

# The Interactive Effect of Conscientiousness and Agreeableness on Job Performance Dimensions in South Korea<sup>1</sup>

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**While much is known about the effects of personality traits on performance, there is still limited empirical evidence that examines how personality traits may interact with each other to impact dimensions of performance. This study examined how conscientiousness and agreeableness interact to predict both task performance and organizational citizenship behavior using a sample of 113 bank employees in South Korea. The interaction between the two personality traits was significantly related to both dimensions of performance.**

## 1. Introduction

Over the past decade, researchers have started to examine the notion of interactions in personality traits as a way to increase the validity of personality traits for job performance (Morgeson et al., 2007; Ones, Dilchert, Viswesvaran, & Judge, 2007; see Bowling, Burns, Stewart, & Gruys, 2011; Judge & Erez, 2007; Witt, Burke, Barrick, & Mount, 2002 for empirical evidence). In particular, Witt et al. (2002) examined the interactive effects of conscientiousness and agreeableness on overall job performance across seven US samples (such as clerical workers, sales representatives, and production workers). The results showed that the positive relationship between conscientiousness and job performance is stronger for those high, rather than low, in agreeableness, but the interaction was only significant in the samples where employees held jobs that required frequent interactions with others. These authors concluded that highly conscientious employees are not as

effective in their jobs if they lack interpersonal sensitivity, particularly if their jobs demand cooperative interactions with others. Yet, this effect has only been tested in US samples in predicting overall job performance.

Thus, our study not only provides a constructive cross-cultural replication of Witt et al. (2002), but also extends the model by examining the conscientiousness–agreeableness interaction on a sample of South Korean bank tellers and by exploring the interaction effects across multiple dimensions of job performance, specifically task performance and organizational citizenship behavior (OCB; contextual performance). Doing so is important to determine whether the findings of Witt et al. (2002) generalize beyond US employees to employees in other countries and whether the interactive effects impact job performance across both task and contextual performance.

Witt et al. (2002, p. 165) argued that the interaction between conscientiousness and agreeableness is most relevant for 'jobs requiring substantial cooperative inter-

action (because traits associated with agreeableness are most relevant in these situations).’ Although not included in Witt et al., one such job is that of bank tellers, both from a theoretical basis and from O\*NET job analysis. First, those high in conscientiousness are dependable, responsible, hard working, and achievement-oriented, while those high in agreeableness can be described as trusting, cooperative, kind, altruistic, and prefer to avoid conflict (Costa & McCrae, 1992). Thus, those with high levels of both traits are more likely to possess the resources required to excel in bank teller jobs requiring speed, accuracy, and customer service. Second, the O\*NET reports for this job (43–3,071.00 – Tellers) indicate that the most important work styles are the combination of attention to detail, integrity, dependability, self-control (indicators of conscientiousness), cooperation, and concern for others (indicators of agreeableness). In addition, the most important work value for this job is relationships (i.e., providing service to others and working with co-workers in a friendly noncompetitive environment). Overall, bank tellers possessing high levels of both conscientiousness and agreeableness are likely to provide higher quality (quicker, more accurate, and more friendly) service to their customers, thereby increasing their task performance. Further, due to their tendency to be dutiful and compliant and to get along with others, those high in both conscientiousness and agreeableness are also more likely to provide support for their co-workers, supervisors, and organizations in the form of job dedication, compliance, and cooperation, all of which are representative of OCB.

*Hypothesis 1:* The relationship between conscientiousness and supervisor ratings of task performance will be stronger for those employees high in agreeableness than for those low in agreeableness.

*Hypothesis 2:* The relationship between conscientiousness and supervisor ratings of OCB will be stronger for those employees high in agreeableness than for those low in agreeableness.

## 2. Method

### 2.1. Participants

One hundred fifty employees (general banking/insurance staff) from a large banking company located in South Korea were invited to participate in this survey. The survey was distributed by a graduate student well-trained in organizational research methods to each employee on-site along with a cover letter assuring that participation was completely voluntary and that responses would be kept confidential and used only for research purposes. It is noted that all measures in the survey were translated into Korean using the back-

translation procedures as specified in Brislin (1980). To minimize potential common method/source bias, we collected personality and other demographic data from employees and collected job performance data from supervisors with a 1-week interval. After matching employee and supervisor ratings, complete sets of data were received from a total of 113 employees, yielding a response rate of 75.3%. Among the respondents, 60% were male and 94.7% held a junior college degree or higher. The average age was 32.8 years ( $SD = 5.41$ ).

