

Ability versus Personality

Factors that Predict Employee Job Performance

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All hospitality operators want employees who can learn their jobs quickly and have personality traits that allow them to maintain their performance over time. Unfortunately, it is not always possible to find individuals who possess all of the desirable attributes, and thus, some degree of compromise is generally required. The prevailing view is to select those with great personalities and then train them for the technical job requirements. However, strict adherence to this perspective is not advisable. The study presented in this article found that both general mental ability and conscientiousness are important for predicting the performance of restaurant employees on the front line. Moreover, it appears that these two individual characteristics are important at different stages of an employee's job tenure. Using data from 241 line-level restaurant employees, the study

found that general mental ability was a better predictor of performance for new employees, whereas conscientiousness was a better predictor of performance for experienced employees. These findings have direct implications for staffing decisions, as well as new employee training and development and performance management.

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“**H**ire for attitude, train for skill” is a common mantra of many hospitality managers.¹ The general assumption is that people can be trained to perform the technical responsibilities for most

1. We are focusing on the role of conscientiousness and general mental ability (GMA) for making selection decisions, not attitudes and skills per se. The purpose for referencing this “common mantra” is to emphasize the lens by which many managers and HR professionals view the selection process.

jobs, but they cannot be instilled with the attitude, disposition, or personality aspects necessary for successful performance. The belief that attitudes predict performance better than cognitive ability is pervasive, even though cognitive ability has been repeatedly shown to be the better predictor of performance for new hires (Rynes, Brown, and Colbert 2002). Indeed, logic suggests that an employee's cognitive ability should be given considerable weight in hiring decisions, as some degree of intellect is required for all jobs.² Therefore, the more appropriate mantra is "hire for attitude *and* skill."

Many hospitality firms have recognized the need to maintain high standards and use a variety of standardized skill and attitude assessments in their hiring procedures (e.g., Hillstone Restaurant Group, Loews Hotels, and Wynn Resorts, to name a few). Unfortunately, the realities of competitive labor markets make it difficult to maintain selective hiring standards. Given the increasing difficulties in attracting and hiring quality employees for certain positions, it is tempting to relax selection criteria to fill open positions. In fact, one manager we know stated, "If a job candidate has a pulse, they're hired!" It is hard to imagine how an operation can maintain its quality and efficiency using such a low standard. Instead, we contend that companies should use procedures that clearly differentiate those who will be successful (i.e., those with the requisite abilities, attitudes, and personalities) from those who will not succeed.

Most jobs require a specific set of skills and attitudes—and that set is often quite large. However, we wanted to examine two characteristics that appear to be the basis for success on the job, namely, general mental ability (GMA) and conscientiousness.

Research has found that these two variables are among the best predictors of individual job performance for many positions and work settings. The reason that GMA is important is that it can dictate how quickly one acquires necessary job knowledge and skills. The importance of conscientiousness shows up in interactions with coworkers and guests. Gauging these two attributes is important for making effective hiring decisions.

Having proposed the importance of mental ability and conscientiousness, we also suggest that these two factors have different functions in terms of job performance. We say this because an employee's performance on the job is dynamic and changes over time. Some people can hit the ground running when they assume a new job, but most people require some amount of time to gain a complete understanding of and demonstrate proficiency in their new job. Thus, in the early stages of an employee's job tenure, GMA may be the key predictor of performance. Once the employee has learned the essential tasks, duties, and responsibilities, however, that person must remain effective on the job, which suggests that making diligence or conscientiousness more relevant as time goes on. If we can find evidence to support the different contribution of these two characteristics based on job tenure, then priorities can be established for training and related development efforts. In addition, such differences can be instrumental in helping managers understand the performance requirements and training needs of individuals at different stages in their professional development.

Of course, all else being equal, one would prefer to hire the candidate who scores high on both cognitive ability and conscientiousness. Unfortunately, all else is rarely equal. With that in mind, the purpose of this study

2. The Department of Labor's Occupational Information Network, O*NET (www.onetcenter.org), shows that even the most basic, entry-level positions require some degree of knowledge, skill, and ability to perform the essential tasks, duties, and responsibilities.

is to examine the relative importance of GMA and conscientiousness for job performance among new and experienced line-level employees.

