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Pay Attention! The Liabilities of Respondent Experience and Carelessness When Making Job Analysis Judgments

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Job analysis has a central role in virtually every aspect of HR and is one of several high performance work practices thought to underlie firm performance. Given its ubiquity and importance, it is not surprising that considerable effort has been devoted to developing comprehensive job analysis systems and methodologies. Yet, the complexity inherent in collecting detailed and specific "decomposed" information has led some to pursue "holistic" strategies designed to focus on more general and abstract job analysis information. It is not clear, however, if these two different strategies yield comparable information, nor if respondents are equally capable of generating equivalent information. Drawing from cognitive psychology research, we suggest that experienced and careless job analysis respondents are less likely to evidence convergence in their decomposed and holistic job analysis judgments. In a field sample of professional managers, we found that three different types of task-related work experience moderated the relationship between decomposed and holistic ratings, accounting for an average ΔR^2 *of 4.7%. Three other more general types of work experience, however, did not moderate this relationship, supporting predictions that only experience directly related to work tasks would prove to be a liability when making judgments. We also found that respondent carelessness moderated the relationship*

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between decomposed and holistic ratings, accounting for an average ΔR^2 of 6.2%. These results link cognitive limitations to important job analysis respondent differences and suggest a number of theoretical and practical implications when collecting holistic job analysis data.

Keywords: *job analysis; work experience; cognitive limitations; decomposed and holistic judgments; human resource management*

Job analysis represents one of the most commonly used organizational data collection techniques. As "a wide variety of systematic procedures for examining, documenting, and drawing inferences about work activities, worker attributes, and work context" (Sackett & Laczo, 2003: 21), job analysis forms the foundation for numerous human resource (HR) practices, including personnel selection, performance management, compensation, and training and development systems. Job analysis helps identify the knowledge, skills, abilities, and other characteristics (KSAOs) that incumbents need to possess or develop so that the organization can move closer to realizing its strategic objectives. For example, job analysis forms the foundation for developing valid selection systems by ensuring content validity and identifying the relevant performance domain, enhancing perceptions that a selection system is fair by increasing selection procedure job relatedness, and helping a selection system withstand legal challenges. In short, the information that results from a job analysis enables organizations to plan workforce needs in a systematic and organization-wide manner.

Strategic HR research also identifies job analysis as an important element of the HR system (Posthuma, Campion, Masimova, & Campion, 2013; Toh, Morgeson, & Campion, 2008) that contributes to higher firm performance. For example, Huselid (1995: 646) assessed organizations in terms of "the proportion of the workforce whose job has been subjected to a formal job analysis." According to Siddique (2004: 219), job analysis represents "an important source of competitive advantage in its own right, and merits due attention of HR professionals, line managers, and top management." O*rganizations use job analysis to translate strategic goals into specific work requirements, thereby ensuring the strategic alignment of individual jobs with overall organizational objectives.*

Given the centrality of job analysis in HR, considerable effort has been devoted to developing comprehensive and reliable job analysis systems and techniques (Brannick, Levine, & Morgeson, 2007; Morgeson & Dierdorff, 2011). Recently, Sanchez and Levine (2012: 401) challenged the assumption that "current job-analytic practices already provide the best information the field has to offer," and urged researchers to search for ways to improve the quality of job analysis information. This objective is driven, in part, by the fact that high-quality job analyses are central to the legal defensibility of most HR systems.

Given an overriding interest in the technical adequacy of job analyses, research has devoted attention to the development of job analysis instruments and conduct of job analysis studies (Morgeson & Dierdorff, 2011). Yet, this focus on job analysis techniques has come at the expense of understanding how respondents interact with these instruments. Although there has been some research into job analysis respondents, it has often focused on a limited set of characteristics such as gender, race, and education (Landy & Vasey, 1991; Schmitt & Cohen, 1989), largely neglecting other potential individual differences. This lack of research is unfortunate, as studies have found that a considerable amount of variance in job analysis ratings is attributable to rater idiosyncrasies (e.g., Van Iddekinge, Putka, Raymark, & Eidson, 2005).

Importantly, job analysis respondents may vary considerably in how they process information, often with a set of distinctive cognitive limitations (Morgeson & Campion, 1997). Implicitly recognizing these cognitive limitations, conventional job analysis practice has focused on "decomposed" job analysis judgment strategies, which involve the collection of highly detailed job analysis information. For example, decomposed strategies have focused on collecting information about the numerous discrete elements of a job, such as highly detailed task statements. These judgments are then combined using some algorithm, such as the calculation of an average. Presenting job analysis respondents with detailed and specific information simplifies the judgment task, thereby helping minimize natural information processing limitations. Research suggests this strategy works, in that such data typically evidence high reliability (Dierdorff & Morgeson, 2009; Dierdorff & Wilson, 2003).

The downside of a decomposed judgment strategy, however, is that it is technical, expensive, and time-consuming (Shippmann et al., 2000). Thus, scholars have explored "holistic" strategies, which involve the collection of more general and abstract job analysis information (Cornelius & Lyness, 1980). For example, holistic strategies focus on obtaining overall evaluations of more global job components, such as job duties. These judgments encompass many of the specific elements present in decomposed strategies and typically represent the final estimate of a given job component. Presenting job analysis respondents with more abstract job descriptors requires fewer judgments and reduces the time and expense devoted to the rating task. The fundamental premise of the shift toward holistic strategies is that the same information can be obtained but at a lower cost. Implicit in this premise is the idea that decomposed and holistic judgments will "converge" with one another and yield comparable information. Convergence would show that both strategies produce the same (or comparable) information, thus supporting the use of holistic judgment strategies.

Yet, research comparing decomposed and holistic judgments has produced mixed findings, leading some to suggest that "one of the most controversial issues in job analysis today concerns the role of holistic ratings" (Harvey & Wilson, 2000: 845). It is crucial to determine whether and when decomposed and holistic job analyses will converge to defend the selection and use of these more abstract job analyses judgment strategies. This is especially true because data generated from holistic judgments are often used for the same purposes as data generated from decomposed judgments (e.g., to develop HR selection systems or training programs), and because decomposed judgments have a long and well-established history as foundational to job analysis practice. If holistic judgments do not produce equivalent information, resulting HR systems will be deficient, resulting in suboptimal outcomes for the organization (e.g., key skills may be excluded in the selection battery or key training content missed) and hindering its legal defensibility (when such a defense focuses on job relatedness). Given the fundamental role job analysis data play in legal challenges (Society for Industrial and Organizational Psychology [SIOP], 2003), exploring issues of convergence is a vital need.

Drawing from cognitive psychology and the memory literature (Rosch, 1978; Schneider & Shiffrin, 1977), we argue that when respondents are not active and attentive to the rating task, they are much less likely to demonstrate convergence in their own decomposed and holistic judgments. Task-related experience and respondent carelessness are two key rater characteristics that are likely to impact judgments and reflect the attention given to the rating task. Instead of mentally decomposing the task into smaller units, participants with more work experience and higher carelessness will respond by using simplifying heuristics to reduce the complexity of the decision-making task. The use of such heuristics will be associated with lower convergence between decomposed and holistic job analysis ratings. It is to this issue we now turn.

Job Analysis Respondent Characteristics

Work Experience

Job analysis respondents often have different amounts and types of experience with the various tasks associated with the work. Although the possibility that work experience may influence job analysis results has a long history (Prien & Saleh, 1963), research has not produced a clear consensus on its role. On the one hand, some suggest that work experience has little to no effect on job analysis outcomes (Green & Stutzman, 1986; Smith & Hakel, 1979). For example, Cornelius and Lyness (1980) found that job experience did not account for significant differences in job analysis information provided by more and less experienced employees. Compared to more experienced employees, less experienced employees had comparable intrarater reliability across time, interrater agreement, and convergence with job analyst and supervisor ratings. Similarly, in a study investigating the effects of demographic characteristics on responses to a task inventory, Schmitt and Cohen (1989: 103) found that job experience "had little or no effect on respondents' evaluation of tasks."

More recently, however, research has suggested that increased experience has a detrimental effect on job analysis judgments. For example, Richman and Quiñones (1996) showed that participants who performed a task only once (low experience condition) had more accurate estimates of the frequency of task elements performed than participants who completed the task three times (high experience condition). Moreover, participants in the lower experience condition demonstrated greater detection accuracy (i.e., tasks were more often correctly identified). Drawing from the memory literature, the authors suggested that individuals have more difficulty recalling the frequency of specific events if similar events occurred frequently.

As this review suggests, there is little consensus about the relationship between work experience and job analysis outcomes. There are at least five limitations to past research that may be contributing to this lack of consensus. First, research has focused on the main effects of experience, which has involved examining bivariate relationships between experience and job analysis responses. Exploring such bivariate relationships neglects potentially more complex relationships. Other research has investigated how the scope of work within the same job changes with increasing job experience. For example, Borman, Dorsey, and Ackerman (1992) found differences in the time that stockbrokers spent on different activities. Although this study found differences in the way that job incumbents with varying degrees of job experience perform work, it did not address how job experience influences a rater's ability to provide holistic job analysis ratings, the research question that drives the current research.

Second, previous research on the role of experience in job analysis has focused on rating experience, differentiating between naïve undergraduate student raters, graduate students who have received training, and professional analysts (Butler & Harvey, 1988). Although exploring experience with job analysis rating instruments is important, this form of experience does not reflect work experience. Because job incumbents commonly make job analysis ratings, focusing more directly on their work experience is an important area for research.

