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Interaction of social skill and general mental ability on job performance and salary



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Interaction of Social Skill and General Mental Ability on Job Performance and Salary

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Job and organizational changes have promoted the importance of social skill at work, yet research in this area has been limited. The authors investigated the interaction between social skill and general mental ability (GMA) in the explanation of job performance and salary, controlling for personality and demographic characteristics. The results indicated that the relationships between social skill and job performance were stronger among workers high than low in GMA. In a similar manner, the relationships between GMA and job performance were stronger among workers high than low in social skill. The interaction on salary indicated that increases in social skill (or GMA) for high-GMA (or social skill) individuals were associated with higher salary levels. It is interesting, however, that increases in social skill (or GMA) for those low in GMA (or social skill) contributed to lower salaries. Implications of these results and directions for future research are discussed.

“She may be a genius, but she isn’t getting things done here because she can’t work with people. In fact, she has more enemies than anyone in the office.” “He knows how to get along with people, but he has never contributed an idea that has led to a solution for our work problems. He may be smooth, but he’s an empty suit. We can’t rely on him. Actually, his participation in times of crisis is more interference than help.” The working world is replete with such comments. These anecdotes suggest that both social skill and general mental ability (GMA) are necessary for success at work. With regard to prediction, it is clear that those employees who score low on both social skill and GMA will be apt to exhibit lower levels of job performance. What is less clear is the prediction of performance when social skill (or GMA) is high (or low) and GMA (or social skill) is low (or high). The purpose of the present study was to investigate the interactive effects of social skill and GMA on job performance and salary.

Dimensionality and Prediction of Job Performance

Campbell (1990) proposed a higher order conceptualization of job performance that included dimensions focusing on the execution of substantive tasks as well as interpersonal elements. Since then, Borman, Motowidlo, and their colleagues have substantiated the distinction between task performance and contextual performance as critical and pervasive dimensions of job performance across virtually all types of jobs (e.g., Borman & Motowidlo, 1993, 1997). Task performance refers to the set of core substantive duties central to a particular job. It represents the activities that differentiate one occupation from another. Contextual performance relates to behaviors that are not formally prescribed by the job but that are inherent in all jobs and supports the social fabric of the organization (Borman & Motowidlo, 1993). Van Scotter and Motowidlo (1996) demonstrated that contextual performance can be separated into two dimensions of job dedication and interpersonal facilitation, which reflect unique paths to overall job performance (Conway, 1999).

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GMA

One job performance predictor that has been actively researched is intelligence, cognitive ability, or what Schmidt and Hunter (1998) referred to as GMA. Schmidt and Hunter’s review substantiated that GMA is the best predictor of job performance and learning, which has been noted by others as well (e.g., Ree, Earles, & Teachout, 1994). Furthermore, research has demonstrated that GMA influences job performance through its effects on job knowledge (Hunter, 1983; Schmidt, Hunter, & Outerbridge, 1986). In sum, GMA has been a well-researched construct, with impressive evidence of its capacity to predict job performance.

Social Skill

The vast majority of present-day jobs, at least to some extent, rely on social interactions (Hogan & Shelton, 1998). This realization, coupled with the fact that contemporary measures of performance assess nontask attributes of work, such as interpersonal facilitation and job dedication, points to the increasing importance of social skill as a predictor of job performance. The ability to effectively read, understand, and control social interactions has been of interest to behavioral scientists for some time. More than 80 years ago, Thorndike (1920) defined social intelligence as “the ability to understand men and women, boys and girls—to act wisely in human relations” (p. 228). Others at that time proposed similar definitions of social intelligence (e.g., Strang, 1930), and interest in this construct has continued for decades (e.g., Ford & Tisak, 1983). More recently, Marlowe (1986) defined social intelligence as “the ability to understand the feelings, thoughts, and behaviors of persons, including oneself, in interpersonal situations and to act appropriately upon that understanding” (p. 52).

Early research on social intelligence stimulated ongoing efforts to better understand the nature of skill and effectiveness in social interaction. For example, Argyle (1969) suggested that social skill is reflected in the effective exercise of persuasion, explanation, and other influence mechanisms, which reveal the ability to control others. Meichenbaum, Butler, and Gruson (1981) noted that social skill reflects the capacity and knowledge of both what to do and when to display certain behaviors, in addition to possessing behavioral control and flexibility.