We will examine these relationships in two ways. First, we will compare the relationship between performance and GMA and conscientiousness for newcomers and experienced employees. Our approach here challenges the assumption inherent in much of the selection research that the strength of the relationship remains constant over the course of the employment relationship. A few studies have shown that the relationship between a predictor variable and a criterion diminishes over time (Fleishman 1972; Hulin, Henry, and Noon 1990). While there have been a few efforts to account for the role of time in the prediction of job performance (Steele-Johnson, Osburn, and Pieper 2000), the nature of how the relationship between performance and employee characteristics changes over time is still not well understood. Research has repeatedly shown that, across a wide variety of jobs, GMA is a better predictor of job performance than conscientiousness.³ However, the relative superiority of GMA over conscientiousness may not necessarily hold when examining the validities of these predictors at different stages of employment (Hulin, Henry, and Noon 1990). Moreover, hiring for GMA is more effective for complex jobs.⁴

We begin by discussing the previous research on the predictive validity of GMA and conscientiousness. In particular, we discuss the role of these two characteristics for new employees and for experienced employees in entry-level jobs (i.e., high-consistency, low-complexity positions). We then present the results from a study that compares these two characteristics for new and

experienced employees. Finally, we offer insights regarding the use of ability and personality measures for making selection decisions and managing employee performance.

Previous Research

A number of studies have shown that GMA is an excellent predictor of employee job performance for many occupations. Previous research has shown that GMA can account for up to one-third of the variance in performance ratings for managerial jobs and up to 16 percent of the variance in performance for semiskilled positions (see Hunter 1986; Hunter and Hunter 1984; Ree and Earles 1992; Schmitt et al. 1984). These results have led some to argue that GMA should be used as the primary basis on which to make selection decisions.

However, some studies have found that the relationship between GMA and performance deteriorates over time (Keil and Cortina 2001). This finding makes intuitive sense. When individuals are new to their jobs, they are focused on learning the fundamental task requirements and gaining information required to perform their basic job duties. Once they have achieved proficiency, their GMA becomes less important and other individual characteristics, such as personality, determine how well they sustain their performance. GMA remains important, but other factors may be more relevant for job performance as time unfolds.

In addition to one's stage of employment, the nature of one's tasks, duties, and responsibilities may dictate the extent to which GMA influences performance. If a job's tasks are relatively repetitive or consistent, task performance may become routine. In that case, GMA may be less predictive of performance

3. A large-scale meta-analysis comparing nineteen different selection methods reported a predictive validity of .51 for GMA, compared to an average validity of .31 for conscientiousness. See Schmidt and Hunter (1998). For a more applied review of the research findings in this area, see Behling (1998).

4. See Schmidt and Hunter (1998). The validity of GMA is higher for more complex jobs (.59 for professional and managerial jobs) but lower for less complex jobs (.40 for semiskilled jobs).

(Ackerman 1986, 1987, 1988). In contrast, inconsistent tasks, which involve constant changes, will place continuous demands on employees. Such a job requires ongoing learning efforts, and GMA may remain a strong and significant predictor of performance. Even if a job involves relatively consistent tasks, GMA will be required at the earlier stages of employment. It should then decrease in importance as individuals acquire the knowledge and skills required to perform the job. As such, the predictive validity of GMA will decline for jobs with consistent performance requirements, and other abilities or characteristics will become better predictors of performance.

As we said above, we think that conscientiousness is one of those “other” characteristics that may predict performance. One of the “big five” dimensions of personality, conscientiousness has been defined as an achievement-striving disposition characterized by a strong sense of purpose and high aspiration levels.⁵ People might readily agree that those who are more achievement-oriented, hardworking, and dependable are likely to be more effective employees. Contrary to that belief, conscientiousness has been shown to explain only 7 percent of variance in performance of many jobs—far less than GMA (Hurtz and Donovan 2000). One of the reasons for this finding is that conscientiousness may become relevant at later stages of employment (Helmreich, Sawin, and Carsrud 1986).

Summary

To summarize our discussion above, we contend that the relationship of mental ability to performance and of conscientiousness to performance may rest strongly on the stage of an individual’s employment. Specifically, we propose that GMA will be a stronger predictor of performance for

newcomers than for experienced workers. In contrast, we expect that conscientiousness will be a stronger predictor of performance for experienced employees than for newcomers. Then, comparing mental ability with conscientiousness over time, we expect that GMA will be a stronger predictor of performance than conscientiousness for newcomers and that conscientiousness will be a stronger predictor of performance than GMA for experienced employees. Evidence in support of these propositions will shed needed light on the role of these individual characteristics for predicting employee performance, as well as establishing priorities for training and development and managing staff performance.

Studying Frontline Restaurant Staff

We collected data from frontline service employees working at 19 units of a company that owns and operates approximately 120 midscale restaurants throughout the United States. The employees held positions as servers, hosts, and bartenders. In the main, these jobs are standardized and scripted to ensure service and product consistency, a particular concern for multiunit restaurant companies of the type we studied.