Third, research on the role of experience in job analysis has utilized job analyst and supervisor ratings as criteria. For example, Cornelius and Lyness (1980) investigated, in part, how experience moderates the relationship between rating type (decomposed vs. holistic) and convergence with ratings made by job analysts and supervisors. Using supervisor and job analyst ratings as criterion is problematic for two reasons. First, there is no gold standard of accuracy in job analysis ratings, which is why the use of a seemingly objective criterion is misleading. Second, supervisors and analysts have varying degrees of work experience. Those with more experience may rely on similar information processing strategies as job incumbents with higher job experience.[1] This introduces a potential confound in the relationship between job incumbent experience and rating accuracy. This confound can be avoided only by utilizing a within-person research design where the convergence of decomposed and holistic ratings provided by the same person are used as the criterion.

Fourth, to our best knowledge, all previous studies have taken a relatively simplistic view in their operationalization of work experience. For example, most researchers have relied on unidimensional measures of job tenure (e.g., Cornelius & Lyness, 1980), often classifying work experience of employees into a small number of discrete categories (e.g., Schmitt & Cohen, 1989). Others have operationalized work experience as organizational tenure (Mullins & Kimbrough, 1988) despite numerous alternative conceptualizations.

Fifth, few studies have had a well-developed theoretical rationale as to why work experience would influence job analysis judgments. Instead, the bulk of past research has simply included work experience as another variable in their model, often investigating the extent to which work experience is related to job analysis ratings in an exploratory or purely empirical manner. This does not help us understand why work experience might be important. In contrast, Richman and Quiñones (1996) drew from the memory literature to explain why higher levels of task experience would have a negative effect on rating accuracy. This links the job analysis literature to the broader cognitive psychology literature and helps us better understand why work experience might matter. In summary, what is needed is a more complex conceptualization of work experience that is anchored in theoretically derived hypotheses designed to explore the interactive effects of work experience. This will help us better understand exactly why work experience is important for job analysis responding.

Tesluk and Jacobs (1998) have provided a more nuanced consideration of work experience that may help achieve these ends. They suggest that there are different dimensions of work experience that occur at distinctly different levels. For example, one could examine different types of experience such as experience with the job tasks, the job as a whole, the work group, the organization, or the occupation. These distinctly different types of experience offer a much greater set of possibilities to consider when exploring the link between respondent work experience and job analysis judgments. Drawing from this more complex conceptualization, we expect that only certain forms of work experience will influence job analysis judgments.

Impact of Work Experience on Decomposed and Holistic Job Analysis Judgments

Past research suggests that individuals rely on simplifying cognitive heuristics and categorization processes when making judgments (Kahneman, Slovic, & Tversky, 1982). The use of simplifying heuristics reduces the complexity of decisions and increases the efficiency of decision-making processes by minimizing cognitive effort and maximizing information intake (Rosch, 1978). Yet, heuristics can introduce systematic errors into respondents' judgments because they may fail to integrate cues at lower levels of analysis. As Gigerenzer (2008: 20) notes, "Heuristics are frugal . . . they ignore part of the information."

For example, consider the job component of "office and staff management." This particular component might have several different tasks such as "edit materials for grammar," "motivate employees and facilitate a positive work environment," and "provide relevant training opportunities to staff as resources permit." A job analysis respondent who relies on cognitive heuristics is more likely to recall only those subcomponents categorized into long-term memory. Consequently, respondents are less likely to integrate all of the individual pieces of information into their summary judgment. This suggests that job analysis respondents who rely on these cognitive heuristic processes are less likely to adequately decompose holistic job analysis judgments into subcomponents before making their ratings.

For these cognitive heuristics to occur, an individual must have identified sequences of elements that can be subsequently stored in long-term memory. Once stored in long-term memory, these sequences form the basis for future heuristic and categorization processes (Schneider & Shiffrin, 1977). The more exposure an individual has to these sequences, the more salient they become for future behavior and judgments. This implies that job analysis respondents with more task experience (performing tasks in the current job), current job experience (tenure in the current job), and previous job experience (number of past jobs like the current job) will rely more on heuristic processes when making holistic job analysis judgments.

In contrast, job analysis respondents with less relevant work experience are more likely to decompose a holistic task into its subcomponents because they have not had enough time to sufficiently categorize the job into long-term memory. This in turn implies that job analysis respondents with less relevant work experience will break down a larger job component into its subcomponents before rendering an overall judgment. Based on this rationale, we expect that more experienced job analysis respondents will demonstrate less convergence in their decomposed and holistic job analysis judgments, whereas less experienced job analysis respondents will demonstrate a greater degree of convergence.

Hypothesis 1: Task experience will moderate the relationship between decomposed and holistic job analysis judgments such that incumbents with more task experience will display less convergence in their decomposed and holistic judgments than incumbents with less task experience.

Hypothesis 2: Current job experience will moderate the relationship between decomposed and holistic job analysis judgments such that incumbents with more current job experience will display less convergence in their decomposed and holistic judgments than incumbents with less current job experience.

Hypothesis 3: Previous job experience will moderate the relationship between decomposed and holistic job analysis judgments such that incumbents with more previous job experience will display less convergence in their decomposed and holistic judgments than incumbents with less previous job experience.

As noted earlier, types of work experience that do not directly pertain to the task domain will be less relevant in predicting convergence between an individual's decomposed and holistic job analysis judgments. Specifically, organizational experience (experience in the current organization, number of previous employers) and career experience (length of tenure in current career) are less likely to affect job analysis judgments because they are less task-related and not closely tied to the present job, its underlying tasks, and resultant categorization processes.

Hypothesis 4: Current organizational experience, total organizational experience, and career experience will not moderate the relationship between decomposed and holistic job analysis judgments.

Carelessness

Job analysis respondents often differ in how carefully they attend to the job analysis rating task. This would include not reading items closely enough, responding inappropriately given the specific question asked, or failing to make needed distinctions between items (Morgeson & Campion, 1997). A number of studies have explored carelessness in job analysis using bogus items, which represent fictitious tasks that are not part of the job. For example, Green and Stutzman (1986) found that 57% of job incumbents endorsed (i.e., they claimed to perform) tasks they could not have performed. In addition, of the 290 respondents, only half rated these bogus items as "not important" or "no time spent." This suggests that careless job analysis respondents will be less attentive when making job analysis judgments.

Cognitive psychology research helps us understand what processes may underlie these effects. This research suggests that, at any given time, individuals rely on automatic and controlled information processing modes (Schneider & Shiffrin, 1977). Automatic information processing is fast, parallel, and effortless. In contrast, controlled information processing is characterized as slow, serial, and effortful (Bargh & Ferguson, 2000). A key distinction between these two modes is the amount of attention devoted to processing information (Strayer & Kramer, 1990). Controlled information processing involves substantial effort and conscious attention, whereas automatic information processing requires relatively little cognitive effort and little attention to the judgment task. Thus, each represents a potential trade-off of accuracy (controlled processing) and speed (automatic processing). Although there are considerable benefits associated with automatic information processing, there are also some significant limitations. Because less attention is devoted to the judgment task when information is processed automatically, there is greater potential for inaccurate responses.

Cognitive psychology research has long used errors and mistakes as indicators of automatic information processing. Because it is not possible to directly measure one's underlying information processing, we must infer its presence through the care with which individuals make decisions. For example, in a series of experiments, Gleitman and Jonides (1976; Jonides & Gleitman, 1976) presented respondents with irrelevant information (i.e., bogus items) during an automatic information processing task. Although this information should have been ignored, participants carelessly responded to the irrelevant items. The visual and memory search tasks used by Schneider and Shiffrin (1977) provide another example of how automatic information processing can result in judgment errors. They found that the observed probability of reporting that targets were present when none were in fact there co-occurred when processing information in an automatic manner, but seldom occurred when processing information in a controlled manner. Thus, processing information in a controlled manner would not have resulted in the endorsement of these irrelevant items.

Impact of Carelessness on Decomposed and Holistic Job Analysis Judgments

One would expect carelessness to be especially detrimental for holistic judgments because they require respondents to judge more general components of their work. This process is much more complex than making decomposed judgments because it involves greater recall and information integration. Because careless job analysis respondents process information in an automatic fashion, they fail to devote sufficient attention to and fully reflect upon and integrate individual pieces of information when making a holistic judgment. This has significant implications for the convergence between decomposed and holistic job analysis judgments.

When faced with a holistic job component, incumbents should first divide the rating stimuli into individual elements. Only after dividing the holistic component into subcomponents are raters able to make effective overall judgments. This decomposition of holistic rating stimuli entails deliberate, careful information processing strategies and demands conscious and active attention (Schneider & Shiffrin, 1977). Individuals who process information more carefully are better able to reflect on and organize complex responses (LaBerge, 1981) and are more effective when dealing with complex judgments (Velmans, 1991).

Respondents who take their time to process information carefully will be more likely to overcome the cognitive challenges associated with abstract judgments, such as recall and information integration. Thus, individuals who make their ratings in a controlled manner will be more likely to decompose the abstract job components present in holistic job analysis judgments into subcomponents before making their rating. As a result, these respondents will show greater convergence between their holistic and decomposed judgments. Careless job analysis respondents, on the other hand, are likely to encounter greater difficulty when making holistic judgments, thereby showing lower levels of convergence with their decomposed judgments. We expect that job respondent carelessness will result in lower convergence between decomposed and holistic job analysis judgments.

Hypothesis 5: Respondent carelessness will moderate the relationship between decomposed and holistic job analysis judgments such that incumbents who are more careless when making their job analysis judgments will display less convergence in their decomposed and holistic judgments than incumbents who are less careless.

