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Job performance ratings: The relative importance of mental ability, conscientiousness, and career adaptability

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ABSTRACT

According to career construction theory, continuous adaptation to the work environment is crucial to achieve work and career success. In this study, we examined the relative importance of career adaptability for job performance ratings using an experimental policy-capturing design. Employees ($N = 135$) from different vocational backgrounds rated the overall job performance of fictitious employees in 40 scenarios based on information about their career adaptability, mental ability, conscientiousness, and job complexity. We used multilevel modeling to investigate the relative importance of each factor. Consistent with expectations, career adaptability positively predicted job performance ratings, and this effect was relatively smaller than the effects of conscientiousness and mental ability. Job complexity did not moderate the effect of career adaptability on job performance ratings, suggesting that career adaptability predicts job performance ratings in high-, medium-, and low-complexity jobs. Consistent with previous research, the effect of mental ability on job performance ratings was stronger in high- compared to low-complexity jobs. Overall, our findings provide initial evidence for the predictive validity of employees' career adaptability with regard to other people's ratings of job performance.

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1. Introduction

In a time characterized by rapid economic, social, and technological changes as well as increased complexity and diversity, individual adaptability – the ability to adapt to altered circumstances – becomes increasingly important. This is especially true for the work environment, where many employees now continuously face new demands, different surroundings, and diverse work groups (Savickas et al., 2009). This fundamental reshaping of the world of work also impacts on careers insofar as many employees do not permanently commit themselves to one employer anymore, but rather occupy different jobs throughout their lifetime (Biemann, Zacher, & Feldman, 2012; Savickas, 2006). Responding to these changing conditions, career construction theory (Savickas, 2002) attempts to explain how individuals cope with vocational tasks such as finding a job, acquiring relevant skills, and achieving career goals. According to career construction theory, continuous adaptation to the work environment is crucial to achieve subjective and objective work and career success. The ability of individuals to cope with current and anticipated career changes and challenges has received a great deal of research attention over the past years and is called career adaptability (Savickas & Porfeli, 2012).

Career adaptability is a higher-order construct consisting of four psychosocial resources: *concern* is defined as the extent to which employees consider upcoming tasks and challenges. *Control* involves taking responsibility regarding one's own development and work environment. Exploring future opportunities and their possible consequences is described as *curiosity*. Finally, *confidence* means relying on one's own abilities when it comes to overcoming problems and drawbacks (Savickas & Porfeli, 2012). Several recent studies have shown that career adaptability predicts favorable outcomes, including career satisfaction, self-rated career performance,

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perceived person–environment fit, and occupational well-being (Guan et al., 2013; Koen, Klehe, & Van Vianen, 2012; Maggiori, Johnston, Krings, Massoudi, & Rossier, 2013; Zacher, 2014).

These findings provide evidence for the important role of career adaptability for a broad range of indicators of work and career success. However, the influence of employees' career adaptability on other people's ratings of job performance has so far not been investigated. *Job performance*, one of the most important outcomes in the work context, has been defined as the measurable proficiency of work behavior that is under employees' control and contributes to organizational goals (Campbell, McCloy, Oppler, & Sager, 1993). Since performance ratings can impact on employees' salary, promotion, and training program decisions, studying their predictors is of high relevance for both organizational researchers and practitioners. The goal of this study, therefore, is to examine the relative importance of career adaptability for job performance ratings using an experimental policy-capturing design (Aguinis & Bradley, 2014; Aiman-Smith, Scullen, & Barr, 2002). We take into account the influence of two established job performance predictors, mental ability and conscientiousness, and we investigate job complexity as a potential boundary condition of the effects of career adaptability on job performance ratings.

2. Hypotheses development

According to Savickas (2013), career adaptability is a modifiable resource that is accumulated over time and influences positively self-regulation strategies. Consequently, career adaptability is an important competency for employees to successfully manage the competing work demands that occur with environmental changes (Tolentino et al., 2014). In line with this, career construction theory postulates a positive relationship between adaptation on the one hand and satisfaction, development, and performance on the other (Savickas, 2013). Thus, we assume that career adaptability influences positively job performance ratings. Consistent with our assumption, previous empirical research has shown that career adaptability associated positively with self-assessed career performance (Zacher, 2014). However, so far no evidence exists for an effect of career adaptability on other people's ratings of job performance.

Hypothesis 1. Career adaptability has a positive effect on job performance ratings.

