27 STRUCTURED INTERVIEWING TECHNIQUES FOR PERSONNEL SELECTION

Michael A. Campion, Elliott D. Pursell, Barbara K. Brown

PROBLEMS WITH TRADITIONAL EMPLOYMENT INTERVIEWS

Traditional employment interviews have been the primary means of making selection decisions for most of this century. However, the reliability (similarity between the judgments of different interviewers) and validity (accuracy in predicting future job performance) of the traditional interview have always been in question (e.g., Arvey & Campion, 1982; Eder & Ferris, 1989; Harris, in press; Hollingworth, 1922; Mayfield, 1964; Wagner, 1949).

Traditional interviews are usually very unstructured, with no predetermined questions or criteria to evaluate candidates. Questions are not based on a job analysis, different questions may be asked of different candidates, and different interviewers may evaluate the same candidate's answers differently. As such, the traditional interview has many disadvantages:

1. It is highly susceptible to distortion and bias.
2. It is highly susceptible to legal attack.
3. It is usually indefensible if legally contested.
4. It usually has very low validity.
5. It is usually not totally job related.
6. It may incorporate personal items that invade privacy.
7. It lacks consistency due to its unstructured nature.
8. It allows interviewers to use different criteria.
9. It encourages hiring decisions to be made early in the interview without gathering adequate job-related information.
10. It allows interviewers to look for qualities that they prefer and then to justify the hiring decision based on these qualities.

STRUCTURED INTERVIEWING—AN IMPROVED ALTERNATIVE

Given the questionable effectiveness of traditional interviews and the desire of managers to continue to use interviews for employee selection, an improved interviewing technique is necessary. Research recommends the use of a structured interview format because it reduces subjectivity and inconsistency. A structured interview is a series of job-related questions with predetermined answers that are consistently applied by a panel of interviewers across all interviews for a particular job.

When compared to the traditional employment interview, the structured interview offers many advantages:

1. Bias is reduced because candidates are evaluated on job-related questions, which are based on an analysis of job duties and requirements. Subjective and irrelevant questions are not asked.
2. All candidates are asked the same questions so everyone has the same opportunity to display qualifications.
3. Anchored rating scales to evaluate answers to interview questions are determined in advance. This reduces disagreements among interviewers and increases accuracy of judgments.
4. A panel of interviewers is used to record and evaluate answers in order to minimize idiosyncratic biases.
5. Research has demonstrated that properly developed structured interviews can have high reliability among interviewers and predictive validity for future job performance.

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6. Job-related procedures used to develop structured interviews increase content validity (validity appears justified based on the content of the interview).

7. Procedures used to develop structured interviews are consistent with the advice of professional and governmental testing guidelines. As such, they may be more legally defensible.

8. Structured interviews allow managers to take part in the selection process in a role in which they are familiar (that is, as interviewers).

9. Job relatedness and consistency of the process may increase the perception of fairness among candidates. The job relatedness may also help candidates get a realistic perspective of the job, which can aid self-selection.

DEVELOPING A STRUCTURED INTERVIEW

The procedures used to develop structured interviews were designed to be consistent with testing guidelines published by professional organizations (Principles for the Validation and Use of Personnel Selection Procedures; Society of Industrial and Organizational Psychology, Inc., 1987) and governmental organizations (Uniform Guidelines on Employee Selection Procedures; Equal Employment Opportunity Commission, Civil Service Commission, Department of Labor & Department of Justice, 1978).

Structured interviews can be developed and used by following eight steps.

Step 1: Conduct a Job Analysis

The objective of a job analysis is to determine the job duties and tasks and the required knowledge, skills, abilities, and other worker characteristics (KSAOs). Both professional and governmental guidelines require some form of job analysis for test development, and there is evidence of the importance of job analysis to avoid bias against minorities (Kesselman & Lopez, 1979) and to win court decisions (Kleinman & Faley, 1985). The actual method used to collect job information depends on the specific job and the selection situation.

One easy method is to conduct a job analysis meeting with a group of supervisors and incumbents who are knowledgeable about the job. Duties and requirements of the job are generated through discussion and brainstorming. Care should be taken to list specific job duties and tasks because information that is too general is of little use. Also, identify the KSAOs that are needed to perform each specific job duty. This is necessary to ensure that interview questions are based on KSAOs that are needed to perform critical work.

Another method of job analysis is the critical incident technique. Here a group of supervisors or other job experts generates lists of behaviors on the job that contribute to particularly effective and ineffective performance (or distinguish between particularly effective and ineffective employees).