Method

Participants

Job analysis surveys were distributed to 188 governmental agency employees involved in international economic development. These individuals performed a range of different managerial activities. Although all respondents performed the same job, they differed in terms of their level in the organization. We thus controlled for position level in all our hypothesis tests. Of the 188 employees, 133 responded (71% response rate). Data from 25 respondents were discarded because they were not complete, resulting in a final sample of 108 employees. Most participants were male (76%) and White (87%). The average age of participants was 46.48 years (*SD* = 8.43).

Measures and Procedure

We updated the organization's existing job analysis survey based on the input of subject matter experts (SMEs). To update the job analysis survey, we first conducted a series of one-on-one meetings with 10 SMEs, which included senior employees from a variety of positions. In these meetings, we sought to establish the purpose or objective of the job, the major duties and responsibilities of the job, the tasks relevant to the job, and the KSAOs required for the job. We then held two focus group meetings with 11 senior-level SMEs (who were different from the first 10). During these meetings, the groups reviewed the compiled list of task statements and edited or modified tasks to make sure the tasks accurately matched their jobs. They also added task statements that were missing. What resulted was a revised and updated job analysis survey.

The survey consisted of eight major job components. Respondents made their decomposed importance ratings on a series of specific task statements for each component. This included (a) "office management" (i.e., how the job incumbent performs personnel and office management activities; 20 items), (b) "budget and fiscal" (i.e., how the job incumbent develops and controls financial plans for the organization; 7 items), (c) "program development" (i.e., how the job incumbent plans and executes business development activities for client organizations; 20 items), (d) "analysis" (i.e., how the job incumbent monitors environmental developments and assesses their potential impact on organizational goals and activities; 9 items), (e) "interagency coordination" (i.e., how the job incumbent operates as a liaison between their specific department of the organization and its headquarters; 11 items), (f) "customer service" (i.e., how the job incumbent evaluates customer expectations and ensures customer satisfaction; 4 items), (g) "partnerships and contacts" (i.e., how the job incumbent engages in activities aimed at increasing the exposure of the organization in the host country; 11 items), and (h) "advocacy and diplomacy" (i.e., how the job incumbent supports client organizations in handling negotiations, disputes, and complaints in the respective host country; 12 items). Each task was rated on a 5-point importance scale (1 = *not important* to 5 = *extremely important*). The decomposed judgment was operationalized as the average of the importance ratings across the specific tasks within a component.

Holistic items were operationalized as the overall job component label along with a brief listing of the various aspects of that job component. For example, the holistic item for office management was "office management" (e.g., overseeing projects; guiding others' work; ensuring resources are available). Respondents made their ratings on the same 5-point importance scale. Thus, the average of the specific task statements and the holistic rating of the overall component reference identical information, but at different levels of specificity.[2]

Interestingly, past job analysis research has operationalized decomposed and holistic ratings in two different ways. In the first, holistic ratings have focused on overall evaluations of different components of a job whereas decomposed ratings have focused on the more discrete elements of the job components that are then combined using some algorithm (Butler & Harvey, 1988; Cornelius & Lyness, 1980). In the second, an "entire job" methodology has been used where holistic ratings focus on "global judgments [about the] overall nature of the job" (Sackett, Cornelius, & Carron, 1981: 792) and decomposed ratings are made on elements of a job. Despite these differences, however, these job analysis studies are consistent with the way that past research has defined decomposed and holistic judgments. That is, in the job analysis domain all research has focused on breaking down more general and abstract holistic judgments into a higher number of more manageable and specific decomposed judgments. This is consistent with how decomposed and holistic judgments have been defined in the decision making and human judgment literature (Morera & Budescu, 1998; Raiffa, 1968). Our operationalization of decomposed and holistic job analysis ratings is also consistent with this approach.

Respondents indicated their work experience at the end of the job analysis survey. Task experience was measured with the item "How long have you been performing tasks like the tasks in your current job?" (M = 8.69 years, SD = 7.42). Current job experience was measured with the item "How long have you worked at your current job?" (M = 2.03 years, SD = 2.53). Previous job experience was measured with the item "How many different jobs like your current job have you had?" (M = 2.71, SD = 2.13). Current organizational experience was measured with the item "How long have you worked at [organization name]?" (M = 11.21 years, SD = 5.95). Total organizational experience was measured with the item "How many different organizations have you worked for (in total)?" (M = 4.76, SD = 2.08). Career experience was measured with the item "How long have you been working in your entire career (including your current job and all previous jobs)?" (M = 21.28 years, SD = 7.63).

Consistent with past research (Green & Stutzman, 1986; Morgeson et al., 2004), we operationalized respondent carelessness using three "bogus" items embedded in the job analysis survey (α = .73). SMEs developed these realistic-sounding items that were not part of the job. An example bogus item is "quality audits (e.g., reviewing processes and identifying risks and areas of improvement; identifying nonconformances or business changes; writing audit report)." This was a bogus item because no job incumbent within the organization is involved in anything like a quality audit. As noted earlier, research in cognitive psychology, including Schneider and Shiffrin's (1977) seminal work on information processing, has relied on errors and mistakes as indicators of automatic information processing. Because bogus items represent descriptions of job duties that are clearly not part of the job, they should not be endorsed by any respondent responding in a controlled manner. Employees who rate these items as important are considered to be responding in a more careless fashion than those who do not endorse these items.

Results

Table 1 contains descriptive statistics and correlations for all study measures. The correlations among the six experience measures are small to moderate (range of –.22 to .59) and demonstrate an average intercorrelation of .20 (following an r to z conversion). Interestingly, the experience variables were essentially unrelated to carelessness, suggesting no simple relationship between experience and the extent to which a respondent was attentive to the rating task.

Table 1

Means, Standard Deviations, and Intercorrelations Among Study Variables

Variable	*M*	*SD*	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
Respondent characteristics																								
1. Task experience	8.69	7.42	—																					
2. Current job experience	2.03	2.53	.18	—																				
3. Previous job experience	2.71	2.13	.39	–.06	—																			
4. Current organizational experience	11.21	5.95	.53	.12	.22	—																		
5. Total organizational experience	4.76	2.08	.01	–.08	.11	–.22	—																	
6. Career experience	21.28	7.63	.49	.11	.25	.59	.09	—																
7. Respondent carelessness	2.86	1.02	.00	.02	.07	–.05	–.09	.00	.73															
Decomposed ratings																								
8. Office management	3.87	0.64	.28	.07	.21	.27	–.10	.12	.41	.92														
9. Budget and fiscal	3.33	1.00	.24	–.07	.21	.29	–.03	.17	.43	.77	.91													
10. Program development	3.93	0.75	.15	.08	.14	.04	–.06	–.05	.41	.68	.43	.94												
11. Analysis	3.77	0.85	.12	.05	.19	.12	.02	.03	.35	.61	.42	.85	.90											
12. Interagency coordination	3.56	0.91	.14	–.03	.17	.20	–.09	.10	.54	.64	.55	.63	.69	.93										
13. Customer service	4.30	0.81	.22	.07	.26	.09	–.02	.06	.26	.60	.38	.78	.68	.50	.89									
14. Partnerships and contacts	4.04	0.81	.19	.05	.17	.07	.02	.03	.44	.60	.37	.85	.85	.71	.71	.91								
15. Advocacy and diplomacy	3.63	0.99	.16	.05	.12	.16	–.07	.07	.47	.56	.45	.69	.76	.82	.52	.80	.94							
Holistic ratings																								
16. Office management	4.64	0.73	.17	.14	.22	.07	–.10	.05	.37	.47	.34	.49	.44	.27	.52	.39	.23	—						
17. Budget and fiscal	4.16	1.04	.16	.14	.11	.24	–.13	.21	.42	.54	.62	.39	.39	.34	.39	.33	.28	.63	—					
18. Program development	4.13	0.94	.19	.18	.18	.21	–.25	.13	.46	.58	.42	.61	.55	.40	.56	.53	.38	.71	.67	—				
19. Analysis	4.16	0.98	.10	.17	.10	.02	–.04	.10	.48	.44	.41	.49	.48	.42	.46	.49	.41	.53	.58	.57	—			
20. Interagency coordination	4.19	0.95	.05	.17	.08	.09	–.15	.19	.56	.48	.41	.43	.40	.47	.44	.43	.43	.56	.56	.54	.63	—		
21. Customer service	4.47	0.81	.13	.20	.20	.08	–.02	.20	.39	.44	.31	.46	.38	.32	.62	.43	.27	.57	.43	.62	.63	.53	—	
22. Partnerships and contacts	4.48	0.79	.15	.05	.16	.07	–.10	.06	.32	.50	.26	.58	.51	.40	.55	.59	.43	.58	.46	.63	.53	.46	.56	—
23. Advocacy and diplomacy	4.33	0.87	.02	.09	.16	.07	–.15	.06	.39	.43	.39	.52	.48	.51	.47	.55	.46	.47	.52	.52	.57	.57	.51	.64

Note: $N = 108$. Values greater than .25 are statistically significant, $p < .01$, two-tailed. Internal consistency estimates are on the diagonal.

In terms of the different types of work experience, previous job experience had the highest (r = .17) and total organizational experience the lowest (r = –.08) average intercorrelation across the decomposed and holistic ratings. In general, correlations between work experience and decomposed and holistic ratings are small in magnitude (average intercorrelation of .09; range of –.10 to .29 and –.25 to .24, respectively). Overall, this is consistent with past research, which has found few bivariate relationships between work experience and job analysis responses.

