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The Employment Interview: Narrative and Quantitative Reviews of the Literature

By

Kiyoshi Takahashi

Abstract

The purpose of this paper is to understand the current status of the studies regarding employment interviews. To this end, this paper overviews the conclusions and implications presented in seven literature reviews that have covered interview studies published since 1911 to date. This paper also reviews the results of nine meta-analyses in which the validity coefficients found in individual validation studies are summarized statistically. These narrative and quantitative reviews contrast the earlier pessimism to interview utility prevailing in academia and the recent optimism based on intensive literature reviews and sophisticated statistical analyses. The latest findings in regard of incremental validity, policy capturing, and confirmatory bias are then reviewed briefly. Based on the conclusion that validity and reliability of employment interviews are satisfactory, this paper suggests that more attention should be paid to the interview content and fairness of interviews.

Key Words

employment interview, reliability, validity, cognitive bias, interview format, interview training, meta-analysis, policy capturing

The employment interview is perhaps the most popular method for hiring employees. The popularity of interviews is not unique to specific countries and nations. In a survey of 852 organizations in the United States, 99 percent of companies reported using interviews (Ulrich and Trumbo, 1965). A more recent survey of 245 organizations reported that the use of supervisory interviews for hiring clerical workers, sales workers, and production workers was as high as 91 percent, 82 percent, and 84 percent, respectively (Bureau of National Affairs, 1988). Similarly, a survey of 917 Japanese companies showed that 99 percent of companies used interviews when selecting new college graduates in liberal arts and 87 percent for screening students in natural sciences (Osawa, 1989). A European survey reported similar figures, showing that 90 percent of British employees and 94 percent of French employees were interviewed as part of the selection process (Shackleton and Newell, 1991).

From the applicant's viewpoint, the selection interview is the hurdle that exists between the external and the internal labor markets. To get hired, applicants must pass through the interview process successfully. In fact, a number of coaching books and training programs are offered each year for helping job seekers improve their interview skills. From the interviewer's point of view, the interview is a dialogue session that is indispensable for gathering information and evaluating the qualifications of applicants. It is commonly observed that interviewers

have a great deal of faith in the usefulness of interviews. They are confident in their skills to assess applicant attributes such as work experience, interpersonal skills, intelligence, personality, motivation, integrity, and trainability through the interview process. This method is so appealing to selection authorities that few will hire employees without interviewing applicants. A high degree of freedom also makes interviews popular. Many selection authorities use interviews to generate an impression of hiring only the best applicants, to provide an orientation to the organizational culture to potential employees, to establish good public relations, and to fulfill interviewers' enjoyment (Dipboye, 1992).

By contrast, management researchers have questioned the utility of interviews. They have shed light on the negative side of employment interviews. For example, it has been argued that the validity and reliability of interviews are not high. Also indicated is that the employment interview suffers negative effects such as stereotyping, overweighing of negative information, snap decisions, primacy effects, and contrast effects. In general, scholars have had quite different views from practitioners. The clear difference in attitudes between these two groups shows the need to clarify the current status of the employment interview.

The purpose of this paper is fourfold. First, the narrative reviews of employment interviews are outlined in historical order. For lack of space, this paper summarizes only major conclusions of prior literature reviews. The summary of the previous literature gives a general picture of what was found in interview research. Second, the quantitative reviews of prior studies are outlined with regard to interview validity. Based on the meta-analytic findings, this paper gives a general conclusion regarding the utility of interviews. Third, the latest studies are reviewed briefly. Important studies published since the last review are introduced. Finally, the paper provides a few conclusions and points to the future direction of interview research.