Regardless of the job analysis method employed, the testing guidelines require that KSAOs assessed in a selection procedure be necessary prerequisites to perform critical work. Criticality can be determined by evaluating the importance and amount of time spent on each duty or task. These evaluations could be collected in a variety of ways, including rating scales, percentage estimates, or rankings. Several supervisors and incumbents should provide these evaluations in order to obtain assessments from different perspectives. Results can then be placed into four categories:

1. Duties that are important and consume a large amount of time.
2. Duties that are important but do not consume a large amount of time.
3. Duties that are less important but consume a large amount of time.
4. Duties that are less important and do not consume a large amount of time.

These categories are ordered from most to least critical. Generally questions are based on KSAOs that are needed to perform duties in categories 1 and 2.

Step 2: Develop Questions Based on the Job Analysis

It is usually desirable to have the same people who were involved in the job analysis help develop the interview questions because of their familiarity with the job. Although there is much overlap, it is useful to think of four different types of questions. Each type is described below, and examples are provided in Appendix 27-A.

1. Situational Questions. These are questions that pose a hypothetical job situation to the candi-
date. The candidate must respond with what he or she would do in the situation. The critical incident job analysis technique lends itself to the development of this type of question.

2. Job Knowledge Questions. These questions often deal with the technical aspects of the job or basic knowledge that is essential to learn the job. Depending on the level of the job and its requirements, these questions may merely assess basic educational skills such as reading, writing, and math, or they may assess very complex technical or management skills.

3. Job Sample and Simulation Questions. When possible, it is useful to have questions that approximate the content of the job. Sometimes the candidate can actually perform a sample task from the job. When a job sample is not possible, a simulation of a job task may be an alternative. Simulation questions range from mock-ups of job tasks to simply phrasing questions in terminology and examples from the job. Job samples and simulations may increase content validity and realism for the candidates.

4. Worker Requirements Questions. These usually include questions on background (e.g., education, experience) or “willingness” questions (e.g., shift work, travel, relocation). These questions are frequently placed at the beginning of the interview because they can act as good warm-up questions to put the candidate at ease. Furthermore, because they refer to the duties of the job, they may serve as a realistic job preview for the candidate and aid self-selection.

In question development, the following criteria should be followed to ensure question quality and to increase content validity:

1. Questions must be complete and unambiguous. Having to clarify questions during the interview reduces standardization and may introduce bias.

2. Questions should not be leading or overly influenced by the verbosity of the candidate.

3. Questions must be strictly and clearly job related. “Nice-to-know” questions are not permitted.

4. Questions must not assess KSAOs that employees will learn with brief training or experience on the job. For example, in selecting an entry-level salesperson, one should not assess the candidate’s knowledge of the product line because this will be taught on the job. Instead, it would be preferable to assess oral and persuasion skills because they are much more difficult to learn.

5. Questions should be geared to the appropriate complexity level of the job. For example, if the job requires math skills at the level of whole numbers, it would be inappropriate to develop questions involving decimals and fractions. The questions should assess the KSAOs at the same level as the KSAOs that are needed on the job.

6. Questions must be reviewed to eliminate any bias that might make them discriminatory. If possible, this review should be conducted by independent job experts who are members of protected groups (e.g., minorities and females).

7. Questions should be included in proportion to the importance of the KSAOs they assess. That is, more questions should be included on KSAOs needed for important duties and fewer on KSAOs needed for less important duties. This is usually better than weighting the questions differently on importance.

8. Questions should be explicitly linked to the KSAOs or duties they are intended to measure. A matrix chart of KSAOs or duties across the top and interview questions down the side, with all links indicated, is ideal for this purpose. This linking process ensures the questions are all job related, and it provides content validity documentation, which may be needed if the procedure is legally challenged.

Step 3: Anchor the Rating Scales for Scoring Answers with Examples and Definitions

A scoring system is developed for each question by generating a rating scale with examples or definitions of good (5), marginal (3), and poor (1) answers. One approach is to ask job experts for example candidate answers they have actually heard that subsequently distinguished different levels of performers on the job. A simpler approach is to brainstorm potential answers with experts and personnel representatives familiar with the job and with interviewing comparable candidates. Regardless of the approach chosen, each question should have a five-point answer rating scale constructed using the following guidelines:

5—What would one expect or want a well-qualified candidate to give as a good answer? What answer would one expect the top third of all candidates to give?