Correlations between respondent carelessness and job analysis ratings (across the decomposed and holistic job analysis judgments) are moderate to large in magnitude (range of .26 to .56; average intercorrelation of .45 following an r to z conversion). Finally, the degree of overall convergence across similar decomposed and holistic ratings (e.g., the average ratings of the specific task ratings of a job component and the holistic rating of the same job component) was moderate to large (average intercorrelation of .54; range of .46 to .62). This is consistent with previous research, which has reported modest degrees of convergence between decomposed and holistic judgments in job analysis (Arthur, Edwards, Bell, Villado, & Bennett, 2005). This suggests that although there was some convergence in ratings, respondent work experience and carelessness may account for a considerable amount of unexplained variance.

Hypothesis Tests

Hypotheses 1, 2, and 3 predicted that three task-specific experience measures (task experience, current job experience, previous job experience) would moderate the relationship between decomposed and holistic ratings such that more experienced employees would demonstrate less convergence in their decomposed and holistic job analysis judgments than less experienced employees. Tables 2 to 4 provide detailed results for these hypothesis tests. We entered the control variable of position level in Step 1, the main effects for decomposed ratings and experience in Step 2, and their interaction in Step 3.

We found that task experience moderated the relationship between decomposed and holistic ratings in three of the eight job components. In particular, there was a significant moderating effect for the job components of office management (ΔR^2 = 2.3%), budget and fiscal (ΔR^2 = 2.5%), and customer service (ΔR^2 = 2.6%). Next, we found that current job experience moderated the relationship between decomposed and holistic ratings in four of the eight job components. In particular, there was a significant moderating effect for the job components of office management (ΔR^2 = 3.7%), budget and fiscal (ΔR^2 = 5.4%), program development (ΔR^2 = 2.7%), and customer service (ΔR^2 = 3.7%). Finally, we found that previous job experience moderated the relationship between decomposed and holistic ratings in five of the eight job components. In particular, there was a significant moderating effect for the job components of office management (ΔR^2 = 14.4%), program development (ΔR^2 = 4.4%), customer service (ΔR^2 = 4.8%), partnerships and contacts (ΔR^2 = 5.1%), and advocacy and diplomacy (ΔR^2 = 4.6%).

To determine the form of the interaction, in Figures 1 to 3 we graphed the significant relationships between the decomposed and holistic judgments for high and low levels of the task-specific experience measures (defined as +1 and −1 standard deviation from the mean, respectively). For example, in Figure 1 “office management,” the steeper slope of the low

Table 2
Interaction Results for Task Experience

Office Management (Holistic Rating as DV)					Budget and Fiscal (Holistic Rating as DV)				
Step	Variables	β	R^2	ΔR^2	Step	Variables	β	R^2	ΔR^2
1	Position level	0.10	.03		1	Position level	–0.03	.00	
2	Decomposed rating	0.60**	.23	.20**	2	Decomposed rating	0.79**	.38	.38**
	Task experience	1.10†				Task experience	0.67*		
3	Interaction	–1.13†	.25	.02†	3	Interaction	–0.74*	.41	.03*

Program Development (Holistic Rating as DV)					Analysis (Holistic Rating as DV)				
Step	Variables	β	R^2	ΔR^2	Step	Variables	β	R^2	ΔR^2
1	Position level	0.07	.02		1	Position level	–0.02	.00	
2	Decomposed rating	0.56**	.36	.34**	2	Decomposed rating	0.33†	.20	.20**
	Task experience	0.03				Task experience	–0.53		
3	Interaction	0.05	.36	.00	3	Interaction	0.60	.21	.01

Interagency Coordination (Holistic Rating as DV)					Customer Service (Holistic Rating as DV)				
Step	Variables	β	R^2	ΔR^2	Step	Variables	β	R^2	ΔR^2
1	Position level	0.14	.07		1	Position level	0.13†	.05	
2	Decomposed rating	0.31**	.24	.17**	2	Decomposed rating	0.44**	.38	.34**
	Task experience	–0.54				Task experience	–1.09*		
3	Interaction	0.54	.25	.02	3	Interaction	1.12*	.41	.03*

Partnerships and Contacts (Holistic Rating as DV)					Advocacy and Diplomacy (Holistic Rating as DV)				
Step	Variables	β	R^2	ΔR^2	Step	Variables	β	R^2	ΔR^2
1	Position level	–0.04	.00		1	Position level	–0.02	.00	
2	Decomposed rating	0.63**	.36	.35**	2	Decomposed rating	0.37**	.22	.21**
	Task experience	0.25				Task experience	–0.44		
3	Interaction	–0.21	.36	.00	3	Interaction	0.42	.23	.01

†$p < .10$, two-tailed.
*$p < .05$, two-tailed.
**$p < .01$, two-tailed.

task experience line (compared to the high task experience line) indicates a stronger relationship (i.e., more convergence in ratings) between decomposed and holistic job analysis judgments. With one exception (task experience and customer service), our hypotheses were supported, as the relationship between decomposed and holistic ratings is stronger for low levels of experience.

Overall, these results provide partial support for Hypotheses 1 to 3. We found that task-related experience measures moderated the relationships between decomposed and holistic

Table 3
Interaction Results for Current Job Experience

Office Management (Holistic Rating as DV)

Step	Variables	β	R^2	ΔR^2
1	Position level	0.11	.03	
2	Decomposed rating	0.57**	.24	.22**
	Current job exp.	1.40**		
3	Interaction	–1.31*	.28	.04*

Budget and Fiscal (Holistic Rating as DV)

Step	Variables	β	R^2	ΔR^2
1	Position level	–0.02	.00	
2	Decomposed rating	0.81**	.41	.41**
	Current job exp.	0.74**		
3	Interaction	–0.62**	.47	.05**

Program Development (Holistic Rating as DV)

Step	Variables	β	R^2	ΔR^2
1	Position level	0.10	.02	
2	Decomposed rating	0.75**	.38	.36**
	Current job exp.	1.56*		
3	Interaction	–1.44*	.40	.03*

Analysis (Holistic Rating as DV)

Step	Variables	β	R^2	ΔR^2
1	Position level	–0.00	.00	
2	Decomposed rating	0.60**	.22	.22**
	Current job exp.	1.20†		
3	Interaction	–1.08	.23	.02

Interagency Coordination (Holistic Rating as DV)

Step	Variables	β	R^2	ΔR^2
1	Position level	0.18*	.07	
2	Decomposed rating	0.51**	.27	.20**
	Current job exp.	0.71†		
3	Interaction	–0.52	.28	.01

Customer Service (Holistic Rating as DV)

Step	Variables	β	R^2	ΔR^2
1	Position level	0.14†	.05	
2	Decomposed rating	0.77**	.42	.37**
	Current job exp.	1.84**		
3	Interaction	–1.69**	.46	.04**

Partnerships and Contacts (Holistic Rating as DV)

Step	Variables	β	R^2	ΔR^2
1	Position level	–0.04	.00	
2	Decomposed rating	0.68**	.36	.35**
	Current job exp.	0.65		
3	Interaction	–0.66	.36	.01

Advocacy and Diplomacy (Holistic Rating as DV)

Step	Variables	β	R^2	ΔR^2
1	Position level	–0.02	.00	
2	Decomposed rating	0.44**	.22	.21**
	Current job exp.	–0.10		
3	Interaction	–0.17	.22	.00

Note: Current job exp. = current job experience.
†$p < .10$, two-tailed.
*$p < .05$, two-tailed.
**$p < .01$, two-tailed.

task components in 12 out of 24 possible cases (50%). In addition, the average ΔR^2 for the significant interactions was 4.7%. This represents a small to moderate effect, which is consistent with Cohen, Cohen, West, and Aiken's (2003) observation that small to moderate effect size interactions predominate in observational studies in social science and business.

Despite instances where the expected moderated relationships were not found, at least one of the three work experience measures significantly moderated the decomposed–holistic rating

Table 4
Interaction Results for Previous Job Experience

Office Management (Holistic Rating as DV)					Budget and Fiscal (Holistic Rating as DV)				
Step	Variables	β	R^2	ΔR^2	Step	Variables	β	R^2	ΔR^2
1	Position level	0.11	.03		1	Position level	–0.03	.00	
2	Decomposed rating	0.80**	.24	.21**	2	Decomposed rating	0.73**	.38	.38**
	Previous job exp.	2.25**				Previous job exp.	0.32		
3	Interaction	–2.29**	.38	.14**	3	Interaction	–0.38	.39	.01

Program Development (Holistic Rating as DV)					Analysis (Holistic Rating as DV)				
Step	Variables	β	R^2	ΔR^2	Step	Variables	β	R^2	ΔR^2
1	Position level	0.06	.02		1	Position level	–0.03	.00	
2	Decomposed rating	0.78**	.36	.34**	2	Decomposed rating	0.58**	.20	.20**
	Previous job exp.	1.19**				Previous job exp.	0.62		
3	Interaction	–1.18**	.40	.04**	3	Interaction	–0.67	.21	.02

Interagency Coordination (Holistic Rating as DV)					Customer Service (Holistic Rating as DV)				
Step	Variables	β	R^2	ΔR^2	Step	Variables	β	R^2	ΔR^2
1	Position level	0.15†	.07		1	Position level	0.14	.05	
2	Decomposed rating	0.52**	.24	.16**	2	Decomposed rating	0.78**	.38	.34**
	Previous job exp.	0.35				Previous job exp.	1.22**		
3	Interaction	–0.40	.24	.01	3	Interaction	–1.30**	.43	.05**

