_____ none
	_____ a <input type="checkbox"/>	_____ a on-the-job
	_____ b <input type="checkbox"/>	_____ b off-the-job
		where: _____
length	d w m y _____	_____ d w m y

	INTERVIEW	EMPLOYER
promotion	only job? yes _____ a <input type="checkbox"/> no _____ previous final pay \$ _____ per h d w m _____ b <input type="checkbox"/> previous title _____ c <input type="checkbox"/> _____ d <input type="checkbox"/> _____	_____ a none _____ b pay _____ c title _____ d both
separation	_____ a <input type="checkbox"/> _____ b <input type="checkbox"/> _____ c <input type="checkbox"/> _____	_____ a quit _____ b laid off _____ c fired other: _____ _____ _____

APPENDIX B

Reliability Data on D.O.T. Coding and Upgrading-Downgrading Judgments

Table 16. Reliability of D.O.T. Codings
N=1190 job descriptions

Agreement	D.O.T. Codings		
	1 digit	2 digits	3 digits
All 3 coders agreed	73.5%	63.5%	59.2%
2 coders agreed	22.4%	28.8%	30.5%
No agreement	4.1%	7.6%	10.2%

Table 17. Reliability of Upgrading-Downgrading Judgments
for Title and Duties Item
N=180 Jobs

	Per cent of agreement
All 3 judges agreed	68.9
Agreement of 2 judges only	30.0
No agreement	1.1

APPENDIX C

Comparison of Correlational Analysis With Per Cent of Agreement Method

One method of studying the validity of work history information is by correlating interview data with employer data. In the present study, product-moment correlation coefficients were computed for five work history items and for each time period separately. (To allow comparison of correlation coefficients, only the product-moment correlation technique was used. This technique could not be applied to data on the remaining six items.) These correlation coefficients are shown in Table 18.

If size of correlation coefficient is taken as the index of validity for an item, then Table 18 shows that the most valid item is length of job, and the least valid item is hours. These results differ from those shown in Table 2 (p. 16), which shows that of the five items under consideration, hours ranks second in validity, while length of job ranks only third in validity. It would appear that the correlation method of determining validity produces results quite different from those arrived at by the per-cent-of-agreement method used in the present study.

The explanation for this difference in results seems to lie in two problems inherent in the use of the product-moment correlation technique. First, product-moment correlation coefficients are affected by the size of the range in the distributions for the variables being correlated. Distributions with a narrow range tend to have lower correlation coefficients, while distributions of wider range tend to have higher coefficients. This range-of-distribution effect partially explains the contrast between the high correlation coefficients obtained for length of job and the low correlation coefficients for hours. Length of job has a distribution ranging from one month to five years or longer, while hours has a very restricted distribution centering on 40 hours per week.

The second problem in the use of the product-moment correlation technique is the effect of a constant error on the size of the obtained coefficient. A constant error is one of consistently overvaluing, or undervaluing, the "true values" for a variable, as for example, when 5 units are added consistently to all "true values." A random error, on the other hand, shows no such consistent pattern.

Table 18. Product-moment correlations for employer and interview information, by time periods

Item	Time Periods ^a									
	Present		2 years or less		2 to 4 years		more than 4 years		All time periods combined	
	N individuals	r	N individuals	r	N individuals	r	N individuals	r	N observations	r
1. hours	164	.74	96	.63	85	.50	115	.54	460	.60
2. final pay			80	.87	62	.79	74	.70	216	.82
3. length of job			85	.98	71	.94	62	.86	218	.92
4. starting pay	128	.68	87	.85	75	.84	92	.74	382	.78
5. pay increase			80	.68	73	.94	90	.69	243	.81

^a Read: Jobs held at time of interview; jobs terminated two years or less (1 to 24 months) prior to interview; jobs terminated two to four years (25 to 48 months) before the interview; jobs terminated more than four years (48 months) before the interview.

Random errors affect the size of the obtained coefficient, while constant errors do not.

In the present study, there is evidence of a constant error in the finding that upgrading was the predominant type of *invalidity*. Since the per-cent-of-agreement method identifies both random and constant error (i.e., the combination of constant and random error), while the correlation method reflects random errors but not constant errors, the differing results concerning item validity would be a logical consequence. Furthermore, since the study of the validity of work history information obtained by interview is concerned with all types of error, the per-cent-of-agreement method would appear to be more appropriate than the correlation method in the analysis of the data.

APPENDIX D

Work History Validity Study Personnel

Interviewers

BRUCE ANDERSON
DEVONA ANDERSON
JAMES BOSTIC*
JOHN DAFFER*
HASHEM FATEMI
RICHARD GROSGBAUER*
JAMES NORDLING*
THOMAS RINGHOFER
PANDANDA SUBAIYA*
JAMES WILLIAMS

Interview Supervisor

LOIS ANDERSON

D.O.T. Coders

ROBERT BARRON*
EXALTACION CASTILLO*
DAVID WHITAKER*

Clerks

JOAN BROWNSTEIN*
BARBARA JOHNSON
JANICE JOHNSON*
MIRZA JONES*
JOANN NORMAN*
JANICE OPHEIM*
LOIS PINZ
MARION WARNER*

Statistician

GIAN JAIN

Upgrading-Downgrading Judges

RENE DAWIS
VERA SCHLETZER
DAVID WEISS

* No longer on project staff as of date of publication.