Ability to differentiate and its impact on employment interview decision-making

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Abstract

How interview perceptions are formed and evaluative judgments made have traditionally been conceptualized as analogous to a "black box". Current research indicates a number of models that attempt to explain the way in which information is processed in an interview situation. Both management and cognitive psychology literatures indicate that an underlying cognitive model influences the way individuals process information into a single evaluative judgment. This paper explores one element of an individual's cognitive process, their degree of differentiation, and the impact it has on the accuracy of the interview decision. Results indicate that individuals who have a higher degree of differentiation make more accurate interview decisions. The implication of this finding and its role in understanding the cognitive processing inherent in interview decisions and suggestions for future research are also discussed.

Keywords: employment interview, differentiation, evaluative judgment, decision-making
INTRODUCTION

The employment interview is the most widely used employment technique (Judge, Higgins, and Cable, 2000; Segrest-Purkiss, Perrewe, Gillespie, Mayes, and Ferris, 2006). Industrial and organizational psychologists have been studying the employment interview for over sixty years in an effort not only to determine the reliability and validity of judgments based on the interview, but also to discover the various psychological variables which influence these judgments.

A substantial amount of research has examined various impression management behaviors that interviewees use in the interview process and is summarized in the review by Bolino, Kacmar, Turnley, and Gilstrap (2008). It has long been recognized that two interviewers, asking the same questions, often obtain different results (Judge, Higgins, and Cable, 2000). From Rice’s (1929) study of interviews of destitute men to Pulakos, Schmitt, Whitney and Smith’s (1996) comprehensive investigation of individual differences in individual validity, it has long been documented that when different employment interviewers separately assess the same applicant, they can come to different conclusions (c.f. Webster, 1959).

In recent years, researchers have sought to identify the factors inherent in interviewers that contribute to the differences in interview ratings. Literature reviews by Judge, Higgins, and Cable (2000), Arvey and Campion (1982), and Harris (1989) identified numerous studies that have examined a variety of individual factors. Included in these factors were stereotypes of good applicants, unfavorable information, pre-interview information, minority bias, nonverbal behavior, and different decision styles.

Harris (1989) offered two explanations for differences in interviewer ratings. One was that different questions or probes were asked by more accurate interviewers. The second was that more accurate interviewers were better at processing and integrating information. For decades research has focused on structured interview formats and much of the research has focused on the first explanation (Chapman and Zweig, 2005, Janz, Hellervik, and Gilmore, 1986; Latham, Saari, Pursell, and Campion, 1980; Tsai, Chen, and Chiu, 2005; Van Iddekinge, McFarland, and Raymark, 2007). While use of the structured interview has appeared to increase the validity of the interview, the impact of the information processing of the interviewer in the interview process remains unclear (Chapman and Zweig, 2005). In Macan’s (2009) employment interview review and directions for future research, it was pointed out that note-taking during the interview process “was important for memory and legal reasons, but not necessarily for improving accuracy of interview judgments” (p. 4). However, it does make sense that note-taking aids in the gathering and processing of information and allows interviewers to more finely differentiate between the various interviewees.

INTERVIEW INFORMATION PROCESSING

A four phase information processing model is described by Motowidlo (1986) and can be conceptualized with the employment interview. Obtaining a sample of information from the domain of information is the first phase. The domain of information is conceptualized as the total population of both positive and negative information available about the target stimulus: in the employment interview, the applicant. The second phase is the attendance to and evaluation of this sample of domain information to develop an input sample. The third phase of the model is the development of the retrieved sample of information. In this phase, evaluative impressions
are recalled when a person, in the employment interview, the interviewer, forms a judgment. The final phase in the information processing model is the actual evaluative judgment of the applicant. The accuracy of the evaluative judgment depends on how well the retrieved sample of information represents the true score domain of information available. This model is as indicated in Figure 1 (Appendix).