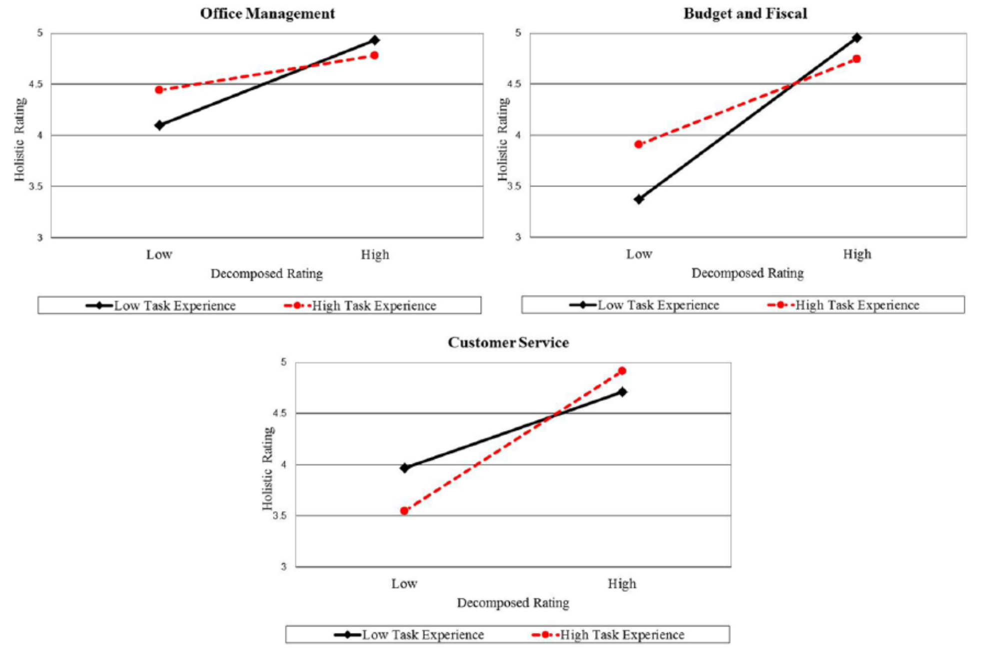
Partnerships and Contacts (Holistic Rating as DV)					Advocacy and Diplomacy (Holistic Rating as DV)				
Step	Variables	β	R^2	ΔR^2	Step	Variables	β	R^2	ΔR^2
1	Position level	–0.05	.00		1	Position level	–0.04	.00	
2	Decomposed rating	0.85**	.36	.36**	2	Decomposed rating	0.72**	.22	.22**
	Previous job exp.	1.26**				Previous job exp.	0.93**		
3	Interaction	–1.28**	.41	.05**	3	Interaction	–0.92**	.27	.05**

Note: Previous job exp. = previous job experience.
†$p < .10$, two-tailed.
**$p < .01$, two-tailed.

relationship for six out of the eight job components. This supports the use of a multidimensional conceptualization of work experience. For two components ("office management" and "customer service"), all three experience measures moderated the relationship between decomposed and holistic ratings.

Hypothesis 4 predicted that experience measures that do not directly concern the task domain (current organizational experience, total organizational experience, and career experience) would not moderate the relationship between decomposed and holistic ratings, as

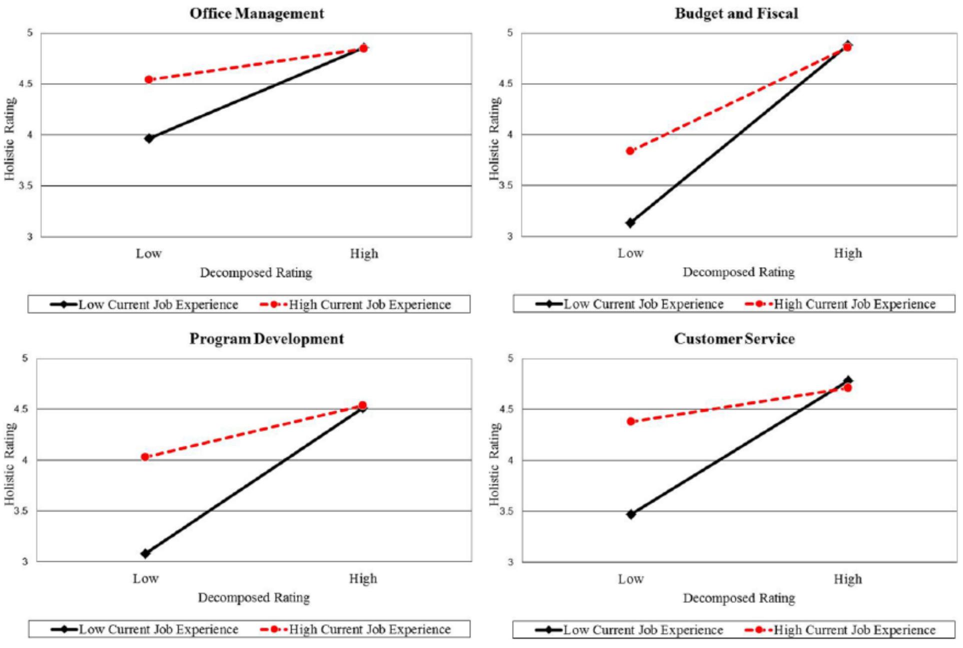
Figure 1
Moderating Effect of Task Experience on the Relationship Between Decomposed Ratings and Holistic Ratings



these experience measures refer to different levels of specification. Because of space constrains, we do not provide the results of these analyses in this article.[3] As predicted, none of these experience measures moderated the relationship between decomposed and holistic ratings for any of the job components, supporting Hypothesis 4.

Hypothesis 5 predicted that respondent carelessness would moderate the relationship between decomposed and holistic ratings such that employees who are more careless when making job analysis judgments would demonstrate less convergence in their decomposed and holistic job analysis judgments than employees who are more careful. We tested this hypothesis in the same manner as the previous interaction hypotheses. Table 5 provides detailed results for this hypothesis test. We found that respondent carelessness moderated the relationship between decomposed and holistic ratings for all eight of the job components, explaining an average of 6.2% (range of 4.1% to 9.7%) of the variance in holistic ratings. Specifically, the significant moderating effects for each of the job components were as follows: office management ($\Delta R^2 = 9.7\%$), budget and fiscal ($\Delta R^2 = 6.0\%$), program development ($\Delta R^2 = 4.8\%$), analysis ($\Delta R^2 = 5.1\%$), interagency coordination ($\Delta R^2 = 4.1\%$), customer service ($\Delta R^2 = 5.9\%$), partnerships and contacts ($\Delta R^2 = 5.2\%$), and advocacy and diplomacy ($\Delta R^2 = 8.9\%$). To determine the form of the interaction, in Figure 4 we graphed the relationship between the decomposed and holistic judgments for high and low levels of respondent carelessness. For all job components, the relationship between decomposed and holistic

Figure 2
Moderating Effect of Current Job Experience on the Relationship Between Decomposed Ratings and Holistic Ratings

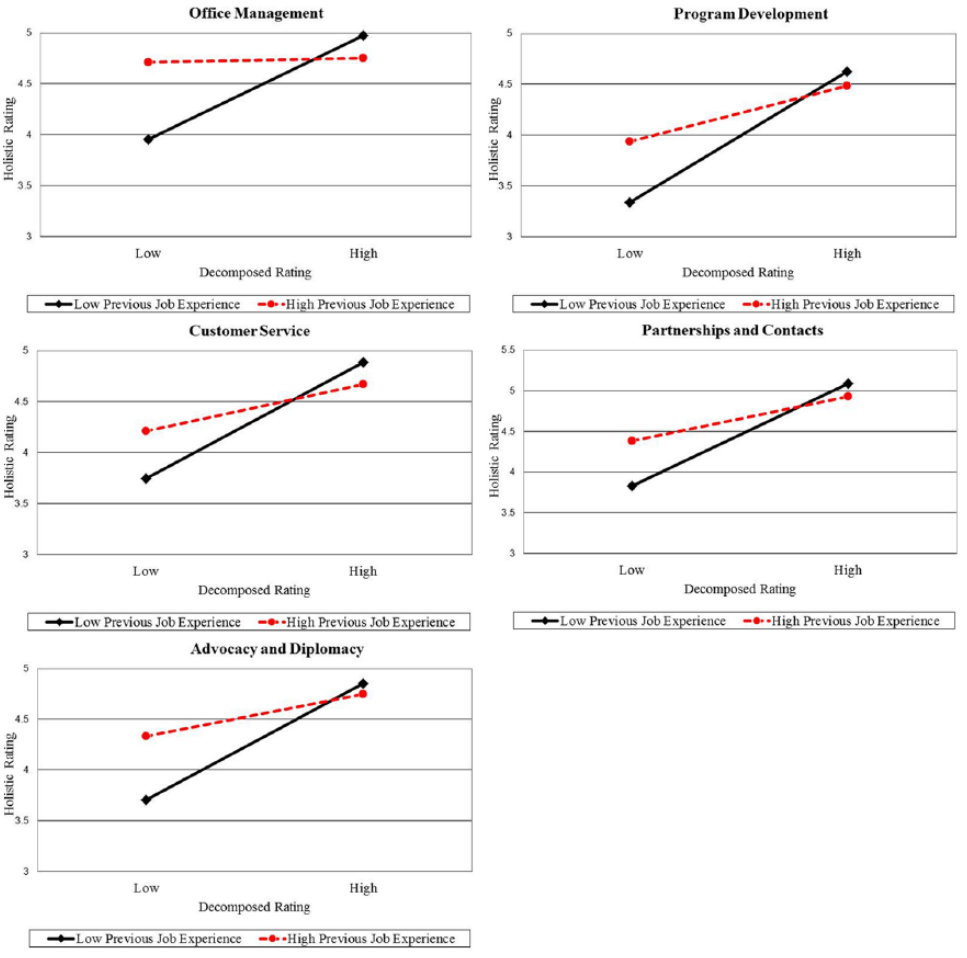


ratings is stronger for low levels of respondent carelessness, indicating that individuals who respond in a more careful, deliberate manner evidence greater convergence in their judgments. This fully supports Hypothesis 5.