In developing the theoretical underpinnings of this study, we adopted the view of Gardner (1993), who noted that those individuals possessing high levels of social skill not only are better able to understand and read other people but also are more adept at forming opinions of their own capabilities to “operate effectively in life” (p. 9). Specifically, we suggest that social skill reflects interpersonal perceptiveness and the capacity to adjust one’s behavior to different situational demands and to effectively influence and control the responses of others. Indeed, these are essentially the overlapping issues raised by those studying the nature of social skill, both under this rubric (e.g., Argyle, 1969; Meichenbaum et al., 1981) and that of social intelligence (e.g., Marlowe, 1986). Therefore, we see social skill as a continuation of the ongoing efforts to better understand social intelligence that date back to the 1920s. Social perceptiveness refers to accurately interpreting interpersonal dynamics. Individuals high in social skill are more likely than those low in social skill to perceive and accurately interpret subtle social cues, “read between the lines” (vs. interpret others’ comments literally), and identify the true intentions of even high self-monitors. Furthermore, individuals high in social skill are more likely than those low in social skill to effectively use those social perceptions to determine the appropriate timing for an influence attempt, improvise when they perceive that their planned self-presentation strategy is unlikely to work, and know when to speak up or remain silent.

Social skill has been found to be essential for managerial effectiveness (Kilduff & Day, 1994; Wayne, Liden, Graf, & Ferris, 1997). One suggestion is that social skill predicts only those dimensions of job performance that involve interpersonal and extrarole behavior. However, an equally compelling argument is that social skill is fundamental to all aspects of work, and thus it

should be a strong predictor of both task and contextual dimensions of job performance. Specifically, social skill affects the quality and the quantity of work (i.e., core task performance) in jobs in which work is accomplished with the assistance of others. For example, workers high in social skill are likely to be more effective than those low in social skill in influencing others to provide cooperation. Social skill affects job dedication, because workers high in social skill may be more effective in creating an image of following rules and demonstrating commitment and motivation than those low in social skill. In a similar manner, social skill affects interpersonal facilitation, because workers high in social skill are capable of demonstrating patience with high-maintenance customers and coworkers as well as being more adept at influencing others.

Because social skill represents interpersonal perceptiveness and behavioral flexibility, it reflects a different set of abilities relative to GMA. Social skill is also distinct from personality. Hogan and Shelton (1998) noted that “personality and social skill are quite different—personality is relatively stable and enduring whereas social skills are relatively trainable” (p. 135). Positive social skills have been found to endure even in the presence of negative personality dimensions, such as insecurity, selfishness, and treachery (Leary, 1995). Furthermore, Block and Kremen (1996) suggested that social skill maintains the personality system within tenable bounds and allows for acceptable adaptational modes.

Social Skill × GMA

What is the nature of the joint relationship of GMA and social skill with job performance and salary? These relationships could be additive or interactive. If additive, both GMA and social skill are positively related to performance and salary, and their effects are complementary but independent. In other words, a worker who is high on both social skill and GMA would perform better and receive a higher salary than a worker who is high on one but not on the other.

If interactive, the relationship could take different forms. The anecdotes mentioned earlier imply that someone high on social skill (or GMA) but low on GMA (or social skill) may have low job performance. The relationships between social skill (GMA) and both performance and salary may be dependent on the level of GMA (or social skill). We suggest that social skill (or GMA) is more important to job performance and salary among workers high in GMA (or social skill) relative to those low in GMA (or social skill). Among low-GMA workers unable to contribute in meaningful ways, social skill may be of little consequence to performance and salary. The focus on interpersonal interaction that is characteristic of workers high in social skill without the prerequisite intellect needed to perform tasks and derive innovative solutions to problems may even be viewed negatively by decision makers, resulting in lower evaluations and salary increases. Among workers with low levels of social skill—those who may have significant limitations in getting along with and influencing others—GMA may add relatively little to job performance. However, among workers high in social skill, GMA may determine the workers’ potential for success. Indeed, workers high in social skill but low in GMA may be able to influence others, but they are largely ineffective in identifying and generating successful solutions to advocate. Workers high in both social skill and GMA are

likely to receive the highest performance ratings and have the highest salaries. Therefore, we proposed the following:

Hypothesis: The relationships between social skill (or GMA) and both salary and supervisors' ratings of overall job performance, core task performance, job dedication, and interpersonal facilitation are stronger among workers high than low in GMA (or social skill).

