3-30-2020

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M.A., Psychology, University of Missouri-St. Louis, 2017
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A Dissertation Submitted to The Graduate School at the University of Missouri-St. Louis
in partial fulfillment of the requirements for the degree
Doctor of Philosophy in Psychology with an emphasis in Industrial/Organizational Psychology

May 2020

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Abstract

Note-taking during the interview process has been recommended by both academics and practitioners. However, little research on note-taking in employment interviews exists. Although the limited amount of research points to the benefits of note-taking, characteristics of the notes taken have not been studied in detail and in relation to many organizational outcomes. As such, this study examined characteristics of note-taking (including job relatedness, detail, and valence) and their impact on interview question scores, hiring recommendations, hiring decisions, employee performance, and turnover. Archival data from an organization was utilized and the notes taken during employment interviews were coded to better understand the relationship between characteristics of notes and organizational outcomes. Results showed that the characteristics of notes taken during interviews (job relatedness, detail, and valence) were not significant in moderating the relationship between interview ratings and hiring recommendations, but were significant in moderating the relationship between interview ratings and hiring decisions. Only valence was significant in moderating the relationship between interview ratings and performance. However, none of the moderators were practically significant. While note-taking characteristics were not significantly correlated with performance, they were significantly related to decisions by interviewers (hiring recommendations and hiring decisions) and interview scores, which in turn were predictive of performance.

Keywords: note-taking, note-taking characteristics, selection, interviews

Introduction

With interviews being one of the most ubiquitous selection techniques, it is not surprising that considerable research has been conducted on this selection device. One stream of research has compared the results of unstructured interviews and structured interviews. Specifically, past research has shown that the amount of structure in an interview can vary on many different factors, with more structure leading to better hiring decisions (Campion, Palmer, & Campion, 1997; Levashina, Hartwell, Morgeson, & Campion, 2014), increased validity and reliability (Kausel, Culberrston, & Madrid, 2016) and fairer employment opportunities across applicant demographics (Alonso, Moscoso, & Salgado, 2017; McCarthy, Van Iddekinge, & Campion, 2010). While there are many studies examining the impact of the main structured interview components (e.g. using the same questions, using anchored rating scales), there is a dearth of studies examining the influence of note-taking during the interview process, with few studies of structured interviews even mentioning if notes were taken (Klehe & Latham, 2005). Even with few studies to draw upon, note-taking during interviews is recommended by both academics and practitioners for its assumed benefits in terms of making better hiring decisions as well as its impact on applicant perceptions of accuracy and fairness (Campion et al., 1997; Macan & Merritt, 2011; Middendorf, 2007; Sackett & Lievens, 2008). Furthermore, taking notes during interviews may help organizations protect themselves from litigation in hiring discrimination cases, as a lack of notes can be used against organizations (Macan & Merritt, 2011; Newman, 2009).

Many academics have recognized this gap in the literature and have called for more research on the topic of note-taking during interviews (Campion et al., 1997;

Dipboye, Macan, & Shahani-Deming, 2012; Levashina et al., 2014, Macan, 2008; Macan & Merritt, 2011). Although there is some research on the benefits of taking notes versus not taking notes in employment interview settings (Biesnanz, Neuburg, Judice, & Smith, 1999; Middendorf & Macan, 2002) as well as in other domains such as education (Hagen, Braasch, & Bråten, 2014; Kiewra, 1989; Kobayashi, 2006) and criminal justice (Dann, Hans & Kaye 2007; MacDonald, 2016), with one exception, these studies did not involve actual interviews. The one study that did use an organizational sample had range restriction due to its sample not including applicants who were not hired (Fischer, 2013). While these studies found that behavioral characteristics of notes (notes that focused on past behaviors and tasks completed by the applicant) taken during the interview were related to the studied outcomes (Burnett, Fan, & Motowidlo, 1998; Fischer, 2013; Middendorf & Macan, 2002), these studies did not examine behavioral characteristics in a detailed manner, such as coding notes on job-relatedness, level of detail, and valence (if the tone of the notes was positive or negative). There has been speculation that the job-relatedness of notes may be particularly influential, although this has not been studied (Burnett et al., 1998). Furthermore, most research on note-taking during interviews has not focused on organizational outcomes such as performance or turnover. Due to these limitations, it is difficult to evaluate the full impact of note-taking. This study builds upon previous research and offers some unique contributions. Specifically, my study examined characteristics of notes taken during employment interviews and their relationship with the organizational outcomes of interview question scores, hiring recommendations, hiring decisions, employee performance, and turnover. This study also addressed limitations of previous studies by using an organizational sample that includes both applicants who

were hired and those who were not hired, as well as examining characteristics of notes taken during the interview in a more detailed manner than what has been done in previous studies.

Structured Interview Components

As mentioned previously, structured interviews are recommended over unstructured interviews due to their higher validity and reliability (Levashina, Hartwell, Morgeson, & Campion, 2014). By using structured interviews, organizations can better select employees who will be successful on the job if hired, as they are better at predicting criteria such as performance and ethical behavior (Hollwitz and Pawlowski, 1997; Klehe & Latham, 2006; Levashina et al., 2014). Structured interviews are defined by the components of the interview that are designed to improve the psychometric properties of the interview, helping the interviewer make high quality and fair decisions in the selection of applicants (Campion et al., 1997). They differ from unstructured interviews in that the components of a structured interview are standardized across all interviews and applicants (Dipboye et al., 2012), with these components falling into the categories of content or evaluation (Campion et al., 1997). Examples of content components include utilizing a job analysis to create relevant questions for the position or job, limiting extraneous and supplemental information beyond what the interview questions are asking, and asking the same questions across all applicants being interviewed. Examples of evaluation components include systematically training each interviewer, using more than one interviewer, rating each answer to each question of the interview separately, having no discussion about candidates between interviews, and taking notes during the interview (Campion et al., 1997).

As 15 components of structured interviews were discussed by Campion et al. (1997), it is likely that all of these components are not found in every structured interview. Levashina et al. (2014) explored these components in-depth, finding that the average number of these components in studies examining structured interviews was 5.74. Due to the variation in the number of components that can be found in a structured interview, researchers have argued that whether an interview is structured or unstructured should not be viewed dichotomously, instead being understood and studied based on a on a continuum of how many components are present (Chapman & Zweig, 2005).

Research has shown that the advantages of utilizing a more structured interview include its usefulness in increasing the validity of an interview across a variety of jobs and different forms of interviews, such as in-person and face-to-face (Latham & Sue-Chan, 1999; Schmidt & Rader, 1999; Schmidt & Zimmerman, 2004). There is also evidence that an increase in the structure of interviews is related to lower instances of adverse impact (Huffcut & Roth, 1998; Moscoso, 2000; Schmitt, Rogers, Chan, Sheppard, & Jennings, 1997). Components of structured interviews like note-taking may also increase the accountability interviewers feel during the interview, which influences the validity of the interview (Brtek & Motowidlo, 2002; Mero & Motowidlo, 1995).

While taking notes during an interview has not been researched extensively, research in the selection context has suggested that note-taking during interviews can be important for a number of reasons. First, note-taking has been thought to be important in influencing others (e.g. an interviewer's supervisor) and justifying decisions. For example, research in selection contexts has shown that taking notes is associated with interviewers' perception that their hiring recommendation will be accepted (Fischer,

2013). Note-taking has also been thought to be important as a legal defense in cases where organizations are sued due to their hiring practices (Macan & Merritt, 2011; Newman, 2009). Second, research has shown that taking notes can influence recall of information after the interview is complete (Middendorf & Macan, 2002). Lastly, taking notes during an interview can influence how the interviewer processes information provided by the applicant. For example, note-taking has been shown to impact the attention of the interviewer in terms of what he or she focuses on (Brtek & Motowidlo, 2002) and can decrease interview bias (Biesnaz et al., 1999; Schmitt & Ostroff, 1986). Both the impact of taking notes on processing information and the usefulness of notes as a record to look back upon likely influence why taking notes can impact interview validity (Burnett et al., 1998).

Given the importance of note-taking on how an interviewer processes information during the interview, Dipboye's (1992) employment interview cognitive process model is discussed in the next section. This model offers an overview of the cognitive processes present during an interview, all of which are likely related to note-taking. While each cognitive process in Dipboye's (1992) model was not explicitly tested in this study, relevant literature from the context of employee selection and other fields will be selectively reviewed to provide a framework to explain why note-taking is important during interviews. The cognitive processes required during employment selection are likely related to the components of structured interviews, with those components likely having a positive influence on the cognitive processes as elaborated upon in the next section.

A Model of Cognitive Processing in Structured Interviews

Dipboye (1992) presented a cognitive processing model (see Figure 1) of employment interviews that focused on five aspects of an interview: giving selective attention to relevant information, making trait attributions about the applicant based on the information, recalling the information, evaluating the applicant's fit to the position, and making an employment decision based on that information (Middendorf & Macan, 2002). Although these processes combined may be cognitively taxing (Dipboye et al., 2012), components of structured interviews like taking notes may reduce the cognitive load of the interviewer. Taking notes can potentially help the recall of information during an interview, allowing the interviewer to focus on other aspects of the interview instead of focusing on ensuring he or she recalls as much information as possible after the interview (Middendorf & Macan, 2002). Taking notes may also aid an interviewer's ability to focus on job-relevant information (Brtek & Motowidlo, 2002). This may partially explain why structured interviews lead to better outcomes compared to unstructured interviews (Levashina et al., 2014). Past research has shown that an increased cognitive load can be detrimental to cognitive processes (De Jong, 2010; Macrae, Hewstone, & Griffiths, 1993; Sherman & Frost, 2000). As such, lessening the cognitive load by utilizing components of structure in interviews may enhance the interviewer's ability to effectively engage in the cognitive processes occurring during the interview, which in turn increases the validity and reliability of the interview. In sum, the content and evaluation components of a structured interview should help the interviewer with giving selective attention to relevant information, making accurate trait attributions about an applicant based on the information, recalling information, evaluating the

applicant's fit to the position, and making an employment decision based on that information. Further research on the cognitive processes utilized during employment interviews has been called for by researchers to better understand its usefulness (Dipboye et al., 2012). How note-taking relates to these processes will be elaborated upon further in the next section.

Interviewer attention.

Because "the judgments and decisions of interviewers can be influenced greatly by what happens to catch their attention" (Dipboye, 1992, p. 28), understanding what interviewers pay attention to and what can influence that is important. As attention is often intertwined with salience (Fiske & Taylor, 2017), ensuring that interviewers are paying attention to job-related information rather than extraneous information is critical. In selection settings, note-taking has been shown to be positively related to interviewer attention (Brtek & Motowidlo, 2002). Interviewers who are taking notes should be motivated to pay more attention to job-related information and take notes that focus on job-related information, as taking notes was also related to interviewer accountability (Brtek & Motowidlo, 2002).

Research from the educational literature also has focused on attention and can be applied to the selection setting, as similar cognitive processes are necessary for both note-taking during employment interviews and note-taking during classroom lectures (Dipboye, 1992). Note-taking in lectures functions similarly to note-taking in selection contexts in that students must cognitively attend to information that is important to remember (Katayama & Crooks, 2003; Kobayashi, 2006; Piolat, Olive, & Kellogg, 2005). As such, taking notes may prompt students to pay better attention to critical

information that may appear on a test or assignment, with their notes reflecting an emphasis on whatever information is deemed important in that class. The process of taking notes inherently requires the note-takers to pay more attention, as they need to think about how the information is organized and understand information that needs to be elaborated upon (Einstein, Morris, & Smith, 1985; Kiewra, 1989). Note-taking can take different forms and involve different strategies, which can also influence the attention of the note-taker.

Guidance in note-taking may be beneficial, as certain strategies (e.g. elaboration of information and integration of information) have been found to be helpful in increasing attention and more deeply processing information (Hagen, Braasch, & Bråten, 2014). Elaboration of key information in notes is helpful because it increases the likelihood that note-takers were attentive to the necessary information, while integration of information in notes across sources (lectures and texts) helps towards processing and understanding the information that note-takers are paying attention to (Hagen et al., 2014). However, not all note-takers engage in these tactics (Boran & Yi, 2012; Hagen et al., 2014). As such, ensuring that note-takers are attentive to the correct information (whether it be academic information in a classroom setting or job-relevant information in an interview) is important because it affects the benefits of note-taking (Bui, Myerson, & Hale, 2012).

Attributions of applicant behavior.

As portrayed in Dipboye's model (1992), interviewers also make attributions about applicant's behaviors and infer the causes of those behaviors. By asking questions and listening to the answers, interviewers assign dispositions to applicants in terms of

what they generally are like, as well as contextually in terms of how they respond in different situations (Dipboye, 1992; Trope, 1989). As the interview process is not a passive process of information gathering for the interviewer, note-taking may be helpful as "interviewers are continuously engaged in an active process of making sense of events in the interview and inferring attributes…from information on the applicant" (Dipboye, 1992, p. 30). Note-taking may be beneficial in helping interviewers make sense of the information garnered in the interview, either reaffirming or disconfirming prior inferences about the applicant. A benefit of note-taking may be that it combats biases that impact the cognitive process of making attributions about applicants. Research has shown that note-taking can diminish the impact of cognitive expectation biases from negative pre-interview expectations on interview evaluations because in situations where the expectations of an applicant may be prone to bias, the utilization of notes can potentially better capture job-relevant information that may be less prone to bias upon review (Biesanz et al., 1999). Recency effects (having better recall of information from the end of the interview) and primacy effects (having better recall of information from the beginning of the interview) may also be mitigated through taking notes (Schmitt & Ostroff, 1986). As such, taking notes may help interviewers make accurate attributions of applicants.

However, not all research supports note-taking impacting attribution biases. Macan and Dipboye's (1994) study found that note-taking positively influenced recognition accuracy of information acquired in the interview, in that participants were better able to correctly select statements that applicants made during the interview when tested. However, it did not diminish pre-interview bias due to examining application and

recommendation forms prior to the interview. A potential explanation for this finding is that the study utilized an undergraduate sample that did not conduct an interview themselves, instead listening to an audiotape of someone else conducting an interview. As the attribution process in Dipboye's (1992) employment interview cognitive processing model emphasizes that making attributions and inferences is an active and not passive process, the lack of engagement by the participants in Macan and Dipboye's (1994) study may have diminished the potential usefulness of note-taking. This may also explain why other studies that utilized videotapes of interviews as the stimulus had non-significant findings for some of their hypotheses (Burnett et al., 1998; Middendorf & Macan, 2002).

Recall of information.

Recalling information is also an important component of Dipboye's (1992) model, as justifying why an applicant should be hired based on his or her answers in an interview is usually done well after the interview is completed. As such, understanding memory deterioration in this context is important, as decisions or justifications may be made using incorrect or biased information. Note-taking research has shown an impact on the memory of an interviewer, as recall of information in an employment interview was increased when utilizing note-taking, especially when note-takers were allowed to review their notes (Middendorf & Macan, 2002). Note-taking can also reduce forgetting because such note-taking allows an interviewer to make use of more relevant information in making evaluations (Campion et al., 1988; Middendorf & Macan, 2002). Stated differently, note-taking can lead to less reliance on inaccurate information, increasing the validity of the interview (Biesanz et al., 1999).

Research from other domains supports the impact of note-taking on recall. In education research, "notes are typically the best and often only predictor of written recall" (Peverly et al., 2014, p. 23), with many studies showing evidence of the benefits of taking notes versus not taking notes for educational outcomes such as test performance (Chiu, Wu, & Cheng, 2013; Einstein, Morris, & Smith, 1985; Kiewra, DuBois, Christian, & McShane, 1988). Studies have shown that notes taken during a classroom lecture influence both the storage of information as well as the later use of that information (Crooks et al., 2007; Kobayashi, 2006; Peverly et al., 2007). Furthermore, these findings build on previous research that found that students who received training on how to take notes performed better than students who received no instruction on free-recall tests, cued-recall tests, recognition tests, and application tests (Kobayashi, 2005; Spires, 1993). As such, training note takers in terms of how the notes are taken and what type of information the notes should focus upon can impact the outcomes that the notes are being utilized for, as the characteristics of the notes themselves are significant (Boran & Yi, 2012; Gur, Dilci, Cosukun, & Delican, 2013; Kiewra, Benton, & Lewis, 1987).

In a legal context, note-taking in mock jury studies has been associated with better recall of trial information (Dann, Hans & Kaye 2007; ForsterLee, Kent, & Horowitz, 2005; Hope, Eales, & Mirashi, 2014). Research in criminal justice on investigative interviewing showed that interviewers recalled more from interviews with witnesses when they took notes versus when they did not take notes (MacDonald, 2016). Furthermore, interviewers who took notes and were allowed to review them recalled information more accurately than interviewers who took notes but were not allowed to review them (MacDonald, 2016). The finding that the reviewing of notes is important

may be especially applicable to employment interviews, as interview notes are often used to make decisions and justify these decisions days after the interview has been completed, sometimes by employees other than the interviewer. Research in education supports the value of reviewing one's notes, as research has found that those who reviewed and revised their notes during pauses in academic lectures performed better on performance tests (Luo, Kiewra, & Samuelson, 2016). As structured interviews usually have inherent pauses between questions that are being asked, this finding gives credence to the practicality of note-taking during employment interviews.

Evaluation of applicant and decision making.

Lastly, as highlighted in Dipboye's (1992) model, evaluating an applicant and making employment decisions is an important process to consider. Interviewers often have preconceptions of an applicant (e.g. based on a resume) before the interview and then revise those initial impressions during the interview as more information becomes available. Ultimately, evaluations made by interviewers are used to arrive at a dichotomous decision, where the applicant is recommended to move forward in the hiring process or not. Taking notes impacts the processing of information and produces an end product, both of which can be significant when note takers evaluate applicants and make decisions. In hiring and selection research, note-taking has been shown to increase the validity of the interview (Burnett et al., 1998). Being able to review one's notes also increased the judgment accuracy of interviewers, which was conceptualized as the similarity between a participant's and a subject matter expert's evaluation of the performance of the applicant in the interview (Middendorf & Macan, 2002). In the field of criminal justice, note takers who reviewed the notes they took about a trial were less

likely to be influenced by gender stereotypes than note takers who did not review their notes, as participants who did not review notes were more likely to ascribe guilt to defendants if the crime was aligned with stereotypes congruent to their sex (Strub & McKimmie, 2012). This is similar to findings in the field of ethics education concerning case-based learning exercises, where note-taking was found to increase ethical decision making quality (Johnson et al., 2013). Note-taking and review also influenced the ability to utilize ethical sensemaking strategies such as dealing with emotions and recognizing important details (Johnson et al., 2013). These findings could be especially applicable to employment interviews, as note-taking could potentially be useful for limiting bias and the effect of stereotypes on employment decisions.

In summary, note-taking directly relates to many of the aspects of Dipboye's (1992) employment interview cognitive processing model. Note-taking is influential on interviewer attention, attributions made concerning applicants, recall of information, and the decision making surrounding the evaluation of the applicant. There is evidence in other fields of research to support that different types of notes can influence outcomes and likely the cognitive processes of the interview as well. However, the types of notes taken and their characteristics have not been examined extensively outside of a few studies in selection research, as most studies on note-taking regardless of field did not code the notes taken. Furthermore, there are many limitations in the few studies on this topic (e.g. students watching videos being used as the sample).

Characteristics of Notes Taken During Interviews and Their Impact on Outcomes

Research on the characteristics of notes taken during employment interviews is limited. In past studies, note-taking was examined by focusing on five characteristics of

notes: judgmental, procedural, contextual, dispositional, and behavioral characteristics (Burnett et al., 1998; Fischer, 2013; Middendorf & Macan, 2002). Judgmental characteristics include notes that are assessments of the applicant's abilities on competencies judged during the interview. Examples of judgmental notes are "good leadership, high drive, or OK" (Burnett et al., 1998, p. 381). Procedural characteristics include notes that refer to actions of the applicant during the interview, but do not refer to the applicant's actual responses. Examples of procedural notes are "speaks too soft, couldn't think of an answer, or good eye contact" (Burnett et al., 1998, p. 381). Contextual characteristics include notes about the specific details and environment of the applicant's responses. Examples of contextual notes are "research project, [team] not working well together, or colleagues not interested" (Burnett et al., 1998, p. 381). Dispositional characteristics include notes about assumed features and characteristics of the applicant from the interview. Examples of dispositional notes are "confident, motivated, or methodical" (Burnett et al., 1998, p. 381). Lastly, behavioral characteristics include notes about the types of behaviors and tasks that the applicant described in his or her responses. Examples of behavioral notes are "she corrected the mistakes, volunteered for the job, or takes charge" (Burnett et al., 1998, p. 381).

In the Burnett et al. study (1998), the researchers found that ratings made by students who voluntarily took notes while watching a video of a real interview were more valid than ratings made by students who chose not to take notes, as they were more predictive of the performance rating made by supervisors. A validity score was calculated by calculating the absolute difference between the student's interview rating and a performance rating made by the supervisor of the employee being interviewed, with

lower scores indicating higher validity due to being closer to the true performance rating. Of the students who took notes, behavioral notes were associated with higher validity (r = -.40, $p < .01$), while judgmental (r = .19, $p < .05$) and procedural (r = .24, $p < .01$) notes were associated with lower validity (see Table 1). Negative correlations with validity scores meant an increase in validity, as lower validity scores were indicative of an improvement in validity. However, subsequent studies in the paper found that manipulating note-taking behavior across three conditions (taking general notes, taking behavioral notes, and not taking notes) produced no significant difference in validity in terms of performance ratings by supervisors between those who did not take notes and those who took behavioral notes, although both groups had higher validity than the group instructed to take general notes (Burnett et al., 1998).