According to the U.S. Department of Labor’s Occupational Information Network, O*NET, the jobs we are studying require no previous work-related experience and may involve anywhere from a few days to a few months of training (for a comprehensive discussion of O*NET, see Peterson et al. 1999). In this case, the O*NET specific vocational preparation (SVP) value, defined as the amount of time required for a typical worker to learn the techniques, acquire information, and develop facilities required for average performance, is more than three months and up to six months for these positions—a value

5. McCrae and Costa (1999). The other four factors are agreeableness, extraversion, neuroticism, and openness to experience. See Srivastava (n.d.).

that is on the lower end of the SVP scale. In addition, the O*NET summary report makes no mention of changes with regard to task requirements over time.

The GMA and personality data were gathered by a field human resources manager, who visited each of the restaurants for one or two days and administered surveys to employees who were scheduled to work during this time. Employee confidentiality was guaranteed both orally and in writing. Employee performance data were also gathered by the HR manager during the site visits. Performance ratings were obtained from two managers for each employee and then matched with the GMA and personality data. It should be noted that these performance ratings were used for research purposes only and not as a basis for making employment or compensation decisions.

Complete data were obtained from 241 employees (about one-third of the frontline staff in restaurants we studied). Sixty-eight percent of the respondents were female, 85 percent were Caucasian, and all were employed part-time. The average age was twenty-five years, and the average employment tenure was about two years.

In keeping with the O*NET definition, we defined newcomers as those employed with the company for fewer than six months, and the balance were defined as experienced employees. Corporate HR staff agreed with the O*NET value that frontline staff should be fully competent at performing their core job responsibilities by six months. Based on organizational records, an employee's stage of employment was identified as either a newcomer (coded 0; $n = 64$) or an experienced employee (coded 1; $n = 177$).

GMA was assessed using the Wonderlic Personnel Test, Form A (Wonderlic 2001).

This test consists of fifty items that ask respondents to make word and numerical comparisons, analyze geometric figures, and solve problems that require mathematic or logic solutions. The test was administered under the standard twelve-minute, timed protocol. Conscientiousness was assessed using the twelve-item scale that is part of the NEO Five-Factor Personality Inventory, Form S (Costa and McCrae 1991). In this test, the employees rated the extent to which they felt the items generally described themselves. Response choices ranged from *strongly disagree* to *strongly agree*.

For measuring job performance, we used an eighteen-item scale developed from analyzing the sponsoring organization's job descriptions, training manuals, and performance appraisals. The items reflect a broad range of technical and interpersonal-performance dimensions, including product knowledge, guest relations, sales expertise, helping others, and adhering to health and safety standards. Response choices ranged from *excellent* (5) to *poor* (1).

Finally, we used two control variables: age and restaurant unit. Older individuals may be more committed to service work, viewing their job more as a profession. As such, they may exert extra effort and have higher performance ratings than younger workers, who may view their work as more transitory. The restaurant unit, treated as a dummy variable, was used to control for any idiosyncratic performance rating biases by the managers.⁶

To analyze the data, we first computed simple correlations to examine the relationship between GMA and performance and conscientiousness and performance. For the total sample, the correlation between GMA and performance was .20 ($p < .01$), and the correlation between conscientiousness and

6. Because we are assuming that our sample is representative of the population of employees in low-complexity hospitality jobs, and because we hope to be able to make generalizations from our analyses, we employed a random effects model when controlling for potential differences across restaurant units.

Exhibit 1:
Correlations and Summary Statistics

	M	SD	1	2	3	4	5	6	7
1. Gender	0.32	0.47	—						
2. Age	24.8	6.64	.06	—					
3. Tenure	2.07	2.90	-.01	.55	—				
4. Job stage	0.73	0.44	-.21	.10	.37	—			
5. General mental ability (GMA)	23.23	6.37	.08	-.01	-.03	-.06	—		
6. Conscientiousness	3.88	0.50	-.02	.22	.09	.04	.01	(.82)	
7. Job task performance	3.69	0.50	-.07	.25	.29	.14	.23	.28	(.80)

Note: $N = 241$. Correlations greater than .13 (in bold) are significant ($p < .05$). Coefficient alphas are shown along the main diagonal in parentheses when available. For gender, female = 0, male = 1.

performance was .25 ($p < .01$). The correlation between GMA and performance for newcomers was .37 ($p < .01$), and it was .15 ($p < .05$) for experienced employees. The correlation between conscientiousness and performance was $-.11$ (n.s.) for newcomers, and it was .34 ($p < .01$) for experienced employees. These results lend support for the argument that GMA is more important at earlier stages of employment, whereas conscientiousness has increasing relevance at later stages of employment. Exhibit 1 lists the means, standard deviations, and correlations among all variables that were examined.