**Phase one: True score domain**

The true score domain is posited to be a hypothetical domain of all the positive and negative informational items which could potentially be observed about the target stimulus. It is a hypothetical domain because its content can never be completely identified in real world experiences. The domain is compared to a population from which an individual draws a sample. In an interview situation, this domain includes all the positive and negative information that may be learned about the applicant during the interview.

**Phase two: Obtaining information sample**

The sample of information obtained from the true score domain includes all positive and negative items of information that are actually observed. In an interview scenario, this is all items of information observed about the applicant. The attentional mechanism is inherent in this phase.

Before an interviewer can process and integrate information about an applicant, verbal and nonverbal information cues must be attended to and recognized as information. Information is attended to through an automatic or controlled process (Ilgen and Feldman, 1983).

The automatic process is a cognitive or behavioral process occurring without conscious monitoring or awareness (Ilgen and Feldman, 1983). This process takes place under "constant mapping" conditions, where a given stimulus type, in this case, relevant applicant information, must be detected in a field of different stimuli, irrelevant applicant information. Interviewers often invoke the automatic attentional mechanism and attend to the attributes of people and situations with minimal awareness. Which attributes and which situations that invoke the automatic attentional mechanism are determined by their respective salience. This salience is a function of (1) individual differences of the interviewer and applicant and (2) the environmental context in which the interaction occurs (Ilgen and Feldman, 1983).

Conversely, the controlled process in attention is a cognitive or behavioral process that proceeds under conscious control in which the individual is aware of the processing as it occurs (Ilgen and Feldman, 1983). This process is activated under "variable mapping" conditions in which a given stimulus, relevant applicant information, may be either a distracter or a target. The individual interviewer must first define the dimension on which the applicant information differs and then process this differentiation (Ilgen and Feldman, 1983).

The controlled attention process is also influenced by the salience of verbal and nonverbal information cues. If the attributes of applicants and/or situations are seen as more salient, perhaps more informative or novel, the controlled process is initiated. This salience is likewise determined by individual differences of both interviewers and applicants and the environmental context in which it occurs (Ilgen and Feldman, 1983).

The interviewer’s cognitive categorization schema influences the initiation of the automatic or controlled attentional process. When information about an applicant is congruent...
with expectations, as defined by the categorization schemata, the automatic attentional mechanism is invoked and information is categorized automatically. But, when applicant information is inconsistent with categorization schemata, conscious attention must be used to categorize this information, thus activating the controlled attentional mechanism (Ilgen and Feldman, 1983; Mount and Thompson, 1987).

Categorization is based on the fact that individuals perceive and process information in terms of abstract categories or "fuzzy sets" (Rosch, Gray, Johnson, and Boyes-Braem, 1976) defined by various schemata or prototypes. These categories, which may be based on formal or informal information sources, allow individuals to achieve "cognitive economy" by reducing the amount of information processed and stored (Mount and Thompson, 1987). The category system itself may be developed by observation and intuition (Mount and Thompson, 1987), observation of covariation in the world (Rosch, Gray, Johnson, and Boyes-Braem, 1976) or through the education and experience of the interviewer (Ilgen and Feldman, 1983).

Categorization itself is the process in which stimuli are grouped into like clusters. An individual does not need to possess every relevant attribute to be assigned to a category. Rosch, Mervis, Gray, Johnson, and Boyes-Braem (1976) propose the categorization is dependent on the extent to which the features of the individual overlap those of a category prototype. This prototype is an abstract image summarizing resemblances among category members (Tversky, 1977).

To an extent, categorization can be beneficial in helping organize information in memory. But, there is reason to believe that categorization is more than just a framework for organization. Ilgen and Feldman (1983) ascertain that once categorization has occurred, the stimulus person is assimilated to the relevant category. Subsequent inferences about the individual are then made in terms of the cognitive representation of this category. Thus, unique features of the individual become unavailable (Srull and Wyer, 1979).

This process is identical to stereotyping of individuals. Once a person is categorized as a member of a group, features of the group’s prototype characterize that individual. However, in the case of categorization, the person does not choose to stereotype; the effect is the outcome of basic perceptual and memory processes. Also, categories do not tend to be the common racial, ethnic, or gender groupings identified with stereotyping, but may be unique to the person or situation (Ilgen and Feldman, 1983).