The authors interpreted the differences in validity between the group that did not take notes and the group instructed to take general notes as being partly due to the participants who did not take notes processing the information more deeply, as they only had to listen and not write notes. The notes from the group that took general notes were also coded on their characteristics. Burnett et al. (1998) found that that behavioral notes had a positive impact on validity while procedural notes had a negative impact on validity (Burnett et al., 1998). While behavioral notes were thought to increase validity due to the notes potentially containing more job-related information, the authors explained that the negative effect of procedural notes may be due to not giving enough consideration to "distinguishing between behavioral information interviewees provide about their job-related experiences and how they behave in the interview itself" (Burnett et al., 1998, p. 393). Placing too much importance on what the applicant was doing during an interview

may have distracted the interviewer from focusing on job-relevant information, or potentially biased the interpretation of job-relevant information. However, by Burnett et al.'s (1998) definitions of the five characteristics, it is possible that all of the characteristics of notes could potentially have job-related information in them depending on their focus, including both procedural and judgmental notes which had a negative impact on validity. Judgmental characteristics included assessments of competencies, which could be job-related. Procedural characteristics include actions during the interview, which could be indicative of job-related behaviors. Due to the confusing and mixed findings of this study, there likely is a different and better approach to coding characteristics of notes.

While the results of Burnett et al.'s (1998) study did not show an impact of manipulating whether participants took behavioral notes or did not takes notes, the limitations of the study likely had an influence on the outcomes studied. Utilizing students as the sample rather than employees may have impacted how seriously the participants took the task, as there were no potential professional consequences of the task. Also, the methodology of the study required the participants to watch videos of interviews while taking notes, rather than having the participants conduct the interviews themselves while taking notes. As such, participants were not required to balance asking questions and responding to applicants while taking notes on the interview, which is much more cognitively demanding than watching a video of an interview while taking notes. It may be that taking notes during interviews is only beneficial when there is a higher cognitive demand. Stated differently, if an interviewer has to balance asking questions and listening to the applicant's answers, then taking notes may help the

interviewer process the information and provide a record for the interviewer to look back upon after the interview. In that situation, taking notes helps deal with the cognitive demands. Conversely, if an interviewer only needs to focus on listening to the applicant's answers, then taking notes may not be necessary to significantly impact the cognitive demand. This may be more apparent in the Burnett et al. (1998) study, as the listening demands were small due to interviews lasting approximately 13 minutes. As such, note-taking likely did not significantly impact validity in this study due to the lesser cognitive load required to watch an interview while taking notes versus the greater cognitive load required to conduct an interview while taking notes.

Similar findings about behavioral notes to those reported by Burnett et al. (1998) were reported by Middendorf and Macan (2002). This study examined the impact of different note-taking styles and characteristics of the notes taken on cued-recall accuracy and judgment accuracy (i.e. the similarity of the ratings made by students and subject matter experts on the applicant's interview performance). Students were assigned to either a general note-taking condition, a key-points note-taking condition, or a no note-taking condition. Those in the general note-taking condition were instructed to record the information they heard in the interview verbatim, including as much information as possible. Those in the key-points note-taking condition were instructed to record their notes using bullet points and only focus on main points. They were also given an outline of the key-points in the interview to organize their notes. After being instructed, participants in both note-taking conditions were shown examples of what good notes were for their condition. Participants then watched an unstructured interview video of either a highly qualified applicant or a moderately qualified applicant. The interview

consisted of eight open-ended questions that were either background questions that concerned the applicant's work experiences or self-descriptions of the applicant. Half of the participants in the note-taking conditions reviewed their notes, while the other half did not review their notes. Lastly, participants in all conditions were given measures of cued-recall accuracy and judgement of interview performance.

The percentage of behavioral ($r = .40$, $p < .01$), dispositional ($r = .19$, $p < .05$), and contextual notes ($r = .26$, $p < .01$) as coded by raters were found to be positively related to the recall of information from the interview, while judgmental notes ($r = -.35$, $p < .01$) were found to be detrimental to recall (see Table 1). These findings may be due to behavioral notes containing more job relevant information, although that attribute was not examined in these studies (Burnett et al., 1998; Middendorf & Macan, 2002). However, it is not clear why dispositional and contextual notes aided recall and judgmental notes diminished recall, as these characteristics could potentially be job-related as well. While characteristics of notes taken during an interview affected the cued-recall measure, these characteristics were not significantly related to judgement accuracy (Middendorf & Macan, 2002). Middendorf and Macan (2002) explained that the results of their study may be a consequence of utilizing short interviews that were 10 minutes in length, as the listening demands would be less than for an interviewer conducting a longer interview who could potentially benefit from taking notes to make more accurate judgments. This study had similar limitations to the Burnett et al. (1998) study due to the use of students and videotaped interviews, which are not as cognitively demanding as real interviews. Also, the videotaped interview was unstructured, with the researchers stating that "effects on memory and judgment accuracy in structured interviews should be examined in future

research" due to the likelihood that the structuring of the interview would have an impact on the characteristics of the notes taken (Middendorf & Macan, 2002, p. 301). In summary, the researchers called for further research with real interviews that are structured and longer in length to see if judgment accuracy and other outcomes variables are influenced by the characteristics of notes taken during an interview. Overall, the results of this study were confusing and without solid explanations for the mixed findings. As such, it appears that coding in future studies in the same manner as Burnett et al.'s (1998) study may not be the most effective or useful conceptualization of categorizing notes taken during an interview, with a different system potentially making more sense.

Fischer (2013) further built on the research by Burnett et al. (1998) in his study that looked at recruiter characteristics for predicting pre-hire and post-hire outcomes. The study examined the relationship between recruiter characteristics (personality, informativeness, personableness, and contact with hiring managers) and the recruitment outcomes of time to fill position, job offer acceptance, retention, job satisfaction, job fit, and job performance. The portion of Fischer's (2013) study that most closely relates to my study examined the characteristics of notes taken during interviews in relation to the outcome of acceptance of hiring recommendations. Fischer (2013) used an organizational sample that consisted of recruiters that interviewed applicants and took notes during the interviews, with data collected from applicants both before and after they were hired. The data that was collected included personality surveys of recruiters (from both the perspectives of applicants and recruiters), the notes that were taken during the interview, and outcomes. The notes taken during the interview were coded in terms of their quality

as well as on the five characteristics as in previous studies on this topic (Burnett et al., 1998; Middendorf & Macan, 2002). Quality of notes was rated by coders on the level of detail and specificity of the notes, but did not refer to job-relatedness.

Results from Fischer's (2013) study showed that interviewer self-ratings of conscientiousness were related to the number of notes taken ($r = .17$, $p < .10$) and the number of note-taking dimensions ($r = .18$, $p < .05$). Applicant ratings of interviewer conscientiousness were related to the quality of notes ($r = .14$, $p < .05$) and the total number of notes ($r = .13$, $p < .05$). This study also found that the behavioral characteristics of notes taken during interviews were related to the interviewer's rating of the extent that the hiring manager accepted their hiring recommendations ($r = .26$, $p < .01$), with the quality of notes also being related ($r = .15$, $p < .10$). Dispositional notes were negatively related to the acceptance of hiring recommendations ($r = -0.22$, $p < .05$) and contextual notes were positively related to the acceptance of hiring recommendations ($r = 0.18$, $p < .10$) (see Table 1). Other findings were a correlation between behavioral characteristics of notes taken during interviews and outcomes measured at six months after the new employee was hired, including performance as rated by the hiring manager ($r = .13$, $p < .01$) and whether the new hire was still employed ($r = .11$, $p < .01$). There was also a relationship between behavioral characteristics of notes and the measures of job experience, including similarity of job experience ($r = .19$, $p < .01$), years of similar job experience ($r = .11$, $p < .01$), and total years of job experience ($r = .13$, $p < .01$).

Fischer (2013) explained the relationship between conscientiousness and note-taking in relation to the research on attention and note-taking (Brtek & Motowidlo, 2002). Conscientiousness is likely related to an interviewer's attention during the

interview, as more conscientious interviewers would likely want to ensure that they are paying attention to job-relevant information when conducting an interview due to their being concerned about procedural accountability. Fischer (2013) also argued that the sense of increased accountability felt by interviewers high in conscientiousness would have an impact on the characteristics found in an interviewer's notes. Furthermore, because conscientiousness has been shown to be a predictor of performance (Barrick & Mount, 1991), its relation to note-taking may help explain the impact of note-taking on interview validity.

The relationship between behavioral notes and acceptance of hiring recommendation was explained by Fischer (2013) as being in part due to the role that notes can play in providing evidence for others to use to make a decision. Due to interviewers being personally invested in the hiring process, they likely paid more attention to information that would influence the outcome of the interview (Petty et al., 1988), with "behavioral notes [allowing] recruiters to provide specific examples of applicant abilities when meeting with hiring managers" (Fischer, 2013, p. 82). However, a weakness in this argument is that dispositional notes could arguably provide similar information, but were negatively related to acceptance of hiring recommendation. Lastly, the relation between the measures of job experience and behavioral notes may be explained in terms of candidate quality. Higher quality candidates may have been "better equipped to provide behavioral examples related to the job" (Fischer, 2013, p. 82), meaning that the quality of the applicant may have been influential in the decision maker accepting a recruiter's hiring recommendation. As my study is going to look specifically at the job-relatedness of notes in addition to the previously studied characteristics of

notes, it will be able to examine Fischer's (2013) assumption of behavioral notes being more associated with job-relatedness. Like the prior studies, the mixed and confusing findings reported by Fischer (2013) may at least be partially explained by the framework of characteristics used, as a different framework focusing on job-related information may potentially have more consistent results.

While Fischer's (2013) study showed there was a relationship between behavioral notes and quality of notes as well as behavioral notes and the interviewer's rating of extent of acceptance of hiring recommendations, correlations were the only analyses that were conducted. Regression analysis would allow for the prediction of outcomes in terms of characteristics of the notes that were taken. While correlations examine the relationship between two variables, multiple regression examines the relationship between independent variables and a dependent variable while controlling for other factors. As such, both correlations and regressions should be conducted to see the impact of looking at multiple characteristics simultaneously. Furthermore, Fischer's (2013) study only had data on applicants who were hired for the job, meaning that the sample inherently had range restriction. Lastly, the finding that the behavioral characteristics of notes taken were related to the hiring manager's acceptance of hiring recommendation used a self-report measure from the interviewer. Acceptance of hiring recommendation would be better measured by a direct measure that may not be potentially biased by the interviewer. A more robust and rich sample along with better measures of outcomes could better explore the nature of these relationships.

Given the complex nature of the studies reviewed and their mixed findings, Table 1 summarizes their results. All three of the studies involving characteristics of notes taken

during an interview utilized the same approach for categorizing notes into one of five types (Burnett et al., 1998; Fischer, 2013; Middendorf & Macan, 2002). However, the characteristics of notes can be examined in a different way than has been done in past research studies. Fischer (2013) coded notes in terms of their quality, but other categories such as the job-relatedness of the notes and whether they are positive or negative could help researchers better understand the relationship between characteristics of notes and outcomes. In terms of the job-relatedness of notes, researchers have speculated that structured interview components may increase validity due to their focus on job-related information, which may be more indicative of traits associated with an applicant's ability to perform well in a job (Goodale, 1989; Levashina et al., 2014). Job-related information would specifically refer to how relevant the information is to what is required of the applicant to perform well on the job. Taking notes has shown to increase the attention of the note-taker, which has also been thought to increase the note-taker's ability to focus on job-related information (Brtek & Motowidlo, 2002). Burnett et al. (1998) hypothesized that the job-relatedness of behavioral notes may explain their significance in impacting the validity of interviews, but this has yet to be explored.

The valence of the notes may also be impactful, as notes may be used or interpreted differently depending on if the notes were positive or negative. Negativity bias is the predisposition to negative entities, meaning that people give more weight to negative events, personal characteristics, and information. Rozin and Royzman (2001) offered a taxonomy for this bias that could appear in four ways: negative potency (negative information is more impactful than positive information), negative dominance (the sum of positive and negative information produces more negative overall

assessments than what is expected with all information occurring equally), negative gradients (additional negative information is more impactful than additional positive information), and negative differentiation (reactions to negative information are more complex than reactions to positive information). Unfavorable information has been shown to be more impactful than favorable information across many psychological contexts, with impressions from unfavorable information being more difficult to change (Baumeister, Bratslavsky, Finkenauer, & Vohs, 2001).

In selection research, negative information has been shown to be more influential than positive information on interview ratings (Bolster & Springbett, 1961; DeNisi, 2003; Hollmann, 1972). Such findings have been explained as resulting from negative stimuli being experienced more intensely, negative information being more easily remembered, negative information being processed more methodically, and negative information being believed to better differentiate between individuals (Kanar, Collins, & Bell, 2010; Roth, Bobko, Van Iddekinge, & Thatcher, 2016). Due to the differences in the processing of negative and positive information, examining valence in conjunction with the characteristics of notes taken during an interview should offer a better understanding of the relationship between note-taking and organizational outcomes. It is likely that the overall valence of notes will influence this relationship, as negative notes may have stronger relationships with outcomes than positive notes.

Contributions and Context of This Study

In summary, this study addressed limitations of and builds on previous studies in multiple ways. First, my study utilized an organizational sample of applicants and interviewers. Past studies, with the exception of Fischer (2013), researching

characteristics of note-taking in interviews have used student samples who watched recorded interviews (Burnett et al., 1998; Middendorf & Macan, 2002). These types of studies did not use realistic interviews that require the interviewer to balance asking questions, listening to the applicant, and taking notes. As such, the impact of taking notes cannot be fully understood using recorded interviews because they differ both cognitively and motivationally from an actual interview. Because the interview is an active and not passive process, it needs to be examined in a realistic manner (Dipboye, 1992). Findings may be more pronounced in a real organizational setting which utilizes a structured interview rather than a videotape of an unstructured interview in a research-based laboratory setting.

A second contribution of my study is that the notes were coded in a different manner than in previous studies, a manner which may shed light on why note-taking is important (Burnett et al., 1998; Fischer, 2013; Middendorf & Macan, 2002). Notes taken in previous studies have been coded using the same five attributes (judgmental, procedural, contextual, dispositional, and behavioral notes), with the relationship between the attributes and the studied outcomes varying in significance and effect sizes. Behavioral notes have had the strongest relationship with the studied outcomes (see Table 1), which has been speculated to be due to behavioral notes including the most job-related information of the five attributes traditionally coded. Studies have not examined notes in terms of their job-relatedness, with only Fischer (2013) going beyond Burnett et al.'s (1998) original taxonomy by coding notes on quality. Based on the literature reviewed, it seems likely that coding notes in a more complex and detailed manner may better explain the relationship between notes and studied outcomes, which may partially

explain why there have been inconsistent findings in past studies. My study coded interview notes in terms of their job-relatedness, detail, and valence (whether the notes are positive or negative) in addition to the previously studied characteristics. These three characteristics likely impact components of Dipboye's (1992) employment interview cognitive processing model, specifically assigning attributions, making evaluations of applicants, and making decisions.

A third contribution of my study involves some of the organizational outcomes I examined. Many organizational outcomes have not been extensively studied in relation to characteristics of notes taken during interviews, such as if applicants were hired or not and subsequent new hire performance and turnover. While weak relationships were found for behavioral characteristics of notes taken during the interview and the outcomes of performance and turnover in Fischer's study (2013), a stronger relationship may be found if the characteristics of notes taken by interviewers are coded in a more detailed and nuanced manner (e.g. in terms of job-relatedness, the positive/negative tone). Furthermore, hiring decision has not been studied at all using characteristics of notes taken during an interview.

A final contribution made by the proposed research is that it is the only study to have used data from both individuals who were hired and not hired, as Fischer's (2013) study only incorporated data from individuals who had been hired. Including both applicants who were hired and those who were not can help to better understand the relationship between characteristics of notes and outcomes such as interview ratings, hiring recommendations, and hiring decisions. Data for these outcomes is available

regardless of if the applicant is hired or not, so including applicants who were not hired will allow more data on characteristics of notes to be included in the analysis.

To provide context for the hypotheses in my study, I will briefly describe the data that was utilized. Archival data was collected from a large financial services firm about their hiring process for branch office administrators (BOAs). The firm has over 10,000 offices in the United States and focuses on providing investment advice to clients, with each office employing a BOA and a financial advisor. A BOA reports to the financial advisor and works in an administrative role with a focus on customer service, as they are the first point of contact at each office (see Appendix A for the job description of the role). The financial advisor's main tasks include generating new clients and providing financial advice to new and existing clients. Data for my study came from three sources: recruiters, financial advisors, and applicants.

The hiring process of BOAs involves 6 steps. First, applicants must submit a resume through the organization's website. While resume data is not available for this study, data on the rest of the hiring steps is available. Second, applicants complete pre-interview history questions (see Appendix B for pre-interview history questions). Their answers to these questions are seen by the recruiters. Recruiters look over the applicant's resume and answers to pre-interview questions asked in an application blank and then decide which applicants to interview. Third, recruiters interview the applicants and rate them on their answers to the interview questions as well as an overall interview rating. Fourth, recruiters make a single hiring recommendation from the applicants they interviewed. Fifth, the financial advisor considers the recommendation and interview scores to decide who will be given a second interview. Sixth, the financial advisor

conducts a second interview with the remaining applicants and rates them on their answers to the interview questions as well as an overall interview rating. Lastly, the financial advisor decides who to extend an offer to based on all of the information available during the hiring process. Both recruiters and financial advisors take notes during their interviews and rate applicants on five competencies (with one interview question per competency) and on communication (see Appendix C for recruiter interview questions and Appendix D for financial advisor interview questions).

As part of my study, interview notes from both recruiters and financial advisors were coded on characteristics in a similar but more complex manner than Burnett et al. (1998) and Fischer (2013), where the instances of each characteristic were counted to calculate the total number of notes and the percentage of the total notes. To replicate previous research, I coded the notes into the same five categories as used in previous studies, which are judgmental, procedural, contextual, dispositional, and behavioral notes. In order to increase our understanding of why notes may have an effect, notes were also coded in terms of their job-relatedness to the BOA position, overall detail, and overall valence (whether the notes were more positive or more negative about the applicant). Job-relatedness was coded in terms of how strongly a note's content is related to the job description of the BOA (see Appendix A for job description of the role). Detail of notes was coded by the overall level of detail and specificity of the notes, while valence of notes was coded according to tone and positivity or negativity. A more detailed description of this process is in the methodology section.

Hypotheses

Building on the Burnett et al. (1998), Middendorf and Macan (2002), and Fischer (2013) studies, this study examines characteristics of the notes taken by recruiters and financial advisors and their relation to: (a) an overall interview rating by recruiter, (b) an overall interview rating by financial advisor, (c) a recruiter's hiring recommendation, (d) a financial advisor's hiring decision, (e) employee performance, and (f) employee turnover. In addition to coding notes on the traditional dimensions examined (e.g. procedural, behavioral, contextual, dispositional, and judgmental), notes were also coded in terms of their job-relatedness, detail, and valence (if they were positive or negative). Based on relevant psychological theory, the coding scheme used in this study should provide greater insight into why notes have the effects they do. Figure 2 presents how the variables in my study are hypothesized to be related.

This proposed model differs from how previous studies have conceptualized characteristics of the notes taken during an interview in that it focuses on the job-relatedness, detail, and valence of notes rather than solely coding the notes using the five previously studied characteristics (procedural, behavioral, contextual, dispositional, judgmental). Past authors have suggested that the usefulness of certain characteristics of notes (such as behavioral notes) may be due to the job-related information that is contained within them (Barnett et al., 1998). As such, in addition to testing my model, I explored how the three attributes of note-taking focused on in my study are related to the five dimensions which have traditionally been examined.

As recruiters and financial advisors have access to applicant work history information, it likely influences their interview scores. Both the amount of job experience

and the similarity of prior jobs to the one being applied for have been shown to be predictive of job performance and interview decisions (Singer & Bruhns, 1991; Ng & Feldman, 2010). Human capital theory explains this relationship as being due to employees who have greater experience in their prior roles having more opportunities to accumulate job-relevant knowledge and skills than employees with less experience in their prior roles (Becker, 1964; Myers, Griffith, & Daugherty, 2004). Having greater experience in jobs can signal to employers that an applicant has acquired job-relevant knowledge and skills (Sicherman & Galor, 1990). Having greater experience gives applicants more opportunities to obtain declarative knowledge (i.e. factual information) and procedural knowledge (i.e. understanding the process to follow in applying declarative knowledge to complete a task) (Gavin & Greenhaus, 1976; McCloy, Campbell, & Cudeck, 1994; Valle, Harris, & Andrews, 2004). Possessing both declarative and procedural knowledge can be indicative of an applicant's ability to perform well on the job (Quinones et al., 1995). Prior experience and the knowledge gained is brought up during interviews for the BOA position, likely impacting interview scores.

Candidate work experience has also been shown to predict turnover (Barrick & Zimmerman, 2005; Barrick & Zimmerman, 2009; Cascio, 1976). This finding is likely due to at least three factors: work ethic, vocational interest, and job knowledge. Less experience in workers has been shown to be related to a lower level of work ethic, which was associated with both turnover and organizational commitment (Mathieu & Zajac, 1999). A lower work ethic in an employee would be related to lower performance, and low performing employees are more likely to be terminated than high performing

employees. Furthermore, the unfolding model of turnover states that certain individuals may be more prone to quitting, with patterns of turnover emerging in their work histories (Ghiselli, 1974; Holtom, Mitchell, Lee, & Inderrieden, 2005; Judge & Watanabe, 1995). Vocational interests have also been shown to be predictive of both performance and turnover (Van Iddekinge, Roth, Putka, & Lanivich, 2011). As candidates who have worked in the same industry and type of roles during their career are likely interested in those types of vocations and have the opportunities to gain relevant declarative and procedural knowledge, the similarity or dissimilarity of previous experiences is likely related to turnover as well.