Control Variables

Demographic characteristics might explain some of the variance in performance ratings and salary. Therefore, we included tenure in the organization, gender, and education as control variables in our analyses. According to Borman (1975), those who acquiesce to halo error "assign ratings to individuals by attending to a global impression of each ratee rather than by carefully distinguishing among levels of performance that individual ratees exhibit on different performance dimensions" (p. 556). Because halo error can be affected by rater–ratee familiarity (Jacobs & Kozlowski, 1985), we also included as a control variable the number of years that the supervisor knew the worker.

Critical to the development of a social skill measure is the demonstration that this construct is not simply subsumed by personality, which builds on research that has noted the uniqueness of these variables (Hogan, 1991). Although arguments suggest that social skill is learned and personality is less pliable (Hogan & Shelton, 1998), we cannot totally eliminate the possibility that personality and social skill share some level of conceptual overlap. Thus, we also controlled for personality. In summary, to provide a stringent test of the hypothesis, we examined the interaction of social skill and GMA on job performance and salary after we controlled for gender, level of education, organizational tenure, years known by the supervisor, and personality.

Method

Participants and Procedure

We sent memorandums to managers of 356 nonsupervisory software engineers in a systems development organization, requesting that they ask their subordinates to participate in our study. We were unable to ascertain how many employees received notification of the opportunity to participate. A total of 126 workers attended one of six small group meetings in which they completed questionnaires. We provided respondents information about the study, allowed them to ask questions, and gave them opportunities to excuse themselves from involvement in the project. At approximately the same time, we asked supervisors to complete performance ratings of their subordinates. Before distributing the rating forms, we provided a set of written instructions and conducted short training sessions to explain the rating protocol to reduce the potential impact of rating errors (Cooper, 1981).

We collected complete data on 106 programmers (30% of the total population), of whom 74 (70%) were men and 32 (30%) were women. Respondents averaged 3.79 years ($SD = 2.29$ years) of formal education beyond high school, \$46,922 ($SD = \$10,279$) in annual salary, and approximately 5 years ($M = 5.03$ years, $SD = 5.71$ years) of organizational tenure.

Measures

Job performance. Five items assessed core task performance, five assessed job dedication, and five assessed interpersonal facilitation. Item

development was based on previous research defining core task and contextual performance (Conway, 1999; Van Scotter & Motowidlo, 1996) and results of our job analyses. We interviewed job incumbents, their managers, appropriate human resources representatives, and customers of the programmers about the job and work environment. An additional item assessed overall job performance. Each participating programmer was rated by his or her first-line supervisor using the following scale: 1 (*weak or bottom 10%*), 2 (*fair or next 20%*), 3 (*good or next 40%*), 4 (*very good or next 20%*), or 5 (*best or top 10%*).

Years known by supervisor. We also asked the first-line supervisor to indicate in years and months how long he or she had known the employee.

Social skill. We measured social skill with seven items presented on a 7-point Likert-type scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*): (a) "I find it easy to put myself in the position of others"; (b) "I am keenly aware of how I am perceived by others"; (c) "In social situations, it is always clear to me exactly what to say and do"; (d) "I am particularly good at sensing the motivations and hidden agendas of others"; (e) "I am good at making myself visible with influential people in my organization"; (f) "I am good at reading others' body language"; and (g) "I am able to adjust my behavior and become the type of person dictated by any situation."

GMA. The Wonderlic Personnel Test, Form 5 (Wonderlic Personnel Test, 1992) was used to measure GMA. This 50-item, 12-min test is a commonly used GMA measure that assesses vocabulary, arithmetic reasoning, and spatial relations.

Personality. The Personal Characteristics Inventory (PCI; Mount & Barrick, 1995) was used to assess personality. Based on the five-factor model (FFM) of personality, the PCI has 120 items, each presented on a 3-point Likert-type scale ranging from 1 (*disagree*) to 3 (*agree*). The PCI scales have demonstrated convergent and divergent validity with other FFM measures, such as the NEO Personality Inventory (Costa & McCrae, 1992).

Salary and demographics. Concurrently with completion of the survey, we gathered annual salary, gender, and organizational tenure information from organizational records. Participants indicated their years of education on the identification page of the PCI.