Historical Overview of the Interview Literature

Reflecting its popularity as a selection tool, the employment interview has drawn considerable attention in academia. To date, at least seven comprehensive reviews have been published (i.e., Wagner, 1949; Mayfield, 1964; Ulrich and Trumbo, 1965; Wright, 1969; Schmitt, 1976; Arvey and Campion, 1982; Harris, 1989). Among others, Wagner (1949) made the earliest summary of research related to the employment interview. Locating 106 articles published since 1911, he argued that as a means of screening, interviews were inferior to objective procedures such as cognitive tests. The major findings and implications of Wagner's review were as follows: (a) much more quantitative research is needed, because only 25 of 106 articles report any empirical work; (b) reliability coefficients range from .23 to .97 with a median of .57 for the 174 sets of ratings; (c) validity coefficients range between .09 and .94 with a median of .27 for 22 studies; (d) the use of interviews should be confined to the evaluation of traits that cannot be measured accurately by other methods; (e) a standardized approach that focuses on job-related traits is more accurate than an unstructured approach; and (f) interviewers must be skilled in order to elicit accurate information from the applicants.

In the second comprehensive review, Mayfield (1964) presented a pessimistic view regarding the employment interview: interviews have relatively low reliability and validity. He also indicated that interviews were susceptible to the problem of inconsistent judgment because of interviewer bias and quick decision making. The general conclusions of Mayfield's review are the following: (a) interview validity is low even in reliable interview sessions; (b) structured interviews show higher reliability than do unstructured interviews; (c) interviewers show inconsistent interpretation of collected information; (d) interviewer predisposition biases their

interpretation of applicant responses; (e) interviewers are influenced more by unfavorable information than by favorable information; (f) interviewers reach decisions early in the interview session, throwing away quality information revealed later in the interview; (g) interviews can best evaluate applicant's intelligence among several human traits; and (h) interviews show little incremental validity over cognitive ability tests.

Ulrich and Trumbo (1965) agreed with earlier conclusions: interviews are neither reliable nor valid for predicting job behavior. They argued that the utility of interviews cannot be compared with that of alternative methods because of the discouraging evidence of predictive validity. They suggested that personal relations and motivation are the two types of information from interviews contributing most to the final selection decision so that research gains most by limiting its focus to such areas as interpersonal communication and decision making processes. Conversely, the assessment of other attributes such as abilities, aptitudes, and skills should be left to objective procedures such as cognitive tests and work samples.

Wright (1969) reviewed many studies investigating decision making processes in interviews. He drew the following conclusions: (a) interview decisions are made on the basis of both verbal information and behavioral cues; (b) interview quality depends on the rapport between interviewer and interviewee; and (c) structured interviews with patterned questioning are more reliable than unstructured interviews.

A more intensive review was made by Schmitt (1976). Presenting a model of interview research, he indicated that personal background, dispositional variables, interview behavior, job information, and situational variables were all important determinants of interview decisions. Schmitt made the following conclusions: (a) early impressions play a dominant role in interviews because decisions are made quite early, typically within the first four minutes; (b) interviewers weigh unfavorable information, or "knock out" factors, more heavily than favorable information because they are more averse to false acceptance than to false rejection; (c) experienced interviewers possess stereotypes of idealized successful candidates against which real applicants are judged so that they accept fewer candidates than do less experienced interviewers; (d) there are wide differences among interviewers in weighing applicant information; (e) exposure to job information decreases the use of irrelevant interviewee information, thus increasing interrater reliability; (f) postural, facial, and esthetic cues exert greater influence on judgment than verbal cues; (g) mixed evidence is presented regarding the disparate effects of minority status; and (h) the use of a structured approach increases interviewer agreement, leading to higher interrater reliability.

In their review of interview studies published from 1975 to 1982, Arvey and Campion (1982) observed that evidence of reliability and validity in this period was more encouraging than that found in prior years. Particularly, reliability and validity were improved by two approaches: using a panel of interviewers and referring to job analytic information. They also examined methodological issues in interview research (e.g., samples and experimental stimuli) and summarized that there were no major differences between college student samples and professional interviewers in their judgment and interrater reliability. However, the experimental "paper-person" interviews showed different results from the real interviews. Interviewers were more negative in their evaluations in face-to-face settings than in written interviews. In addition, Arvey and Campion made several conclusions regarding decision making in interviews: (a) rating errors such as primacy-recency effects, contrast effects, first impressions, and personal feelings are observed commonly in the interview; (b) effects of interviewer training on the improvement of reliability and validity are mixed; (c) black interviewees are rated favorably but female and disabled interviewees are rated unfavorably, in general; (d) although