4—

3—What is a marginal answer that would tell one the candidate is somewhat knowledgeable or skillful
on the requirement or that would constitute a partial answer? What answer would one expect the middle third of all candidates to give?

2—

1—What would one expect as a poor answer from a candidate who has little knowledge or skill on this job requirement? What answer would one expect the bottom third of all candidates to give?

It is important to note that in some circumstances there will be single best 5, 3, and 1 answers, while in other situations there may be many answers of similar quality. In the latter case, the anchors are simply examples or illustrations of answers of that score level.

Generally it is not essential to describe 4 or 2 answers, because the 5, 3, and 1 answers give adequate anchor points for making a rating decision of 5, 4, 3, 2, or 1. After the interview questions have been administered several times, however, it may be possible to develop answers for 4 and 2. In developing the answers, it is normally advisable to describe a 5 answer first and then a 1 answer. The 3 answer should be developed last because it is typically the most difficult answer to develop.

It is important that the levels of the actual job requirements be considered in the development of anchor points. For example, business school (or equivalent training or experience) may be a necessary requirement for an executive secretary position. Listing a college education as a 5 answer and a business school education as a 3 answer would be altering the job requirement. Example answers should be scaled to the requirements of the job so that 5 answers do not far exceed the requirements, and 1 answers are not so low that they do not help distinguish between candidates.

One should also avoid the tendency to have the 5 answer be a reworded (e.g., more sophisticated) version of the 3 answer. Terms or expressions used only within the organization, as well as acronyms and slang, should also be avoided. It is useful to generate synonyms and equivalent alternatives for each answer developed.

The development of the answers is an evaluative measure of the question. If there is great difficulty in determining the answers, then the question should be reviewed for possible refining, restructuring, or eliminating.

Preparing rating scales for scoring the answers prior to conducting the interviews has several distinct advantages:

1. They give credibility to the interview by the obvious fairness of having predetermined scoring schemes.
2. They serve as an assessment of the questions.
3. They increase the consistency of interviewer evaluations by increasing objectivity and reducing potential for bias.
4. They minimize the postinterview disagreement that may arise among interviewers.

Step 4: Have an Interview Panel Record and Rate Answers

Having an interview panel reduces the impact of idiosyncratic biases that single interviewers might introduce. Normally, the panel should consist of a subset of the job experts who helped analyze the job and develop the interview questions because of their familiarity with the job and questions. Three members are typically used, including supervisors of the job to be filled and a personnel representative. It is also advisable to use the same members for all interviews to increase consistency. However, an excessively large number of interviews or other constraints (e.g., turnover) may make this infeasible.

The interview panel should be assembled well in advance of the first interview to review job duties and requirements, questions and answers, and the interview process. Panel members should also be precautioned about potential rating errors (e.g., leniency, severity, central tendency, first impression, contrast, similarity, halo, and stereotypes). Ideally, the interview panel should not review application forms, resumes, or other materials prior to the interviews. This may cause them to form impressions that could bias their subsequent evaluations of the candidates.

All panel members record and rate the candidate’s answers during the actual interview. This recording should be exactly as the candidate responded. If that is not possible, special care should be taken to provide clear paraphrases and abbreviations. These recorded answers become a critical part of the documentation. Candidate responses must be able to be reconstructed accurately in case a particular hiring decision or the entire process is ever challenged.

Step 5: Consistently Administer the Process to All Candidates

All candidates are asked the same questions. There is no prompting or follow-up questioning because this decreases standardization of the interview. Questions may be repeated if necessary.
The interview is administered in a quiet, comfortable room. All panel members should be present before the candidate enters the room. Every attempt should be made to administer the interview in as nonstressful a manner as possible. Panel members are introduced to the candidate. Then one selected member of the panel asks all the questions for all the candidates to ensure consistency.

Between successive candidates, the panel members should not discuss the questions, the answers, or the candidates in order to avoid potential bias from changing standards or comparisons among candidates. After all the interviews are completed for a given job, any large discrepancies between interviewers are discussed.

Candidates are allowed to ask questions in a subsequent nonevaluation interview with a personnel representative.

Step 6: Decide Who to Hire

Hiring decisions are based in whole or in part on the total score of the interview, which is calculated as the average across all questions and all interviewers. There are at least three possible decision methods. First, one can rank the candidates and choose those with the highest scores. This method yields the highest expected future job performance, thus giving the highest expected utility (i.e., value) from the selection procedure. This system has the drawback of potentially creating the most adverse impact against protected groups (minorities and females), but this problem can be circumvented by selecting the highest-ranked candidates within each of the groups.