Additional Construct Delineation

To better substantiate the measure of social skill, we conducted two additional rounds of data collection. In a survey of 93 undergraduates of a large southeastern university, we gathered data on social skill and related constructs, GMA, and school performance. We expected our measure of social skill ($M = 4.93$, $SD = 0.71$, $\alpha = .70$) to correlate with measures that reflect one's ability to successfully interact with others but to show only a modest level of empirical overlap. Social skill constructs assessed in this part of the investigation included (authors, subsequent scale α s, and correlations with our measure of social skill in parentheses) social efficacy (Sherer et al., 1982; $\alpha = .64$; $r = .28$, $p < .01$), empathy (Davis, 1996; $\alpha = .80$; $r = -.15$, *ns*), social anxiety (Fenigstein, Scheier, & Buss, 1975; $\alpha = .72$; $r = -.29$, $p < .01$), ego resiliency (Block & Kremen, 1996; $\alpha = .75$; $r = .43$, $p < .01$), sociability (Bruch, Gorsky, Collins, & Berger, 1989; $\alpha = .81$; $r = .14$, *ns*), extraversion (Costa & McCrae, 1992¹; $\alpha = .70$, $r = .19$, *ns*), openness (Costa & McCrae, 1992; $\alpha = .67$; $r < .12$, *ns*), conscientiousness (Costa & McCrae, 1992; $\alpha = .84$; $r = .15$, *ns*), agreeableness (Costa & McCrae, 1992; $\alpha = .77$, $r = -.11$, *ns*), and social desirability

¹ The NEO-PI-R was used with special permission of the Publisher, Psychological Assessment Resources, Inc., 16204 North Florida Avenue, Lutz, FL 33549, from the NEO Personality Inventory—Revised, by Paul Costa and Robert McCrae. Copyright 1978, 1989, & 1992, by PAR, Inc. Reproduction or use of the NEO-PI-R is prohibited without permission of PAR, Inc.

Table 1
Factor Loadings on the Job Performance Dimensions

Item	Job Dedication	Core Task Performance	Interpersonal Facilitation
1. Responds to calls within minutes when on call duty.	.75	.07	.14
2. Checks programming code and thoroughly tests all programming changes.	.65	.28	.00
3. Supports team project objectives by fulfilling personal work deadlines.	.61	.35	.01
4. Avoids being late-absent, especially during peak or critical demand.	.57	.04	.35
5. Willingly works difficult and unusual hours when demanded by the situation.	.48	.09	.29
6. Finds resourceful and creative solutions to complex technical problems.	.03	.90	.00
7. Proposes superior technical solutions to accomplish business objectives.	.13	.88	.09
8. Applies the highest levels of technical skill in completing work requirement.	.20	.82	.02
9. Constantly seeks professional growth-development through self-teaching.	.29	.64	.41
10. Produces quality work, even under stress caused by time pressures.	.49	.52	.06
11. Expresses value and positive regard for the work and ideas of others.	.01	.07	.91
12. Cooperates with other team members by sharing information openly.	.14	.03	.80
13. Creates effective working relationships with team members and partners.	.10	.04	.79
14. Develops and maintains positive client relationships.	.02	.07	.73
15. Listens carefully and responds thoughtfully in exchanging work information.	.37	.12	.50

Note. Job Dedication eigenvalue = 7.68 (51.2% of the variance), Core Task Performance eigenvalue = 1.80 (11.9% of the variance), and Interpersonal Facilitation eigenvalue = 1.00 (6.7% of the variance). The factor correlations between Interpersonal Facilitation and the other two factors were both .40. The factor correlation between Job Dedication and Core Task Performance was .45.

(Strahan & Gerbasi, 1972; $\alpha = .58$; $r = -.07$, *ns*). Correlations between our social skill measure and the other scales were in the expected direction, with the exception of empathy and agreeableness.

In addition, we asked respondents to provide their American College Test or Scholastic Assessment Test score when applicable, as well as their high school and current undergraduate grade point averages to serve as rough operationalizations of GMA (sample characteristics and correlations among variables are available from L. A. Witt on request). To the extent that social skill represents a category of ability that is independent of GMA, these proxies for cognitive ability should not be related to social skill, and they were not (American College Test score: $r = .08$, Scholastic Assessment Test score: $r = .14$, high school grade point average: $r = .06$, and current undergraduate grade point average: $r = -.10$).