We decided to compare the effects of career adaptability on job performance ratings with the effects of mental ability and conscientiousness because these two constructs have been shown to consistently predict supervisor ratings of performance in various jobs and occupations (Barrick & Mount, 1991; Schmidt & Hunter, 1998). Moreover, mental ability and conscientiousness are independent from each other (Mount, Barrick, & Strauss, 1999) and from career adaptability, which is an important prerequisite for distinguishing their respective influences on job performance ratings (Aiman-Smith et al., 2002). Specifically, mental ability appears to be unrelated to career adaptability (van Vianen, Klehe, Koen, & Dries, 2012), and career adaptability and conscientiousness have been shown to have only a weak to moderate positive correlation (van Vianen et al., 2012; Zacher, 2014).

Research on the main aspects of mental ability has often (though not universally) revealed the following characteristics: learning, problem solving, information processing, and reasoning. For example, Gottfredson (1997) described *mental ability* as “the ability to reason, plan, solve problems, think abstractly, comprehend complex ideas, learn quickly and learn from experience” (p. 13). According to Jensen (1989), *learning* has occurred when a change in a specific response to a given stimulus, situation, or problem was observed. *Problem solving* can be defined as successfully transferring a given actual state to a target state by overcoming barriers (Dunbar, 1998). *Information processing* involves transforming information and creating new information (Oberauer, Süß, Wilhelm, & Wittman, 2003). Finally, *reasoning* “is a process which may occur at any point in a thought-movement and consists in the appreciation (...) of likeness and differences between old experiences and a new situation” (Skaggs, 1930, p. 439).

In their meta-analysis, Schmidt and Hunter (1998) identified mental ability as one of the best predictors of overall job performance with a predictive validity of $\rho = .51$. In another meta-analysis on the predictive validity of general mental ability for job performance, Bertua, Anderson, and Salgado (2005) distinguished between seven occupational groups (clerical, engineer, professional, driver, operator, manager, and sales). Their results showed significant validities for all those groups, ranging from $\rho = .32$ for clerical to $\rho = .74$ for professional occupations (see also Salgado, Anderson, Moscoso, Bertua, & de Fruyt, 2003). As mental ability has been shown to be a superior predictor of job performance, we expect that it will be a stronger predictor of job performance ratings than career adaptability.

Hypothesis 2. Mental ability has a stronger positive effect on job performance ratings than career adaptability.

Conscientiousness is one of the Big Five personality characteristics (Norman, 1963) and consists of the four narrow traits achievement, order, cautiousness, and dependability (Dudley, Orvis, Lebiecki, & Cortina, 2006; Saucier & Ostendorf, 1999). *Achievement* is the tendency to strive for success and competence in one's work, including the adoption of high performance standards and working hard to accomplish one's goals (Hough, 1992). *Order* includes being thorough, well-organized, careful, and methodical. Overall, it describes the tendency to structure one's working environment (Stewart, 1999). *Cautiousness* means to consider risks before taking a course of action (Dudley et al., 2006). Finally, *dependability* reflects the disposition to be a reliable worker. People who score high on dependability are usually self-disciplined, honest, trustworthy, and accountable (Hough, 1992).

Meta-analyses summarizing predictive validities for the Big Five have shown a strong positive relationship between conscientiousness and job performance. Schmidt and Hunter (1998) reported an overall predictive validity of $\rho = .31$, and Barrick and Mount (1991) showed that the validity of conscientiousness generalized across different occupations. Results by Hurtz and Donovan (2000) were consistent with these findings. Their meta-analysis revealed an estimated true-score correlation of $\rho = .22$ between

conscientiousness and job performance. Considering the well-established effect of conscientiousness on job performance, we expect that it will be a stronger predictor of performance ratings than career adaptability.

Hypothesis 3. Conscientiousness has a stronger positive effect on job performance ratings than career adaptability.

Studies have shown that the relative importance of mental ability and conscientiousness for job performance varies across different job complexity levels (Hunter, 1986; Shaffer & Postlethwaite, 2013). This moderating role of job complexity is due to differences in job tasks: whereas low-complexity jobs typically involve simple and uncomplicated tasks, high-complexity jobs are characterized by mentally demanding and challenging projects (Chung-Yan, 2010). Because complex jobs require a number of cognitive skills (Morgeson & Humphrey, 2006), mental ability should play a more important role in high- compared to low-complexity jobs. According to Salgado et al. (2003), mental ability has indeed a relatively stronger influence on job performance in high compared to low complexity jobs. In their comprehensive meta-analysis, validities of $\rho = .64$, $\rho = .53$, and $\rho = .51$ were found for high, medium, and low complexity jobs, respectively.