verbal cues such as content and fluency give the primary impact on the interview evaluation, the effects of nonverbal cues such as composure, posture, eye contact, facial expression, and personal appearance are not negligible; (e) applicants' self-esteem and pre-interview motivation are correlated with their own subjective evaluation of interview success but not with actual interview performance; (f) interviewers' nonverbal approval results in a better impression; and (g) interviewee training or coaching workshops including modeling, mock interviews, and feedback do improve verbal and nonverbal interview skills.

The most recent literature review was made by Harris (1989). In his review, Harris provided a balanced view that sometimes contradicted common beliefs among interview researchers. His conclusions are as follows: (a) contrary to the traditional view of low interview validity, recent meta-analytic results suggest that interviews have at least modest validity across all types of formats; (b) structured formats of interviews generally possess desirable psychometric properties such as high validity, high interrater reliability, and high internal consistency reliability, and show higher validity than test scores; (c) by comparison of student samples and manager samples, managers use fewer factors and are less lenient in their evaluations than students, (d) very few studies support a confirmatory bias in which interviewers confirm their initial hypothesis toward applicants by asking related questions; (e) despite the earlier belief of unfavorable impact on females, recent evidence indicates that females do not receive lower evaluations; (f) less consistency is observed regarding race effects and age effects; (g) mixed results are found regarding the effects of nonverbal behavior, physical attractiveness, dress, and scent, suggesting that a coherent theoretical framework is needed to understand these effects; and (h) inconsistent results are again found regarding interview training.

In summary, interview research has investigated five major topics: psychometric properties (i.e., reliability and validity), unfavorable influence against minorities, cognitive biases and rating errors in interview decision processes, interview formats (e.g., situational interviews, structured interviews, and unstructured interviews), and interviewer and interviewee training. As was shown in the above literature reviews, we have observed inconsistent results across studies. For instance, the traditional belief that interviews are not valid appears to be less plausible. Earlier studies had found unfavorable effects on minorities, whereas recent results have not shown such effects. More importantly, because recent studies have shifted focus from direct linkages between interview variables and decisions to the complicated moderator relationships among related factors, it is difficult to draw a clear conclusion regarding the advantages and disadvantages of interviews. Insufficient space does not allow us to deal with each topic fully. Nonetheless, we can reach a general conclusion regarding one of those issues—validity of interviews—with the help of the quantitative method of literature review.

Quantitative Review of the Validity of Interviews

Research on interviews includes not only narrative reviews but also quantitative reviews. Studies are summarized quantitatively with regard to the validity coefficient, which is regarded as the indicator of interview utility. Based on the findings from early empirical studies that had shown inconsistent but mostly low reliability and validity, scientists did not recommend the use of interviews in the process of selection. However, the development of a sophisticated meta-analytic procedure that can correct for statistical errors has helped them gain confidence in the utility of interviews.

As early as 1949, Wagner summarized 17 quantitative measures of interview validity. He reported that the validity coefficient, which was typically expressed by the correlation coefficient between interview evaluation and some measure of job performance, varied between .09 (for profoundness) and .94 (for intelligence) with a mean of .37. Similarly, Ulrich and Trumbo (1965) reported that interview validity took an average of .33 with the range between $-.17$ and .65, based on a review of 16 coefficients. Dunnette, Arvey, and Arnold (1971) summarized 30 validity coefficients and found that mean validity with supervisor ratings was .16. In a comprehensive quantitative review of different selection methods, Reilly and Chao (1982) summarized 12 validity coefficients with supervisory ratings and obtained an average of .19. These authors claimed that this figure was substantially lower than the validity of standardized tests. Moreover, an early meta-analysis showed less desirable results regarding interview validity. In one of the earliest meta-analytic attempts, Hunter and Hunter (1984) calculated mean validity coefficients of interviews for four different criteria: supervisor ratings, promotion, training success, and tenure. Highest validity was found for supervisor ratings with a mean of .14, followed by those for training success, promotion, and tenure with averages of .10, .08, and .03, respectively. All these studies, including Hunter and Hunter's meta-analysis, indicated that the employment interview was less sound scientifically and less effective as a selection device than other well-developed methods such as cognitive tests and assessment centers.