Second, one can determine a cutting score above which all candidates are qualified. This method has the advantage of being consistent with promotion stipulations in many union contracts that require that the "most senior qualified" be accepted. The determination of "qualified" on a selection instrument ultimately translates into a cutting score. Also, in intermittent hiring situations, a cutting score is efficient in that interviews need to be conducted only until an adequate number of qualified candidates are found. However, if cutting scores are set too low, they can have the disadvantage of reducing selection utility. Furthermore, there are no universally acceptable ways of setting cutting scores, and substantial judgment is always necessary. At a minimum, cutting scores should be set with consideration of the following factors: number of hires needed, likely adverse impact, expected job performance of those selected, and the judgement of job experts as to the level of performance on the interview that might be expected of minimally qualified employees on the job.

Third, the interview score can be used as one piece of information that is considered along with other relevant information on the candidate in order to make an overall assessment. Although this approach sounds intuitively appealing, it may be the least acceptable of the three. The subjective and potentially inconsistent weighting of qualifications can result in a decrease in the selection utility of the entire decision process, as well as possible discrimination against protected groups (minorities and females). Recall that these are the very problems with the traditional interview that one is attempting to avoid.

Step 7: Conduct a Performance Appraisal

Performance appraisal is an essential follow-up to any selection decision. It gives an evaluation of the accuracy of the selection procedures, it provides information for employee counseling, it provides input to performance-based pay decisions, and it generates documentation for corrective action when selection mistakes are made.

A detailed examination of performance appraisal techniques is beyond the scope of this chapter. However, the job analysis information collected to develop the structured interview gives an ideal base to build a performance appraisal instrument. For example, anchored rating scales much like those developed for the interview could be generated for each job duty. The anchors could distinguish good, marginal, and poor performance on the job. Such an appraisal instrument would enjoy many of the same advantages as the structured interview (e.g., job relatedness, objectivity, consistency).

Step 8: Give Special Attention to Job Relatedness, Fairness, and Documentation in Accordance with Testing Guidelines

Consideration of professional and governmental guidelines is important throughout the process. The structured interviewing approach described in this chapter was designed to be consistent with these guidelines. Components needing written documentation include the job analysis and interview develop-
ment procedure, candidate responses and scores, validity evidence, adverse impact analysis, and other aspects as appropriate.

These guidelines should be consulted for more specific procedural and documentation requirements. Expert advice and assistance may also be necessary in some situations.

Conclusions

The traditional interview is commonly used to make employment decisions, but a long history of research has not supported its reliability or validity for predicting future job performance. Structuring the interview is proposed as an improved alternative. The procedures to develop a structured interview are grounded in the professional and governmental testing guidelines, and research is accumulating to support its reliability and validity. A structured interview is defined as a series of job-related questions with predetermined answers that are consistently applied by a panel of interviewers across all interviews for a particular job. This section laid out eight steps that can be easily followed to develop and use a structured interview for personnel selection.

RESEARCH SUPPORTING STRUCTURED INTERVIEWING

Research has provided empirical evidence regarding the reliability and validity of structured interviews. Discussed here is a sampling of recent studies in the published literature and in technical reports of which we are aware.

The approach to structured interviewing described in this chapter was originally presented by Pursell and Gaylord (1976) and by Pursell, Campion, and Gaylord (1980). In a study using this approach, Campion, Pursell, and Brown (1988) found high reliability, predictive validity, utility, and test fairness for a structured interview used to select 149 entry-level production employees in a pulp and paper mill. Campion and Pursell (1981) reported detailed content validity evidence for the same interview. In another extensive study, Pursell, Campion, et al. (1980) demonstrated the content validity of this approach for selecting employees for thirty-one skilled and semiskilled jobs in a pulp and paper mill. Finally, Wright, Lichtenfels, and Pursell (in press) reported additional favorable validity evidence for four of six samples of mostly production employees in a forest products company.

A highly similar approach to structured interviewing is the situational interview, which, as the name implies, uses only situational questions. Latham, Saari, Pursell, and M. Campion (1980) found reliability and validity for situational interviews in separate samples of first-line foremen, hourly workers, minorities, and females in a forest products company. More recently, Weekly and Gier (1987) found similar results for a situational interview designed for selecting salespersons in a chain of retail stores, and Maurer and Fay (1988) found that agreement among raters regarding job applicants was higher with situational interviews than with past experience–based interviews.