Supplemental Analysis

Although we found support for our hypotheses, there is at least one potential limitation in our research design. As noted earlier, we decided not to counterbalance the order of the decomposed and holistic ratings, leaving open the possibility that the order in which items were presented somehow influenced the results. There are at least two ways to explore whether order effects might represent a limitation of the current findings. First, because all participants made their ratings in the same order, there would only be a confound if this particular rating order differentially affected more or less experienced participants. One way this would manifest itself would be a differential pattern of relationships with experience across the decomposed and holistic ratings. To investigate this issue, we examined correlations between our experience measures and the holistic and decomposed ratings. We did not find a consistent pattern of relationships between the three theoretically relevant experience measures and the decomposed and holistic judgments. Sometimes the experience measure is more strongly related to the decomposed rating, and sometimes it is more strongly related to

Figure 3
Moderating Effect of Previous Job Experience on the Relationship Between Decomposed Ratings and Holistic Ratings



the holistic rating. In addition, the average intercorrelations tend to be small in magnitude and similar to one another. For example, the average correlation between the eight decomposed components and task experience is .17; the average correlation between the eight holistic components and task experience is .12. We then tested the significance of the difference between the correlations. Of the 24 pairwise comparisons, only 3 of the correlations were significantly different. This provides evidence that participants with different levels of experience did not rate the decomposed and holistic ratings differently.

A second way to determine if order effects might be responsible for our observed effects would be to counterbalance the presentation of the holistic ratings (i.e., place them before and after the task ratings). Although we did not counterbalance the order in the current data

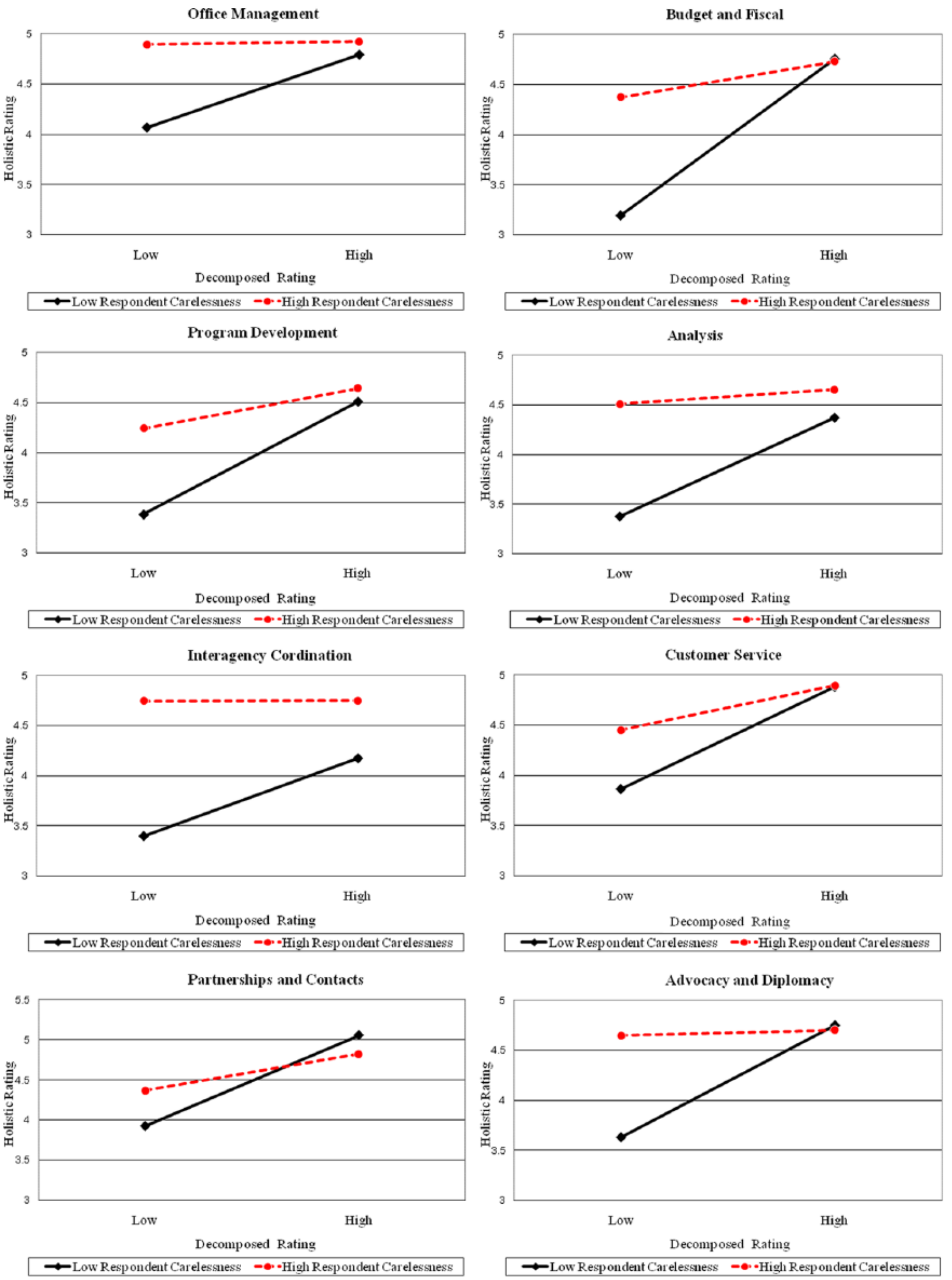
Table 5
Interaction Results for Respondent Carelessness

Office Management (Holistic Rating as DV)					Budget and Fiscal (Holistic Rating as DV)				
Step	Variables	β	R^2	ΔR^2	Step	Variables	β	R^2	ΔR^2
1	Position level	0.08	.03		1	Position level	–0.07	.00	
2	Decomposed rating	1.08**	.26	.23**	2	Decomposed rating	1.24**	.40	.42**
	Carelessness	1.87**				Carelessness	1.14**		
3	Interaction	–2.09**	.36	.10**	3	Interaction	–1.41**	.46	.06**
Program Development (Holistic Rating as DV)					Analysis (Holistic Rating as DV)				
Step	Variables	β	R^2	ΔR^2	Step	Variables	β	R^2	ΔR^2
1	Position level	0.04	.02		1	Position level	–0.10	.00	
2	Decomposed rating	1.00**	.41	.39**	2	Decomposed rating	0.90**	.33	.33**
	Carelessness	1.27**				Carelessness	1.31**		
3	Interaction	–1.33**	.45	.05**	3	Interaction	–1.26**	.38	.05**
Interagency Coordination (Holistic Rating as DV)					Customer Service (Holistic Rating as DV)				
Step	Variables	β	R^2	ΔR^2	Step	Variables	β	R^2	ΔR^2
1	Position level	0.12	.07		1	Position level	0.10	.05	
2	Decomposed rating	0.72**	.36	.29**	2	Decomposed rating	1.06**	.42	.38**
	Carelessness	1.20**				Carelessness	1.27**		
3	Interaction	–1.17**	.40	.04**	3	Interaction	–1.32**	.48	.06**
Partnerships and Contacts (Holistic Rating as DV)					Advocacy and Diplomacy (Holistic Rating as DV)				
Step	Variables	β	R^2	ΔR^2	Step	Variables	β	R^2	ΔR^2
1	Position level	–0.03	.00		1	Position level	–0.03	.00	
2	Decomposed rating	1.10**	.36	.36**	2	Decomposed rating	1.12**	.25	.25**
	Carelessness	1.16**				Carelessness	1.25**		
3	Interaction	–1.41**	.41	.05**	3	Interaction	–1.57**	.34	.09**

*$p < .05$, two-tailed.
**$p < .01$, two-tailed.

set, Morgeson et al. (2004) did counterbalance the order of holistic and decomposed ratings. Using this earlier data set, we are able to partially test for potential order effects. In the Morgeson et al. data set, holistic job analysis ratings and decomposed job analysis ratings were counterbalanced such that approximately half of the respondents responded first to a holistic task item, followed by the corresponding decomposed task statements, whereas the other half of respondents first responded to decomposed task statements, followed by the corresponding holistic task item. Work experience was operationalized as "length of time in

Figure 4
Moderating Effect of Carelessness on the Relationship Between Decomposed Ratings and Holistic Ratings



current title." As such, the experience measure is similar to our measure of "current job experience." Unfortunately, however, the data set allowed responses in only one of the four categories: (a) less than 1 year, (b) 1 to 2 years, (c) 3 to 5 years, (d) more than 5 years. Thus, this measure of work experience was limited because it forces a continuous variable into discrete categories and assesses only one aspect of work experience.