In the second round, we collected data from 130 technical and clerical workers. The scores collected were as follows (authors, subsequent scale α s, and correlations with our measure of social skill [$M = 4.79$, $SD = 0.84$, $\alpha = .71$] in parentheses): locus of control (Levenson, 1981; $\alpha = .59$; $r = .32$, $p < .01$), trait anxiety (Spielberger, Gorsuch, Lushene, Vagg, & Jacobs, 1983; $\alpha = .92$; $r = -.21$, $p < .05$), self-monitoring (Snyder, 1974; $\alpha = .75$; $r = .38$, $p < .01$), tolerance for ambiguity (MacDonald, 1970; $\alpha = .70$; $r = .28$, $p < .01$), and social desirability (Strahan & Gerbasi, 1972; $\alpha = .80$; $r = .12$, *ns*). As we expected, workers high in social skill were more internal in locus of control, were more apt to adjust their behavior as dictated by the situation (i.e., higher in self-monitoring), and reported greater tolerance for ambiguity. In addition, like the students, the workers apparently were not responding to the social skill items in a socially desirable manner. Although these supplemental analyses cannot provide unequivocal evidence of construct validity and uniqueness, the results offer some supporting verification of our measure of social skill, pending further investigation.

Results

We conducted exploratory factor analysis to determine the dimensionality of our job performance measure, and the results are presented in Table 1. As shown in Table 1, three factors (i.e., Job Dedication, Core Task Performance, and Interpersonal Facilitation) emerged with eigenvalues greater than 1. To determine whether our three-factor model better fit the data than a one-factor

model, we conducted a confirmatory factor analysis (LISREL 8; Jöreskog & Sörbom, 1996) and compared the change in chi-square. The one-factor model was unacceptable: $\chi^2(90, N = 106) = 349.37$; goodness-of-fit index = .62; adjusted goodness-of-fit index = .49; root-mean-square error of approximation = .20; nonnormed fit index = .70; comparative fit index = .74. However, the three-factor model with each item loading on its prospective factor, $\chi^2(87, N = 106) = 142.37$; goodness-of-fit index = .85; adjusted goodness-of-fit index = .80; root-mean-square error of approximation = .07; nonnormed fit index = .93; comparative fit index = .94, represented a significant improvement, $\Delta\chi^2(3, N = 106) = 207.81$, $p < .001$, over the one-factor solution.

Table 2 reports the means, standard deviations, reliability estimates, and intercorrelations of the variables. Particularly noteworthy is the nonsignificant correlation between social skill and GMA ($r = -.07$). An important part of the construct validation process for measures of social skill is to demonstrate that it is not simply subsumed by GMA. It is interesting that both social skill and GMA have been associated with flexibility and adaptability, which might suggest some overlap and relationship between these two constructs. However, the nonsignificant correlation reported in this study does not necessarily invalidate the linkage of flexibility with social skill and GMA but instead might suggest that each is related to a different type of flexibility. GMA may be associated with cognitive flexibility, whereas social skill may be most closely associated with interpersonal flexibility.

Of further interest are the relationships between social skill and the personality measures. Regressing the FFM scores on social skill scores,² we found a multiple correlation of .48 (adjusted R^2 of .20). The univariate correlations ranged between .18 and .27.

Table 3 presents the results of hierarchical moderated multiple regression. As shown, the Social Skill \times GMA cross-product term explained unique variance beyond the main effects in the predic-

² We thank an anonymous reviewer for suggesting this procedure.

Table 2
Means, Standard Deviations, and Intercorrelations of All Variables

Variable	M	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1. Agreeableness	2.52	0.30	(.81)															
2. Conscientiousness	2.68	0.22	.35**	(.81)														
3. Emotional stability	2.32	0.40	.49**	.37**	(.85)													
4. Extraversion	2.10	0.37	.21*	.18*	.26**	(.88)												
5. Openness to experience	2.52	0.28	.16*	.08	.21*	.44**	(.77)											
6. Social skill	4.47	0.87	.22**	.21*	.27**	.44**	.18*	(.77)										
7. General mental ability	25.51	6.08	-.25**	.25**	.13†	-.06	.25**	-.07	—									
8. Task performance	3.47	0.88	-.12	-.06	.05	.12	.12	.22**	.16†	(.90)								
9. Job dedication	3.66	0.79	-.02	.02	-.04	.01	.00	.19*	-.06	.68**	(.84)							
10. Interpersonal facilitation	3.46	0.82	.15†	.12†	.02	-.05	-.01	.20*	.03	.77**	.70**	(.89)						
11. Overall performance	3.58	0.90	-.06	-.06	.04	.08	.02	.23**	.07	.83**	.82**	.74**	—					
12. Salary ^a	46.92	10.76	-.01	-.13†	-.09	.01	-.01	-.12	.19*	.44**	.35**	.23**	.38**	—				
13. Sex ^b	1.30	0.46	.08	.24*	.06	-.07	-.02	.05	-.20*	-.04	.02	.07	.00	-.16†	—			
14. Tenure (in years)	5.03	5.71	.00	-.21*	-.13†	-.04	.02	-.05	-.05	.02	.25**	.23**	.20*	.19*	—			
15. Education (>high school)	3.79	2.29	-.04	.02	-.09	-.04	.09	-.08	-.01	-.04	-.12†	-.15†	-.13†	-.14†	.00	—		
16. Years known by supervisor	1.73	2.06	.15*	.06	-.04	-.04	-.07	.05	-.13*	-.11	.09	.23**	-.09	.07	.22**	.40**	—	

Note. Internal reliability estimates (αs) are presented in parentheses along the diagonal.