The negative tone in academia has changed as meta-analyses have become popular. For instance, Wiesner and Cronshaw (1988) reported favorable findings in their sophisticated meta-analysis. They reviewed published and unpublished validity studies from several countries, collecting 150 coefficients with a total sample size of 51,459. These authors found that the average uncorrected validity coefficient was .26 across all studies. However, corrections for statistical errors (i.e., criterion unreliability and direct range restriction) increased the size of validity to .47. The validity obtained by this method was moderately high and, at least, higher than the results of prior studies. Another important finding in their meta-analysis was that the variability of validity coefficients was moderated by the structure of interviews. Their study found a large difference between the average corrected validity of structured interviews ($\rho = .62$) and that of unstructured interviews ($\rho = .31$), suggesting that the level of structure changed validity coefficients significantly. From those findings, Wiesner and Cronshaw conclude that the interview is generally a good selection instrument and that to make interviews more valid, it is better to use structured formats and job-analytic information when developing questions.

Wright, Lichtenfels, and Pursell (1989) also showed the results of meta-analysis based on 13 studies of structured interviews with a total sample size of 870. They reported that the mean of observed validities was .26 but it increased to .34 after correction for criterion unreliability. Moreover, after eliminating a study reporting a negative coefficient ($r = -.22$), the mean corrected validity went up to .39, with a 95 percent confidence interval ranging between .27 and .49. Wright et al. argued that because this interval did not include zero, structured interviews had real predictive power of future job performance.

In their meta-analysis, Huffcutt and Arthur (1994) attempted to refute the earlier meta-analytic conclusion, drawn by Hunter and Hunter (1984), that cognitive ability tests were superior to other predictors of job performance including interviews. Huffcutt and Arthur located 114 validity coefficients of entry-level selection interviews drawn from 18,652 individuals and reported the corrected mean validity of .37. They found that interview structure was the major moderator of the observed variability of validity coefficients and that highly

structured interviews with prespecification of questions increased validity greatly. They concluded that interviews, particularly when structured, were as valid as cognitive ability tests.

Another comprehensive meta-analysis was conducted by McDaniel, Whetzel, Schmidt, and Maurer (1994). They summarized the results of interview validity using job performance and training performance as criteria. For 160 validation studies with the job performance criterion (total $N=25,244$), the mean validity with corrections for statistical errors (i.e., criterion unreliability and range restriction) was .37. The same calculation provided the corrected validity coefficient of .36 for 75 studies using training performance as the criterion (total $N=59,844$). McDaniel et al. also compared the corrected validity of structured interviews ($\rho=.44$) with that of unstructured interviews ($\rho=.33$), concluding that structured interviews possessed better psychometric properties than did unstructured interviews.

Recent meta-analyses show that the interview has, at least, modest validity across various criteria including job performance and training performance. With reference to the meta-analytic results of other selection procedures (e.g., Hunter and Hunter, 1984; Schmitt, Gooding, Noe, and Kirsch, 1984), it is suggested that the validity coefficient of interviews is not lower than that of alternative methods, such as biographical data, cognitive ability tests, aptitude tests, work samples, and assessment centers. Moreover, four recent meta-analyses showed consistently that structured interviews were more valid than unstructured interviews. Perhaps, this added evidence that can balance out the pessimism toward interviews.

Recent Studies of the Employment Interview

Several studies have been published since the last review made by Harris (1989). Among others, the four recent meta-analyses reviewed above have given the greatest contribution to the literature. However, other recent studies continue to generate evidence and contribute to our knowledge of the employment interview. The latest studies are reviewed here in order to complete the overview of interview research.