Conscientiousness, on the other hand, should be more important in less complex jobs, which involve repeating standard operating procedures (Chung-Yan, 2010). As conscientious people are thorough, well-organized, methodical, self-disciplined, and accountable (Hough, 1992; Stewart, 1999), conscientiousness should be particularly useful for completing repetitive tasks as required in low-complexity jobs. Consistent with this assumption, the meta-analysis by Shaffer and Postlethwaite (2013) showed that conscientiousness is a stronger predictor of performance in jobs that are highly routinized in comparison to mentally demanding jobs.

No previous studies have examined moderating effects of job complexity on relationships between career adaptability and work outcomes. However, based on career construction theory, we expect a stronger influence of career adaptability on job performance ratings in high- compared to low-complexity jobs. According to Savickas and Porfeli (2012), career adaptability resources are the “self-regulation strengths or capacities that a person may draw upon to solve the unfamiliar, complex, and ill-defined problems presented by developmental vocational tasks, occupational transitions, and work traumas” (p. 662). Furthermore, Savickas and Porfeli (2012) describe career adaptability as psychological capital, which includes having confidence to invest effort into complex and challenging tasks (Luthans, Youssef, & Avolio, 2007). Thus, career adaptability seems to be particularly important in complex work situations.

Hypothesis 4. Job complexity moderates the positive effect of career adaptability on job performance ratings, such that the effect is stronger in high- compared to low-complexity jobs.

3. Method

We used an experimental policy-capturing design to test our hypotheses. Policy-capturing is a form of experimental vignette methodology studies with focus on implicit decision processes (Aguinis & Bradley, 2014). Participants are asked to respond to a series of scenarios in which the independent variables are manipulated. Raters' judgments about the dependent variable are then used to compute the relative importance of each variable in the form of regression weights (Aiman-Smith et al., 2002). For example, Rotundo and Sackett (2002) used a policy-capturing approach to examine the relative importance of three types of work behavior for job performance ratings. In their study, participants were asked to provide performance appraisals based on scenarios describing fictitious employees' task, citizenship, and counterproductive performance. In the following, we first describe the methods and results of a pilot study conducted to validate our study materials, followed by the methods and results of our main policy-capturing study.

3.1. Pilot study

3.1.1. Participants and procedure

Following the procedure described by Rotundo and Sackett (2002), we conducted a pilot study to validate the statements before including them in the scenarios. Data was requested from 31 individuals recruited through personal contacts, of whom 29 provided complete data. The sample included 13 women and 16 men between 19 and 53 years ($M_{\text{age}} = 27.48$, $SD = 9.10$).

Participants responded to an online survey with two parts. In the first part, they were asked to sort 12 newly developed statements into the categories mental ability, conscientiousness, and career adaptability, with four statements belonging to each construct. Each construct was briefly defined at the beginning of the pilot study. In the second part, participants were provided with the same statements as in the first part. This time, however, a version of each item was presented for low, medium, and high levels. For example, the following three statements represented low, medium, and high career adaptability, respectively: “Employee A is rarely confident to achieve goals and overcome obstacles”, “Employee A is occasionally confident to achieve goals and overcome obstacles”, “Employee A is frequently confident to achieve goals and overcome obstacles” (see Table 1). In addition to the 12 statements for mental ability, 12 statements for conscientiousness, and 12 statements for career adaptability, three statements were included describing low, medium, and high levels of job complexity. For each of the 39 statements, participants were asked to rate the level of the respective characteristic described in the statement on a 7-point scale (1 = *very low*, 4 = *medium*, 7 = *very high*).

3.1.2. Results

Mental ability items were categorized correctly in 91.4% of all cases, conscientiousness items in 94.6% of all cases, and career adaptability items in 75.8% of all cases. For all items, low levels were rated significantly lower than medium levels, and medium levels were

Table 1

Pilot study items and descriptive statistics.