### 2.2. Measures

#### 2.2.1. Conscientiousness and agreeableness

Conscientiousness and agreeableness were measured using the International Personality Item Pool instrument (IPIP; Goldberg, 1999; actual items used are found in <http://ipip.ori.org/newQform50b5.htm>). There were 10 items for each trait and participants responded to each item on a 5-point Likert scale (1 = *strongly disagree* to 5 = *strongly agree*). Sample items include ‘Am always prepared’ (conscientiousness) and ‘Am interested in people’ (agreeableness). We also measured the other three Big Five personality traits of emotional stability, extraversion, and openness to experience/intellect on a 5-point Likert scale (1 = *strongly disagree* to 5 = *strongly agree*) using the IPIP instrument (<http://ipip.ori.org/newQform50b5.htm>). Sample items include ‘Am relaxed most of the time’ (emotional stability), ‘Am the life of the party’ (extraversion), and ‘Have a rich vocabulary’ (openness to experience/intellect). Factor analysis demonstrated that the items loaded on their respective constructs; the results are available from the authors upon request.

#### 2.2.2. Organizational citizenship behavior and task performance

OCB was assessed using Lee and Allen’s (2002) 16-item scale. Participants’ direct supervisors responded to each item on a 5-point Likert scale (1 = *strongly disagree* to 5 = *strongly agree*). Example items are: ‘Attend functions that are not required but that help the organizational image’ and ‘Willingly gives his/her time to help others who have work-related problems.’ Task performance was assessed using six general items of in-role performance from Williams and Anderson (1991). Participants’ direct supervisors responded to each item on a 5-point Likert scale (1 = *strongly disagree* to 5 = *strongly agree*). Example items are: ‘Adequately completes assigned duties’ and ‘Performs tasks that are expected of him/her.’ To examine the distinctiveness of these two performance dimensions, we conducted confirmatory factor analysis (CFA). To balance the number of indicators between the two dimensions, OCB items were randomly combined into six parcels (three OCB-I and three

OCB-O parcels; Sass & Smith, 2006). The CFA results indicated that the two-factor model fits the data significantly better than a single-factor model:  $\Delta\chi^2 = 162.64$  with  $\Delta df = 1$ ,  $p < .001$ . The detailed CFA results are available from the authors upon request.

### 2.2.3. Control variables

Because of their potential to impact findings, we controlled for both age (in years) and gender (0 = female; 1 = male).

## 3. Results

Means, standard deviations, intercorrelations, and alpha reliabilities among the study variables are reported in Table 1. All measures showed high internal reliabilities, with coefficients alpha ranging from .75 to .93. With task performance, correlations included .19 for agreeableness and .29 for conscientiousness. With OCB, correlations included .23 for agreeableness and .22 for conscientiousness. All four correlations were significant as the 90% confidence intervals excluded zero. It is noted that we used the 90% confidence intervals (which directly translate into the one-tailed type I error rate of .05) throughout the paper given our directional hypotheses. In addition, given low statistical power typically reported in research testing interactive effects, Aguinis and Stone-Romero (1997) also argued that evaluating the statistical significance of hypothesized interactions using the 90% confidence interval is appropriate. It is also noted that we reported adjusted  $R$  given this study's implication for personnel selection; utility (selection effectiveness) is a direct function of validity (Schmidt & Hunter, 1998).

We used multiple regression analysis to examine the interaction between agreeableness and conscientiousness on task performance. As shown in the left panel of Table 2, we included the age and gender control vari-

ables in step 1 ( $R = .31$ ). The personality traits of conscientiousness and agreeableness were entered in step 2 ( $R = .41$ ,  $p < .01$ ), followed by the interaction between them in step 3 ( $R = .47$ ,  $\Delta R = .06$ ,  $p < .01$ ). The standardized regression coefficient for the interaction between conscientiousness and agreeableness was .23 ( $p < .01$ ; 90% confidence interval: [.08, .38]). These results remained significant even when we further included emotional stability as a control variable; conscientiousness, agreeableness, and emotional stability hang together under the same higher-order factor (Colbert & Witt, 2009; see also Footnote 2). Thus, it can be concluded that Hypothesis 1, wherein the interaction between conscientiousness and agreeableness is significantly related to task performance, was supported. To interpret this effect, the relationship between agreeableness and conscientiousness in predicting task performance was plotted at high and low levels of agreeableness (Figure 1), and simple slope tests were conducted with standardized variables. The pattern of results was consistent with the hypothesized form of the interaction. The relationship between conscientiousness and task performance was significantly stronger for those with high levels of agreeableness (slope = .26,  $t = 3.32$ ,  $p < .01$ ) than for those with low levels of agreeableness (slope = .01,  $t = .12$ , *ns*).