According to this concept, when interviewers assign an applicant to a category, the applicant assumes the characteristics of the prototypes of these categories. Essentially, the unique characteristics of the applicant are lost and the interview decision is based on inferences made from the categories prototypes. Thus, the selection of a category is an important consideration. Most individuals are compatible with multiple categories. It is the salience of particular information cues that associate individuals with category prototypes or schemata.

**Phase three: Retrieved sample of information**

Prior to the formation of an evaluative judgment, individuals must retrieve items of information from memory. Within the interview process, the interviewer must recall both positive and negative information from long and short term memory. The cognitive aspects of the recall process operate within this phase.

Bartlett's (1932) work on the human memory suggested that individuals tend to remember events according to a generalized pattern or schema. Reliance on these schemata led
to falsely recalling details consistent with the schemata pattern and forgetting inconsistent details. Similarly, Srull and Wyer (1979) proposed a model of information recall based on the concept of categorization schemata. Short term memory was conceptualized as a work space in which information is processed with appropriate material being assigned to long term memory. Long term memory was construed as a set of storage bins, each containing certain kinds of information. The storage bins are congruent to predefined categories. The implication was that once behavioral information about an individual is assigned to a long term memory category, any unique information about the individual is lost and only categorical information remains. Information is stored in bins in order of receipt, so that the most recent information is most salient and, thus, most accessible. Also, information about an individual may be stored in more than one bin (Srull and Wyer, 1979).

Phase four: Evaluative judgment

An evaluative judgment is determined by the combination of positive and negative items of information available to the individual. In an interview framework, this corresponds to an overall rating of the individual. The cognitive processes of information weighting and integration are inherent in this phase.

DIFFERENTIATION AMONG OTHERS

Differentiation is the tendency to make distinctions among people which results in perceiving them as different from one another (Shrauger and Altrocchi, 1964). Bieri (1961) reported that individuals having a more differentiated conceptual system are better able to predict how others will respond in a series of social situations. Similarly, Kelly (1955) describes differentiation as cognitive complexity, the number of independent dimension which people use in describing others and suggests a more differentiated conceptual system would lead to a more precise unique description of other people.

Based on the Motowidlo (1986) model, differentiation has the potential to impact several elements of information processing in the interview. Specifically, it could create a more complex categorization schema impacting the attentional mechanism and recall processes. These processes in turn could influence the accuracy of the interview ratings.

As discussed, categorization is the process in which applicants are assigned to clusters on the basis of the degree that the features of the individual overlap those of a category prototype summarizing resemblances among category members. Once a person is categorized as a member of a group, features of the group’s prototype characterize that individual. Essentially, the unique characteristics of the applicant are lost and the interview decision is based on inferences made from the categories’ prototypes. It would follow that the less differentiated the categories the greater the chance of stereotyping and losing specific strengths and weaknesses of individuals.

Also, it has been theorized that once behavioral information about an individual is assigned to a long term memory category, any unique information about the individual is lost and only categorical information remain. Recall of the individual applicant becomes recall of the category prototype. This in turn would influence the accuracy of decision made regarding these individuals.
The influence of differentiation on the attentional mechanism is in the invocation of the automatic or controlled process. When applicant information is inconsistent with an individual’s categorization schema, conscious attention must be used and the controlled mechanism is initiated. Having more detailed differentiation and finer degrees of categorization schema should invoke the controlled process more frequently. This in turn should result in more accurate interview decisions.

Based on the above model of information processing and the potential role of individual differentiation in the accuracy of interview decisions, the following two hypotheses are presented:

Hypothesis 1: Individuals with higher levels of differentiation would be more accurate in judgments of applicant favorability.

Hypothesis 2: Individuals with higher levels of differentiation would be more accurate in hiring decisions.