> ***Hypothesis 1a-d:*** *The amount of job applicant experience will be positively related to:* ***(a)*** *recruiter interview score,* ***(b)*** *financial advisor interview score, and* ***(c)*** *employee performance, and* ***(d)*** *negatively related to turnover.*
>
> ***Hypothesis 2a-d****: The similarity of a job applicant's work experience to the position applied for will be positively related to:* ***(a)*** *recruiter interview score,* ***(b)*** *financial advisor interview score, and* ***(c)*** *employee performance, and* ***(d)*** *negatively related to turnover.*

The interview ratings made by recruiters should be correlated with their hiring recommendations and employee performance due to the type of information being conveyed in the interviews. Specifically, past research has found that recruiter perceptions of applicant person-job fit and applicant person-organization fit, both of which are commonly assessed in an interview, influence an interviewer's hiring

recommendation and are predictive of performance (Judge, Higgins, & Cable, 2000; Tsai, Chi, Huang, & Hsu, 2011). These interview judgments about fit should predict performance because they are based on an informed consideration of an applicant's ability to do the job and their interest in the position (Villanova, Bernardin, Johnson, & Dahmus, 1994). In turn, it is not surprising that the greater the perceived fit to the position (which is reflected in a higher interview score), the more likely a recruiter is to recommend the person for the job. The competency-based questions in the interview for the BOA correspond directly to the abilities and knowledge necessary to perform well on the job. Furthermore, the overall interview rating asks recruiters to consider employee fit for the job when making judgments. As such, a high interview score by an applicant should also be associated with high performance on the job if he or she is hired.

> ***Hypothesis 3a-b:*** *A recruiter's interview score will be positively related to* ***(a)*** *his or her hiring recommendation and* ***(b)*** *the applicant's performance if the person is hired.*

As note-taking increases the structure of the interview, note-taking can have an impact on the validity of an interview (Levashina et al., 2014). Higher quality and more equitable decisions can be made by increasing the structure of an interview, raising the psychometric properties of the interview to better measure characteristics that are predictive of outcomes (Campion et al., 1997). The Burnett et al. (1998) study found that behavioral notes had a positive effect on the validity of an interview, while procedural and judgmental notes had a negative effect on the validity of an interview. The authors explained these relationships as possibly being due to the job-relatedness of notes, or how relevant the notes are to what is required of the applicant to perform well on the job.

Behavioral notes were thought to be more job-related than procedural or judgmental notes. As such, taking job-related notes likely leads to an interview score that is based on job-related information and is more predictive of job performance. An interview score that may not be based on job-related information that is derived from notes that are not job-related may be less predictive of job performance.

Taking other kinds of notes (i.e. those that are not job-related) may detract from an interviewer's ability to take job-related notes due to the limited time of an interview. As an interviewer should balance asking questions, listening to the applicant, and taking notes during an interview, the interviewer may not be able to write job-related notes if they are taking time to write notes that are not job-related. Taking notes that are not job-related may detract from the recruiter's ability to base his or her interview scores on job-relevant information, impacting the predictive validity of the interview on job performance. Without job-relevant notes, interviewers would have to rely solely on memory to make judgments on interview scores. Middendorf and Macan (2002) found that behavioral notes were more strongly positively related to the accurate recall of information by interviewers than both contextual and dispositional notes, while judgmental notes were negatively related to the accurate recall of information by interviewers. These findings concerning accuracy in the Middendorf and Macan (2002) study may be better explained by the job-relatedness of notes rather than past studied characteristics, as indicated by behavioral notes (which are likely job-related) having the largest impact on accurate recall of information. Without accurate recall of information, the validity of the interview will suffer, as otherwise the interview score may be based on inaccurate information. Reviewing one's notes was also shown to increase judgment

accuracy in interviewers (Middendorf & Macan, 2002). As recruiters review their notes before making hiring recommendations, having job-related notes to refer to should increase their ability to make high quality recommendations that are predictive of job performance if the applicant is hired.

The Fischer (2013) study found that behavioral notes were related to the acceptance of a recruiter's hiring recommendations as well as job performance if the applicant was hired. As in the Burnett et al. study (1998), this was explained as possibly being due to the job-relatedness of behavioral notes, as these types of notes would better indicate an applicant's ability to perform well on the job. Furthermore, recruiters may have more difficulty justifying a recommendation for an applicant with notes that are not job-relevant. In summary, the validity of a recruiter's interview judgment for predicting performance should be contingent on the job-relatedness of the notes. In a similar vein, the strength of the connection between a recruiter's interview score and his or her hiring recommendation should depend on the job-relatedness of the notes taken. In cases where one applicant has a much higher interview score than other applicants there may not be a difference between which applicant is recommended and who has the best interview score. However, in cases where there are multiple applicants with similar scores, the job-relatedness of notes will likely sway the recommendation.

> ***Hypothesis 4a-b:*** *The number of notes taken by the recruiter that are job-related and the overall relevancy of the recruiter's notes will moderate the relationship between* ***(a)*** *recruiter interview score and hiring recommendation of the recruiter and* ***(b)*** *recruiter*

interview score and job performance, such that the relationship will be stronger with more job-related notes.

The detail of an interviewer's notes has been shown to be related to outcomes such as an interviewer's perception of his or her recommendation being accepted by his or her financial advisor (Fischer, 2013). The detail of notes has also been shown to be related to test performance in education literature (Peverly, 2006; Peverly et al., 2007). Past studies have concluded that more research is needed to examine the impact of detail notes being taken (Kiewra, 1989; Kobayashi, 2005; Slotte & Lonka, 1999). In my study, note detail will be coded in a similar manner to past research by rating the overall level of detail and extensiveness of notes (Fischer, 2013). As more detailed and extensive notes are likely more useful in making decisions, more detailed notes likely moderate relationships in a similar manner to the job-relatedness of notes. More specifically, a recruiter may be better able to justify their hiring recommendation if his or her notes have more detail and may not be able to make as good of a case for a candidate with less detailed notes. Furthermore, more detailed notes should better be able to capture job-relevant information due to being more complete and detailed, as job-relevant information might be missed or overlooked if the notes are not sufficiently elaborate. Similar to the job-relatedness hypothesis, in cases where there are multiple applicants with similar interview scores, the quality of notes will likely influence the recommendation.

Hypothesis 5a-b: *The overall detail of notes taken by the recruiter will moderate the relationship between* ***(a)*** *recruiter interview score and hiring recommendation and* ***(b)*** *recruiter interview score*

and an applicant's job performance if the person is hired, such that the relationship will be stronger with more detailed notes.

The overall valence of notes taken by the recruiter during an interview also should moderate the relationship between the recruiter's interview score and his or her hiring recommendation and between the recruiter's interview score and the applicant's performance if he or she is hired. Specifically, if the tone of the notes is negative, these relationships should be stronger. Negative information is likely weighed more heavily than positive information in selection contexts, as past studies have shown this effect (Bolster & Springbett, 1961; DeNisi, 2003; Hollmann, 1972). Negative information may be more influential due to the potential risk of hiring a bad employee outweighing the potential benefit of hiring a good employee, as time and resources would be wasted on a bad hire (Jagacinski, 1995; Kuhn, 2014). Interviewers may be more conservative about recommending employees in the presence of negative information, as they may be more prone to not recommend a potential employee who would perform poorly or eventually be fired (Motowidlo, 1986). Recommending an employee that is eventually fired may reflect poorly on the recruiter, which may make them hesitant to recommend an employee with negative information conveyed during the interview. Negative information is also experienced more intensely, is more easily remembered, and is thought to better differentiate between individuals than positive information (Kanar, Collins, & Bell, 2010; Roth, Bobko, Van Iddekinge, & Thatcher, 2016). As such, the valence of notes likely impacts these relationships, as negative notes may strengthen the relationship between recruiter interview scores and hiring recommendation due to the

potential repercussions of hiring a poor employee as well as the individual differences in processing positive and negative information.

> ***Hypothesis 6a-b:*** *The overall valence of the notes taken by the recruiter and the percentage of positive and negative notes taken by the recruiter will moderate the relationship between* ***(a)*** *recruiter interview score and hiring recommendation and* ***(b)*** *recruiter interview score and job performance, such that the relationship will be stronger with more negatives notes.*

Hiring recommendations by recruiters should be related to outcomes as well. As financial advisors have access to the hiring recommendations of recruiters, they will take into account that recommendation when rating their interview with the applicant. They will likely also take into account the recruiter's hiring recommendation when deciding on which applicant will receive a job offer. As applicants who make it to the interview with the financial advisor are likely of higher quality than the applicants who did not make it past the interview with the recruiter, it may be more difficult for the financial advisor to decide to whom to make a job offer. As such, additional information such as the hiring recommendation of the recruiter may be utilized in addition to the financial advisor's interview judgment (as reflected by the financial advisor's interview score) of the applicant. Financial advisors likely place importance on the recruiter's hiring recommendation due to the number of interviews the recruiters conduct, the recruiter's extensive background in recruiting and interviewing, and the training recruiters receive. These hiring recommendations are also likely related to employee performance due to the

previously stated reasons concerning the validity of semi-structured interviews (Levashina et al., 2014).

Interviews have also been shown to predict turnover (McDaniel et al., 1994; Schmidt & Rader, 1999). Interviewers usually make judgments of an applicant's person-organization fit during an interview, with high person-organization fit predicting lower turnover (Kristof-Brown, Zimmerman, & Johnson, 2005). Employees with high person-organization fit feel a greater compatibility with their organization in terms of goal and value similarity (Memon, Salleh, Baharom, & Harun, 2014). If an employee has goals and values that are similar to those of an organization, they will likely have a more favorable opinion of their organization and be more likely to remain (Arthur, Bell, Villado, & Doverspike, 2006; Kim, Aryee, Loi, & Kim, 2013). Hiring recommendations are likely associated with the recruiter's judgment of the applicant's person-organization fit, as the overall interview rating for the BOA position requires recruiters to consider this when making a judgment on the interview scores and recommendations. As such, recruiters are more likely to recommend applicants with high person-organization fit who will be less likely to voluntarily turnover.

> ***Hypothesis 7a-d:*** *Hiring recommendation by recruiters will be positively related to:* ***(a)*** *financial advisor interview score,* ***(b)*** *hiring decision by financial advisors, and* ***(c)*** *employee performance, and* ***(d)*** *negatively related to turnover.*

The interview ratings made by financial advisors should be correlated with their hiring decisions and employee performance in a similar manner to the interview ratings made by financial advisors with hiring recommendations and employee performance (see

Hypothesis 3). This is due to perceptions of applicant person-job fit and applicant person-organization fit conveyed during the interview, both of which are associated with hiring outcomes and are predictive of performance (Judge, Higgins, & Cable, 2000; Tsai, Chi, Huang, & Hsu, 2011). Perceptions of fit should predict performance because they are formed from the interviewer's perception of an applicant's ability to do the job and their interest in the position (Villanova, Bernardin, Johnson, & Dahmus, 1994). A greater perceived fit to the position will lead to a higher interview score, making the applicant more likely to be offered the job by the financial advisor. The competency-based questions in the interview for the BOA parallel the abilities and knowledge necessary to perform well on the job. Furthermore, employee fit is considered in the overall interview rating by the financial advisor. As such, a high interview score by an applicant should also be associated with high performance on the job if he or she is hired.

> ***Hypothesis 8a-b:*** *A financial advisor's interview score will be positively related to* ***(a)*** *his or her hiring decisions and* ***(b)*** *the applicant's performance if the person is hired.*

Similar to the moderating effect of the job-relatedness of notes by recruiters on relationships in the model (see Hypothesis 4), the job-relatedness of the notes by financial advisors on the relationships in the model likely functions in the same manner. As taking notes can increase the structure and validity of the interview (Campion et al., 1997; Levashina et al., 2014) and behavioral notes (which are likely job-related) have been found to increase the validity of the interview (Burnett et al., 1998), the number of job-related notes taken by financial advisors in the interview should impact the relationships specified in Figure 2. Financial advisors should be able to make better judgments of

applicant interview performance (which should be associated with applicant job performance if hired) by using job-relevant information, which is easier and more likely to be utilized if job-related notes are taken. As interviewers need to ask questions, listen to responses, and take notes during the interview, taking notes that are not job-related may inhibit a financial advisor's ability to take job-related notes due to the limited time during an interview. Job-related notes may also influence the accuracy of the interviewer's recall and therefore the validity of the interview, as valid interviews need to be based on job relevant information to make high quality hiring decisions and predict performance (Middendorf & Macan, 2002). Interviewers who review their notes have also been shown to make more accurate judgments (Middendorf & Macan, 2002). As financial advisors review their notes before making hiring decisions, their ability to make high quality hiring decisions that are related to performance should increase when utilizing job-related notes.

Notes that are job-relevant likely make it easier to justify the hiring decision of the financial advisor, as these types of notes capture information about an applicant's ability to perform well on the job and are referred to when making the hiring decision. As behavioral notes have been found to be related to job performance (Fischer, 2013), they are likely job-related and contain more relevant information about the applicant's ability to behave and complete tasks on the job. Job-related notes likely influence if the financial advisor hires the applicant or not and how well the financial advisor's interview ratings predict employee performance on the job. The relationship between the financial advisor's interview score and employee performance is likely stronger when utilizing

job-related notes due to the validity of the interviewer's judgment for predicting performance being impacted by the job-relatedness of the notes.

> ***Hypothesis 9a-b:*** *The number of notes taken by the financial advisor that are job-related and the overall relevancy of the financial advisor's notes will moderate the relationship between* ***(a)*** *financial advisor interview score and employee performance and* ***(b)*** *financial advisor interview score and hiring decision by the financial advisor, such that the relationship will be stronger with more job-related notes.*

Again, a similar moderating effect of the detail of a recruiter's notes (see Hypothesis 5) on relationships in Figure 2 likely also exists for the detail of a financial advisor's notes. As the detail of a recruiter's notes is related to the outcome of acceptance of a hiring recommendation by the financial advisor (Fischer, 2013), similar findings may arise for the financial advisor's outcomes. More complete and specific notes may have an impact of the financial advisor's justification of their own interview scores when making a hiring decision. The financial advisor may feel more confident utilizing notes that contain more information when deciding if they should extend a job offer to a candidate.

The detail of notes likely also moderates the relationship between financial advisor interview scores and employee performance in a similar manner to job-relatedness, as complete notes can better capture job-relevant information and not miss anything of relevance. In education literature, more detailed notes are predictive of test performance (Peverly, 2006; Peverly et al., 2007). Taking more detailed notes may also increase the performance of the financial advisor when interviewing, as they should

better be able make valid interview ratings by taking more detailed notes. If notes are less detailed, then potential job-related information may be missing when the financial advisor refers to the notes to justify their decision. Due to this, without more detailed notes it may be more difficult for the financial advisor to decide to hire an applicant even with high interview scores. Similar to the job-relatedness hypothesis, in cases where there are multiple applicants with similar interview scores, the quality of notes will likely influence the hiring decision.

> ***Hypothesis 10a-b:*** *The overall quality of notes taken by the financial advisor will moderate the relationship between* ***(a)*** *financial advisor interview score and employee performance and* ***(b)*** *financial advisor interview score and hiring decision by the financial advisor, such that the relationship will be stronger with more detailed notes.*

Building on the previously stated reasoning, the moderating effect of the valence of notes on relationships in Figure 2 also likely functions similarly for recruiters as it does for financial advisors (see Hypothesis 6). The valence of the notes will likely better be able to explain the relationship between financial advisor's interview scores with both hiring decision and employee performance. Negative information has been shown to be more easily remembered, experienced more intensely, and has been thought to better be able to differentiate among individuals than positive information (Kanar, Collins, & Bell, 2010; Roth, Bobko, Van Iddekinge, & Thatcher, 2016). Negative information during interviews may also be weighed more heavily by financial advisors as has been shown in past selection research (Bolster & Springbett, 1961; DeNisi, 2003; Hollmann, 1972).

Weighting negative information more heavily during an interview may be due to not wanting to hire a potentially poor employee (Jagacinski, 1995; Kuhn, 2014). Financial advisors may be even more hesitant to hire a potentially poor employee than recruiters would be to recommend a poor employee to be hired, as the financial advisors would be working closely together at the same location as the applicant that is hired. As such, the applicant the financial advisor decides to make an offer to could potentially have a direct impact on the overall performance of the office and the performance of the employees working there. This could make the financial advisor particularly hesitant to hire an applicant that could impact their own job performance, especially since the financial advisor would ultimately be responsible for firing such a poor employee as well (Motowidlo, 1986). As such, negative notes may be more influential than positive notes due to the differences in how negative information and positive information is processed, as well as the potential long-term adverse consequences of hiring a poor employee.

> ***Hypothesis 11a-b:*** *The overall valence of the notes taken by the financial advisor and the percentage of positive and negative notes will moderate the relationship between* ***(a)*** *financial advisor interview score and employee performance and* ***(b)*** *financial advisor interview score and hiring decision by the financial advisor, such that the relationship will be stronger with more negatives notes.*

Lastly, job-relatedness is likely related to past characteristics of notes that have been studied. There have been inconsistent findings in past studies in terms of what types of characteristics have been significant, with only behavioral notes being consistently

found to be significant in terms of the studied outcomes of interview validity, accuracy in recall of information, and acceptance of hiring recommendation (Burnett et al., 1998; Fischer, 2013; Middendorf & Macan, 2002). This has been explained in part due to behavioral notes being more likely to contain job-related information as these notes are specifically about previous behaviors and tasks completed by the applicant (Burnett et al., 1998). However, other types of notes have had mixed findings in terms of significance, with their definitions theoretically allowing for these types of notes to contain job-relevant information as well. As such, it is likely that the job-relatedness of notes taken during an interview should be more related to outcomes than past characteristics that have been studied, as job-relevance has been thought to be more influential than prior characterizations of notes and may offer an explanation for the past confusing results. If so, focusing on job-relatedness rather than previously studied characteristics may be beneficial to interviewers, as the job-relatedness of notes may better explain the significant findings of past studies over the other characteristics (Burnett et al., 1998; Fischer, 2013; Middendorf & Macan, 2002).

> ***Hypothesis 12:*** *The number of job-related of notes will be positively related to the number of behavioral notes.*
>
> ***Hypothesis 13a-e:*** *The number of job-related of notes will be more associated than past studied characteristics (procedural, behavioral, contextual, dispositional, and judgmental) with the outcomes of* ***(a)*** *interview scores,* ***(b)*** *hiring recommendations,* ***(c)*** *hiring decisions,* ***(d)*** *job performance, and* ***(e)*** *turnover.*

Method

Participants and Procedure

My study utilized archival data from three sources from a large nationwide financial services firm headquartered in the Midwestern United States: applicants, recruiters, and financial advisors. Applicants for the role of branch office administrator (BOA) were used as the sample. There was a total of 976 applicants and 25 recruiters in the sample. The number of financial advisors was not recorded in the sample, but there were likely a similar number of financial advisors and applicants due to financial advisors only having a single BOA in their branch. Organizational outcome data was only available for applicants who received and accepted the job offer. Interview ratings and notes taken during the interview were collected from recruiters and financial advisors. Demographic information on candidates, recruiters, and hiring managers was not available from the organization.

The process for hiring BOAs starts with the financial advisor at a branch contacting a recruiter. The financial advisor and the recruiter discuss the branch's need for a BOA. The recruiter then posts the requisition to the company's careers website as well as general job listing websites. Interested candidates submit their resumes as well as respond to qualifying questions in an online application bank, including questions about past relevant work experience (see Appendix B). There was an average of 23 applications per job opening. Resume data was not available for the study, but the answers to the work experience questions were available to examine the past experience and quality of each candidate. Recruiters review the resumes and job history questions, scheduling phone interviews with qualified applicants. Recruiters ask applicants questions during the phone

interview while taking notes during this process. The firm refers to the interviews as being structured due to using the same questions for each applicant and evaluating responses consistently (see Appendices C, D, and E). However, some may characterize this interview as semi-structured due to the lack of interview training that financial advisors receive as well as not utilizing multiple interviewers.

The interview consists of five questions, with the time of the interviews ranging between 15 and 30 minutes with an average of about 20 minutes in length. Length of interview is not recorded by the organization. Competencies assessed by the recruiters include attention to detail, putting the client first, initiative, adapt to change, develop self, and communication. Competencies assessed by the financial advisors include interest/work history, planning/organizing, problem solving, initiative, building relationships, and communication. At the completion of an interview, the recruiter rates each candidate's response to each interview question as well as giving an overall interview rating. Upon completion of all the interviews for each requisition, the recruiter makes a hiring recommendation for the financial advisor from the interviewed applicants. The financial advisor then chooses to interview one or more applicants from the pool of candidates that were interviewed by the recruiter regardless of the recruiter's hiring recommendation, ultimately having the final decision on who is offered the position. Out of the applicants for each job opening, an average of five applicants completed recruiter interviews per job opening and an average of two applicants completed financial advisor interviews per job opening. Given that an average of 23 applicants led to five interviews and resulted in one hire, there was considerable range restriction in the sample. The financial advisors have access to the interview question scores and notes taken by the

recruiters to help make the hiring decision. The data utilized in this study is archival data that is already collected and kept by the organization from 2018 to 2019.

Measures

Interview question ratings. After completing each interview, recruiters and financial advisors rated applicant's answers to each interview question (see Appendix E for rating scales). Applicants are asked five competency-based questions. Ratings are made on a 5-point Likert scale (1 = *Significant development needed*, 2 = *Some development needed*, 3 = *Satisfactory*, 4 = *Strong*, 5 = *Very strong*). See Appendix F for the recruiter interview form and Appendix G for the financial advisor interview form.

Communications rating. Recruiters and financial advisors rated each applicant on their communication skill during the interview. This is not an interview question, but is based on the interviewer's interpretation of the candidate's behavior during the interview. Ratings are made on a 5-point Likert scale (1 = *Significant development needed*, 2 = *Some development needed*, 3 = *Satisfactory*, 4 = *Strong*, 5 = *Very strong*).

Overall interview rating. After completing the interview question ratings, recruiters and financial advisors rated the overall applicant's interview and fit for the position. Ratings are made on a 5-point Likert scale (1 = *Significant development needed*, 2 = *Some development needed*, 3 = *Satisfactory*, 4 = *Strong*, 5 = *Very strong*).

Hiring recommendations. Upon completing all interviews for each requisition, a recruiter made a hiring recommendation for the financial advisor (is an applicant recommended for the job: coded 0 = *no*, 1 = *yes*). Only one applicant is recommended by the recruiter. Financial advisors viewed the applications for all the candidates for each requisition regardless of hiring recommendation. The total number of job applicants for

each requisition was not available for the sample, but according to the organization there were 23 applicants on average per job opening.