We also used multiple regression analysis to examine the interaction between agreeableness and conscientiousness on OCB. As shown in the right panel of Table 2, we included the age and gender control variables in step 1 ( $R = .36$ ). The personality traits of conscientiousness and agreeableness were entered in step 2 ( $R = .45$ ,  $p < .01$ ), followed by the interaction between them in step 3 ( $R = .47$ ,  $\Delta R = .02$ ,  $p < .05$ ). The standardized regression coefficient for the interaction between conscientiousness and agreeableness was .17 ( $p < .05$ ; 90% confidence interval: [.02, .31]). These results remained significant even when we further included emotional stability as a control variable. Thus, it

Table 1. Means, standard deviations, intercorrelations, and reliability estimates

Variables	M	SD	1	2	3	4	5	6	7	8	9	10
1. Task performance	3.83	0.67	(.79)									
2. Overall OCB	3.85	0.57	.59	(.93)								
3. Gender	0.60	0.49	-.20	-.35	—							
4. Age	32.80	5.41	.05	-.19	.48	—						
5. Agreeableness	3.43	0.46	.19	.23	-.04	-.13	(.75)					
6. Conscientiousness	3.53	0.59	.29	.22	-.05	.12	.38	(.86)				
7. Emotional stability	3.12	0.56	.10	.11	.25	.09	.25	.11	(.84)			
8. Extraversion	2.98	0.53	-.01	.08	-.06	-.17	.40	-.02	.07	(.81)		
9. Openness/Intellect	3.21	0.46	-.01	.06	.14	-.02	.18	.15	.18	.29	(.79)	
10. Interaction	12.22	3.13	.28	.24	-.15	-.00	.19	.14	.17	.15	-.05	—

Notes: Pairwise  $N = 108$ – $113$ ; correlations equal to or greater than .15 do not include zero in the 90% confidence interval; coefficients alpha are shown on the diagonal. Gender is dummy coded (0 = female, 1 = male). Interaction = interaction term between conscientiousness and agreeableness. OCB = organizational citizenship behavior.

Table 2. Multiple regression results for interaction effects between agreeableness and conscientiousness in the prediction of task performance and overall organizational citizenship behavior (OCB)

Step	Variables	Task performance		Overall OCB	
		$\beta/R$	[LL, UL]	$\beta/R$	[LL, UL]
1	Gender <sup>a</sup>	-.33	[-.51, -.16]	-.34	[-.51, -.17]
	Age	.25	[.07, .42]	-.03	[-.20, .14]
	R	.31		.36	
2	Gender <sup>a</sup>	-.31	[-.48, -.14]	-.33	[-.49, -.16]
	Age	.22	[.04, .39]	-.03	[-.20, .14]
	Agreeableness	.09	[-.07, .26]	.18	[.02, .34]
	Conscientiousness	.23	[.06, .39]	.14	[-.02, .30]
	R ( $\Delta R$ )	.41 (.10 <sup>b</sup> )		.45 (.09 <sup>d</sup> )	
3	Gender <sup>a</sup>	-.27	[-.43, -.10]	-.30	[-.47, -.13]
	Age	.20	[.03, .36]	-.05	[-.22, .12]
	Agreeableness	.06	[-.10, .22]	.15	[-.01, .31]
	Conscientiousness	.21	[.05, .37]	.13	[-.03, .29]
	Interaction	.23	[.08, .38]	.17	[.02, .31]
	R ( $\Delta R$ )	.47 (.06 <sup>c</sup> )		.47 (.02 <sup>e</sup> )	

Note: LL/UL = lower/upper limit of the 90% confidence interval for the reported standardized regression weight ( $\beta$ ).

<sup>a</sup>0 = female.

<sup>b</sup> $\Delta F(2, 103) = 4.64, p < .01$ .

<sup>c</sup> $\Delta F(1, 102) = 6.41, p < .01$ .

<sup>d</sup> $\Delta F(2, 103) = 4.47, p < .01$ .

<sup>e</sup> $\Delta F(1, 102) = 3.40, p < .05$ .

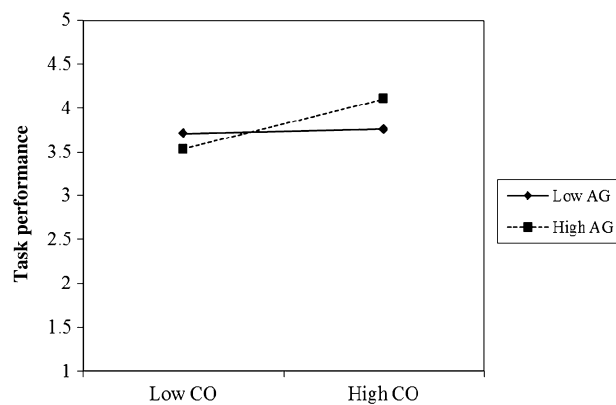


Figure 1. Interaction effect between agreeableness and conscientiousness on task performance. AG, agreeableness; CO, conscientiousness.