Among the five major themes mentioned earlier, validity is the topic that has been studied most enthusiastically. However, researchers have shifted their focus from the direct correlation between interviews and some criterion to the incremental validity of interviews over alternative predictors. For instance, Campion, Campion, and Hudson (1994) investigated the increase of validity when structured interviews were used with cognitive tests. They reported that uncorrected validities were .50 for the interview and .46 for the tests, suggesting that the interview had a comparative advantage over cognitive tests. More importantly, they found in their hierarchical regression analysis that the interview had incremental validity over the use of tests. In a related study, Pulakos and Schmitt (1995) reported that validities corrected for statistical errors (i.e., range restriction and criterion unreliability) were .52 for the interview and .40 for the tests. They also found that the interview explained additional variance in job performance beyond that explained by the cognitive tests. These two studies reached the same conclusion: the interview is effective in predicting job performance when used in conjunction with cognitive tests. In addition, incremental validity is observed between the interview and biographical data on application forms. For instance, Dalessio and Silverhart (1994) examined the way interviewers combine application information and interview information to reach final decisions for hiring sales agents. They found that interviews influenced decisions and predicted twelve-month survival rates for applicants whose personal characteristics were just above the minimum qualification. In other words, application information was capable of

screening out unqualified candidates, whereas interviews were particularly effective in evaluating applicants who were minimally qualified in terms of background information. In real job settings, selection authorities use measures such as biographical data and cognitive tests to screen applicants first, then conduct interviews with those who have passed. Perhaps, incremental validity provides a more realistic estimate of the true validity in this multi-stage selection process, compared with ordinary validity coefficients.

Meta-analyses and studies using pooled validity data disclose the relative utility of interviews among alternative predictors at the aggregate level. However, in order to have practical knowledge of real employment interviews, it is more helpful to investigate the individual process. The policy-capturing approach helps us answer the question: Exactly what do experts do in the interview process? Graves and Karren (1992) studied the decision processes of 29 corporate interviewers from a large financial organization. These authors found that interpersonal skills, oral communication, and work experience were the major interview criteria against which applicant attributes were rank-ordered; however, the use of criteria was substantially different among individual interviewers. They also found that effective interviewers used similar decision strategies that paid attention to interpersonal and communication skills, whereas less effective interviewers considered other attributes such as work experience, education, and motivation when evaluating applicants. In short, it is suggested that among diverse attributes, interpersonal skills and communication skills are two constructs that are assessed primarily in the interview but are not uncovered by alternative methods.

Interview judgment is subject to several cognitive biases such as stereotyping, overweighing of negative information, halo effect, similarity effect, and contrast effect. Among others, the confirmatory bias is of recent interest. Research in confirmatory bias suggests that interviewers behave, question, or distort information in a manner confirming first impressions, such that pre-interview evaluations are positively correlated to post-interview decisions. Three recent studies found the existence of confirmatory effects in interviews with self-generated questions, though earlier studies that used a list of questions failed to do so (e.g., Sackett, 1982; McDonald and Hakel, 1985). Macan and Dipboye (1988) found that interviewers who assessed less qualified applicants asked more difficult and fewer positive questions than those who interviewed more qualified candidates. However, because they did not find evidence of confirmatory questioning, they concluded that pre-interview impressions did not lead to strong bias. On the other hand, Binning, Goldstein, Garcia, Harding, and Scattaregia (1988) reported clear evidence of confirmatory bias. In their study, interviewers took confirmatory questioning strategies when generating questions freely but did not do so when using a list of questions. Supporting evidence was also found in real interview settings by Dougherty, Turban, and Callender (1994). These authors examined videotaped interviews of three corporate interviewers and found that to the applicants who gave positive pre-interview impressions, the interviewers showed more approval behaviors and more information for "selling" the company. Those approval behaviors, then, led to changes in the applicants' communication styles and positive rapport with the interviewers. In short, though dissenting findings had been shown in earlier research, recent studies provide supportive evidence of the effects of first impressions and confirmatory behavior. These studies underscore the importance of additional research on cognitive processes. Because most interviewers failed to eliminate cognitive biases in real decision making, it is necessary to investigate what mechanisms in human cognition cause biases in judgment.