Dimension	Item	Level ^a	<i>M</i>	<i>SD</i>
<i>Mental ability</i>				
Learning	Employee A has no difficulties [some difficulties/difficulties] to acquire work-related knowledge.	3	5.87	0.76
		2	3.48	0.89
		1	1.77	0.72
Problem solving	Employee A has no difficulties [some difficulties/difficulties] to solve complex problems at work.	3	6.35	0.61
		2	3.55	1.00
		1	2.16	1.16
Information processing	Employee A has no difficulties [some difficulties/difficulties] to comprehend new tasks.	3	5.97	0.75
		2	3.58	0.72
		1	1.97	0.84
Reasoning	Employee A has no difficulties [some difficulties/difficulties] to draw logical conclusions.	3	5.87	1.20
		2	3.61	0.92
		1	1.65	0.66
<i>Conscientiousness</i>				
Achievement	Employee A frequently [occasionally/rarely] works hard to achieve his goals.	3	6.17	0.93
		2	3.66	1.23
		1	1.76	0.74
Order	Employee A frequently [occasionally/rarely] keeps his stuff neat and clean.	3	5.90	0.94
		2	3.24	0.87
		1	2.31	1.87
Cautiousness	Employee A frequently [occasionally/rarely] completes the tasks entrusted to him conscientiously.	3	6.14	0.64
		2	3.31	0.89
		1	1.52	0.63
Dependability	If employee A makes a commitment, one can frequently [occasionally/rarely] rely on him.	3	5.93	1.00
		2	3.31	0.89
		1	1.59	1.18
<i>Career adaptability</i>				
Concern	Employee A frequently [occasionally/rarely] thinks about his future and frequently [occasionally/rarely] prepares for upcoming tasks and challenges.	3	6.45	0.57
		2	3.55	0.74
		1	1.41	0.50
Control	Employee A frequently [occasionally/rarely] takes responsibility to change his future development and work environment.	3	6.41	0.57
		2	3.79	0.82
		1	1.62	0.68
Curiosity	Employee A frequently [occasionally/rarely] explores various options and is frequently [occasionally/rarely] curious about new opportunities.	3	6.45	0.63
		2	3.62	0.86
		1	1.62	0.68
Confidence	Employee A is frequently [occasionally/rarely] confident to achieve goals and overcome obstacles.	3	5.93	0.92
		2	3.52	0.76
		1	1.72	0.59
<i>Job complexity</i>				
	Employee A works in a very [moderately/less] complex job. He often [occasionally/rarely] works on multiple tasks simultaneously and usually receives very complicated and challenging [occasionally receives complicated and challenging/usually receives easy and simple] assignments	3	6.66	0.48
		2	4.21	0.41
		1	1.59	0.73

Note. *N* = 29 (31 for mental ability ratings). Participants were asked to rate the level of the each characteristic described in the statement on a 7-point scale (1 = very low, 7 = very high).

^a The numbers 1, 2, and 3 indicate low, medium, and high levels, respectively.

rated significantly lower than high levels ($t_s > 2.71$, $p_s < .02$). All ratings are shown in Table 1. Overall, the results of the pilot study suggested that the three sets of statements were sufficiently distinct and that the statements used to indicate low, medium, and high levels of the constructs were clear. Thus, we used the same set of statements to create the scenarios for the main study.

3.2. Main study

3.2.1. Scenario development

In the scenarios, mental ability, conscientiousness, and career adaptability were each manipulated with four statements, and each statement had three possible levels (high, medium, and low). Thus, there were 12 statements per construct, and 36 statements overall. Additionally, job complexity was manipulated with one statement for either low, medium, or high complexity, respectively (see Table 1). For each scenario, four statements reflecting each of the four constructs were randomly selected. To avoid confounding participants' ratings with primary or recency effects, the statements were randomly ordered within each scenario. Following the recommendation to ensure a 10:1 scenario-to-variables ratio (Cohen & Cohen, 1983; Rotundo & Sackett, 2002), 40 scenarios from all possible combinations of statements were randomly chosen to be presented to the participants. To estimate the test-retest reliability, we included two duplicate scenarios, resulting in a total of 42 scenarios. In each scenario, a fictitious employee was described. To minimize external influences, no names were used but letters from A to F (e.g., Employee C). Although the number of scenarios was

clearly below the maximum threshold of 100 (Aiman-Smith et al., 2002), scenarios were presented in random order to reduce the likelihood that results could be explained by fatigue or presentation order effects. Fig. 1 shows one example scenario to illustrate the presentation of materials.

3.2.2. Participants and procedure

Participants were recruited via announcements by a large distance education university, by requesting the participation of employees from various companies through personal contacts, and through advertisement on several web pages for chess players. The online study was completed by 171 participants. As performance ratings are usually conducted by employees, unemployed participants were excluded. Thus, the final sample consisted of 135 participants, including 114 men (84.4%) and 21 women (15.6%). The average age of participants was 42.90 years ($SD = 10.25$) and ranged from 21 to 66 years. With regard to their field of occupation, most participants worked in engineering (26.7%) and economics (18.5%), followed by 11 participants (8.1%) with an educational profession. Other participants worked in judiciary and artistic fields (each 0.7%), journalism (3%), medicine and civil service (5.2%), natural sciences (5.9%), and other occupational fields (22.2%). The average self-rated position of participants in their companies was 50.60 ($SD = 30.85$) on a 100-point scale (1 = lowest rank, 100 = highest rank). Slightly more than half of participants (74; 54.8%) had completed performance appraisals themselves before.