Hiring decision. Upon completing all interviews for a requisition, a financial advisor made a hiring decision (is an applicant offered a job: coded 0 = *no*, 1 = *yes*). Financial advisors made the final hiring decision on their own.

Performance. Hiring managers rated a newly hired BOA's performance 6-months post-hire. These ratings were collected as a normal part of the organization's onboarding and performance evaluation process. A single-item measure using a 5-point Likert scale is used to measure performance (1 = *Below expectations*, 5 = *Outstanding*).

Turnover. Turnover is an objective measure captured by the organization. Turnover at 6-months was captured to coincide with performance data. Data only captured turnover and not reason for turnover (is an applicant still employed: coded 0 = *no*, 1 = *yes*). The 6-month date was used due to turnover being the highest before 6 months at the organization.

Work history questions. Candidates were asked to fill out questions about their prior work history and experience during the application process for recruiters to review before deciding if they move to the interview. The number of years of professional experience, financial services experience, and customer service experience were recorded. Candidates were asked if they have made outbound calls and worked with others in a professional experience as well. Applicant answers to the work history questions were coded by the researcher on similarity and amount of previous experience. The work history questions were coded in a similar manner to Quinones, Ford, and Teachout (1995) and Fischer (2013). The relatedness of past jobs to the BOA position

was also coded. The researcher rated a single item on a 5-point Likert scale assessing the similarity of an applicant's previous job experience (1 = *Not at all similar*, 5 = *Almost identical*).

Interview notes. Notes taken by the recruiter and the financial advisor during the interview were collected and kept by the organization on each applicant. Recruiters were given more space to record notes than financial advisors. For recruiters, notes were recorded for each interview question, the communications rating, and for the overall summary for each interview. For each interview question, recruiters had separate spaces to record notes for the situation, the action, and the outcome for the applicant's response to that individual question. See Appendix F for the recruiter's interview form. For financial advisors, notes were only recorded for the overall summary for each interview. See Appendix G for the financial advisor's interview form. Recruiters and financial advisors were not given explicit instructions on how to record their notes during the interview. The text boxes in the interview forms for recruiters and financial advisors were expandable, as there was no limit for the amount of notes that could be recorded (see Appendices F and G).

Coding Interview Notes

The interview notes from the recruiter and the financial advisors for each candidate's interview were coded on their characteristics. The interview notes of 50 random financial advisor interviewers were coded by an applied practitioner of industrial/organizational psychology and the researcher. Coders reviewed the job description of the BOA (see Appendix A). Inter-rater correlations were calculated for Likert items as other indices may be less reliable when the number of raters is greater

than the number of response options (Brown & Hauenstein, 2005). The inter-rater *r* was .77 for overall job-relatedness, .63 for overall detail, and .58 for overall valence (percentage of positive, negative, and neutral notes were not coded by the applied practitioner). Cohen's kappa was also calculated for agreement on dichotomous coding of each individual characteristic and ranged from .54 to .74. Although there are no universally agreed upon levels for characterizing coder agreement, Fleiss (1981) characterized kappas great than .75 as reflecting excellent agreement and kappas ranging from .40 to .75 as reflecting fair to good agreement. The researcher coded the rest of the data set individually. The mean number of each type of note-taking characteristic did not significantly differ between the initial coded subset and the entire sample.

The interview notes consisted of notes on each of the individual questions asked during the interview as well as notes on the overall interview performance and fit for the position of the applicant. As interviewers likely take notes differently from one another, a distinct note was defined as either a separate sentence or thought, separate line, or separate bullet point in the note-taking text area depending on the style of the note-taker. The interview notes were coded in a similar but more detailed manner than Burnett et al. (1998) and Fischer (2013). Each distinct note was coded on if the characteristic of note-taking was present within the distinct note or not (judgmental, procedural, contextual, dispositional, and behavioral). Judgmental notes included assessments of the applicant's abilities on competencies judged during the interview, procedural notes referred to actions of the applicant during the interview, contextual notes included specific additional details of the applicant's responses, dispositional notes referred to assumed features and characteristics of the applicant from the interview, and behavioral notes included

behaviors and tasks that the applicant described in his or her responses. Job-relatedness was coded in terms of whether a distinct note refers to specific aspects of the job description of the BOA (see Appendix A). Distinct notes could have been rated as reflecting more than one characteristics of the five characteristics of note-taking used in past studies. For example, a note could potentially have been both behavioral and contextual if both elements were present in the same distinct note. The overall job-relatedness of notes was also coded in addition to the job-relatedness of each distinct note. The researcher rated on a 5-point Likert scale the overall job-relatedness of notes for the recruiter's and financial advisor's interview for each applicant: "How relevant are the notes to what is required of the applicant to perform well on the job (as defined in the job description)?" (1 = *Not relevant at all*, 5 = *Very relevant*) and "Based on the information in the notes, how well can you assess the ability of the employee to do the job?" (1 = *Not able to assess at all*, 5 = *Easily able to assess*). The two questions were averaged together for an overall job-relatedness score (Cronbach's alpha of .85 for recruiters and .96 for financial advisors).

Overall detail of notes was also coded on the level of detail and specificity of the notes overall and not by individual distinct notes, as detail made more sense to examine utilizing all the notes together. The researcher rated on a 5-point Likert scale the overall detail of notes for the recruiter's and financial advisor's interview for each applicant: "How detailed are the interview notes for this applicant?" (1 = *Very little detail*, 5 = *A lot of detail*) and "How extensive are the interview notes for this applicant?" (1 = *Missing information*, 5 = *Very comprehensive*). The two questions were averaged together for an overall detail score (Cronbach's alpha of .85 for recruiters and .97 for financial advisors).

Likewise, valence of notes was also coded on the overall positivity and negativity of the notes. The researcher rated on a 5-point Likert scale the overall valence of notes for the recruiter and financial advisor's interview for each applicant: "Based on the notes you reviewed, how positively or negatively would you rate this applicant?" (1 = *Very negative*, 5 = *Very positive*) and "Overall, what is the tones of the notes taken on this applicant?" (1 = *Very negative*, 5 = *Very positive*). The two questions were averaged together for an overall valence score (Cronbach's alpha of .66 for recruiters and .96 for financial advisors). The researcher also estimated what percentage of notes were positive, negative, and neutral.

Calculations of total number of notes of each type and the overall percentage of each type of note were made for each of the five interview questions, the communication rating, and the notes on the general interview rating. The total number of each type of notes were recorded to calculate the percentage of each type of note within the entire interview notes for each candidate for exploratory purposes. The total amount of words in each note was also calculated.

Results

Before testing hypotheses, I assessed the data for normality and outliers. Many of the variables were negatively skewed. Univariate outliers were identified as scores that were 3.5 standard deviations away from the mean (Iglewicz & Hoaglin, 1993). Multivariate outliers were identified by calculating Mahalanobis distance for each applicant, with *p*-values greater than .001 being identified as multivariate outliers (Tabachnick & Fidell, 2007). About 4% of cases had one or more variables that was a univariate outlier or multivariate outlier. Analyses were conducted both with and without

outliers, with similar findings emerging for both. Given these similar findings, only the results for the complete sample will be reported.

Given the nature of the data, I conducted analyses multiple ways. I had planned to use multilevel analysis if nesting effects were prevalent, as recruiters were a 2nd level variable (ICCs will be discussed shortly). However, there are limits to multilevel analysis if certain criteria are not met (James & William, 2000). A minimum number of groups of 30 along with 30 individuals per group has been recommended for multilevel analysis to be utilized (Hox, 2002). When these conditions are not met, there is a risk of underestimating the accuracy of the variance components (Hox, 2002), with variance estimates potentially being too small and standard errors of fixed parameters potentially being slightly biased downwards (Maas & Hox, 2001). With 25 recruiters, this study did not meet the minimum number of groups, with many of the recruiters having fewer than the recommended number of individuals per group (groups ranged from 1 to 123 applicants, with 14 having less than 30 applicants and six having one or two applicants). See Table 2 for sample sizes for outcome variables by recruiter. Due to the limitations of the data set, multilevel analysis was not used. Instead, I used ordinary least squares (OLS) regression or computed simple correlations depending upon the hypothesis being tested.

Other analytic strategies were also used to attempt to account for nesting effects. A meta-analytic technique was used to account for the nested variables, with the analysis being conducted for each recruiter individually and then combined (e.g., I computed the correlation between interviewer ratings and performance ratings for applicants for each recruiter and then averaged the validity coefficients weighted by the number of interviews). The results of the meta-analytic approach did not differ from the OLS regression approach,

suggesting that nesting did not influence the *p*-values or effect sizes for the relationships examined. A robust clustered standard errors approach was also utilized to account for within-cluster error correlation (Cameron & Miller, 2015). This is necessary to control for nesting, as model errors would be uncorrelated across recruiters but would be correlated within recruiters. A robust clustered standard errors approach first estimates the regression model without controlling for within group error correlation, then estimates cluster-robust errors based on dependent variables (Cameron & Miller, 2015). The results from the robust standard errors approach also did not differ from the OLS regression approach.

Another alternative analysis I conducted involved missing data for the performance rating being recorded. For some of the applicants who were hired, there were instances of missing data for some of those who were no longer employed at the organization. Out of the 777 applicants who were hired, performance data was missing for 118 applicants. As the organization did not keep data as to why these employees had left the company, it is possible that these employees may have either been fired or voluntarily quit. To account for this missing data, employees who were no longer working at the company who had missing performance data had their performance data recoded as a 1 (which was the lowest level performance rating possible). Similar findings emerged for the analyses conducted with the recoded data, with only one additional hypothesis gaining support compared to the analyses conducted with the original performance data.

I planned to use logistic regression analysis to test Hypotheses 4a, 5a, and 6a which involved a binary hiring recommendation by the recruiter (applicant was either recommended to be hired or not), as well as Hypotheses 9b, 10b, and 11b which involved a binary interview decision by the financial advisor (applicant was either hired or not

hired). However, while logistic regression analyses were possible for the hypotheses involving hiring recommendation, for the hypotheses involving hiring decision the likelihood maximization model could not converge due to the high correlation between financial advisor interview score and hiring decision ($r = .82$, $p < .05$). This is likely an example of complete separation, where a linear function can near perfectly predict an outcome variable (Albert & Anderson, 1984; Allison, 2008). Due to the lack of convergence, OLS regressions were conducted for Hypotheses 9b, 10b, and 11b. Given the similarity of results for these techniques with more traditional OLS and simple correlation analyses, the more traditional approaches are focused on in testing hypotheses.

Due to the complexity of the data (coming from multiple sources with some variables nested), characteristics of the variables are described below. All applicants in the sample completed an interview with a recruiter and financial advisor. As such, recruiter interview score, financial advisor interview score, characteristics of recruiter notes, characteristics of financial advisor notes, hire recommendation, and hire outcome are available for the entire sample. Table 3 includes the means, standard deviations, sample sizes, minimums, maximums, and correlations for the characteristics of notes taken by recruiters, financials advisors, recruiter interview scores, and financial advisor interview score. Table 4 includes the means, standard deviations, sample sizes, minimums, maximums, and correlations for the notes taken by recruiters, recruiter interview score, hire recommendation, hire outcome, turnover, and performance. Table 5 includes the means, standard deviations, sample size, minimums, maximums, and correlations for the notes taken by financial advisors, financial advisor interview score, hire recommendation, hire outcome, turnover and performance. In summary, the data from Table 3 includes a

summary of data from all sources, Table 4 only includes these data from recruiters, and Table 5 only includes these data from financial advisors.

From the data in Table 3, it can be seen that recruiters on average recorded more total notes than financial advisors across all characteristics and these differences were statistically significant across all characteristics ($p < .001$). For example, recruiters recorded an average of 21.98 job-related notes per applicant, while financial advisor recorded an average of 1.08 job-related notes. This is as expected, as recruiters were able to record notes on each of the five interview questions (with a space to record notes on the situation, action, and outcome that the applicant described for each individual question) as well as a summary of the interview, while financial advisors were only able to record summary notes of the interview (see Appendix F for the recruiter interview form and Appendix G for the financial advisor interview form). For recruiters, the average number of notes in descending order were behavioral (M = 28.57), job-related (M = 21.98), contextual (M = 24.71), judgmental (M = 4.18), dispositional (M = .71), and procedural (M = .71). For financial advisors, the average number of notes in descending order were contextual (M = 1.83), judgmental (M = 1.46), job-related (M = 1.08), behavioral (M = 1.08), dispositional (M = .56) and procedural (M = .18).

Comparing the recruiter results in Table 4 with those for the financial advisor in Table 5, it is apparent that overall recruiter interview scores (M = 3.63) were lower than overall financial advisor interview scores (M = 4.01), with recruiter scores (SD = .49) also having less variation than financial advisor interview scores (SD = 1.00). Interview ratings were made on a scale from 1 to 5 (1 = *Significant development needed*, 5 = *Very strong*). For applicants who were hired, recruiter interview scores (M = 3.74, SD = .61) were also

lower than financial advisor interview scores (M = 4.42, SD = .58). For applicants who were not hired, recruiter interview scores (M = 3.42, SD = .51) were higher than financial advisor interview scores (M = 2.39, SD = .57). See Table 6 for descriptive of variables for applicants who were hired versus not hired for both recruiters and financial advisors. This was not unexpected, as applicants were required to pass the first interview with the recruiter to continue to the second interview with the financial advisor. Performance ratings were positively skewed (M = 4.02) with minimal variation (SD = .89), as most employees received positive performance ratings with only a few receiving poor ratings as seen in Table 4.

The total sample size included 976 applicants, with 777 applicants who were hired and 199 who were not hired. See Table 2 for sample sizes for outcome variables. According to the organization, applicants in the sample who were not hired did not receive job offers due to the decision of the financial advisor and not because the applicant declined a job offer. Characteristics of note-taking, recruiter interview scores, financial advisor interviewer scores, hiring recommendation, hiring decision, and similarity of applicant experience were available for all applicants in the study. Out of the 777 applicants who were hired, performance data were available for 659 applicants who were hired (these applicants also had turnover data and therefore the subset of 659 had complete data for all variables in the study). Out of the 777 applicants who were hired, attrition data were available for 752 of the applicants after 6 months post-hire, with 625 still employed at the organization and 117 no longer employed at the organization for an attrition rate of 19%. Table 7 shows large nesting effects for variables involving the characteristics of notes taken by recruiters. Hox (2002) states that an ICC greater than .15 indicates a large nesting effect.

The overall recruiter interview rating (ICC = .17), total number of job related notes (ICC = .19), total number of contextual note (ICC = .26), total number of judgmental notes (ICC = .35), and total number of dispositional notes (ICC = .33) are all greater than .15. In summary, of the 21 ICCs computed, 10 reached a .15 threshold.

Hypothesis Testing

For ease of expression, I use terms such as affects, influences, and causes in the results and discussion sections. Given the lack of manipulation of the variables in my study, the use of such causal terminology does not suggest that my design allows for true causal statements. Hypothesis 1 proposed that the amount of job applicant experience would be positively related to (a) recruiter interview score, (b) financial advisor interview score, and (c) employee performance, and (d) negatively related to turnover. Hypothesis 1 received little support, with only two of 16 relevant correlations reaching a $p < .05$ level, with one of those correlations being negative (see Table 8 for correlations). Results show that years of customer experience were positively related to recruiter interview score ($r = .07$, $p < .05$) while years of financial industry experience ($r = .02$, $p > .05$), years of contributing to business goals ($r = .05$, $p > .05$), and years of client development experience ($r = .06$, $p > 0.05$) were not positively related to recruiter interview score. Results show that years of customer experience ($r = .03$, $p > .05$), years of financial industry experience ($r = .02$, $p > .05$), years of contributing to business goals ($r = .04$, $p > 0.05$), and years of client development experience ($r = .06$, $p > 0.05$) were not positively related to financial advisor interview score. Results show that years of customer experience ($r = -.05$, $p > .05$), years of contributing to business goals ($r = .02$, $p > 0.05$), and years of client development experience ($r = -.05$, $p > 0.05$) were not positively

related to performance, while years of financial industry experience (r = -.09, p = .02) was negatively related to performance. Lastly, results show that years of customer experience (r = -.01, p > .05), years of financial industry experience (r = .00, p > .05), years of contributing to business goals (r = -.03, p > 0.05), and years of client development experience (r = .03, p > 0.05) were not related to turnover.

Hypothesis 2 proposed that the similarity of a job applicant's work experience to the position applied for would be positively related to: (a) recruiter interview score, (b) financial advisor interview score, and (c) employee performance, and (d) negatively related to turnover. Hypothesis 2 was not supported (see Table 8 for correlations). Results showed that similarity of job applicant's work experience to the position applied for was not related to recruiter interview score (r = .00, p > .05), financial advisor interview score (r = -.03, p > .05), employee performance (r = -.05, p > .05), and turnover (r = -.05, p > .05).

Hypothesis 3 proposed that a recruiter's interview score would be positively related to (a) his or her hiring recommendation and (b) the applicant's performance if the person is hired. Hypothesis 3 was supported (see Table 4 for correlations). Results show that recruiter interview score was positively related to hiring recommendation (r = .10, p < .05) and performance if hired (r = .13, p < .001).

Hypothesis 4 proposed that the number of notes taken by the recruiter that are job-related and the overall relevancy of the recruiter's notes would moderate the relationship between *(*a) recruiter interview score and hiring recommendation of the recruiter and (b) recruiter interview score and job performance, such that the relationship would be stronger with more job-related notes. Hypothesis 4 was not supported (see Table 9 for

regression coefficients). Hypothesis 4a was tested using binary logistic regression. The number of notes taken by the recruiter that are job-related did not moderate the relationship between recruiter interview score and hiring recommendation ($\chi^2(3) = 43.49$, $p > .05, R^2 = .04, \Delta R^2 = .00$). The overall relevancy of the recruiter's notes to what is required of the applicant to perform well on the job did not moderate the relationship between recruiter interview score and hiring recommendation ($\chi^2(3) = 16.56$, $p > .05, R^2 = .02, \Delta R^2 = .00$). The number of notes taken by the recruiter that are job-related did not moderate the relationship between recruiter interview score and performance ($\beta = -.02$, $F(3,655) = 4.48$, $p > .05$, $\Delta R^2 = .00$). The overall relevancy of the recruiter's notes to what is required of the applicant to perform well on the job did not moderate the relationship between recruiter interview score and performance ($\beta = .01$, $F(3,655) = 4.27$, $p > .05$, $\Delta R^2 = .00$).

Hypothesis 5 proposed that the overall detail of notes taken by the recruiter would moderate the relationship between (a) recruiter interview score and hiring recommendation and (b) recruiter interview score and an applicant's job performance if the person is hired, such that the relationship would be stronger with more detailed notes. Hypothesis 5 was not supported (see Table 9 for regression coefficients). Hypothesis 5a was tested using binary logistic regression. The overall detail of the recruiter's interview notes did not moderate the relationship between recruiter interview score and hiring recommendation ($\chi^2(3) = 22.07, p > .05, R^2 = .02, \Delta R^2 = .00$). The overall detail of the recruiter's interview notes did not moderate recruiter interview score and performance ($\beta = .03$, $F(3,655) = 4.53$, $p > .05$, $\Delta R^2 = .00$).

Hypothesis 6 proposed that the overall valence of the notes taken by the recruiter and the percentage of positive and negative notes taken by the recruiter would moderate the relationship between (a) recruiter interview score and hiring recommendation and (b) recruiter interview score and job performance, such that the relationship would be stronger with more negatives notes. Hypothesis 6 was partially supported (see Table 9 for regression coefficients). Hypothesis 6a was tested using binary logistic regression. The percentage of positive recruiter notes ($\chi^2(3) = 25.74$, $p > .05$, $R^2 = .03$, $\Delta R^2 = .00$) and negative recruiter notes ($\chi^2(3) = 10.71$, $p > .05$, $R^2 = .01$, $\Delta R^2 = .00$) did not moderate the relationship between recruiter interview score and hiring recommendation. The overall valence of the recruiter's interview notes did not moderate the relationship between recruiter interview score and hiring recommendation ($\chi^2(3) = 15.98$, $p > .05$, $R^2 = .02$, $\Delta R^2 = .00$). The percentage of positive recruiter notes ($\beta = .04$, $F(3,655) = 5.28$, $p > .05$, $\Delta R^2 = .00$, $R^2 = .00$) and percentage of negative recruiter notes ($\beta = -.44$, $F(3,655) = 4.66$, $p > .05$, $\Delta R^2 = .00$, $R^2 = .00$) did not moderate the relationship between recruiter interview score and performance. The overall valence of the recruiter's interview notes did moderate the relationship between recruiter interview score and performance, such that the relationship was stronger with lower valence scores ($\beta = .10$, $F(3,655) = 5.54$, $p < .05$, $\Delta R^2 = .01$, $R^2 = .02$).

Hypothesis 7 proposed that hiring recommendation by recruiters would be positively related to (a) financial advisor interview score, (b) hiring decision by financial advisors, and (c) employee performance, and (d) negatively related to turnover. Hypothesis 7 was not supported (see Tables 5 for correlations). Hiring recommendation by recruiters was not related to financial advisor interview score ($r = .00$, $p > .05$), hiring

decision by financial advisors (r = .00, $p > .05$), employee performance ($r = -0.04$, p > .05), or turnover ($r = .05$, $p > .05$).

Hypothesis 8 proposed that the financial advisor's interview score would be positively related to (a) his or her hiring decisions and (b) the applicant's performance if the person is hired. Hypothesis 8 was supported (see Table 5 for correlations). Financial advisor interview score was positively related to hiring outcome ($r = .82$, $p < .001$). Financial advisor interview score was positively related to performance ($r = .11$, $p < .01$).