Similar to the current study, Morgeson et al. respondents rated the importance of specific tasks as they pertain to their job. The Morgeson et al. study utilized a 3-point importance (*very important, important*, or *not very important*) response scale (compared to the current 5-point scale). This scaling represents another limitation in that it restricts variability on the importance ratings, particularly when compared to the current data set.

Despite these two limitations, the Morgeson et al. data set allows us to directly test the extent to which less experienced employees may have been differentially affected by the order of the decomposed and holistic task ratings. We found that experience moderated the convergence of decomposed and holistic task ratings for 5 of 12 possible task categories such that less experienced employees demonstrated greater convergence in their decomposed and holistic task ratings. We then conducted a second set of analyses in which we entered a dummy-coded order variable (indicating whether decomposed task items or the corresponding holistic task item were rated first) in Step 1 of the regression. We found that the order in which the decomposed and holistic rating tasks were presented to raters had no effect on the results. This offers additional evidence that order effects do not present a major limitation in the current study.

Discussion

In the current study, we sought to explore the role of job analysis respondent work experience and carelessness on the degree of convergence between decomposed and holistic judgments. Overall, we found moderate convergence between decomposed and holistic ratings. This is consistent with research that has explored this issue using comparable rating stimuli (Morgeson et al., 2004). In addition, task experience, current job experience, and previous job experience moderated the relationship between half of the decomposed and holistic judgments, such that more experienced incumbents were less likely to evidence convergence. Other forms of work experience that do not pertain to the task itself (e.g., organizational and career experience) did not have any main or moderating effects. This represents one of the few studies that has explored the moderating role of work experience in job analysis ratings. Respondent carelessness also moderated the relationship between decomposed and holistic judgments for all eight of the job components, such that employees who were more careless evidenced less convergence in their job analysis ratings. This is the first study we are aware of that has explored the moderating role of respondent carelessness in job analysis ratings.

Importantly, our study improves on previous research by using a relatively uncommon within-subjects research design that employs comparable decomposed and holistic rating stimuli. This type of research design helps address concerns that differences in incumbent ratings are a product of differences in the ways individuals define and shape their jobs (Lievens, Sanchez, Bartram, & Brown, 2010). In addition, by exploring these issues in higher-level, managerial jobs that involve complex knowledge work, we go beyond past research that has tended to focus on simpler and lower level jobs (e.g., administrative assistants, police officers, travel agents).

Theoretical Implications

Our research makes an important contribution to the debate around the use of holistic job analysis strategies and convergence between decomposed and holistic job analysis judgments. We delineated and tested two theoretically derived moderating mechanisms that explain when decomposed and holistic job analysis judgments are more likely to converge. Drawing on cognitive psychology research and theory, we proposed and found that experienced and careless job analysis respondents demonstrate considerably lower convergence between their decomposed and holistic job analysis judgments. In so doing, we link cognitive limitations to different types of job analysis respondents. This is a first step toward better understanding the cognitive processes that may play out in different types of respondents when job analysis data are collected. Although Morgeson and Campion (1997) identified a number of potential cognitive processes, they did not articulate how these different processes relate to differences in job analysis respondents. We thus contribute to research by linking underlying cognitive processes to key rater characteristics. This adds much needed theoretical grounding and development to an area of research that has long been criticized for being atheoretical (Morgeson & Dierdorff, 2011). Our results indicate that future research exploring theoretically derived individual difference moderators is a promising approach to take.

Our emphasis on the moderating role of experience and carelessness answers the call of Morgeson et al. (2004), who suggested that exploring the conditions under which job analysis respondents are better able to make holistic judgments is an important area of future research. This highlights the role of the job analysis respondent as a critical source of information. Although scholars have called for a greater understanding of job analysis respondents (Green & Stutzman, 1986; Landy & Vasey, 1991), research in this domain has traditionally focused on the development of job analysis instruments and methods. However, as suggested by Green and Stutzman (1986: 544), "since the validity of any conclusions about a job is dependent on the accuracy of the information obtained, the job-analysis respondent is worthy of more attention." Our research suggests that scholars in this domain should pay closer attention to the job analysis respondent, especially when examining holistic types of judgments.

Although researchers have looked at the relationship between work experience and job analysis ratings, the majority of past research has focused on the main effects of work experience. In fact, relatively few published studies have examined its potential interactive effects. In addition, the role of work experience on job analysis ratings remains unclear. One reason for this may be the use of different operationalizations of work experience across studies. In this respect, our study contributes by including multiple operationalizations of work experience and finding that such an approach yields new insight. Had we focused on only one measure of work experience, our findings and conclusions would have been incomplete. For example, had we considered only task experience, we would have reached very different conclusions about the relevance of work experience for job analysis respondents. Thus, our results support the use of an expanded conceptualization of work experience and suggest that adopting a multidimensional conceptualization will yield greater insight into the ways work experience can influence job analysis judgments.

We also found that more task-relevant experience is associated with less convergence in decomposed and holistic judgments. This is an interesting finding because it is often thought that experience enhances judgments given its link to a more complete understanding of the work (e.g., SIOP, 2003). Drawing from cognitive psychology research, we argue that employees with more job-related experience have had more time to categorize their job into long-term memory and thus rely on simplifying heuristics, reducing convergence between their decomposed and holistic judgments. This suggests researchers interested in employee experience consider the potential negatives of work experience on other complex decision-making tasks. This would be especially relevant in contexts where considerable expertise is required to perform a job and in professions that require a long-term commitment and substantial job-related experience.

For example, it is commonly accepted that the skills of medical doctors improve with increased experience, but it is also possible that more experienced doctors will rely on simplifying heuristics when making decisions (e.g., clinical diagnoses). Experience is also thought to lead to higher competence for judges, even though they too may be prone to relying on simplifying heuristics in their decision-making. Moreover, it is generally believed that certain organizational decisions are best reserved for individuals with ample experience in the relevant domain. For example, ethically charged decisions, high-stakes decisions, or decisions in high reliability contexts and organizations are largely made by more experienced professionals. Although substantial expertise allows decision makers to fully understand the complexity of a decision, we urge future research to explore whether decision-making heuristics might undermine the decision quality of experienced decision makers in these contexts.

It is also important to keep in mind that although we associate a lack of convergence on the part of experienced respondents with a potential problem with these respondents, another possibility is that this lack of convergence suggests that inexperienced respondents may be providing less accurate or lower quality data. For example, perhaps more experienced respondents are aware of other job elements that were not adequately included in the decomposed job analysis items. If this is the case, then perhaps more experienced respondents appropriately incorporate these elements into their holistic judgments and this is responsible for their lower convergence. This is an intriguing possibility and one that would require future research to explore. We interpret lower convergence between decomposed–holistic judgments as a negative because decomposed judgment strategies have commonly shown higher levels of psychometric quality and past research has used convergence (or a lack thereof) as an indicant of the quality of holistic judgments, but only future research can fully address this question.

By exploring the role of respondent carelessness, we offer a new view on convergence between decomposed and holistic job analysis judgments. Carelessness was related to lower convergence in decomposed and holistic judgments across all job components, and this effect was stronger and more consistent than all forms of experience. The cognitive psychology literature offers a potential explanation as to why this is the case. The use of bogus items parallels the use of errors or mistakes in the cognitive psychology literature, where judgment errors are indicators of automatic information processing. This makes us more confident that we are exploring these distinctive information processing modes and suggests that the use of bogus items could inform other job analytic research.

Practical Implications

Our research also offers some important practical implications. First, it suggests that practitioners pay close attention to the type of job analysis respondent when using holistic job analysis judgments. As Green and Stutzman (1986: 544-545) noted, “It seems possible that some subpopulations of job analysis respondents would be better at describing their job then would others. However, very few studies have been conducted that would help practitioners determine who to select." Our research helps this aim and suggests that experienced and careless incumbents are less likely to converge in their decomposed and holistic job analysis judgments. Thus, if holistic ratings have to be used, selecting respondents who (a) have different degrees of work experience and (b) will be motivated to engage in more controlled forms of information processing is likely a useful practice. Job analysis respondents could be screened based on whether they are likely to respond in a controlled or effortful manner. In addition, care must be taken if one decides to oversample job incumbents with high job experience. Even though such raters have had the longest exposure to the job (and are intuitively appealing candidates for a job analysis), our research shows that these individuals may take shortcuts that can undermine the quality of the data collection effort. At the same time, however, we note that our call for a broad representation of job incumbents with varying degrees of work experience should not be misunderstood as a call for an oversampling of relatively inexperienced raters. To meet professional and legal guidelines, raters with high levels of job experience should continue to be included as a source of job analysis ratings. The key point to keep in mind when selecting job analysis respondents is to understand what may happen when using highly experienced job incumbents who may not fully attend to the rating task.

In addition, our results are supportive of other strategies if respondent screening is not possible (e.g., all respondents must be included for procedural fairness reasons). For example, both Lievens and Sanchez (2007) and Aguinis, Mazurkiewicz, and Heggestad (2009) have shown how frame-of-reference (FOR) training can decrease idiosyncratic variance in analyst and incumbent ratings. Different elements of FOR training may help address some of the problems associated with reliance on heuristics and automatic information processing. For example, three of the key steps in FOR training include describing the behaviors that are indicative of each dimension, allowing respondents to practice their ratings skills, and providing feedback to respondents (Aguinis et al., 2009). These FOR techniques may help job analysis respondents overcome the use of heuristics and automatic information processing by providing a clearer picture of the tasks included in each of the holistic categories, increasing familiarity with the judgment type (i.e., holistic judgments), and making them more aware of their performance on the judgment task using constructive feedback. Such strategies would be particularly helpful for experienced job analysis raters. Priming experienced job analysis raters to use more deliberate methods of information processing may reverse their tendency to search for cognitive shortcuts when providing job analysis ratings. FOR training increases rating accuracy in assessment center contexts (Schleicher, Day, Mayes, & Riggio, 2002), thus its use in job analysis is likely to be similarly effective.