METHOD

Subjects

The sample for the study was comprised of 212 students enrolled in a basic management course at a College of Business at a large Southeastern university. The students participated voluntarily for extra credit. The sample was composed of approximately 56% men and 44% women. The mean age of the subjects was 22 with a range from 18 to 47 years of age. Work experience for the subjects (including both full- and part-time), ranged from no work experience to 31 years, and the average total work experience was 2.7 years. The ethnicity composition of the sample was as follows: 66% Caucasian/White (not of Hispanic origin); 18% African American/Black; 11% Hispanic/Latino/Latina; 0% Native American; 4% Asian/Pacific Islander; and 1% Other. Business majors accounted for 83% of the sample, while the remaining 17% included individuals from various non-business disciplines. The grade point averages ranged from 2.0 to 4.0 with an average of 3.0. As expected, due to the fact that the data were collected from students, only 10% of the sample had any experience with formal interviewer training. Although generalizability when using students has been considered a problem by some researchers (Gordon, Slade, and Schmitt, 1986; Guion and Ironson, 1983), Barr and Hitt (1986) concluded that results are similar when using students as subjects, as opposed to employees, on issues related to interview decisions.

Procedure

An application with an overview of the procedure and an informed consent form was completed for the Human Subjects Committee and data were collected during controlled laboratory conditions. Doctoral students were selected and trained to administer the surveys using specific written administrator instructions.

Subjects were instructed to imagine that they were hiring for a human resources manager position and to visualize themselves actually interviewing the video applicant. They were given a job description and resume and given time to read the materials. The subjects were instructed
that they could take notes during the interview. At the end of the recorded interview, subjects responded to a set of survey questions. Language experts listened to the interviews and rate his articulation and clarity, and understandability. Survey items included the applicant’s perceived characteristics, the interviewer’s attitude toward hiring the applicant, intentions to hire, hire decision, and demographics.

The application and resume contained information designed to present a strong candidate for the position of an HR manager. The candidate, a white male, was well-qualified for the position. The applicant had a B. S. in Business Administration (GPA 3.5) and an MBA with a concentration in human resource management (GPA 3.7). The applicant’s resume was designed to match the job description. Further, the applicant also displayed good vocabulary usage and, through the use of interview script, a working knowledge of human resource management. Two university language professors evaluated his articulation, clarity, and understandability, and three human resources experts participated in pre-tests to ensure that the candidate was a good match for the position. Thus, accurate views of favorability and interview decisions for the candidate would be ‘strong’ in terms of both favorability and decision to hire.

**Interviewer’s perceptions of applicant characteristics**

Subjects’ perceptions regarding the interviewee’s disposition were assessed by having the subjects’ rate applicants on 26 bipolar pairs of adjectives that were rated using a 7-point scale, with 1 indicating positive traits and 7 indicating negative traits. The adjective pairs were adapted from previous research focusing on characteristics of the ideal employee, effective top managers, and motivated workers (Larkin and Pines, 1979). The following are examples of the adjective pairs used: successful – unsuccessful, conscientious – unconscientious, competent – incompetent, industrious – lazy, organized – disorganized, attractive – unattractive, decisive – indecisive, stable – unstable, prompt – tardy, and trustworthy – untrustworthy. The complete listing of the 26 adjective pairs used is shown as indicated in Table 1.

**Interviewers’ rating of applicant favorability**

The interviewer’s attitude toward the applicant was measured using a 7-point Likert type scale (1 = strongly agree and 7 = strongly disagree). The following questions were included: “Would you feel satisfied if you hired this individual?”; “Would you like to work with this individual?”; “Do you feel favorable toward this individual?”; “Do you like this individual?”; and “Do you believe that this individual would be an asset to the company?”. Responses were averaged into an overall favorability score and higher scores indicated a stronger level of favorability toward the applicant.