Hypothesis 9 proposed that the number of notes taken by the financial advisor that are job-related and the overall relevancy of the financial advisor's notes would moderate the relationship between (a) financial advisor interview score and employee performance and (b) financial advisor interview score and hiring decision by the financial advisor, such that the relationship would be stronger with more job-related notes. Hypothesis 9 was partially supported (see Table 10 for regression coefficients). The number of notes taken by the financial advisor that are job-related did not moderate financial advisor interview score and performance (β = -.01, $F(3,655) = 2.67$, $p > .05$, $\Delta R^2 = .00$). The overall relevancy of the financial advisor's notes to what is required of the applicant to perform well on the job did not moderate financial advisor interview score and performance (β = .03, $F(3,655) = 3.27$, $p > .05$, $\Delta R^2 = .00$). A binary logistic regression was not possible to test Hypothesis 9b due to the lack of convergence and high correlation between financial advisor interview score and hiring decision. As such, OLS regression was utilized. The number of notes taken by the financial advisor that are job-related did moderate financial advisor interview score and hiring decision by the financial advisor, such that the relationship was stronger with more job-related notes (β = .05,

$F(3,972) = 649.43$, $p < .01$, $\Delta R^2 = .002$, $R^2 = .666$). The overall relevancy of the financial advisor's notes to what is required of the applicant to perform well on the job did moderate financial advisor interview score and hiring decision by the financial advisor, such that the relationship was stronger with more relevant notes (β = .08, $F(3,972) = 657.80$, $p < .01$, $\Delta R^2 = .006$, $R^2 = .670$).

Hypothesis 10 proposed that the overall detail of notes taken by the financial advisor would moderate the relationship between (a) financial advisor interview score and employee performance and (b) financial advisor interview score and hiring decision by the financial advisor, such that the relationship would be stronger with more detailed notes. Hypothesis 10 was partially supported (see Table 10 for regression coefficients). The overall detail of the financial advisor's interview notes did not moderate financial advisor interview score and performance (β = .01, $F(3,655) = 3.03$, $p > .05$, $\Delta R^2 = .00$). A binary logistic regression was not possible to test Hypothesis 10b due to the lack of convergence and high correlation between financial advisor interview score and hiring decision. As such, OLS regression was utilized. The overall detail of the financial advisor's interview notes did moderate financial advisor interview score and hiring decision by the financial advisor, such that the relationship was stronger with more detailed notes (β = -.04, $F(3,972) = 653.07$, $p < .05$, $\Delta R^2 = .001$, $R^2 = .667$).

Hypothesis 11 proposed that the overall valence of the notes taken by the financial advisor and the percentage of positive and negative notes taken by the financial advisor would moderate the relationship between (a) financial advisor interview score and employee performance and (b) financial advisor interview score and hiring decision by the financial advisor, such that the relationship would be stronger with more negatives

notes. Hypothesis 11 was partially supported (see Table 10 for regression coefficients). The overall valence of financial advisor's notes did not moderate the relationship between financial advisor interview score and performance (β = -.01, $F(3,655) = 2.78$, $p > .05$, $\Delta R^2 = .00$). The percentage of positive financial advisor notes (β = .03, $F(3,655) = 3.01$, $p > .05$, $\Delta R^2 = .00$) and percentage of negative financial advisor notes (β = -.10, $F(3,655) = 4.04$, $p > .05$, $\Delta R^2 = .00$) did not moderate the relationship between financial advisor interview score and performance. A binary logistic regression was not possible to test Hypothesis 11b due to the lack of convergence and high correlation between financial advisor interview score and hiring decision. As such, OLS regression was utilized. The overall valence of financial advisor's notes did moderate the relationship between financial advisor interview score and hiring decision by the financial advisor, such that the relationship was stronger with lower valence scores (β = .06, $F(3,972) = 651.78$, $p < .01$, $\Delta R^2 = .01$, $R^2 = .667$). The percentage of positive financial advisor notes (β = .25, $F(3,972) = 832.14$, $p < .01$, $\Delta R^2 = .046$, $R^2 = .719$) did moderate the relationship between financial advisor interview score and hiring decision by the financial advisor, such that the relationship was stronger with less positive notes. The percentage of negative financial advisor notes (β = .19, $F(3,972) = 1329.97$, $p < .01$, $\Delta R^2 = .007$, $R^2 = .804$) did moderate the relationship between financial advisor interview score and hiring decision by the financial advisor, such that the relationship was stronger with more negative notes.

Hypothesis 12 proposed that the number of job-related of notes would be positively related to the number of behavioral notes. Hypothesis 12 was supported (see Table 3 for correlations). The number of job-related notes by recruiters was positively

related to the number of behavioral notes by recruiters ($r = .82$, $p < .001$). The number of job-related notes by financial advisors was positively related to the number of behavioral notes by financial advisors ($r = .42$, $p < .001$).

Hypothesis 13 proposed that the number of job-related of notes would have a stronger relationship with the outcomes of (a) interview scores, (b) hiring recommendations, (c) hiring decisions, (d) job performance, and (e) turnover than past studied characteristics (procedural, behavioral, contextual, dispositional, and judgmental). Hypothesis 13 was partially supported for interview rating and interview outcome and not supported for performance and turnover (see Table 11 for correlations). Differences in magnitudes of correlations were tested using William's test (Diedenhofen & Musch, 2015; Williams, 1959).

For recruiters, job-related notes were more associated with interview scores ($r = .21$, $p < .001$) than contextual notes ($r = -.07$, $p > 0.05$), procedural notes ($r = .15$, $p < .001$), dispositional notes ($r = .16$, $p < .001$), and judgmental notes ($r = .16$, $p < 0.01$), but not for behavioral notes ($r = .24$, $p < .001$). The magnitude of correlations was significantly different for job-related notes and contextual notes ($p < .001$), but not for job-related notes and procedural notes ($p > .001$), job-related notes and dispositional notes ($p > .001$), job-related notes and dispositional notes ($p > .05$), and job-related notes and behavioral notes ($p > .05$). For financial advisors, job-related notes were more associated with interview scores ($r = .11$, $p < .001$) than behavioral notes ($r = .09$, $p < 0.01$), judgmental notes ($r = -.08$, $p < .05$), and dispositional notes ($r = -.03$, $p > .05$), but not for contextual notes ($r = -.22$, $p < .05$) and procedural notes ($r = -.19$, $p < .05$). The magnitude of correlations was significantly different for job-related notes and

dispositional notes ($p < .05$), job-related and contextual notes ($p < .05$), and job-relates notes and procedural notes ($p < .05$), but not for job-related notes and behavioral notes ($p > .05$) and job-related notes and judgmental notes ($p > .05$).

For recruiters, job-related notes were more associated with hiring recommendation ($r = .18$, $p < .001$) than behavioral notes ($r = .17$, $p < .001$), contextual notes ($r = .12$, $p < .001$), judgmental notes ($r = .15$, $p < .001$), dispositional notes ($r = .06$, $p > .05$), and procedural notes ($r = -.03$, $p > 0.05$). The magnitude of correlations was significantly different for job-related notes and dispositional notes ($p < .001$) and job-related notes and procedural notes ($p < .001$), but not for job-related notes and behavioral notes ($p > .05$), job-related notes and contextual notes ($p > .05$), and job-related notes and judgmental notes ($p > .05$), For financial advisors, job-related notes were more associated with interview outcome ($r = .10$, $p < .001$) than dispositional notes ($r = -.03$, $p > 0.05$), but not for behavioral notes ($r = .12$, $p < .001$), contextual notes ($r = -.24$, $p < .001$), judgmental notes ($r = -.15$, $p < .001$), and procedural notes ($r = -.23$, $p < .001$). The magnitude of correlations was significantly different for job-related notes and dispositional notes ($p < .001$), job-related notes and contextual notes ($p > .05$), job-related notes and judgmental notes ($p < .001$), job-related notes and procedural notes ($p < .001$), but not for job-related notes and behavioral notes ($p > .05$).

For recruiters and financial advisors, none of the characteristics of notes (job-related, behavioral, contextual, judgmental, dispositional, and procedural) were related to performance ($p > .05$). For financial advisors, none of the characteristics of notes (job-related, behavioral, contextual, judgmental, dispositional, and procedural) were related to turnover ($p > .05$). For recruiters, job-related notes were not more associated with

turnover (r = .02, p > .05) than behavioral notes (r = .08, p < .05), contextual notes (r = -.09, p < .05), judgmental notes (r = -.08, p < .05), dispositional notes (r = -.03, p > .05), and procedural notes (r = .03, p > .05). The magnitude of correlations was significantly different for job-related notes and behavioral notes (p < .01), job-related notes and contextual notes (p < .05), and job-related notes and judgmental notes (p < .01), but not for job-related notes and dispositional notes (p > .05) and job-related notes and procedural notes (p > .05).

Exploratory Analyses

A number of exploratory post-hoc analyses were also conducted. The first set of exploratory analyses involved a comparison of the notes taken by recruiters and financial advisors. Recruiter note characteristics and financial advisor note characteristics were compared to examine if the type of notes taken by the recruiters influenced the types of notes that financial advisors recorded (see Table 3 for correlations). I found that the number of behavioral notes (r = .13, p < .05), contextual notes (r = .11, p < .05), and judgmental notes (r = .10, p < .05) taken by recruiters and financial advisors were significantly related. The number of job-related notes (r = .05, p > .05), dispositional notes (r = -.01, p < .05), procedural notes (r = -.01, p > .05), overall relevancy of notes (r = .05, p > .05), overall detail of notes (r = .01, p > .05), and overall valence of notes (r = .02, p > .05) taken by recruiters and financial advisors were not significantly related.

The second set of post-hoc analyses conducted involved testing Hypotheses 4, 9, 12 and 13 using the percentage of each type of note-taking characteristic instead of the overall number of notes. These follow-up analyses were completed as the proportion of each type of note-taking characteristic may be more influential than the total number of

each type of notes. For Hypothesis 4a, a binary logistic regression was conducted. The percentage of notes taken by the recruiter that are job-related did not moderate recruiter interview score and hiring recommendation ($\chi^2(3) = 8.82$, $p > .05$, $R^2 = .01$, $\Delta R^2 = .00$). For Hypothesis 4b, the percentage of notes taken by the recruiter that are job-related did not moderate recruiter interview score and performance ($\beta = -.02$, $F(3,655) = 3.33$, $p > .05$, $\Delta R^2 = .00$). For Hypothesis 9a, the percentage of notes taken by the financial advisor that are job-related did not moderate financial advisor interview score and performance ($\beta = .06$, $F(3,655) = 3.34$, $p > .05$, $\Delta R^2 = .00$). A binary logistic regression was not possible to test Hypothesis 9b due to the lack of convergence and high correlation between financial advisor interview score and hiring decision. As such, OLS regression was utilized. The percentage of notes taken by the financial advisor that are job-related did moderate financial advisor interview score and hiring decision ($\beta = -.05$, $F(3,972) = 645.58$, $p < .05$, $\Delta R^2 = .01$, $R^2 = .667$).

For Hypothesis 12, the percentage of job-related notes taken by recruiters was positively related to the percentage of behavioral notes by recruiters ($r = .56$, $p < .001$), and the percentage of job-related notes by financial advisors was positively related to the percentage of behavioral notes by financial advisors ($r = .34$, $p < .001$). Hypothesis 13 examined the relationship between the percentage of job-related notes and outcomes compared to other types of note-taking characteristics (see Table 12). Differences in magnitudes of correlations were tested using William's test (Diedenhofen & Musch, 2015; Williams, 1959). The percentage of job-related notes were mostly less associated with the outcomes of interview sores for both recruiters ($p < .05$) and financial advisors ($p < .05$) than other characteristics. The percentage of job-related notes by the recruiter

was not associated with hiring recommendation ($p > .05$). The percentage of job-related notes by financial advisors was mostly less associated with hiring outcome than other characteristics ($p < .05$). For both recruiters and financial advisors, the different percentages of all characteristics of note-taking were not significantly associated with performance ($p > .05$). For both recruiters and financial advisors, the percentage of job-related notes was not significantly associated with turnover ($p > .05$).

The final set of exploratory analyses conducted involved Hypotheses 3-6 and 8-11, which were repeated using the ratings of each individual interview question as the independent variable of the moderation analyses instead of the overall interview rating. These follow-up analyses were completed as individual interview question ratings may be more relevant to performance over others. The interview questions for recruiters addressed attention to detail, putting the client first, initiative, adapting to change, developing self, and communication, while the interview questions for financial advisors addressed interest and work history, planning and organizing, problem solving, initiative, building relationships, and communication. These post-hoc hypotheses were partially supported (see Tables 13 and 14 for correlations between recruiter and financial advisor interview question ratings, combined interview questions rating, and outcomes). The high correlations between financial advisor interview ratings and hiring outcome did not allow for binary logistic regressions to be conducted due to the lack of convergence.

For Hypothesis 3, the recruiter interview question ratings for attention to detail ($r = .11$, $p < .001$), initiative ($r = .11$, $p < .001$), and communication ($r = .10$, $p < .01$) were significantly related to performance, while put the client first ($r = .04$, $p > .05$), adapt to change ($r = .07$, $p > .05$), and develop self ($r = .06$, $p > .05$) were not significantly related

to performance. For Hypotheses 4-6, three out of the six relationships were significant between individual recruiter interview question ratings and performance, with none being significantly moderated by the overall relevancy of the recruiter's interview notes ($p < .05$) or the overall detail of the recruiter's interview notes ($p < .05$). The relationships between the recruiter's initiative rating and performance ($p < .05$) and attention to detail rating and performance ($p < .05$) were significantly moderated by the overall valence of the recruiter's interview notes. However, none of the significant moderators explained more than 1% of the variance in performance or hiring recommendation.

For Hypothesis 8, the financial advisor interview question ratings for plan and organize ($r = .10$, $p < .05$), problem solving ($r = .09$, $p < .05$), initiative ($r = .14$, $p < .001$), building relationships ($r = .09$, $p < .05$), and communication ($r = .11$, $p < .01$) were significantly related to performance, while interest/work history ($r = .06$, $p > .05$) was not significantly related to performance. For Hypotheses 9-11, five out the six relationships were significant between financial advisor interview question ratings and performance, with none being significantly moderated by the overall relevancy ($p > .05$) or the overall detail ($p > .05$) of the financial advisor's interview notes. Only the relationship between the financial advisor's initiative rating and performance was moderated by the overall valence of the financial advisor's interview notes ($p < .05$). However, it only explained 1% of the variance in performance.

Discussion

While many studies have examined note-taking during employment interviews, only a few studies have focused on specific characteristics of those notes (Burnett et al., 1998; Middendorf & Macan, 2002), with even fewer utilizing organizational samples

instead of student samples (Fischer, 2013). This study built on previous research by examining characteristics of notes that had been previously studied (behavioral, contextual, judgmental, dispositional, and procedural) as well as additional characteristics that had not been studied but had been hypothesized to be influential (job-relatedness, detail, and valence). As will be discussed, the results of this study found mixed support for the findings of previous studies, which calls into question the influence of specific characteristics of notes taken during employment interviews. Note-taking may be more influential on interview ratings and the decision-making of interviewers than other outcomes like performance and turnover.

Review of Results for Hypotheses

For Hypotheses 1 and 2, results of the study do not support the predicted relationships between applicant experience and the outcomes of recruiter interview score, financial advisor interview score, performance, and turnover. While this was unexpected, range restriction clearly affected the results reported. According to the organization, applicants without extensive experience relating to customer service, financial services, or client development were unlikely to receive an initial interview. Recruiters were able to view an applicant's answers to the pre-interview questions and decide who to interview based on that information and the applicant's resume. Applicants who have less experience were unlikely to have been selected for the initial first interview with a recruiter. As such, the relationships between the experience variables and the outcomes of interview scores, performance, and turnover may be important to consider but not present in the data used in this study. Furthermore, a recent meta-analysis suggested that measures of pre-hire experience are poor predictors of outcomes like performance (r =

.06) and turnover (r = .00) even after correcting correlations (Van Iddekinge et al., 2019). Past research has also suggested that pre-hire measures of experience that focus on quality rather than duration may be better predictors of outcomes (Tesluk & Jacobs, 1998). The pre-hire measures of experience in this study exclusively asked about the length of different types of applicant experience. Pre-hire measures of experience quality may have shown stronger correlations than what were found in the study.

For Hypotheses 3 and 8, results of the study supported recruiter interview ratings being related to hiring recommendation and financial advisor interview ratings being related to hiring decision. Both recruiter and financial advisor interview ratings were also related to employee performance. While the hypotheses were supported, the effect sizes found between interview ratings and performance were likely underestimated due to range restriction. Range restriction also impacted Hypothesis 7, as the study did not find a significant relationship between hiring recommendation by the recruiter and the outcomes of interview rating, hiring decision, performance, and turnover. Only applicants who had both interviews were included in the sample. Because applicants needed to perform well on the first interview (with the recruiter) to continue to the second interview (with the financial advisor), these applicants were more likely to receive a hiring recommendation from the recruiter. In the sample, 97.5% of applicants had received a hiring recommendation by the recruiter. Due to this, it is not surprising that no significant relationships were found between hiring recommendation by the recruiter and financial advisor interview score, hiring decision, performance, and turnover. The impact of range restriction is elaborated on further in the limitation section.

For Hypotheses 4-6 and 9-11, the number of job-related notes, overall job-relatedness of notes, overall level of detail of notes, and overall valence of notes taken during an employment interview did not moderate the relationship between recruiter or financial advisor interview score and job performance. Past research has shown that taking notes compared to not taking notes during employment interviews is related to the interview's validity (Huffcutt & Woehr, 1999). The results of this study suggest that the specific characteristics of notes taken during an interview may not be as important as others have suggested in terms of the validity of an interview (Burnett et al. 1998; Middendorf and Macan, 2002; Fischer, 2013).

While none of the studied variables moderated the relationship between recruiter or financial advisor interview score and job performance, the variables did significantly moderate the relationship between financial advisor interview score and hiring decision by the financial advisor, such that the relationship was stronger when notes were more job-related, relevant, and detailed. Although tests of interaction often lack power compared to main effects (Aiken & West, 1991; McClelland & Judd, 1993; O'Connor, 2006), an a priori power analysis with a small effect size, an alpha of .05, and a standard power level of .80 showed that the sample sizes for the regressions were appropriately large to find an effect, with a post-hoc observed power of .97. These findings suggest the characteristics of notes taken during the employment interview influence hiring decisions made by the interviewer. However, the small ΔR^2 ranging from .001 to .006 suggests the findings are not practically significant. The largest ΔR^2 of .046 was for the percentage of positive notes by financial advisors moderating the relationship between interview score and hiring decision, such that the relationship was stronger with fewer positive notes (see

Figure 3). The exploratory analyses showed that some moderators were significant when looking at individual interview question ratings instead of overall interview ratings, but again these findings are likely not practically significant.

For Hypotheses 12, the number of job-related notes was strongly positively related to the number of behavioral notes. This supports past research that explained significant findings related to behavioral notes being due in part to their job-relatedness compared to other characteristics of note-taking (Burnett et al., 1998). These significant relationships included behavioral notes and the outcomes of interview validity, accuracy in recall of information, and acceptance of hiring recommendation (Burnett et al., 1998; Fischer, 2013; Middendorf & Macan, 2002).

However, Hypothesis 13 found only partial support for job-related notes being significantly more related than other note-taking characteristics for the outcomes of interview ratings, hiring recommendations, and hiring decisions, with no support being found for job-related notes being significantly more related than other note-taking characteristics for the outcomes of performance and turnover. For recruiter interview scores, job-related notes were more related than other characteristics except for behavioral notes. For financial advisor interview scores, job-related notes were more related than other characteristics except for contextual and procedural notes. While the number of job-related notes taken by an interviewer was related to their interview rating, other types of notes were also significant and in some cases had a stronger relationship with interview ratings. Recruiters had more interview training than financial advisors, and as such may have been more prone to base their ratings on job-related and behavioral notes. The differences in findings between recruiters and financial advisors suggests that

these two types of interviewers may use notes differently from one another, or that the two interviews are being conducted differently or serve different purposes.

For hiring recommendations made by recruiters, job-related notes were more related than other characteristics of note-taking. This suggests that recruiters may be basing their decision on which applicants to recommend for a second interview based on job-related notes over other types of notes. However, for hiring decisions made by financial advisors, job-related notes were less related than other characteristics of note-taking except for procedural notes. This suggests that financial advisors may be basing their decision on which applicants to hire based on other types of notes over job-related notes. Again, the differences in findings on the decisions that recruiters and financial advisors make (hiring recommendation vs. hiring decision) suggests that they are using notes differently to guide their decisions or that the processes occurring in each interview are different.

Job-related notes were not significantly related to performance or turnover for both recruiters and financial advisors, but neither were the other studied characteristics of note-taking for performance and only a few of the other studied characteristics for turnover. This does not support the claims of past research, where behavioral notes were suggested to be associated with higher interview validity (i.e. more predictive of performance) due to their job-relatedness (Burnett et al., 1998). However, behavioral, judgmental, or procedural notes were also not associated with performance in this study, unlike past research (Burnett et al., 1998; Fischer, 2013). Similar to how different types of interviewers (recruiters vs. financial advisors) had differing relationships between their characteristics of notes and outcomes in this study, the interviewers in this study may

differ in how they utilize their notes as compared to the interviewers in other studies, potentially due to the context and setting (experimental vs. organizational). While characteristics of notes were not related to performance in this study, they were related to the interview ratings of the candidates, which in turn were significantly correlated with performance. As such, while characteristics of note-taking did not directly predict performance, the findings suggest that they may be associated with the evaluation of applicants and hiring decisions. The takeaways of different types of interviewers using notes differently and note-taking being related to the evaluation of applicants and decision-making is elaborated upon further in the implications section.

The exploratory analyses that utilized the percentage of notes instead of the total number of notes found similar results for each type of note-taking characteristic for both recruiters and financial advisors. The percentage of job-related notes was related to interview ratings and decisions (both hiring recommendations and hiring decisions) but not to performance, with the percentage of other note-taking characteristics having stronger relationships with interviews. As such, while note-taking characteristics may be influential in hiring decisions as well as interview ratings (which are related to performance), other characteristics besides the job-relatedness may be more influential. Past studies (Burnett et al., 1998; Middendorf & Macan, 2002) had hypothesized that the job-relatedness of notes would be most important in relation to outcomes, which is only partially supported by the results of this study.