Participants were asked to participate in an online study, which lasted for approximately 30 min and consisted of three sections. First, subjects were asked to read each of the randomly presented 42 scenarios (including two duplicate scenarios to assess reliability; cf. Rotundo & Sackett, 2002) and to rate the fictitious employees' overall job performance. In total, each of our 135 participants provided job performance ratings for 40 scenarios, which resulted in 5364 data points that were included in the analyses (36 missing values in the dependent variable). In the second part, respondents rated their own mental ability, conscientiousness, career adaptability, and job complexity. The self-ratings were collected to further validate the statements used in the scenarios. Third, we asked participants to provide demographic information.

3.2.3. Measures

3.2.3.1. Job performance ratings. Job performance was rated after each scenario. Participants were asked to indicate how they would rate the overall job performance of the fictitious employees on 7-point scales ranging from 1 (*very poor*) to 7 (*excellent*).

3.2.3.2. Self-ratings of mental ability, conscientiousness, and career adaptability. Self-ratings of mental ability, conscientiousness, and career adaptability were measured with the same statements that were used for the scenarios. Items were slightly changed ("I" instead of "Employee A") and only items referring to high levels of the characteristics were presented, resulting in 12 items in total. Subjects were asked to indicate to what extent each statement applies to them on a 7-point scale (1 = *not true at all*, 7 = *very true*). Example items are "I frequently take responsibility to change my future development and work environment" (career adaptability), "I have no difficulties to comprehend new tasks" (mental ability), and "I frequently complete the tasks entrusted to me conscientiously" (conscientiousness). Cronbach's alphas for the scales were .82 (career adaptability), .90 (mental ability), and .71 (conscientiousness).

Employee A works in a very complex job. Employee A often works on multiple tasks simultaneously and usually receives very complicated and challenging assignments.

Employee A frequently works hard to achieve his goals. Employee A has some difficulties to comprehend new tasks. Employee A is rarely confident to achieve goals and overcome obstacles.

Please rate Employee A's overall job performance.

☐ ☐ ☐ ☐ ☐ ☐ ☐

Very poor Average Excellent

Fig. 1. Example scenario. The scenario describes a high-complexity job, and a highly conscientious employee with moderate mental ability and low career adaptability.

3.2.3.3. Demographic and control variables. Participants were asked to indicate their gender, age, education, and employment status. Those who were employed were asked about their occupational field, job title, job tenure, and position within their company on a 100-point scale (1 = lowest rank, 100 = highest rank). Finally, participants indicated whether they had prior experience with performance appraisals (0 = no, 1 = yes).

3.2.4. Statistical analyses

3.2.4.1. Results of exploratory factor analysis. To further validate the scenarios used in the main study, self-ratings on the items for mental ability, conscientiousness, and career adaptability were subjected to an exploratory factor analysis (Table 2). Results suggested a 3-factor-model that accounted for 68.36% of the total variance. As can be seen in Table 2, all items had their highest loadings on their theoretically specified factors. Thus, the results of this factor analysis confirmed the results obtained in the pilot study, and further justified the use of the mental ability, conscientiousness, and career adaptability statements in the main study.

3.2.4.2. Reliability of scenarios. To assess the stability of performance ratings, two scenarios were repeated. The ratings for those scenarios were used to compute reliability coefficients across raters. Cronbach's alphas for the two scenarios were $\alpha = .66$ and $\alpha = .70$, respectively, indicating adequate reliability. Ratings from the two duplicate scenarios were not included in the analyses.

3.2.4.3. Multilevel analyses. We analyzed the data using hierarchical linear modeling software (HLM; Bryk & Raudenbush, 1987; Kristof-Brown, Jansen, & Colbert, 2002). We chose this approach because it allows for analyzing variables that reside at both within- and between-person levels. In a first step, we computed a null model without any predictors to examine whether job performance ratings varied systematically at the between-person level. Second, we entered mental ability, conscientiousness, career adaptability, and job complexity of the fictitious employees, which were manipulated in the scenarios, as within-person predictors (Level 1). In the third step, we entered three within-person interactions of job complexity with mental ability, conscientiousness, and career adaptability, respectively, using within-person z-standardized variables. Finally, in additional analyses, we entered the dichotomous performance appraisal experience variable as a between-person predictor and moderator of the within-person effects (Level 2). One participant did not answer the performance appraisal experience question, and therefore these analyses were run with 134 participants at Level 2 and 5324 data points at Level 1 (36 missings in the dependent variable).