Another similar approach is the patterned behavior description interview. It is comparable in many regards to the approach described in this chapter, with the exception that the interviewer does not have to ask the same questions of each candidate but instead selects from an array (or pattern) of questions. Janz (1982) found reliability and validity for this technique in a study of teaching assistants, and Orpen (1985) found similar results for selecting life insurance salespersons.

The validities discovered for these structured interviews are far superior to those for traditional unstructured interviews (Wiesner & Cronshaw, 1988), comparable to those of paper-and-pencil tests, and superior to those of most other alternative selection procedures (for a review of selection procedure validity, see Hunter & Hunter, 1984). Structured interviews have the advantage over tests of allowing managers to participate in the selection process. Also, the obvious job relatedness of structured interviews may be perceived as fairer by candidates. In addition, the developmental procedures may make structured interviews easier to content validate, which can be appealing to small employers who cannot conduct empirical validations.

More research is needed on structured interviews. We are looking for research sites to evaluate and refine the structured interviewing process.
APPENDIX 27-A: EXAMPLE STRUCTURED INTERVIEW QUESTIONS

Situational Questions

1. Question assessing awareness of meeting attendance protocol, which is necessary for most managerial and professional jobs:

Suppose you were going to miss an important business meeting due to unforeseen circumstances (e.g., illness, family emergency). What would you do?

(5) I would contact the person in charge of the meeting to forewarn of my absence, and I would arrange for a responsible person to attend in my place.

(3) I would send someone in my place.

(1) Afterwards, I would try to find out what went on in the meeting.

2. Question assessing communication skills at a level needed by many jobs:

Suppose you had many important projects with rigid deadlines, but your manager kept requesting various types of paperwork, which you felt were totally unnecessary. Furthermore, this paperwork was going to cause you to miss your deadlines. What would you do?


(3) Tell your manager about the problem.

(5) Do the best you can.

Job Knowledge Questions

1. Question assessing low-level mechanical knowledge such as that needed for many entry-level factory jobs:

Several of these questions were adopted from Campion, Pursell & Brown (1988, pp. 23-42).

When putting a piece of machinery back together after repairing it, why would you clean all the parts first?

(5) Particles of dust and dirt can cause wear on moving parts. Need to have parts clean to inspect for wear and damage.

(3) Parts will go together easier. Equipment will run better.

(1) So it will all be clean. I don't know.

2. Question assessing specialized electronics knowledge needed for some process control technician jobs:

What is the difference between a thermocouple and a resistance temperature detector?

(5) A thermocouple will produce a millivolt signal itself. A resistance temperature detector is usually connected to a balanced wheatstone bridge. When the resistance changes due to temperature changes, an unbalanced voltage is produced on the bridge.

(3) Defines one correctly.

(1) Incorrect answer.

Job Sample or Simulation Questions

1. Question simulating a task and assessing low-level reading ability for a forklift operator job:

Many of the jobs require the operation of a forklift. Please read this (90-word) forklift checkout procedure aloud.

(5) Reads fluently pronouncing all words accurately.

(3) Can read most words but hesitates.

(1) Reads with great difficulty.

2. Question simulating a task and assessing selling skills for a sales job:
Please sell me this product using basic selling techniques.

(5) Candidate simulates selling the item to the interview panel by incorporating the following selling techniques: (a) identifies and presents the product, the customer needs, and the benefits of the product; (b) demonstrates the product; (c) handles resistance; and (d) closes the sale by asking for an order.

(3) Candidate uses only three of the techniques or performs one poorly.

(1) Candidate uses only two of the techniques or performs them very poorly.

(5) Heights do not bother me. I have done similar work at heights in the past [and gives examples].

(3) I do not think I am afraid of heights. I know that this would have to be done as part of the job:

(1) I am afraid of heights. I would do it if absolutely necessary.

2. Question assessing willingness to travel as may be required by many professional and managerial jobs:

This job requires traveling out of town at least three times a month. Usually each trip will involve flying on a commercial airliner and staying overnight. Would this pose any difficulties for you?

(5) No, this would not be a problem. I have traveled in previous jobs (gives examples). I enjoy traveling and flying.

(3) I am willing to travel as part of the job.

(1) I do not like to travel, but would do it if necessary.

REFERENCES


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