**Interviewer’s intentions to hire**

The following questions (coded 1-7, with 1 = strongly agree, 7 = strongly disagree) measured the interviewer’s intentions to hire the candidate: “I will probably NOT hire the video applicant for the Human Resource Manager position” (reverse-coded); “It is likely that I WILL hire the video applicant for the Human Resource Manager position”; and “I plan to hire the video applicant for the Human Resource Manager position.” Responses were averaged into an
overall score for intention to hire and higher scores indicated a stronger decision to hire the applicant.

**Demographic features**

The demographic section included questions on work experience (part-time and full-time), race/ethnicity, GPA, major, gender, and age. Work experience was entered in number of years and was computed as an average of part-time and full-time work experience. The race/ethnicity categories were: Caucasian/White; African American/Black; Hispanic/Latino/Latina; Native American; Asian/Pacific Islander; and Other.

**RESULTS**

The 26 items used to measure perceptions of applicant characteristics were adapted from research by Larkin and Pines (1979), so a factor analysis was performed in order to ascertain whether sub-scales were evident or if the items should be combined to form one scale measuring the characteristics of the ideal employee. According to the factor analysis results, many of the items had mixed loadings. There did not appear to be any conceptual rationale for dividing the scale, so the composite scale was used to measure perceptions of applicant characteristics. The Cronbach alpha reliability estimate was .87.

The ability to differentiate among others was measured by calculating the total variance for each subject’s responses to the 26 items pertaining to subject’s perceptions of the job candidate’s character. Subjects’ variance scores for the 26 items ranged from a low of 0.75 to a high of 6.19. A low variance would suggest a low ability to differentiate among individuals while a higher variance would indicate a stronger differentiation ability.

To assess the relationship between the subject’s differentiation ability, i.e. their variance in character assessment of the applicant and their accuracy in viewing the applicant favorably, a correlation was performed using SPSS 16.0. Results revealed that a positive relationship existed between variability of respondent’s answers and overall positive assessment of the job candidate (.455, p < .001). Further, among applicants who regarded the candidate favorably (rating him an average of 5 or better), the average variability in character ratings was 2.97. On the other hand, those subjects who regarded the applicant unfavorably (rating him an average of 3 or lower) the mean variability in character ratings was significantly lower (2.27). This supports hypothesis 1.

The degree of differentiation and the intent to hire were also compared using a correlation analysis. Results revealed a positive correlation between the two constructs (.355, p < .001). Further, of the 42 subjects who were not inclined to hire the candidate (rating an average of 3 or less on the seven point “intent to hire” scale), the mean variance of their “perception of character” scores was 2.15, which was significantly lower than the average variance of the 142 individuals who chose to hire the candidate (those subjects who responded with average ‘intent to hire’ scores of 5 or more). These results support Hypothesis 2.

**DISCUSSION**

Our study supports the hypotheses presented. Results demonstrate that subjects with a higher degree of differentiation, as measured by the variance in individual characteristic ratings of the candidate’s character, were in fact more likely to make more accurate assessments of the
job candidate’s favorability, as well as a more accurate hiring decision. This would suggest that interviewer training to provide for a more detailed differentiation schema, or even selecting interviewers on their ability to differentiate among others, would increase the accuracy of interview decisions. Likewise, interview evaluation matrices, which itemize specific candidate characteristics, may be employed to serve as a catalyst for differentiation. Further, firms might investigate evaluating interviewers based on, among other criteria, their ability to identify positive and negative characteristics of job candidates. Focusing on evaluation of multiple candidate characteristics might not for a halo effect to cloud their judgment.

LIMITATIONS

One concern is the potential lack of realism in a video interview situation. In a review of interview research, Posthuma, Morgeson, and Campion (2002) suggested that viewing an interview without active participation could lead to lack of involvement and a feeling of decreased responsibility. This lack of accountability could lessen the participant’s attention and accuracy. This study was designed to include elements of subject involvement. Subjects were asked to examine the applicant’s resume, to watch the interview carefully and imagine that they were actually interviewing the applicant, to rate the applicant on a multitude of characteristics and to make a hiring decision.