Conclusions and the Future Direction of Interview Research

Research on the employment interview has a long history of diligent investigation. Studies have covered a number of topics, all of which reflect the devotion of researchers to the scientific understanding of the employment interview. Thus far, this paper has reviewed what has been found in the literature. The final section of this paper gives a brief discussion of current and future directions in the study of interviews.

First, the evidence that the validity of interviews is higher than was thought justifies the use of interviews as a selection method. Recent meta-analytic results showed that interview validity is around .40 after correcting for statistical artifacts. The size of the validity coefficient is comparable to the validity of biographical data, aptitude tests, and assessment centers. Therefore, interviews can predict job performance at least as well as can other selection devices. In many cases, interviews are administered after screening out less qualified applicants by background information and aptitude tests. Several studies (e.g., Campion, Campion, and Hudson, 1994; Dalessio and Silverhart, 1994; Pulakos and Schmitt, 1995) found that interviews had significant predictive power for job performance beyond that of biographical data and cognitive tests. In other words, interviews possess incremental validity over preliminary selection methods. As interviews are increasingly used in conjunction with unconventional selection methods such as integrity tests, computer-assisted tests, job samples, and assessment centers, researchers need to investigate the incremental validity of interviews beyond these predictors. Because incremental validity provides a more accurate estimate of the true validity in multi-stage selection, it tells us which selection devices supply useful information that complements interview information.

Second, reliability of interviews is satisfactory if following a structured procedure. In general, reliability of interviews is improved by two methods: the structured interview and interviewer training. Of the two methods, structuring the format seems to be more effective in terms of reliability improvement: structured interviews have significantly increased reliability, whereas interviewer training shows mixed results (Harris, 1989; Motowidlo, Carter, Dunnette, Tippins, Werner, Burnett, and Vaughn, 1992). The reason behind the high reliability of structured interviews is that this approach uses job analytic information in the generation of questions. Particularly, if the job-related information is represented in the scoring guide, the interrater reliability increases significantly. At present, no other strategy but structuring can make interviews more reliable. It is time to stop using conventional, unstructured interviews that are flexible but unreliable.

Third, we need to pay more attention to the constructs that interviews measure. After fifty years of scientific research, it is still worth asking one question: What is measured in the employment interview? Scientific and practitioner articles have identified a number of potential interview constructs such as general intelligence, motivation, personality, interpersonal skills, and job knowledge. However, it is still uncertain which is primarily measured in interviews. In other words, the issue of interview constructs is an open question. Graves and Karren (1992) indicated in their policy-capturing study that interpersonal skills and communication skills were two important constructs to be evaluated in interviews. Campion, Pursell, and Brown (1988), though, suggested that interviews tapped the same constructs as tests. Based on the high correlation between interviews and tests, these authors regarded the interview as an "orally administered cognitive ability test." There seem to be large measurement and construct overlaps between interviews and other predictors, that make the specifica-

tion of interview constructs difficult. However, we cannot capitalize on our scientific understanding in order to predict successful applicants and their job performance without knowing what is measured in interviews.

Finally, more attention should be directed to the fairness of interviews. Recent studies have reported that interviews do not show adverse impact against minorities (Harris, 1989). In a traditional sense, no adverse impact is the symbol of fair selection. However, no statistical difference between groups is not particularly meaningful for very individualized selection methods such as interviews. Perhaps, more relevant attributes of fair interviews are job-relatedness of interview questions, no use of irrelevant information, two-way communication between interviewer and interviewee, minimum bias, consistent decisions, low false rejection, chance of appeal for those not selected, and morals and ethics of interviewers. Unfortunately, very few studies have targeted the issue of interview fairness. Thus, we know little about what makes interviews fair. The interview is a bilateral process in which applicants also evaluate the organization. Applicants may form a good or unfavorable impression about the organization from the attitudes of interviewers. Such impressions may be crucial in their decisions to accept or reject a job offer. If this is the case, a fair interview is of great importance in retaining promising applicants and reducing early turnover of employees.

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