4. Results

4.1. Main effects of career adaptability, mental ability, and conscientiousness

The null model results showed variance in job performance ratings due to between-person differences ($\chi^2[134] = 620.23$, $p < .001$), thereby justifying HLM analyses. We calculated the intra-class correlation coefficient (ICC) to determine the percentage of variance attributable to within- and between-person differences. Eight percent of the variance in performance ratings resided at the between-person level and 92% of the variance resided at the within-person level.

In the next step, we examined the effects of mental ability, conscientiousness, career adaptability, and job complexity on job performance ratings (Table 3). Results showed significant main effects for mental ability ($\gamma = .58$, $p < .001$), conscientiousness ($\gamma = .66$, $p < .001$), and career adaptability ($\gamma = .41$, $p < .001$) on performance ratings. Thus, consistent with Hypothesis 1, career adaptability had a positive effect on job performance ratings. We found no significant effect of job complexity on job performance ratings ($\gamma = -.01$, $p = .371$). A pseudo R^2 of .37 indicated that the inclusion of mental ability, conscientiousness, career adaptability, and job complexity reduced Level 1 residual variance in comparison to the null model by 37%.

Table 2

Results of exploratory factor analysis with varimax rotation.

Construct	Item (see Table 1 for item wording)	Factor		
		1	2	3
Mental ability	Learning	.79	.30	.19
	Problem solving	.80	.24	.11
	Information processing	.88	.19	.08
	Reasoning	.87	.01	.12
Conscientiousness	Achievement	-.06	.33	.73
	Order	-.01	.26	.63
	Cautiousness	.41	.07	.76
	Dependability	.42	.05	.67
Career adaptability	Concern	.11	.83	.29
	Control	.08	.85	.19
	Curiosity	.35	.69	.02
	Confidence	.19	.67	.23

Note. Highest factor loadings for each item are highlighted in bold. Items referred to "I" instead of "Employee A," and only items referring to high levels of the characteristics were presented (e.g., "Employee A has no difficulties to acquire work-related knowledge").

Table 3

Results of multilevel analyses predicting job performance ratings.

	Null model		Main effect model		Model with interactions	
	γ	SE	γ	SE	γ	SE
Intercept	3.80***	.04	3.80***	.04	3.80***	.04
<i>Main effects</i>						
Job complexity			-.01	.02	-.02	.02
Mental ability			.58***	.02	.57***	.02
Conscientiousness			.66***	.02	.66***	.02
Career adaptability			.41***	.02	.39***	.02
<i>Interaction effects</i>						
Job complexity $\times$ mental ability					.05**	.02
Job complexity $\times$ conscientiousness					-.01	.02
Job complexity $\times$ career adaptability					.02	.02
<i>Variance components</i>						
Level 1 (σ^2)	2.11		1.32		1.32	
Level 2 intercept (τ_{00})	.19		.21		.22	
<i>Additional information</i>						
ICC	.08					
Pseudo R^2			.37		.38	

Note. $N = 135$ participants provided 5364 job performance ratings. Unstandardized coefficients (γ) and standard errors (SE) are shown. ICC = intraclass correlation coefficient.

** $p < .01$.

*** $p < .001$.

Hypotheses 2 and 3 predicted larger effects of mental ability and conscientiousness than of career adaptability on job performance ratings. The results in Table 3 indicate that the order of standardized predictor variables regarding the relative importance for performance ratings was conscientiousness ($\gamma = .66$), mental ability ($\gamma = .58$), and career adaptability ($\gamma = .41$). Contrast analyses revealed that both the difference in effects of mental ability and career adaptability ($\chi^2[2] = 2091.74, p < .001$) and the difference in effects of conscientiousness and career adaptability ($\chi^2[2] = 1960.05, p < .001$) were highly significant. Thus, Hypotheses 2 and 3 were supported.

4.2. Moderating role of job complexity

Hypothesis 4 proposed that career adaptability has a relatively stronger effect on performance ratings in high- compared to low-complexity jobs. To test the moderating effect of job complexity, all three two-way interactions with job complexity were added to the analyses (Table 3). As shown in Table 3, the interaction of job complexity with career adaptability was not significant ($\gamma = .02, p = .286$). Thus, Hypothesis 4 was not supported. Similarly, we found no significant interaction between job complexity and conscientiousness ($\gamma = -.01, p = .408$).