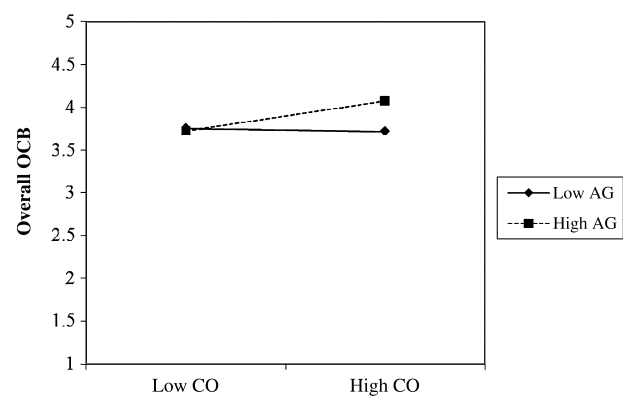


Figure 2. Interaction effect between agreeableness and conscientiousness on overall organizational citizenship behavior (OCB). AG, agreeableness; CO, conscientiousness.

can be concluded that Hypothesis 2, wherein the interaction between conscientiousness and agreeableness is significantly related to OCB, was supported. To interpret this effect, the relationship between agreeableness and conscientiousness in predicting OCB was plotted at high and low levels of agreeableness (Figure 2), and simple slope tests were conducted with standardized variables. The pattern of results was consistent with the hypothesized form of the interaction. The relationship between conscientiousness and OCB was significantly stronger for those with high levels of agreeableness (slope = .15,  $t = 2.15$ ,  $p < .05$ ) than for those with low levels of agreeableness (slope = -.01,  $t = -.11$ ,  $ns$ ).<sup>2</sup>

## 4. Conclusion

This study examined how the Big Five personality traits of conscientiousness and agreeableness interact to predict task performance and OCB. Using a sample of 113 South Korean bank employees, this study used a methodological strategy that included surveying both bank employees and their supervisors. The results of the study revealed interesting findings that have implications for both theory and practice. While agreeableness was not significantly related to task performance and conscientiousness was not significantly related to OCB, the interactions between the two personality traits were related to both task performance and OCB, as hypo-

thesized. This study extends the findings by Witt et al. (2002) that provided support of the interaction between conscientiousness and agreeableness only for overall job performance. Further, these findings based on South Korean employees are important in that they demonstrate that the findings from Witt et al. (2002) regarding personality interactions do indeed generalize beyond North America to South Korea (and the job of bank tellers) as well. From a practical standpoint, these findings suggest that while conscientiousness is important for job performance among bank tellers, it is not enough alone. If someone is highly disagreeable, the negativity and resulting lack of trust and lack of altruistic behaviors will weaken the positive effect from being highly conscientious. Thus, it is critical for positions with frequent interpersonal interactions to be filled by employees who have high levels of both conscientiousness and agreeableness. Along with Witt et al. (2002), this study further corroborates the importance of considering constellations of personality traits in predicting job performance (Ones et al., 2007).

Although this study possesses several strengths, there are limitations. First, data used in our study are based on a field survey, so the causal inferences we attempted to draw are limited and should be interpreted with caution. However, it is noted that performance data (supervisor ratings) were collected 1 week after personality data (self-reports) had been collected and that it is unlikely that performance (behavior) influences personality (traits). Second, we examined only one job. It would have been more informative if we had examined multiple jobs differing in terms of need for interpersonal interactions (e.g., nurses, call center workers, and receptionists). Nonetheless, future replications using a longitudinal design with multiple samples are certainly warranted.

The current study also raises questions for future researchers to consider. Future research should continue to explore other personality trait interactions, whether that be the broad Big Five traits or more narrow personality traits. Another fruitful avenue for future research is to further replicate previously tested personality interaction effects using observer ratings of personality vis-à-vis self-reports. The interaction effect may be stronger with observer ratings of personality than with self-reports (Connelly & Ones, 2010; Oh, Wang, & Mount, 2011). In addition, researchers should seek to determine how other personality trait interactions may (differentially) affect various forms of job performance, including counterproductive work behavior, proactive behavior, and adaptive performance.

## Note

1. The first two authors, Russell P. Guay and In-Sue Oh, contributed equally to this paper.

2. We also conducted post hoc analysis to examine the potential significance of interactions between conscientiousness and emotional stability and between agreeableness and emotional stability on two performance dimensions based on comments from anonymous reviewers and previous research. For example, Ones and Viswesvaran (2001) demonstrated that emotional stability, agreeableness, and conscientiousness are all part of most criterion-focused occupational scales, while Mount and Barrick (1995) found that this triad of personality traits formed a higher-order construct (referred to as functional personality) that was predictive of performance across many occupations. However, none of our post hoc results yielded significant interaction effects. The detailed results of those analyses are available from the authors upon request.

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