Limitations

A limitation of this study is the range restriction for variables in the study, including applicant experience, interview scores, turnover, and performance. The range

restriction for applicant experience was mentioned in the discussion section, as the organization likely did not interview applicants who did not have prior relevant experience. Lack of variance in these measures may be indicative of range restriction, as 94.5% of applicants responded that they had more than 5 years of customer service experience (*SD* = .28) and 85.8% of applicants responded that they had more than 5 years of experience contributing to business goals (*SD* = .48) (see Table 8). For financial advisor interview scores, there was less variance for applicants who were hired (*SD* = .61) compared to the complete sample that included both applicants who were hired and not hired (*SD* = 1.00), which could also be indicative of range restriction (see Tables 5 and 6). For turnover, applicants who were more likely to be fired were also likely not to be initially hired.

Performance was only available for applicants who were hired by the organization (*M* = 4.02 out of 5), with 2.6% receiving a score of 1, 0% receiving a score a 2, 23.8% received a score of 3, 40.4% received a score of 4, and 33.2% received a score of 5. Because applicants who performed poorly in the interview likely would perform poorly on the job as well if hired, the lack of significant findings may be partially explained by the nature of the sample. Furthermore, only 21.7% of applicants on average (5 out of 23) were interviewed by recruiters and only 8.7% of applicants on average (2 out of 23) were interviewed by financial advisors for any given role. Those without the necessary skills or experience were likely not given a chance to interview. Due to this, the complete range of interview and performance scores for the entire population is not given, with only a skewed and restricted subset having data available.

The full extent of range restriction present in the sample is not possible to entirely assess, as the applicants who did not receive initial interviews were not eliminated from the hiring process based on recorded quantitative data (i.e. pre-interview questions, interview ratings). Without having access to such data on applicants who were not selected for initial interviews, the relationship between variables in the study cannot be completely corrected for range restriction to give a better indication of the true relationship. Estimations of true relationships between interview ratings and organizational outcomes after correcting for range restriction are given below, which may more closely align with what could have been found in the sample if range restriction was not present (Huffcutt, 2019).

Recent studies and meta-analyses suggest that uncorrected correlations between interviews and job performance are regularly lower than their corrected counterparts, with the corrected measures being closer to the true correlations (Huffcutt, 2019). As such, the relationship between interview scores and job performance is likely larger than what was found in this study due to both the direct and indirect range restriction of the sample (Pfaffel, Schober, & Spiel, 2016; Sackett & Yang, 2000). In this study, direct range restriction is referring to interview scores being available for all applicants but only performance scores being available for those who were hired, while indirect range restriction is referring to applicants being selected first on criteria other than the interview (Pfaffel, Schober, & Spiel, 2016; Huffcutt, 2019).

For structured interviews that include both direct and indirect range restriction, a meta-analysis that included 133 criterion-related validity coefficients for interview ratings and performance found uncorrected validity coefficients (i.e. raw *r*'s) for

interviews similar in structure to the one in this study ranging from .10 to .16 (Huffcutt, Culbertson, & Weyhrauch, 2014). This is similar to the uncorrected validity coefficients that were found in this study (r = .11 for recruiters and r = .13 for financial advisors). The researchers corrected for range restriction of the predictor variable (interview ratings) using Hunter and Schmidt's (2004) method, which increased the range of validity coefficients from .16 to .25, while correcting for criterion (performance) unreliability via Rothstein's (1990) method further increased the range of validity coefficients to .45 and .58 (Huffcutt, Culbertson, & Weyhrauch, 2014). Correcting for range restriction of the predictor variable (interview ratings) in this study did not increase the validity coefficient for recruiters, but it did increase the validity coefficient for financial advisors from r = .13 to r = .22 (Stauffer & Mendoza, 2001), which was within the corrected range found in prior research (Huffcutt, Culbertson, & Weyhrauch, 2014).

These findings suggest that the interview validity coefficient for financial advisors in this study is underestimated. This may also be true due to the small hiring ratio of 4.3% within this organization (one hire for an average of 23 applicants per role), as one would expect the validity coefficients to "drop somewhat noticeably as the hiring ratio drops in relatively small increments below 10%" (Huffcutt, 2019). Furthermore, corrected validity coefficients are more accurate with lower hiring percentages (Hunter, Schmidt, & Lee, 2006). The job-relatedness, level of detail, and valence of the notes taken during an employment interview may be more influential in predicting performance for individuals who are poor performers in both the interview and on the job, as "the goal of a validity study is to assess how well a particular selection measure does at predicting job performance across the entire applicant pool" (Huffcutt, 2019). Due to the severe

range restriction of the sample, the results of the study do not necessarily indicate that there is no value in notetaking, that it is unnecessary, or that characteristics of notes are not related to performance, but instead it may be more useful when considering the entire population. While it is expected that the uncorrected validity coefficients may be small, the corrected validity coefficients may be more likely to indicate the influence of the job-relatedness, level of detail, and valence of notes taken during an employment interview.

There were also limitations in how some of the variables in the study were measured. As stated previously, performance was only measured via a single item. As such, the details and context of each employee's true performance may not be fully assessed using such a limited measure. Single item measures could also be potentially problematic because if the item is performing poorly and is not actually assessing the construct it is meant to measure, it can be difficult to observe this without having other measures to compare it against. Variance in performance may be more limited beyond range restriction due to only being assessed via a single item. Stronger relationships may have been found if performance was measured in a more robust manner, such as including assessments of both task and contextual performance, or having an additional objective measure of performance that was not a manager rating. Furthermore, the performance measure was used for administrative purposes by the organization. Performance ratings were given by managers with the understanding that these ratings would be shared with the employee who was rated, which could potentially lead to ratings that are more lenient and not indicative of an employee's true performance. This likely contributed to the lack of variance in the performance measure, which may have

restricted the study's ability to find support for the hypotheses using performance as an outcome.

The attrition variable also did not adequately capture different types of turnover. The organization only recorded if an employee was still employed by the organization. It did not record why a former employee was no longer working for the company. Employees could have left on their own volition, been laid off via the shutting down of a branch, or fired due to poor performance or unethical behavior. Without understanding why an employee was no longer with the organization, it is impossible to fully understand the relationship between attrition and the other variables in the study. Significant relationships may have emerged if there was more context on attrition and the organization's reason for letting an employee go or an employee's reason to quit their job, as the hypotheses involving turnover could have been analyzed in multiple ways to account for different types of attrition.

Note-taking characteristics were also coded by a single coder for most the sample, except for the 50 notes that were coded by the researcher and an applied practitioner of industrial/organizational psychology. While this was done due to time, resource, and labor limitations, it is feasible that the coding of characteristics may have been biased due to the coder's idiosyncrasies. Although the inter-rater *r* and Cohen's kappa for note-taking characteristics were adequate between the two coders for the sample of 50 applicants, it is possible that different findings may have emerged if the data had been coded by another individual. Using multiple coders for the entire sample could have also potentially limited biases that may have emerged from individual coders, as disagreements in coding would have been resolved in a systematic manner.

Another limitation of the study is the multilevel nature of the sample. Because nesting effects were present for some of the characteristics involving recruiters (as recruiters interviewed and rated multiple applicants), a multilevel approach to the data would be best to account for grouping (see Table 7). However, the sample sizes for the number of groups and the number of applicants in each group were not large enough for multilevel regression to be appropriately used (see Table 2). Other techniques were instead used to account for nesting effects and produced similar results, with such techniques including OLS regression, a meta-analytic technique, and a robust clustered standard errors approach.

Another limitation of the study is that logistic regression could not be used to examine the relationship between financial advisor interview score and hiring decision by the financial advisor, as the high correlation between financial advisor interview score and interview decision likely caused the likelihood maximization model to not converge (r = .82). When a linear function can near perfectly predict an outcome variable it is known as complete separation and can lead to the model not converging (Albert & Anderson, 1984; Allison, 2008). Because of this, linear regression was used instead. However, as the dependent variable of hiring decision by the financial advisor is binary, this violates an assumption of linear regression. As such, additional caution may be necessary when attempting to draw conclusions from the hypotheses involving the relationship between financial advisor interview score and hiring decision by the financial advisor.

A last limitation of the study is the possibility of finding a relationship between variables in the sample that does not actually exist. The probability of a Type I error

occurring across all conducted analyses is known as the experiment-wise error rate (Hinkle, Wiersma, & Jurs, 2003). This is more likely to occur when multiple analyses are performed in the same study, as there is a possibility that a relationship emerged as significant when one was not actually present (Sawilowsky, 2014). Experiment-wise error rates can be corrected for via a more conservative alpha level for hypothesis testing. However, when the data is nested these corrections may reduce the statistical power of the analyses (Sawilowsky & Markman, 2017). As many analyses were conducted concurrently in the study, this is a possibility that may have occurred, suggesting that a significant relationship that was found does not indicate a relationship that actually exists.

Implications and Future Research

Overall, the study did not find support for many of its hypotheses. Characteristics of notes did not moderate the relationship between recruiter interview ratings and hiring recommendation. Most characteristics of notes did not moderate the relationship between interview ratings and performance for both recruiters and financial advisors. Only the valence of notes moderated the relationship between recruiter interview ratings and performance, but the relationship was not practically significant (see Table 9). The job-relatedness, detail, and valence of notes moderated the relationship between financial advisor interview ratings and hiring decision, but the relationships were also not practically significant (see Table 10).

While the study did not find support for job-related notes being related to performance, job-related notes along with other studied characteristics were found to be significantly related to interview ratings (which in turn are related to performance). For both recruiters and financial advisors, job-related notes and behavioral notes were both

positively related to interview score, while contextual notes were negatively related to interview score (see Tables 4 and 5). Higher quality applicants may lead to interviewers being more inclined to record notes that are related to the role or what the applicant has done, while lower quality applicants may be more prone to have supporting contextual details of their responses recorded by interviewers.

The study also found that different types of interviewers (e.g. recruiters and financial advisors) had differing relationships between note-taking characteristics and outcomes, suggesting that interviewers may utilize notes differently. While judgmental and procedural notes were positively related to interview scores for recruiters, they were negatively related to interview scores for financial advisors (see Tables 4 and 5). This may be due to financial advisors making use of the lesser total amount of notes they have taken compared to recruiters, as they may use their limited notes to take judgmental notes to indicate poor perceptions of an applicant or procedural notes when they do not have positive takeaways on an applicant. Furthermore, financial advisors may use judgmental notes differently than recruiters, as they are the final decision makers on whether to offer an applicant a job or not and therefore may be more critical than recruiters, which would explain the negative relationship for financial advisors versus the positive relationship for recruiters.

Note-taking characteristics were also significantly related to decisions made by the interviewers. Job-related, behavioral, contextual, and judgmental notes were positively related to hiring recommendation by recruiters (see Table 4). Job-related and behavioral notes were positively related to hiring decision by financial advisors, while contextual, judgmental, and procedural notes were negatively related to hiring decision

(see Table 5). Similar to the relationships of characteristics with interview ratings, different types of interviewers may use notes differently to make decisions, as recruiters are deciding which applicants to recommend and financial advisors are deciding which applicants to hire to work in their office. The results of the study suggest that the context and purpose of the interview may influence the relationships between the individual characteristics of note-taking and outcomes.

Differences in interview training between recruiters and financial advisors may also have impacted the differences found in the studied relationships. Recruiters received interview training from the organization, while financial advisors were not trained and received limited interview instructions. Recruiters may have been trained to base their ratings on specific types of information conveyed in the interview, while financial advisors may have been more prone to base their ratings on personal idiosyncrasies and not what was focused upon in interviewer trainings. Significant or stronger relationships may have also emerged for both recruiters and financial advisors if the interviewer training provided by the organization focused on taking notes and the specific types of notes taken.

Differences in goals between recruiters and financial advisors may also have impacted the differences found in the studied relationships. In the organization used in the study, a recruiter's job is solely based on recruiting and interviewing job applicants, while interviewing is only a small part of a financial advisor's job. Recruiters may have been more inclined to take more job-relevant and detailed notes compared to financial advisors, as their output from the interview (i.e. interview notes) may be used to assess their job performance. Recruiters also interviewed more applicants than financial

advisors. As such, recruiters may have taken more extensive and detailed notes to better differentiate among the candidates they interviewed and to aid in memory recall, while financial advisors may have only recorded the minimum information necessary to justify their decisions, especially for candidates who were not hired. Because financial advisors interviewed less applicants and their ability to interview was likely not taken into consideration for assessing their job performance, their goals likely differed from recruiters as they were solely focused on selecting the best candidates from a limited subset of applicants.

While individual characteristics differed between types of interviewers, overall characteristics had similar relationships with outcomes. The overall job-relatedness, detail, and valence were positively related to interview ratings and hiring recommendations for recruiters. The overall job-relatedness and valence were positively related to interview ratings and hiring decisions by financial advisors, with detail not being significantly related. For both recruiters and financial advisors, none of the overall characteristics of note-taking were significantly related to performance. The results of the study suggest that the relationships of overall characteristics of notes taken and outcomes may not differ across contexts and purposes. Overall, organizations should be aware of what types of characteristics in interview notes may be helping drive interview ratings and hiring decisions, as this can differ depending on the stage of the interview of the hiring process and the context and purpose of the interview. Notes from interviewers should be recorded and saved due to their influence on evaluations and decisions in the hiring process.

A possible explanation for the lack of significant findings for some hypotheses is that the act of taking notes itself may be more influential on outcomes like performance instead of what specific characteristics of notes are recorded by the interviewer. In this study characteristics of note-taking were not significantly related to performance, and the significant moderating effects that were found for characteristics between interviewer score and outcomes were not practically significant. Practically significant relationships may have been found if the study compared interviewers who recorded notes versus interviewers who did not record notes, with these relationships potentially being stronger when more candidates are being interviewed or when there is a longer length of time between the interview and the hiring decision.

If the act of taking notes is more important than the characteristics of the notes themselves, then taking notes versus not taking notes during employment interviews should be compared in an organizational setting. A meta-analysis of organizational interview studies showed that taking notes was associated with higher validity in interviews, but due to its high collinearity with overall interview structure it was not possible to isolate the unique variance explained by taking notes over other elements of structured interviews (Huffcutt & Woehr, 1999). The experimental studies involving characteristics of note-taking in interviews used student samples who viewed recordings of interviews (Burnett et al., 1998; Middendorf & Macan, 2002), with the only study that used organizational interviews was not experimental (Fischer, 2013). Interviews and note-taking need to be studied in realistic environments, as the interview is an active and not passive process and therefore is missing many influential and potentially confounding factors if studied outside of that context (Dipboye, 1992). As such, the potential validity

improvements from taking notes versus not taking notes needs to be more thoroughly examined experimentally in a more generalizable environment to better understand its influence.

Another possible explanation for the lack of significant findings for some hypotheses is the range restriction present in the data as well as limitations in some of the outcome measures. Range restriction likely impacted interview ratings, performance, and turnover. Interview ratings were only available for applicants who were chosen to be interviewed, while performance and turnover were only available for applicants who were hired. The performance measure was also a single-item measure and used for administrative purposes by the organization. Limitations of the performance measure may have contributed to the lack of variance in the variable and restricted the study's ability to find support for the hypotheses involving performance.

Results from this study may not be generalizable across all organizations depending on a company's hiring process. For the organization in this study, the hiring process involved two interviews, first with a recruiter and then with a financial advisor (with the financial advisor ultimately making the hiring decision). Results of the study showed different relationships of note-characteristics and outcomes for recruiters and financial advisors. As such, the context of the interview may influence what types of characteristics of notes are recorded and how the notes are utilized. Other organizations may have different hiring processes, with potentially more interviews across multiple interviewers as well as having a different person make the hiring decision who was not involved with the interviewing. For organizations who have decision makers that are not interviewers, the notes an interviewer may take could be more influential, as the decision

maker would not be able to rely on their own recollection and memory of the interview itself and instead must rely on the notes taken by the interviewers. As such, future research could utilize an organization that uses separate interviewers and decisions makers to better understand if characteristics of notes taken during an interview are influential when the decision maker must rely on notes not taken by his or her self. Future studies on characteristics of note-taking should examine relationships across different interview contexts and purposes, as the relationships may differ as seen by the data in this study.

In conclusion, while the characteristics of notes were not related to performance and did not moderate the relationships between interviewer ratings and performance, they were related to hiring decisions as well as interview ratings (which were significantly related to performance). As such, characteristics of notes may be more influential in the evaluation and decision-making process of interviewers and not as directly impactful on the validity of an interview. However, future research is necessary to understand the extent of the influence of characteristics of note-taking due to the limitations of the study. Regardless, note-taking still has value from an organizational perspective due to their ability to influence others and justify decisions (Fischer, 2013), their use as a legal defense in litigation cases (Macan & Merritt, 2011; Newman, 2009), their ability to improve recall of interviewers (Middendorf & Macan, 2002) and their influence on how an interviewer processes information via attention (Brtek & Motowidlo, 2002) and bias reduction (Biesnaz et al., 1999; Schmitt & Ostroff, 1986). Due to this, organizations should continue to have their interviewers record notes, understanding that the

characteristics of the notes taken can influence decision-making and the ratings of applicants by interviewers, which has implications for the validity of an interview.

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Appendix A: Branch Office Administrator Job Description

Job Title: Branch Office Administrator
Full-time/part-time: Full-time
Position type: Branch Support

Job Description: Are you an organized individual capable of self-managing your time? Does it excite you to provide a high level of service in a team environment? Would others describe you as someone with strong communication skills both verbal and written with an ability to build strong relationships? If so, continue reading about how you can play an important role in helping clients and the success of your branch team.

Our Branch Office Administrators (BOAs) play an important role in our clients and successfully operating our branch offices in partnership with Financial Advisors. BOAs work independently to organize and manage a wide range of administrative and client support activities. Successful BOAs possess strong written and verbal communication skills, build strong relationships with their clients and are motivated by the opportunity to make a difference in our clients' lives.

Job summary: The BOA plays a critical administrative role in the branch and supports our commitment to an ideal client experience. The BOA and the financial advisor work together as a team to create new clients, serve existing clients, and run an efficient branch office. A BOA's responsibilities include, but are not limited to the following:

- Prepare reports and materials for client appointments
- Update prospective client and client data records
- Proactively contact clients to set or confirm appointments and offer appropriate services
- Contact existing clients to invite them to a face to face meeting with the financial advisor to review their financial goals
- Plan and prepare marketing materials and events with the financial advisor
- Organize and maintain the financial advisor's schedule
- Learn and implement new tools and systems that manage client contacts and increase branch efficiency

Highly qualified candidates will have experience demonstrating the following skills and abilities:

- Exceptional client service focus
- Efficient organization, planning and time management skills
- Self-directed initiative
- Effective verbal and written communication
- Ability to learn new tools and systems
- Flexibility to adjust to evolving client and branch needs

EEO Statement: We do not discriminate on the basis of race, color, gender, religion, national origin, age, disability, sexual orientation, pregnancy, veteran status, or any other basis prohibited by applicable law.

Appendix B: Pre-Interview Background Questions

1) Are you related to an [Company] associate?
2) Have you ever applied for employment at [Company]?
3) Have you ever worked for [Company]?
4) Do you currently hold or have previously obtained any licenses in the insurance or financial services industry?
5) What are your salary expectations?
6) How many years of office administration experience do you have?
7) Have many years of marketing and promotion experience do you have?
8) How many years of customer service experience do you have?
9) How many years of experience do you have working on a team where you contributed to successfully achieving business goals?
10) How many years of experience do you have working on a team where you contributed to client development?
11) How many years of experience do you have with client or customer account processing within the financial industry?
12) Do you have event planning experience?
13) Do you have experience making outbound calls from a previously held position?
14) How proficient are you on a computer?
15) Provide a brief summary of your professional career including reasons for employment moves and why you're interested in the BOA role.

Appendix C: Recruiter Interview Competencies/Questions

Recruiters ask the same five questions to all candidates relating to specific competencies.

1) **Attention to Detail**
   - Give me an example of a task you worked on that could not have any mistakes. What was the task? Why couldn't there be any mistakes or errors? How did you ensure things weren't overlooked?

2) **Put the Client First**
   - Describe a time when put in extra effort to serve a customer. What did you learn? Why did you spend time on this? How did it impact your work?

3) **Initiative**
   - Tell me about a time your team had an assignment with a tight deadline. What was the assignment? How did you ensure the deadline was met? How did you contribute to success?

4) **Adapt to Change**
   - Tell me about a time when new responsibilities were added to your job. What were the additions? How big of a change was this? How did you ensure you effectively adjusted to your new duties?

5) **Develop Self**
   - Tell me about a time when you sought feedback on your work. How did you use this feedback to better your future performance?

Appendix D: Financial Advisor Interview Competencies/Questions

Financial advisors ask questions relating to the same five competencies for each candidate. FAs pick from a set list of questions for each competency. FAs must use the same question that they picked for all candidates applying for that specific job opening.

1) **Interest/Work History** - Committed to financial investment field; has good reasons for interest in position
   - Describe your job search process. Why are you interested in being a branch office administrator?
   - What were the critical factors that led you to apply to this position?
   - What is most interesting to you about this position?
   - What about this position and firm interest you?
   - What experience do you have in customer service?

2) **Plan & Organize -** Creates clear plans to ensure work is completed efficiently; establishes priorities and timelines for accomplishing work
   - Describe a time when you had to plan an event and had limited time and resources. What unplanned situations arose and how did you account for them?
   - Tell me about a time when you had to organize a challenging project that had many ups and downs. What unplanned situations arose and how did you account for them?
   - Give me an example of when you had to fix a chaotic process or situation that had lots of dependent pieces. What was your first step? How did you ensure the fix was going to work?