In contrast, the interaction between job complexity and mental ability was significant ($\gamma = .05, p = .006$). As can be seen in Fig. 2, the effect of mental ability on job performance ratings was slightly stronger in high-complexity jobs (simple slope at +1SD: $\gamma = .62, SE = .03, p < .001$) compared to low-complexity jobs (simple slope at -1SD: $\gamma = .52, SE = .02, p < .001$).

4.3. Additional analyses: moderating role of performance appraisal experience

In an additional step (not shown in Table 3), we entered prior performance appraisal experience as a Level 2 predictor and moderator of all Level 1 effects (including both main and interaction effects on Level 1) in the analyses. Performance appraisal experience had no significant main effect on average job performance ratings ($\gamma = .06, p = .475$), and it only had a significant but weak moderating effect on the effect of mental ability on job performance ratings ($\gamma = .09, p = .020$). Simple slope analyses showed that mental ability had a slightly weaker effect on job performance ratings among raters with prior performance appraisal experience (simple slope: $\gamma = .57, SE = .02, p < .001$) than among raters without prior appraisal experience (simple slope: $\gamma = .66, SE = .09, p < .001$). We found no further significant moderating effects of prior performance appraisal experience on any of the other Level 1 main and interaction effects.

5. Discussion

5.1. Summary and interpretation of findings

The goal of this research was to examine the relative importance of employees' career adaptability for other people's ratings of employees' overall job performance. Using an experimental policy-capturing method, we examined the predictive and incremental

Fig. 2. Moderating effect of job complexity on the effect of mental ability on job performance rating.

validity of career adaptability by investigating the relative effect of career adaptability on job performance ratings compared to the effects of mental ability and conscientiousness as two well-established predictors of job performance ratings. Moreover, we examined the effects of career adaptability, mental ability, and conscientiousness at different levels of job complexity.

Hypotheses 1, 2, and 3 proposed a significant positive effect of career adaptability on job performance ratings, and relatively larger effects of mental ability and conscientiousness than of career adaptability. All three hypotheses were supported. On average, participants gave most weight to conscientiousness, followed by mental ability, in the context of job performance ratings. They gave less, but still significant, weight to career adaptability with regard to job performance ratings. Interestingly, participants in our study gave conscientiousness more weight than mental ability with regard to performance ratings. This findings seems to contrast the findings by Schmidt and Hunter (1998), who reported higher predictive validities of mental ability ($\rho = .51$) than of conscientiousness ($\rho = .31$) for job performance. However, predictive validities of mental ability and conscientiousness do not only vary across job complexity levels (as we will discuss below), they also appear to differ depending on employees' job tenure. For instance, Tracey, Sturman, and Tews (2007) examined the relationships of mental ability and conscientiousness with job performance for experienced and unexperienced frontline service employees. Their results revealed correlations between mental ability and job performance of $r = .37$ for newcomers and $r = .15$ for experienced employees, whereas the relationship between conscientiousness and job performance was $r = .34$ for experienced and not significant for inexperienced employees. Thus, mental ability may be particularly important when employees are new in their jobs, and less important at later stages, when a certain level of proficiency has been achieved. Since no descriptions of job tenure were provided in our study, participants may have assumed to rate experienced employees, which could explain the relatively strong weights given to conscientiousness. Future experimental research on career adaptability should therefore manipulate characteristics such as job tenure but also worker age (cf. Zacher & Griffin, 2015).

The current study extends previous research on the outcomes of career adaptability by using an experimental approach, and by including mental ability and conscientiousness as relevant comparisons. Especially the latter is of utmost importance considering the well-established role of mental ability and conscientiousness for job performance ratings (Schmidt & Hunter, 1998). Our finding that career adaptability possesses incremental predictive validity above and beyond mental ability and conscientiousness suggests that career adaptability indeed matters for others' ratings of job performance. Consistent with propositions by Savickas (2013), and previous research on relationships between career adaptability and indicators of subjective career success (Maggiori et al., 2013; Zacher, 2014), our findings emphasize the importance of career adaptability for more objective indicators of work and career success.