Next, we completed a series of regression analyses to further examine the role of GMA and conscientiousness in predicting performance. After controlling for age and managerial rating effects, GMA and conscientiousness were significant predictors of

performance, as was stage of employment (i.e., job tenure had a positive impact on performance; see Exhibit 2).⁷ Moreover, consistent with the correlation results, we found that GMA becomes less important at later stages of employment in jobs with consistent task requirements (evidenced by a negative term for Employment Stage \times GMA interaction), whereas conscientiousness appears to be more important over time (evidenced by a positive term for Employment Stage \times Conscientiousness interaction).⁸

A similar set of regression analyses was completed to examine the proposition that GMA would be a stronger predictor of performance than conscientiousness for newcomers and, conversely, that conscientiousness would be a stronger predictor of performance than GMA for experienced employees.⁹ The results, summarized in Exhibit 3, supported our propositions. For newcomers, GMA

7. For the regression analyses, performance was simultaneously regressed on the control variables, GMA, conscientiousness, stage of employment, a GMA \times Stage of Employment interaction term, and a Conscientiousness \times Stage of Employment interaction term. Prior to creating the interaction terms, the ability, conscientiousness, and stage-of-employment variables were centered to limit the potential for multicollinearity. Significant main effects were found for GMA ($\beta = .15, p < .01$), conscientiousness ($\beta = .23, p < .01$), and stage of employment ($\beta = .25, p < .01$). The overall model had an R -squared of .47. A summary of these results are also presented in Exhibit 2.
8. The GMA \times Stage of Employment interaction ($\beta = -.11, p < .05$) and the Conscientiousness \times Stage of Employment interaction ($\beta = .12, p < .05$) terms accounted for a significant proportion of the explained variance in the final regression equation (R -squared = .50; $p < .05$). A summary of these results are presented in Exhibit 2.

Exhibit 2:

Regression Predicting Employee Performance Ratings

<i>Variable</i>	<i>Step 1 (No Interactions): β</i>	<i>Step 2 (With Interactions): β</i>
General mental ability (GMA)	.15**	.11*
Conscientiousness	.23**	.21**
Employment stage	.25**	.13*
Employment Stage \times GMA		-.11*
Employment Stage \times Conscientiousness		.12*
<i>R</i> -squared	.47	.50

Note: Analyses were based on 241 employees and represent standardized regression coefficients, after controlling for the effects of age and the restaurant at which the employee worked.

* $p < .05$. ** $p < .01$.

Exhibit 3:

Regression Predicting Employee Performance Ratings for Each Subgroup

<i>Variable</i>	<i>Newcomers: β</i>	<i>Experienced Employees: β</i>
General mental ability (GMA)	.24**	.03 (n.s.)
Conscientiousness	.01 (n.s.)	.29**
<i>R</i> -squared	.41	.50
Number of employees in group	64	177

Note: Analyses represent standardized regression coefficients, after controlling for the effects of age and the restaurant at which the employee worked.

** $p < .01$.

was a significant predictor of performance, but conscientiousness was not.¹⁰ The opposite was found for experienced employees.¹¹ Therefore, these results support our propositions and demonstrate that GMA and conscientiousness had differential relevance in predicting performance for employees at different stages of employment.

Implications

The importance of GMA and conscientiousness is illustrated in the following

vignette. Last summer, the lead author took his two children to a small, family-oriented water park in upstate New York. During our visit, we saw a boy about fifteen years old cut his foot while exiting one of the more popular attractions. His injury was severe enough to require medical attention. The park staff responded quickly and administered first aid in a courteous and professional manner. The injured guest and his family appeared to be satisfied with the care they were given. After the injured guest and his family had

9. To test these propositions, performance was first regressed on the controls, ability, and conscientiousness for each subsample (i.e., new vs. experienced employees) to obtain standardized estimates.

10. For newcomers, the standardized estimates for GMA was .24 ($p < .01$) and .01 (n.s.) for conscientiousness (R -squared = .41; $p < .01$). A summary of these results are presented in Exhibit 3.

11. For experienced employees, the standardized estimate for GMA was .03 (n.s.) and .29 ($p < .01$) for conscientiousness (R -squared = .50; $p < .01$). A summary of these results are presented in Exhibit 3.

left, several employees stayed at the scene and cleaned up the area where the incident took place. As the employees were cleaning the area, they were approached by several park guests, who asked what had happened. The employees continued to perform their cleaning duties but took the time to answer the questions that were asked. Their responses were accurate, reassuring, and seemed to satisfy everyone's curiosity.