3) **Problem Solving** - Identifies problems and reviews related information to develop and evaluate options and implement solutions, anticipates future problems and takes steps to avoid them
   - Tell me about a time when you had to review information and make a recommendation. How did you determine what information was necessary for the recommendation? How much time did you dedicate to reviewing information?
   - Describe a time when you uncovered a problem. How did you solve it? How did you anticipate this or a similar problem occurring in the future?
   - Describe a time when you suggested a change in a process or project because you thought it would improve your team's results. How did you come up with the suggestion? What information played a role in your suggestion?

4) **Initiative** - Proactively starts and works through tasks on own, sets own goals, does what needs to be done before being asked; takes responsibility for work
   - Tell me about a time when you were working toward a goal with very little direction. What challenges did you face in completing your work? How did you ensure success?

- Tell me about a time when you set performance goals for yourself. How did you go about achieving the goals? How did you hold yourself accountable to your goals?
- Tell me about a time when the results of your work did not measure up to either your standards or someone else's standards. What was the project? Why didn't it measure up? How did you react? What did you do?

5) **Build Relationships** - Forms relationships with the financial advisor, clients and other BOAs
   - Tell me about a time when you had to work with someone you had just met or had no previous experience with. How did you build that relationship?
   - Describe a time when you had to rebuild a client or colleague relationship that had been damaged. How was it damaged? How did you approach the situation?
   - Tell me about a time you were on a team with people with backgrounds very different from yours. What challenges came up? How did you work with these people to achieve successful results?

Appendix E: Interview Rating Scale

Interest/Work History

Rating	Behavioral Examples
Very Strong	▪ Significant customer service experience ▪ Previous history with the firm as a BOA
Strong	▪ Interested in financial industry and customer service ▪ Clear reasons for applying to [Company] (e.g., values, culture, business model)
Satisfactory	▪ Job search is focused ▪ Several years of customer service experience
Some Development Needed	▪ Job search is unfocused ▪ Does not express reason for applying to [Company] over another position ▪ Limited customer service experience
Significant Development Needed	▪ Simply looking to leave current job ▪ Little to no customer service experience

Plan & Organize

Rating	Behavioral Examples
Very Strong	▪ Updates plans when unexpected events arise and documents how to avoid them in the future ▪ Prioritizes and solves urgent client needs first ▪ Prioritizes critical client needs first and stays focused on the issue until it is resolved ▪ Effectively plans and prioritizes work with very little guidance
Strong	▪ Effectively adjusts plans if/when obstacles arise ▪ Plans time appropriately to complete short-term and long-term work ▪ Manages others' schedules and keeps them on track throughout the day
Satisfactory	▪ Remains productive despite frequent interruptions ▪ Utilizes a plan/checklist that includes tasks and due dates ▪ Creates a schedule to complete required work ▪ Plans and prioritizes work with some guidance ▪ Clearly organizes client information/documents for client visits
Some Development Needed	▪ Loses track of plans when interruptions occur ▪ Needs help prioritizing work; tends to focus on easy to complete tasks only ▪ Does not effectively adjust plans if/when obstacles arise ▪ Completes work as it comes up with no attempt to prioritize ▪ Waits for guidance before making any plans and prioritizing tasks

Significant Development Needed	▪ Forgets to include some documents for meetings ▪ Does not create a plan to accomplish tasks and/or team objectives

Problem Solving

Rating	Behavioral Examples
Very Strong	▪ Accurately predicts the outcomes of alternative approaches to solve problems ▪ Is persistent in his/her analysis of issues and problems to find solutions that best serve the firm ▪ Uses information from the most appropriate resources to solve problems and takes steps to avoid the problem in the future ▪ Analyzes problems effectively and makes appropriate decisions without missing deadlines or causing delays in service ▪ Identifies and resolves issue while anticipating and adjusting for obstacles
Strong	▪ Tries different approaches when initial efforts to solve problems fail; anticipates possible problems and develops alternatives ▪ Applies lessons learned to new problems that arise ▪ Demonstrates an ability to make effective decisions within limited time ▪ Breaks problems into manageable components and solves each piece in the most efficient order
Satisfactory	▪ Identifies problem and effectively resolves the issue ▪ Uses information from a variety of sources to solve problems ▪ Breaks problems into manageable components
Some Development Needed	▪ Tends to jump to solutions without fully analyzing and understanding problems ▪ Typically follows the judgments of others without independent thought and analysis ▪ Identifies problems but does not effectively address them ▪ Spends a long time reviewing information which results in delays ▪ Fails to break up large problems into smaller components
Significant Development Needed	▪ Shows inflexibility when facing obstacles; gets stuck in frustration and is not open to new ideas or ways to solve problems ▪ Does not leverage appropriate resources to solve problems

Initiative

Rating	Behavioral Examples
Very Strong	▪ Willingly goes the extra mile to complete tasks or objectives ahead of schedule

	▪ Proactively identifies how the team can move to the next level and helps develop a plan to do so ▪ Willingly volunteers to make improvements in processes and procedures ▪ Responds to problems by researching and developing a solution to present to decision makers
Strong	▪ Seeks ways to move the team forward in meeting its goals ▪ Actively monitors the team business plan and helps the team stay on track with goals ▪ Proactively engages others in setting goals consistent with team needs
Satisfactory	▪ Accepts responsibility for own performance and actions ▪ Commits to task or objective timeframe and accomplishes work by set deadline ▪ Completes regular work without being asked ▪ Begins tasks even when all information is not available ▪ Sets long and short term goals
Some Development Needed	▪ Waits to be told what work to complete ▪ Is unable to begin work until all information is available
Significant Development Needed	▪ Does not accept responsibility for performance and actions ▪ Often provides excuses for work not being completed

Build Relationships

Rating	Behavioral Examples
Very Strong	▪ Actively looks for opportunities to cooperate and collaborate with others ▪ Volunteers to share knowledge and expertise with other ▪ Builds professional networks with other professionals in the community (e.g., CPAs, attorneys) ▪ Looks for opportunities to connect people in the community with team members
Strong	▪ Engages clients in conversation when they arrive in the office ▪ Proactively reaches out to others to see how they are doing ▪ Proactively reaches out to new hires to get to know them and offer assistance ▪ Helps the client understand what he/she can do to support them
Satisfactory	▪ Establishes rapport with others ▪ Is polite and courteous in interactions with others ▪ Is friendly and approachable ▪ Relates to others in an accepting and respectful manner regardless of

	differences ▪ Finds common ground to connect with others
Some Development Needed	▪ Demonstrates little interest in establishing rapport with others ▪ Does not look for common interests or experiences with others
Significant Development Needed	▪ Does not engage clients in conversation while in the office ▪ Is disrespectful to difficult clients

Communicate Openly

Rating	Behavioral Examples
Very Strong	▪ Assists others in comprehending written and verbal information and directions so they can take appropriate action ▪ Effectively adapts information to audience; distinguishes between need to know and nice to know and when to apply each
Strong	▪ Consistently delivers accurate, clear, and concise messages in writing or verbally to effectively inform others ▪ Draws out the questions of others to help them gain clarity ▪ Proactively avoids miscommunication by actively asking questions to confirm understanding before taking action ▪ Recognizes when others have difficulty understanding messages and adapts style appropriately ▪ Asks probing questions to deepen understanding and paraphrases message to demonstrate understanding
Satisfactory	▪ Comprehends written and verbal information and direction and takes appropriate action ▪ Actively listens to gain a better understanding of what people are saying ▪ Speaks clearly and articulately ▪ Asks probing questions to deepen understanding
Some Development Needed	▪ Takes information from others at face value ▪ Assumes others understand what he/she is trying to communicate and does not confirm others' understanding ▪ Fails to ask probing questions when unsure about the message
Significant Development Needed	▪ Develops written and/or verbal communications that are confusing or difficult to understand ▪ Talks over others; demonstrates an unwillingness to listen to others ▪ Struggles tailoring information to the needs of others; often communicates too much, too little or tool ate ▪ Takes inappropriate action by misinterpreting written or verbal information and directions

Appendix F: Recruiter Interview Form

BOA Recruiter Interview Form for Help

Competency Based Interview

*Candidate First Name

*Candidate Last Name

Recruiter Name List >>

*Date

Hiring Manager List >>

Location/Branch # List >>

Setup

1. Review the candidate's response on the job specific questions on the candidate profile in addition to their resume. Follow up on any questions you may have.
2. Inform the candidate that the interview will take about 30 minutes
3. Let the candidate know that you will be taking notes
4. Ask the candidate to walk through the highlights of their work experience, if necessary.

Questions

1. Explain to the candidate that you will be asking questions about past experiences and that they need to provide specific examples and how they handled each situation.
2. Select one question per competency to ask in the drop down. Do not tell the candidate the name of the competency.
3. Avoid leading questions.
4. Allow the candidate time to think before answering. Let them know it is alright to take a few minutes.
5. Use follow-up questions to draw out specific behaviors.
6. Do not respond to the candidate's answers by making comments like "Very good" or "That's great".
7. If the candidate is unable to respond to the initial question, move to another question under that same competency. You may also want to try the following:
   A. Skip the question and come back later.
   B. If the candidate tells you what they would do, ask them to stop and think about an actual situation from the past.
   C. If the candidate cannot provide any response, rate the competency as "Significant Development Needed".

Notes

1. **Take notes on candidate responses using the situation, action/behavior, results method (SABOR)**

Ratings

1. **Rate each response using the rating scale.**
2. **Pay attention to the candidate's communication skills throughout the interview. You will rate their communication skills based on their performance during the interview, not based on a specific question.**

Reminders

1. **Keep all interactions with candidates professional. Do not be too casual or share personal experiences or situations with the candidate. This may open the door for the candidate to offer unnecessary information.**
2. **Do not ask any questions about age, race, gender, marital or parental status, or any other legally protected characteristic. These factors are irrelevant and will not be considered.**

Completion

1. **Upon completion add the "Recruiter/HL Summary Form" to the candidate talent record. This will auto-populate from the interview responses for the FA to view.**

External Mandatory Questions

Security Registration

(Information for Recruiters: Only pilot BOAs and BOAs from level 10 branches will be approved for registration. More information can be found on (BOA Allowable Activities - Becoming A Registered BOA)

***Do you hold any securities registrations or insurance licensing? (e.g., Series 7, Series 63, Series 66, Life Insurance)**

Expanded view

***Outside Accounts Policy: is in the securities industry, which is highly regulated. Due to this does require all of their associates to hold their investment accounts with Will this work for you?**

Expanded view

*Are you related to any Financial Advisors? (Information for Recruiters: See Employment of Family Members Policy for more information on the policy.)

Expanded view

Internal Mandatory Questions:

When we have an opening at one of our branches, we work to identify the top applicants in that market which may include internal and external candidates. We have an extensive interviewing process with external candidates to gather information about their work experience and skill set. As an internal candidate I would like to ask you a few questions in order to obtain information about your skill set and experiences as well.

What was your last review date? (Information for Recruiters: If within 60 days-review has to be completed and Needs Improvement to be eligible)

Why are you looking to make a change at this time?

Expanded view

ATTENTION TO DETAIL: Ensures information is accurate and complete; follows up with others to verify accuracy of information

*Select one question

Selection details

Situation

Expanded view

Action

Expanded view

Outome

Expanded view

Attention to detail Comments

Expanded view

***Attention to Detail Rating**

Selection details

Put the Client First

***Select one question**

Selection details

Situation

Expanded view

***Action**

Expanded view

***Outcome**

Expanded view

*Put the Client First Comments

Expanded view

*Put the Client First Rating

Selection details

Initiative

*Select one question

Selection details

*Situation

Expanded view

*Action

Expanded view

*Outome

Expanded view

*Initiative Comments

Expanded view

*Initiative Rating

Selection details

Adapt to Change

*Select one question

Selection details

Situation

Expanded view

Action

Expanded view

Outome

Expanded view

Adapt to Change Comments

Expanded view

*Adapt to Change rating

Selection details

Develop Self

Select one question

Selection details

Situation

Expanded view

Action

Expanded view

Outome

Expanded view

Develop Self Comments

Expanded view

*Develop Self rating

Selection details

Communication: Talks or writes to others to convey information effectively, communicates effectively over the phone and in public settings

Communicaiton Comments

Expanded view

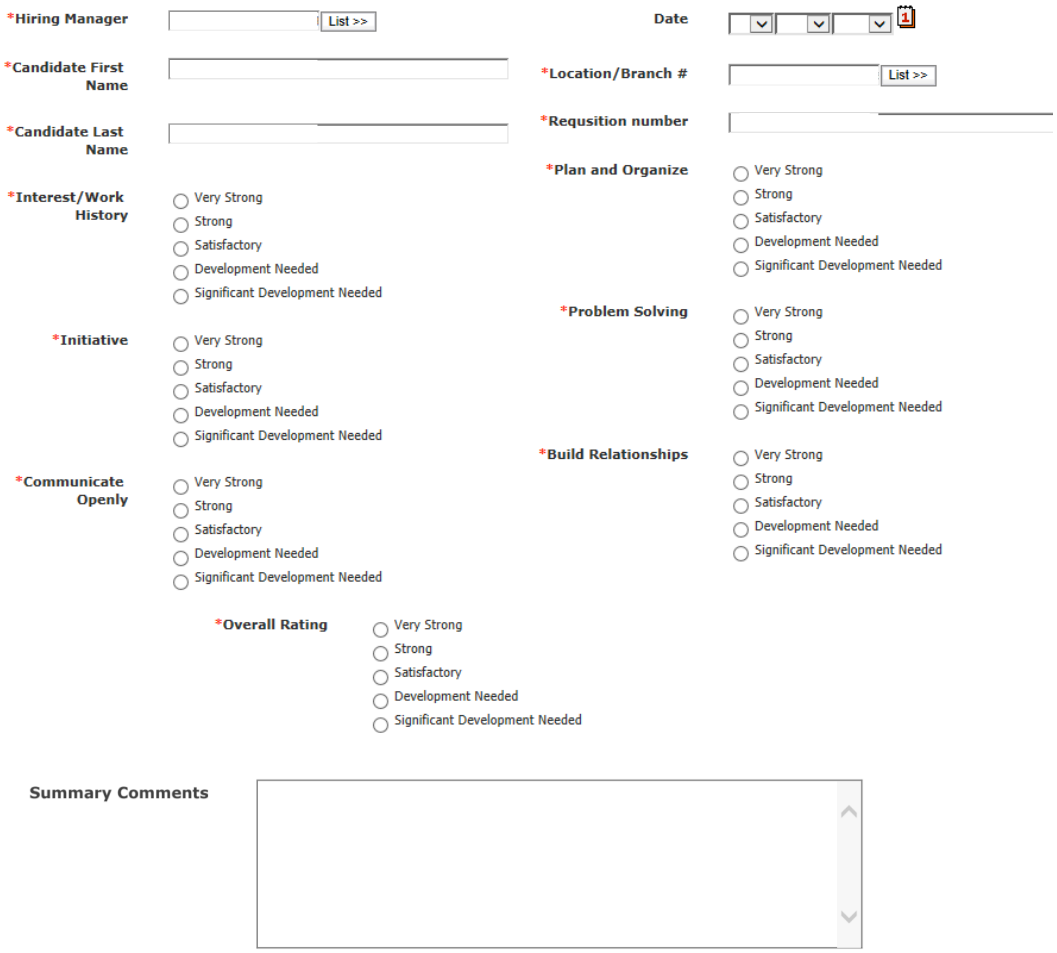
***Communication rating**

Selection details

* = required field

Save Clear Close

Appendix G: Financial Advisor Interview Form



Tables

Table 1. Relationships between characteristics of notes and outcomes

Study and characteristic	*R*	Outcome
Burnett et al. (1998)		
Behavioral	0.40*	Validity
Judgmental	-0.19**	Validity
Procedural	-0.24*	Validity
Middendorf & Macan (2002)		
Behavioral	0.40*	Recall
Dispositional	0.19**	Recall
Contextual	0.26*	Recall
Judgmental	-0.35*	Recall
Fischer (2013)		
Contextual	0.18***	Acceptance of hiring recommendation
Dispositional	-0.22**	Acceptance of hiring recommendation
Behavioral	0.26*	Acceptance of hiring recommendation
Behavioral	0.13*	Performance
Behavioral	0.11*	Turnover

*$p < .01$, ** $p < .05$, *** $p < .10$

Table 2. Sample size and outcome variables.

			Recruiter/Group																						
	Total N	%	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
All	976	100%	2	4	85	81	6	1	9	123	57	1	3	5	116	4	69	1	5	17	102	91	59	2	61	1	69
Hire Outcome	976	100%	2	4	85	81	6	1	9	123	57	1	3	5	116	4	69	1	5	17	102	91	59	2	61	1	69
Not Hired	199	20%	2	4	2	28	0	0	0	37	5	0	0	1	31	0	13	1	0	4	23	17	8	2	16	0	5
Hired	777	80%	0	0	83	53	6	1	9	86	52	1	3	4	85	4	56	0	5	13	79	74	51	0	45	1	64
Attrition Outcome	752	77%	0	0	80	52	6	1	9	83	50	1	2	4	80	4	55	0	5	13	77	71	51	0	43	1	62
Employed	635	64%	0	0	62	38	6	1	9	74	43	0	2	4	61	4	43	0	5	13	66	61	46	0	34	1	52
Not Employed	117	12%	0	0	17	10	0	0	0	7	7	1	0	0	18	0	12	0	0	0	11	20	5	0	9	0	10
Performance	659	68%	0	0	69	45	5	1	9	76	45	0	2	4	69	4	48	0	5	13	67	64	44	0	34	0	53

Table 3. Descriptives and correlations of recruiter and financial advisor interview variables.

	N	Min	Max	*M*	*SD*	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1. Number of job-related notes (recruiter)	976	0	70	21.98	7.66	--																			
2. Number of job-related notes (FA)	976	0	17	1.08	1.69	.05	--																		
3. Number of behavioral notes (recruiter)	976	0	79	24.71	10.17	**.82**	.04	--																	
4. Number of behavioral notes (FA)	976	0	90	1.08	3.54	**.13**	**.42**	**.13**	--																
5. Number of contextual notes (recruiter)	976	0	94	28.57	10.74	**.11**	-.02	**.11**	-.01	--															
6. Number of contextual notes (FA)	976	0	45	1.83	3.12	-.05	**.34**	**-.06**	**.24**	**.11**	--														
7. Number of judgemental notes (recruiter)	976	0	13	4.18	2.79	**.32**	.00	-.01	.02	**.39**	.02	--													
8. Number of judgemental notes (FA)	976	0	11	1.48	1.46	-.06	**.52**	**.16**	**.14**	**.12**	**.37**	**.10**	--												
9. Number of dispositional notes (recruiter)	976	0	6	0.71	0.98	**.20**	.00	**.11**	.01	**.21**	**.00**	**.37**	.00	--											
10. Number of dispositional notes (FA)	976	0	8	0.56	0.97	-.03	**.29**	-.03	**.13**	.01	**.23**	.02	**.31**	-.01	--										
11. Number of procedural notes (recruiter)	976	0	9	0.71	0.49	-.06	-.01	.06	.02	-.02	-.02	.01	-.02	-.02	.05	--									
12. Number of procedural notes (FA)	976	0	4	0.18	0.52	**.89**	**.11**	**-.09**	**.07**	.00	**.22**	.01	**.11**	-.02	**.16**	-.01	--								
13. Relevancy of notes (recruiter)	976	1	5	3.30	0.65	**.38**	.04	**.21**	**.07**	**.26**	.00	**.37**	.04	**.22**	.01	-.02	.01	--							
14. Relevancy of notes (FA)	976	1	5	1.66	1.25	**.08**	**.81**	.06	**.40**	-.05	**.35**	.01	**.61**	.05	**.36**	.03	**.13**	.05	--						
15. Detail of notes (recruiter)	976	1	5	3.25	0.67	**.22**	.01	**.08**	.02	**.45**	.02	**.34**	.04	**.15**	.00	.01	.00	**.69**	-.02	--					
16. Detail of notes (FA)	976	1	5	1.93	1.28	.01	.69	-.03	.35	.03	**.51**	.06	**.64**	.05	**.42**	.02	**.21**	.05	**.89**	.01	--				
17. Valence of notes (recruiter)	976	1	5	3.60	0.42	**.31**	.02	**.17**	.05	**.26**	-.01	**.29**	.05	**.16**	.00	-.05	-.01	**.74**	.02	**.71**	.02	--			
18. Valence of notes (FA)	976	1	5	2.65	1.38	.06	.48	.04	**.25**	-.06	**.22**	.03	**.49**	.06	**.31**	.00	**.10**	-.04	**.74**	.02	**.71**	.02	--		
19. Recruiter interview score	976	1	5	3.63	0.49	**.16**	.01	**.18**	.02	**-.07**	**-.08**	**.16**	-.04	.16	.00	**-.15**	-.05	**.21**	.00	**.16**	-.03	**.17**	.00	--	
20. Financial advisor interview score	976	1	5	4.01	1.00	**.21**	**.11**	**.24**	**.09**	**-.15**	**-.22**	-.05	**-.08**	.00	.04	.01	**-.19**	.06	**.13**	-.02	-.01	.03	**.16**	**.28**	--

NOTE: Correlations in bold are significant at the 0.05 level (two-tailed).

For note-taking characteristics, minimum refers to the lowest number of each type of note taken, and maximum refers to the higher number of each type of note taken.

Table 4. Descriptives and correlations of recruiter interview variables and outcomes.