Hypothesis 4 proposed an interaction between career adaptability and job complexity. In particular, we expect a stronger effect of career adaptability on job performance ratings in high- compared to low-complexity jobs. This hypothesis was not supported by the results of our policy-capturing study, suggesting the possibility that career adaptability may be equally important for job performance ratings in low-, medium-, and high-complexity jobs. However, given the preliminary nature of our findings, further research is needed to clarify the influence of job complexity on the relationship between career adaptability and job performance.

We further replicated previous findings regarding the role of job complexity for the relationship between mental ability and job performance. As described by Hunter (1986), predictive validities of mental ability vary systematically depending on the level of complexity of different jobs. In a meta-analysis, Hunter sorted occupations present in 515 studies into five job complexity categories. His results demonstrated higher predictive validities of mental ability with increasing job complexity. The same pattern emerged in our policy-capturing study. In contrast, we found no interactive effect of conscientiousness and job complexity on job performance ratings. This finding is contrary to results by Shaffer and Postlethwaite (2013), who reported higher predictive validity of conscientiousness for performance in low-complexity jobs. Shaffer and Postlethwaite (2013) explained their results with the theory of cognitive buffering, which suggests that the predictive validity of conscientiousness is moderated by the complexity of jobs such that conscientiousness has more influence on performance in low-complexity jobs. The different results in our study may be due to the

method used. Whereas Shaffer and Postlethwaite (2013) obtained their results with meta-analytic techniques with objective codings of job complexity, we employed a policy-capturing design to manipulate the job description in different scenarios. Future studies may shed further light on this matter.

5.2. Limitations and future research

Participants in our study were employees from various professional backgrounds and some had no prior performance appraisal experience. However, additional analyses showed that most effects found in our study (with the exception of the mental ability effect) did not differ depending on previous performance appraisal experience, suggesting that experienced and inexperienced participants gave similar weights to career adaptability in their job performance ratings. Another potential limitation is that exclusively German-speaking participants completed the survey. According to Savickas and Porfeli (2012), countries vary in the degree to which they support the development of career adaptability. Different results may be found in other cultural contexts because being adaptive may be even more appreciated by employers in non-Western countries (Koen et al., 2012). Similarly, Dries, Van Esbroeck, van Vianen, De Cooman, and Pepermans (2012) explained relatively low career adaptability ratings in Belgium with cultural and institutional factors that do not encourage adaptability. Future studies on the importance of career adaptability for job performance ratings should therefore be conducted in other countries.

In our study, we focused on the relative importance of overall career adaptability for job performance ratings. Future research could address the relative importance of concern, control, curiosity, and confidence for job performance ratings. However, these sub-dimensions of career adaptability are highly inter-correlated (Savickas & Porfeli, 2012; Zacher, 2014) and therefore an experimental manipulation of the separate dimensions in a policy-capturing design might lead to unrealistic scenarios (e.g., high control and low confidence; Karren & Barringer, 2002).

We chose to conduct an experimental policy-capturing study to answer our research question. A frequently raised criticism of this method is the potential lack of realism and generalizability (Hughes & Huby, 2002; Karren & Barringer, 2002). However, in their recently published best practice recommendations, Aguinis and Bradley (2014) strongly recommend the use of experimental vignette methodology studies, including policy-capturing designs. According to these authors, these research designs enhance experimental realism and simultaneously allow researchers to manipulate and control independent variables, leading to an increase in both internal and external validity. Nevertheless, examining the relative importance of career adaptability and other predictors for job performance ratings in actual work settings is an important next step to further validate our findings.

5.3. Practical implications and conclusion

Our study has some implications for personnel development. Central to the concept of career adaptability is the assumption that the four career adapt-abilities are not stable, but may change over time (Savickas, 2013). This suggests that practitioners could implement interventions to strengthen the facets of career adaptability which, in turn, might increase job performance and job performance evaluations by supervisors. For instance, Koen et al. (2012) conducted a 1-day career adaptability training to enhance graduates' control and curiosity, which subsequently led to a higher employment quality. Similar trainings could be conducted with employees to improve job performance, independent of employees' levels of mental ability, conscientiousness, and job complexity. Additionally, it may be worthwhile to strengthen employees' career adaptability by providing them with autonomy and opportunities to influence their own career development and to motivate them to show high levels of concern, control, curiosity, and confidence in the workplace.

In conclusion, the results of our experimental policy-capturing study demonstrate the relative importance of employees' career adaptability for job performance ratings above and beyond mental ability and conscientiousness. While policy-capturing designs have good internal and external validity, future research is needed to replicate our findings in actual work settings. Considering the malleable nature of career adaptability, our findings suggest that interventions could be conducted to improve career adaptability and, subsequently, job performance.

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