As we left the park, we found the general manager, who was thanking all of the departing guests for coming to the park. We complimented him on his staff and their management of the situation. We explained that his employees appeared to have a firm grasp on the technical skills necessary to perform one of the primary functions of their jobs—adhering to safety and sanitation standards—as well as the ability to manage sensitive interactions with guests. The general manager thanked us, and then, without prompting, told us that he looks for employees who can “do the basics first, and then keep a smile on their face when things go wrong.”

This example highlights the importance of both GMA and conscientiousness when making hiring decisions. It can be argued that the most effective employees are those who have the ability to learn quickly and then use good judgment when working with others to make decisions and solve problems. The park staff performed both the technical and interpersonal components of their jobs effectively. Thus, it seems apparent that the park management gave careful consideration and substantial weight to both GMA and conscientiousness when making selection decisions.

That experience reinforces the study's findings regarding the importance of skills and abilities, which extend previous research on the role of GMA and conscientiousness in predicting job performance by examining the influence of employment stage. Although

there is nothing inherently causal about time, different stages of employment may reflect distinctly different experiences for employees (Hulin, Henry, and Noon 1990). Accordingly, certain individual-difference variables may have different levels of importance at different stages of employment. The findings of this study support previous research by demonstrating that GMA is a stronger predictor of performance for newcomers than for experienced employees in jobs with consistent task requirements (Farrell and McDaniel 2001; Keil and Cortina 2001). Furthermore, these results showed that conscientiousness is a more valid predictor of performance for experienced employees than for newcomers, and that the relationships between predictors and performance criteria may not universally decay over time.

On the other hand, our findings suggest that caveats must be placed on claims regarding the superiority of GMA for predicting performance. While GMA was a stronger predictor of performance than was conscientiousness for newcomers, conscientiousness was a stronger predictor of performance than was GMA for experienced employees. Thus, while GMA may be superior to conscientiousness in predicting job performance for newcomers who hold positions with primarily consistent task requirements, over time conscientiousness appears to replace GMA as the superior predictor of performance in such jobs.

The question thus emerges as to what to do with these results. Again, while it is clearly desirable to hire applicants who score high on both GMA and conscientiousness, most decision makers are not afforded that luxury. How to proceed will depend on one's circumstances.

In part, we see the frequency of employee turnover as a factor in this discussion. If, for example, one is hiring in a seasonal business where turnover is 100 percent at the end of the season (that is, within six months), these

results suggest that GMA be emphasized in the hiring process. However, in an organization whose employees have relatively long tenure, the potential benefits of seeking out conscientious employees increase. In our sample, where tenure averages two years, the data suggest that GMA and conscientiousness should be weighted nearly equally in a hiring decision.¹² For frontline staff whose tenure is expected to exceed two years, we would recommend that conscientiousness be given the greater emphasis.

With respect to employee development, given the learning demands that are faced by new employees, we recommend that orientation and training programs begin by emphasizing the technical requirements of the job. As undoubtedly occurred in the water park, focusing on the basics—such as safety and sanitation procedures—must be a critical first step in developing and realizing successful performance. As individuals become proficient in the technical aspects of their jobs (assuming that employees remain with the firm long enough), developmental attention can then be placed on mastering those aspects of the job that involve disposition and attitude, such as engaging with team members to make decisions and solving guests' problems. The implications here for coaching and performance management is that managers should be careful to focus on the technical aspects of the job when training new employees, rather than dwell heavily on the job aspects in which one's personality and attitude may be crucial. Instead, encouragement and feedback provided at the early employment stage should focus on how well new employees are performing their technical responsibilities.

Finally, we should emphasize the importance of ensuring that the measures used for making selection decisions have adequate predictive validity. This study showed that both of the measures we tested were empirically related to supervisory ratings of job

performance. However, we found that the predictive validity of GMA and conscientiousness change according to the length of time a person is on the job. If the estimate is reliable and valid that there is a specific time at which the performance-prediction factors switch from GMA to conscientiousness, then such information may be instrumental for determining the initial and ongoing utility of performance predictors. We used six months for the frontline restaurant staff, based on the nature of the job and information found in O*NET. Managers can look at the O*NET characteristics for other jobs to determine when success factors might change for a particular job. What seems clear from this study is that a person's stage of employment has a significant effect on the relationship of GMA and conscientiousness on performance, at least for jobs that involve primarily consistent tasks. Future research should extend these findings and examine other variables that may influence the predictor criteria.

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