It is important to recognize, however, that FOR training might impact the substantive nature of job analysis ratings if the training causes respondents to respond in particular ways (e.g., via priming and framing the rating task). To avoid this potential problem, job analysis-oriented FOR should focus on "(a) providing raters with a definition of each rating dimension, (b) defining the scale anchors, (c) describing what behaviors [are] indicative of each dimension, (d) allowing judges to practice their rating skills, and (e) providing feedback on the practice" (Aguinis et al., 2009: 413). When structured in this manner, FOR training focuses on the information processing styles used by raters when making judgments rather than priming raters on the importance of specific tasks or KSAOs.

The priming of processing frames (Skarlicki & Rupp, 2010; Zhong, 2011) provides an additional method of reducing rater biases and potentially increasing convergence in decomposed and holistic job analysis ratings. By priming respondents to rely on rational (as opposed to experiential) processing frames, emphasis is placed on a rational, analytic, and objective information processing and judgment style. This is likely to encourage the kinds of controlled information processing modes that foster higher quality job analysis information.

Creating instructions and procedures that motivate individuals to respond more carefully and deliberately may also be helpful. Warning of potential response verification (i.e., telling respondents their answers may be checked) may be especially useful. Several researchers have studied the link between accountability and judgments (e.g., Lerner & Tetlock, 1999; Simonson & Staw, 1992) noting that when individuals are held accountable for their decision-making process they engage in more deliberate information processing and are more motivated to develop an accurate and multifaceted understanding of the task. Response verification could be used in several ways. For example, one could use instructions informing respondents that another individual or superior may review their responses. Alternatively, practitioners could notify respondents that they may have to justify their responses. By increasing accountability, warnings assist in fostering controlled, deliberate, and careful job analysis information processing.

Because holistic ratings can be problematic, another practical recommendation could be to incorporate data collection quality checks to ensure careful information processing. A variety of techniques have been used in the past that could serve this purpose. This could include the use of a carelessness index (Green & Stutzman, 1986) like that used in the current study, an infrequency index (Green & Veres, 1990), veracity items (McCormick, 1960), a false reporting index (Pine, 1995), or a rate–rerate approach (Wilson, Harvey, & Macy, 1990). Any of these techniques would provide useful information as to the care taken in responding to holistic items and could potentially be used to screen respondents who have provided poor quality information.

Finally, our findings have potential implications for the legal defensibility of selection processes and other HR practices. This has become a global concern, evidenced by legislative and case law that seek to ensure fairness in the access of work (Myors et al., 2008). In the United States, the "Principles for the Validation and Use of Personnel Selection Procedures" (SIOP, 2003), the "Uniform Guidelines on Employee Selection Procedures" (Equal Employment Opportunity Commission, 1978), and federal case law all contain standards on how job analyses are to be conducted to ensure legally defensibility. For example, the Uniform Guidelines indicate that there should be a review of job information focusing on characteristics of the job that can be seen, heard, or otherwise perceived by a person other than the person performing the action. Because of their higher level of abstraction, holistic ratings are generally less observable. This implies that their legal defensibility may also depend on the extent to which they converge with more observable decomposed job analysis ratings. As we show, such convergence is not guaranteed and depends on rater characteristics such as job experience or carelessness. This suggests that in a legally contentious environment, it might be wise to use decomposed ratings, employ some of the tactics discussed earlier to avoid known problems with holistic ratings, or empirically demonstrate the link between decomposed and holistic ratings as a way to defend a holistic rating strategy.

Related to the legal defensibility of selection processes, our findings also inform the current debate on the need for revisions to the Uniform Guidelines. For example, McDaniel, Kepes, and Banks (2011) describe the Uniform Guidelines as "scientifically inaccurate and inconsistent with professional practice." Among other issues, McDaniel et al. note that the Uniform Guidelines prescribe the use of detailed job analysis procedures to identify differences across employment situations. Yet, the SIOP Principles offer the possibility of using less detailed procedures and competency-based approaches in job analysis.

Although we agree with the need to revise the Uniform Guidelines, our findings sound a cautionary note for suggestions about using more holistic and less detailed job analysis procedures. Our findings show that decomposed and holistic ratings do not always converge, and that traditionally preferred raters in job analysis—those with high experience and exposure to the job—are precisely the ones who might be most prone to taking cognitive shortcuts when rating their job. This tendency can seriously undermine the quality of the ratings that more experienced raters provide. Thus, we urge policy makers to consider the merits of more detailed job analysis procedures should the Uniform Guidelines be revised.

Limitations and Future Research

Our research also has several limitations. We found support for our hypotheses regarding degrees of convergence in holistic and decomposed job analysis judgments. However, it remains an open question as to whether these results will occur when other types of descriptors are used. For example, there has been a recent trend toward the use of attribute-oriented descriptors (e.g., knowledge, skills, abilities, personality) best exemplified by the Occupational Information Network (Peterson et al., 2001). Researchers may want to investigate how experienced and careless job analysis respondents respond when attribute descriptors are used. There is reason to believe, however, that the cognitive limitations described in this research will indeed occur, as recent research has shown that attribute descriptors tend to be less reliable and more subjective in nature (Dierdorff & Morgeson, 2007, 2009).

All respondents made decomposed ratings followed by holistic ratings. As such, the comparisons made were between decomposed and holistic ratings made after raters finished making decomposed ratings. Our research design was based on the research of Morgeson et al. (2004), who showed no order effects. Yet, it is impossible to know whether presentation order affected our results; future research would be wise to investigate this possibility.

Furthermore, Hypothesis 4 predicted no moderating influence of certain forms of work experience. The use of null hypotheses has often been met with criticism (Cortina & Folger, 1998; Frick, 1995). Yet, science often advances when relationships are not obtained (Platt, 1964), and a more comprehensive understanding of a phenomenon is obtained when one knows "both when a phenomenon occurs and when it does not" (Cortina & Folger, 1998: 335). Importantly, support for a null finding is enhanced if a closely related effect is found (Frick, 1995), suggesting that it is possible to find an effect if it in fact existed. Because we found support for Hypotheses 1 to 3 in which we predicted a significant effect, it appears that we would have been able to find an effect if the null hypothesis were in fact false, supporting the use of a null hypothesis in the current research.

An additional limitation of our study is that we did not directly measure the underlying cognitive processes that we link to experienced and careless job analysis respondents. Ideally, we would have liked to have a more direct measure of heuristics or automatic information processing. Given the unobservable nature of cognitive processes, however, this is not possible. Thus, we must rely on examining the likely effects of these processes. This has been long recognized in cognitive psychology, where researchers routinely rely on errors and mistakes as indicators of automatic information processing. It is our belief that to ignore important cognitive processes simply because we do not have a direct measure would impede theory and research.

By focusing on respondent work experience and carelessness, however, we overlooked other possible job analysis respondent characteristics. For example, we did not capture the full range of cognitive limitations and biases that may be relevant when making these types of global job analysis judgments. Future research should look to Morgeson and Campion's (1997) review of potential cognitive limitations and examine whether other types of processes may have distinct effects on holistic job analysis ratings and convergence between decomposed and holistic judgments. Our research takes an initial first step, linking heuristics and automatic information processing to experienced job analysis respondents and careless job analysis respondents. It is our hope that other researchers will follow suit and help us develop a better understanding of the conditions in which respondents are able to make holistic types of job analysis judgments.

Conclusion

Research on job analysis has been criticized in the past as being relatively atheoretical and focused on a narrow set of technical and psychometric issues. Yet the past 15 years have witnessed a resurgence of interest in understanding and articulating numerous underlying theoretical issues in the job analysis domain. This includes the influence of fundamental cognitive- and social-psychological processes (Morgeson & Campion, 1997; Morgeson et al., 2004), the factors that influence how individuals idiosyncratically define their work roles (Morgeson, Delaney-Klinger, & Hemingway, 2005), and the impact the work context can play in how roles are enacted (Dierdorff & Morgeson, 2007; Dierdorff, Rubin, & Morgeson, 2009). We add to this body of research by exploring the role of experienced and careless job analysis respondents on convergence between decomposed and holistic job analysis judgments. Although 30 years have passed since holistic judgments were introduced as an alternative to decomposed judgments, key questions remain about the quality and appropriateness of these more global judgments. Our study adds to this literature by drawing on cognitive psychology to link cognitive limitations to different types of job analysis respondents that can impact convergence in decomposed and holistic judgments. Although the current research contributes toward this goal, much more needs to be done.

Notes

1. Of course, this effect would occur only if supervisors or job analysts had enough experience to cause them to rely on simplifying information processing strategies.

2. The presentation of holistic and decomposed items was not counterbalanced in our research design. This decision was informed by past research that directly tested the hypothesis that order effects might be present in job analysis ratings (Morgeson, Delaney-Klinger, Mayfield, Ferrara, & Campion, 2004). As they concluded, "A statistical analysis of competency means across the different presentation orders indicated that there were no order effects"

(Morgeson et al., 2004: 679). Because Morgeson et al. found no differences, we chose not to counterbalance the presentation order.

3. Contact the first author of this article to request these results.

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