	N	Min	Max	*M*	*SD*	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. Number of job-related notes	976	0	70	21.98	7.66	--													
2. Number of behavioral notes	976	0	79	24.71	10.17	**.82**	--												
3. Number of contextual notes	976	0	94	28.57	10.74	**.10**	**-.11**	--											
4. Number of judgemental	976	0	13	4.18	2.79	**.32**	-.01	**.39**	--										
5. Number of dispositional notes	976	0	6	0.71	0.98	**.19**	**.11**	**.21**	**.37**	--									
6. Number of procedural notes	976	0	9	0.71	0.49	-.06	-.06	-.02	.01	.02	--								
7. Relevancy of notes	976	1	5	3.30	0.65	**.38**	**.21**	**.26**	**.37**	**.22**	-.02	--							
8. Detail of notes	976	1	5	3.25	0.67	**.22**	**.08**	**.45**	**.34**	**.15**	.01	**.69**	--						
9. Valence of notes	976	1	5	3.60	0.42	**.31**	**.17**	**.26**	**.29**	**.16**	-.05	**.74**	**.71**	--					
10. Recruiter interview score	976	1	5	3.63	0.49	**.21**	**.24**	**-.07**	**.16**	**.16**	**.15**	**.21**	**.16**	**.17**	--				
11. Performance	659	1	5	4.02	0.89	-.05	-.01	.08	-.02	-.03	-.03	.00	-.01	-.02	**.13**	--			
12. Turnover	752	1	2	1.77	0.42	.02	**.08**	**-.09**	**-.08**	-.03	-.03	.00	-.03	-.01	-.05	**-.14**	--		
13. Hire recommendation	976	0	1	0.98	0.15	**.18**	**.17**	**.12**	**.15**	.06	-.03	**.10**	**.12**	**.15**	**.10**	-.04	.05	--	
14. Hire outcome	976	1	2	1.80	0.40	**.22**	**.24**	**-.20**	-.06	-.02	-.01	.06	-.01	.05	**.23**	N/A	N/A	.00	--

NOTE: Correlations in bold are significant at the 0.05 level (two-tailed).

For note-taking characteristics, minimum refers to the lowest number of each type of note, and maximum refers to the higher number of each type of note.

Table 5. Descriptives and correlations of financial advisor interview variables and outcomes.

	N	Min	Max	*M*	*SD*	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. Number of job-related notes	976	0	17	1.08	1.69	--													
2. Number of behavioral notes	976	0	90	1.08	3.54	**.42**	--												
3. Number of contextual notes	976	0	45	1.83	3.12	**.34**	**.24**	--											
4. Number of judgemental	976	0	11	1.48	1.46	**.52**	.14	**.37**	--										
5. Number of dispositional notes	976	0	8	0.56	0.97	**.29**	**.13**	**.23**	**.31**	--									
6. Number of procedural notes	976	0	4	0.18	0.52	**.10**	**.07**	**.22**	**.11**	**.16**	--								
7. Relevancy of notes	976	1	5	1.66	1.25	**.81**	**.39**	**.35**	**.61**	**.36**	.13	--							
8. Detail of notes	976	1	5	1.93	1.28	**.69**	**.35**	**.51**	**.64**	**.42**	.21	**.89**	--						
9. Valence of notes	976	1	5	2.65	1.38	**.48**	**.25**	**.22**	**.49**	**.31**	.13	**.76**	**.77**	--					
10. Financial advisor interview score	976	1	5	4.01	1.00	**.11**	**.09**	**-.22**	**-.08**	.03	**-.19**	**.13**	-.01	**.16**	--				
11. Performance	659	1	5	4.02	0.89	-.01	-.03	.00	.01	-.03	-.07	-.02	-.03	-.02	**.11**	--			
12. Turnover	752	1	2	1.77	0.42	.01	.02	.05	-.05	.02	.05	.02	.01	.03	-.01	**-.14**	--		
13. Hire recommendation	976	0	1	.98	0.15	.05	.03	.06	.03	.02	-.01	.02	.05	.00	.00	-.04	.05	--	
14. Hire outcome	976	1	2	1.80	0.40	**.10**	**.12**	**-.24**	**-.15**	-.03	**-.23**	**.12**	-.05	**.12**	**.82**	N/A	N/A	.00	--

NOTE: Correlations in bold are significant at the 0.05 level (two-tailed).

For note-taking characteristics, minimum refers to the lowest number of each type of note, and maximum refers to the higher number of each type of note.

Table 6. Descriptives of applicants who were hired versus not hired.

	Hired		Not hired	
	Mean	SD	Mean	SD
Recruiters				
Number of job-related notes	22.81	7.82	18.71	5.99
Number of behavioral notes	25.93	10.59	19.92	6.39
Number of contextual notes	27.51	10.11	32.71	12.09
Number of judgmental notes	4.10	2.79	4.49	2.82
Number of dispositional notes	.70	.95	.75	1.08
Number of procedural notes	.11	.50	.13	.46
Relevancy of notes	3.58	.65	3.47	.79
Detail of notes	3.50	.70	3.52	.73
Valence of notes	3.29	.54	3.24	.45
Interview score	3.74	.61	3.42	.51
Financial advisors				
Number of job-related notes	1.17	1.80	.73	1.13
Number of behavioral notes	1.28	3.92	.28	.85
Number of contextual notes	1.46	2.31	3.30	4.92
Number of judgmental notes	1.37	1.48	1.91	1.29
Number of dispositional notes	.55	1.00	.62	.85
Number of procedural notes	.12	.43	.42	.71
Relevancy of notes	1.87	1.46	1.43	.75
Detail of notes	2.04	1.48	2.24	.92
Valence of notes	2.54	1.41	2.25	.63
Interview score	4.42	.58	2.39	.57

Table 7. ICC values for variables.

Interview Ratings and Outcomes	ICC	Characteristics of Notes Taken	ICC
Attention to Detail Rating	.13	Total Job Related Notes	.19
Put the Client First Rating	.15	Total Behavioral Notes	.09
Initiative Rating	.17	Total Contextual Notes	.26
Adapt to Change Rating	.15	Total Judgmental Notes	.35
Develop Self Rating	.23	Total Dispositional Notes	.33
Communication Rating	.14	Total Procedural Notes	.02
Overall Rating	.19	Overall Job Relatedness of Notes	.12
Hiring Recommendation	.17	Overall Detail of Notes	.10
Performance	.01	Overall Valence of Notes	.08
Turnover	.01	% of Positive Notes	.09
		% of Negative Notes	.02

Table 8. Employee experience and outcomes.

	N	Min	Max	*M*	*SD*	1	2	3	4	5	6	7	8	9
1. Similarity of experience	976	1	5	2.02	1.22	--								
2. Years of customer service experience	976	1	3	2.94	0.28	.04	--							
3. Years of financial industry experience	976	1	3	1.75	0.92	.00	.00	--						
4. Years of contributing to business goals	976	1	3	2.82	0.48	.05	**.30**	**.20**	--					
5. Years of client development experience	976	1	3	2.45	0.80	.03	**.26**	**.26**	**.45**	--				
6. Recruiter interview score	976	1	5	3.63	0.50	.00	**.07**	.02	.05	.06	--			
7. Financial advisor interview score	976	1	5	4.02	1.00	.03	.03	.02	.04	.06	**.28**	--		
8. Employee performance	659	1	5	4.02	0.90	-.05	-.05	**-.09**	-.02	-.05	**.13**	**.11**	--	
9. Turnover	752	1	2	1.77	0.42	-.05	-.01	.00	-.03	.03	-.05	-.01	**-.14**	--

NOTE: Correlations in bold are significant at the 0.05 level (two-tailed).

Turnover was coded as 1 = no longer employed and 2 = still employed.

Table 9. Characteristics of recruiter notes as a moderator between recruiter interview rating, hiring recommendation, and performance.

	Hiring recommendation β	Performance β
Job-relatedness of notes		
Recruiter interview score	.41	.14
Number of job-related notes	1.59	-.05
Interview score X job-related notes	.01	-.02
ΔR^2	.00	.00
R^2	.04	.02
Relevancy of notes		
Recruiter interview score	.61	.14
Relevancy of recruiter notes	.38	-.04
Interview score X relevancy	-.14	.01
ΔR^2	.00	.00
R^2	.02	.02
Detail of notes		
Recruiter interview score	.51	.14
Detail of notes	.38	-.04
Interview score X detail	-.29	.03
ΔR^2	0	.00
R^2	.02	.02
Positive notes		
Recruiter interview score	.75	.14
Percentage of positive notes	.96	-.06
Interview score X positive	.32	.04
ΔR^2	.00	.00
R^2	.03	.02
Negative notes		
Recruiter interview score	.69	.13
Percentage of negative notes	-.19	.45
Interview score X negative	-.06	-.44
ΔR^2	.00	.00
R^2	.01	.02
Valence of notes		
Recruiter interview score	.65	.10*
Valence of notes	.38	.02
Interview score X valence	-.17	.10*
ΔR^2	.00	.01*
R^2	.02	.02*

*p < .05, **p < .01

Table 10. Characteristics of financial advisor notes as a moderator between financial advisor interview rating, hiring outcome, and performance

	Hiring outcome β	Performance β
Job-relatedness of notes		
Financial advisor interview score	-.81	.11
Number of job-related notes	-.03	-.01
Interview score X job-related notes	.05**	-.01
ΔR^2	.002**	.00
R^2	.666**	.01
Relevancy of notes		
Financial advisor interview score	-.81	.11
Relevancy of recruiter notes	-.04	-.05
Interview score X relevancy	.08**	.03
ΔR^2	.006**	.00
R^2	.670**	.02
Detail of notes		
Financial advisor interview score	-.81	.11
Detail of notes	.06	-.04
Interview score X detail	-.04*	.01
ΔR^2	.001*	.00
R^2	.667**	.01
Positive notes		
Financial advisor interview score	-.64	.11
Percentage of positive notes	-.15	-.03
Interview score X positive	.25**	.03
ΔR^2	.046**	.00
R^2	.719**	.01
Negative notes		
Financial advisor interview score	-.39	.11
Percentage of negative notes	.73	-.10
Interview score X negative	.19**	-.09
ΔR^2	.007**	.01
R^2	.804**	.02
Valence of notes		
Financial advisor interview score	-.80	.10
Valence of notes	-.01	.03
Interview score X valence	.06**	-.01
ΔR^2	.003**	.00
R^2	.667**	.01

*p < .05, **p < .01

Table 11. Correlations of recruiter and financial advisor note-taking characteristics and outcomes.

	Interview scores	Hiring recommendation	Hiring decision	Job performance	Turnover
Recruiters					
Number of job-related notes	**.21**	**.18**	--	-.05	.02
Number of behavioral notes	**.24**	**.17**	--	-.01	**.08**
Number of contextual notes	-.07	**.12**	--	.08	**-.09**
Number of judgmental notes	**.16**	**.15**	--	-.02	**.08**
Number of dispositional notes	**.16**	.06	--	-.03	-.03
Number of procedural notes	**.15**	-.03	--	-.03	.03
Financial advisors					
Number of job-related notes	**.11**	--	**.10**	-.01	.01
Number of behavioral notes	**.09**	--	**.12**	-.03	.02
Number of contextual notes	**-.22**	--	**-.24**	.00	.05
Number of judgmental notes	**-.08**	--	**-.15**	.01	-.05
Number of dispositional notes	-.03	--	-.03	-.03	.02
Number of procedural notes	**-.19**	--	**-.23**	-.07	.05

NOTE: Correlations in bold are significant at the 0.05 level (two-tailed).

Table 12. Correlations of recruiter and financial advisor note-taking characteristics (percentages) and outcomes

	Interview scores	Hiring recommendation	Hiring decision	Job performance	Turnover
Recruiters					
Percentage of job-related notes	**.11**	.01	--	-.05	.05
Percentage of behavioral notes	**.13**	.04	--	-.01	**.12**
Percentage of contextual notes	**-.20**	-.06	--	.02	**-.09**
Percentage of judgmental notes	**.14**	**.07**	--	-.01	**-.08**
Percentage of dispositional notes	**.16**	.04	--	.03	-.03
Percentage of procedural notes	**-.17**	**-.08**	--	.05	-.04
Financial advisors					
Percentage of job-related notes	**.12**	--	**.11**	-.03	-.01
Percentage of behavioral notes	**.21**	--	**.22**	-.03	.07
Percentage of contextual notes	**-.25**	--	**-.25**	-.04	.07
Percentage of judgmental notes	**-.09**	--	**-.14**	.04	-.07
Percentage of dispositional notes	.03	--	-.06	-.04	-.01
Percentage of procedural notes	**-.16**	--	**-.19**	-.03	**.09**

NOTE: Correlations in bold are significant at the 0.05 level (two-tailed).

Table 13. Descriptives and correlations of recruiter interview question ratings and outcomes.

	N	Min	Max	*M*	*SD*	1	2	3	4	5	6	7	8	9	10	11
1. Attention to detail rating	976	1	5	3.60	0.67	--										
2. Put the client first rating	976	1	5	3.80	0.65	**.45**	--									
3. Initiative rating	976	1	5	3.61	0.61	**.52**	**.53**	--								
4. Adapt to change rating	976	1	5	3.61	0.62	**.51**	**.45**	**.52**	--							
5. Develop self rating	976	1	5	3.40	0.65	**.45**	**.41**	**.52**	**.48**	--						
6. Communication rating	976	1	5	3.76	0.73	**.50**	**.51**	**.51**	**.54**	**.49**	--					
7. Overall rating	976	1	5	3.68	0.61	**.68**	**.66**	**.70**	**.70**	**.63**	**.70**	--				
8. Combined question rating	976	1	5	3.62	0.49	**.75**	**.73**	**.78**	**.76**	**.74**	**.79**	**.89**	--			
9. Hire recommendation	976	0	1	0.98	0.16	.06	**.08**	**.09**	.05	**.08**	**.07**	.06	**.10**	--		
10. Performance	659	1	5	4.02	0.89	**.11**	.04	**.11**	.07	.06	**.10**	**.13**	**.11**	-.04	--	
11. Turnover	752	1	2	1.16	0.36	.01	-.07	-.04	-.01	-.03	**-.09**	-.03	-.05	-.04	**-.14**	--

NOTE: Correlations in bold are significant at the 0.05 level (two-tailed).

Table 14. Descriptives and correlations of financial advisor interview question ratings and outcomes.

	N	Min	Max	*M*	*SD*	1	2	3	4	5	6	7	8	9	10	11
1. Interest/work history rating	976	1	5	3.94	0.97	--										
2. Plan and organize rating	976	1	5	4.08	0.91	**.64**	--									
3. Problem solving rating	976	1	5	3.92	0.90	**.63**	**.71**	--								
4. Initiative rating	976	1	5	4.03	0.92	**.66**	**.69**	**.68**	--							
5. Build relationships	976	1	5	4.03	0.93	**.63**	**.62**	**.64**	**.68**	--						
6. Communication rating	976	1	5	4.08	0.98	**.67**	**.66**	**.68**	**.70**	**.71**	--					
7. Overall rating	976	1	5	4.01	1.00	**.78**	**.78**	**.77**	**.81**	**.78**	**.81**	--				
8. Combined question rating	976	1	5	4.02	0.79	**.83**	**.84**	**.85**	**.87**	**.84**	**.87**	**.93**	--			
9. Hire outcome	976	1	2	1.80	0.40	**.68**	**.67**	**.62**	**.69**	**.67**	**.73**	**.82**	**.79**	--		
10. Performance	659	1	5	4.02	0.89	.06	**.10**	**.09**	**.14**	**.09**	**.11**	**.11**	**.14**	N/A	--	
11. Turnover	752	1	2	1.16	0.36	-.04	.01	.01	-.01	.03	.04	-.01	.01	N/A	**-.14**	--

NOTE: Correlations in bold are significant at the 0.05 level (two-tailed).

Figures

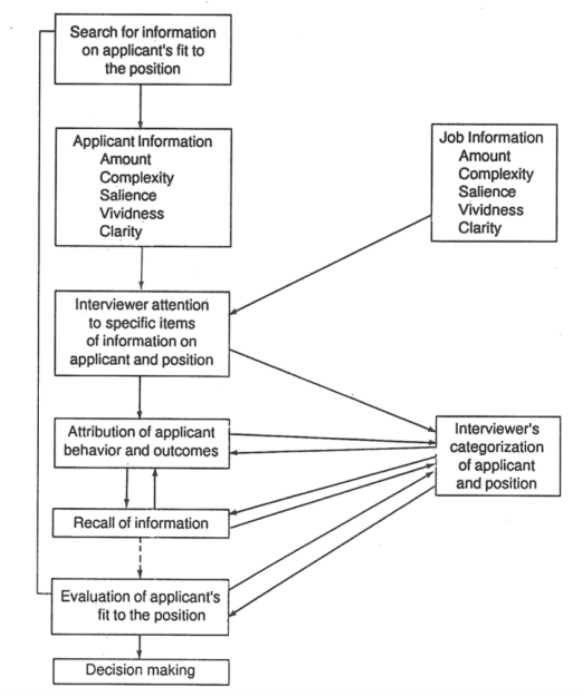


Figure 1. Dipboye's (1992) employment interview cognitive processing model

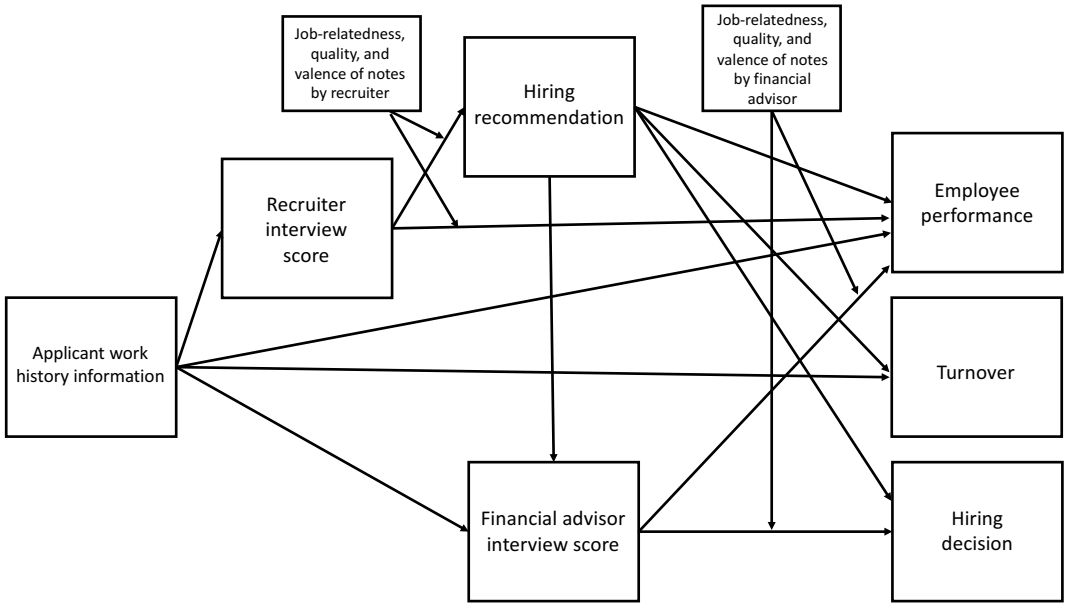


Figure 2. A model of the relationship between characteristics and categories of notes taken during an interview and their impact on studied outcomes.

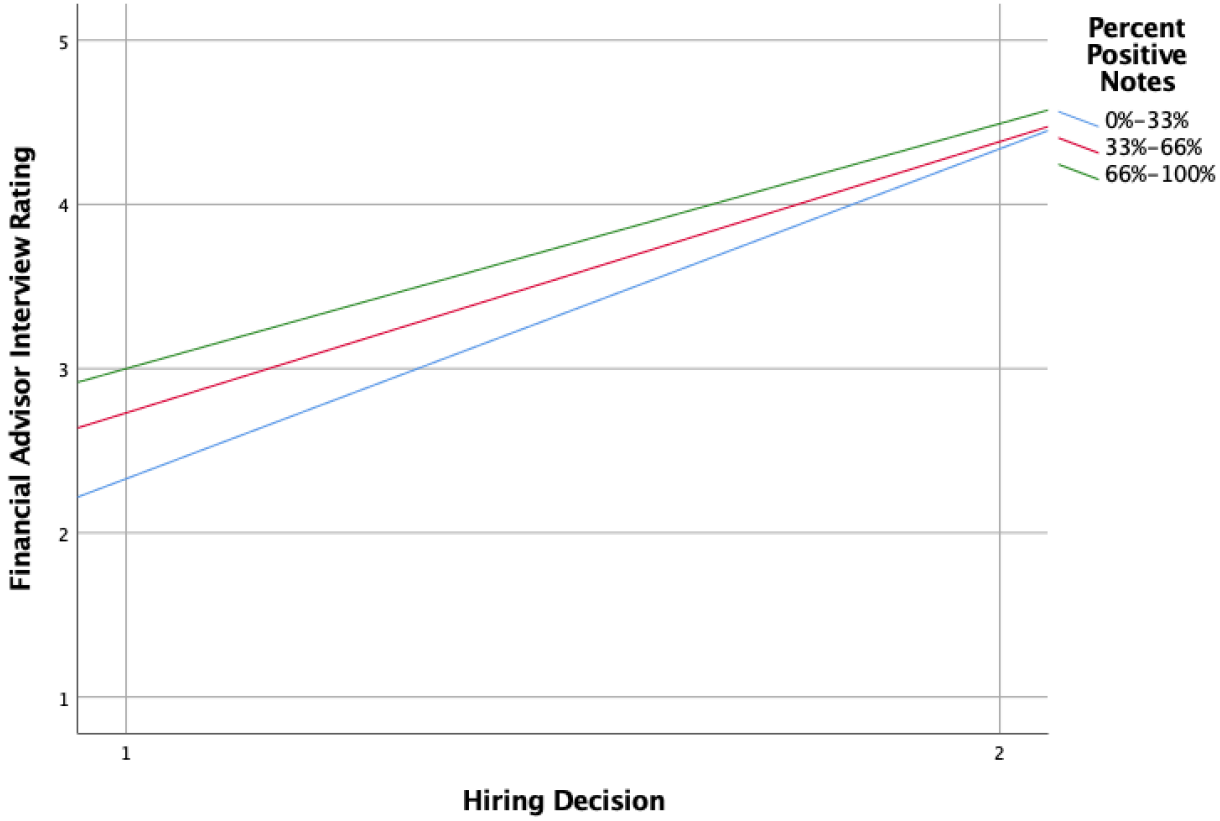


Figure 3. Interaction between financial advisor interview rating and percentage of positive notes on hiring decision.