SUGGESTIONS FOR FUTURE RESEARCH

Building on this study are some important directions for future research. As supported by this study, individual interviewers made differing decisions about the same applicant, some more accurate than others. Additional research is needed to explore the various attributes of the interviewer’s decision making process and their impact on accuracy. For example, the applicant cues that interviewers attend to and their weighting schemas could be measured.

There may also be individual differences in interviewer accuracy related to personality. Perhaps, for instance, interviewers that rate high on the “openness to experience” or “extraversion” dimension of the Five Factor model of personality (Briggs, 1992) are more accurate in interview decision making. It is possible that such traits may even override differentiation on individual candidate characteristics.

Also, research on interview training and its ability to improve the decision making process is needed. Although there is evidence that trained interviewers may be able to make more objective hiring decisions, most interviewers still do not receive much training, if any at all, before conducting employment interviews (Howard and Ferris, 1996). Interestingly, evaluation criteria of target stimuli other than job applicants has gotten more specific in the recent past. For instance, grading of students using analytic rubrics and even athletic judging, in the case of competitive figure skating, have moved toward assessment and documentation of many individual characteristics and behaviors (Dinur and Sherman, 2009; Looney, 2012), rather than judging based on the whole document, essay, or performance. Studies should continue to assess two issues: whether judges who provide more differentiation in terms of individual characteristics tend to provide more accurate overall evaluations, and whether the extra effort that needs to be exerted using such methods achieves the result that is ultimately sought – a more accurate professional judgment.
APPENDIX

Figure 1. Four phase information processing model
### Table 1. Adjective pairs used to assess employee characteristics

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<tr>
<td>1.*</td>
<td>unintelligent</td>
<td>intelligent</td>
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<tr>
<td>2.</td>
<td>successful</td>
<td>unsuccessful</td>
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<tr>
<td>3.*</td>
<td>poor</td>
<td>wealthy</td>
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<td>4.</td>
<td>educated</td>
<td>uneducated</td>
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<tr>
<td>5.*</td>
<td>untrustworthy</td>
<td>trustworthy</td>
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<td>6.*</td>
<td>bad</td>
<td>good</td>
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<tr>
<td>7.</td>
<td>kind</td>
<td>cruel</td>
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<tr>
<td>8.</td>
<td>friendly</td>
<td>unfriendly</td>
</tr>
<tr>
<td>9.</td>
<td>attractive</td>
<td>unattractive</td>
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<td>10.</td>
<td>neat</td>
<td>untidy</td>
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<td>11.</td>
<td>ambitious</td>
<td>not ambitious</td>
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<td>12.</td>
<td>industrious</td>
<td>lazy</td>
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<tr>
<td>13.*</td>
<td>nervous</td>
<td>relaxed</td>
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<td>14.</td>
<td>works rapidly</td>
<td>works slowly</td>
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<tr>
<td>15.</td>
<td>decisive</td>
<td>indecisive</td>
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<tr>
<td>16.</td>
<td>competent</td>
<td>incompetent</td>
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<tr>
<td>17.*</td>
<td>disorganized</td>
<td>organized</td>
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<tr>
<td>18.</td>
<td>conscientious</td>
<td>not conscientious</td>
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<td>19.</td>
<td>stable</td>
<td>unstable</td>
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<tr>
<td>20.</td>
<td>cautious</td>
<td>rash</td>
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<tr>
<td>21.</td>
<td>prompt</td>
<td>tardy</td>
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<tr>
<td>22.</td>
<td>cooperative</td>
<td>uncooperative</td>
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<tr>
<td>23.</td>
<td>independent</td>
<td>dependent</td>
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<tr>
<td>24.*</td>
<td>argumentative</td>
<td>not argumentative</td>
</tr>
<tr>
<td>25.*</td>
<td>impatient</td>
<td>patient</td>
</tr>
<tr>
<td>26.*</td>
<td>overly emotional</td>
<td>not overly emotional</td>
</tr>
</tbody>
</table>

Items 1, 3, 5, 6, 13, 17, 24, 25, and 26 are reverse-coded.
REFERENCES

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