^a Presented in thousands of U.S. dollars. ^b Coded as 1 = male, 2 = female.

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

Table 3
Multiple Regression Results for Variables Predicting Job Performance and Salary

Predictor	Overall performance	Core task performance	Job dedication	Interpersonal facilitation	Salary
Step 1: Control variables					
Gender	-0.04	-0.03	-0.07	-0.06	-0.07†
Education	-0.05	0.04	-0.16	-0.13	-0.16
Tenure	0.22†	0.15	0.28*	0.13*	0.28**
Extraversion	0.06	0.06	-0.02	-0.10	-0.02
Conscientiousness	-0.01	-0.03	0.12	0.21†	0.12
Agreeableness	-0.08	-0.11	-0.04	0.12	-0.04
Openness to experience	-0.12	-0.05	-0.09	-0.03	-0.09
Emotional stability	0.02	0.00	-0.17	-0.18	-0.17
Years known by supervisor	0.04	-0.10	-0.01	0.21†	
R^2 (Adjusted R^2)	.08 (.00)	.07 (.00)	.11 (.02)	.13 (.07)	.12† (.06)
Step 2: GMA					
R^2 (Adjusted R^2)	-.094	-1.05†	-0.93	-0.33	-0.93†
ΔR^2	.09 (.00)	.09 (.00)	.11 (.01)	.15 (.05)	.16* (.09)
ΔR^2	.00	.02	.00	.02	.04*
Step 3: Social skill					
R^2 (Adjusted R^2)	-0.64*	-0.72†	-0.46	-0.19	-0.46*
ΔR^2	.13 (.02)	.13 (.02)	.17† (.06)	.18† (.07)	.16* (.08)
ΔR^2	.04*	.04*	.06*	.03†	.00
Step 4: Social Skill \times GMA					
R^2 (Adjusted R^2)	1.28*	1.44*	1.14†	0.62	1.14*
ΔR^2	.16 (.05)	.18† (.06)	.20* (.09)	.19† (.08)	.20** (.12)
ΔR^2	.04*	.05*	.03†	.01	.04*

Note. Beta values are for the full model. GMA = general mental ability.

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

tion of overall performance, core task performance, and salary, with the added contribution to job dedication approaching significance. Although the added variance in interpersonal facilitation accounted for by the cross-product term was statistically nonsignificant, its effect size (ΔR^2) was within the typical range for moderator effects in nonexperimental studies (Champoux & Peters, 1987).

To identify the forms of the interactions, we plotted the prediction of salary and performance scores at the mean as well as at high and low levels of GMA (1.0 and -1.0 standard deviations from the mean; Stone & Hollenbeck, 1989). As we hypothesized, the figures revealed that social skill was more strongly related to job performance among programmers high in GMA than those with average or low levels of GMA. As an example, we present Figure 1, which illustrates the interaction on core task performance. As shown, the relationship between social skill and task performance was stronger among high-GMA than low-GMA programmers. Figure 2 presents the interaction on salary. Although social skill was positively related to annual salary among high-GMA programmers and was unrelated among programmers with average GMA, it was negatively related among programmers with low GMA.

We also considered the interaction from the standpoint of the relationships between GMA and both salary and performance. By applying Cohen's (1988) categories of effect sizes (.20 = small, .50 = medium, and .80 = large), GMA demonstrated at least a "medium" effect on each work outcome among workers high in social skill. In contrast, GMA was irrelevant to the outcomes among programmers with low social skill.

Discussion

We examined the interaction between social skill and GMA in the explanation of job performance ratings and salary. The results

indicated that neither social skill nor GMA by itself led to the highest levels of performance and salary. The relationships between social skill (or GMA) and both performance and salary were dependent on the level of GMA (or social skill). Social skill (or GMA) was more strongly and positively related to performance ratings and salary among workers high than low in GMA (or social

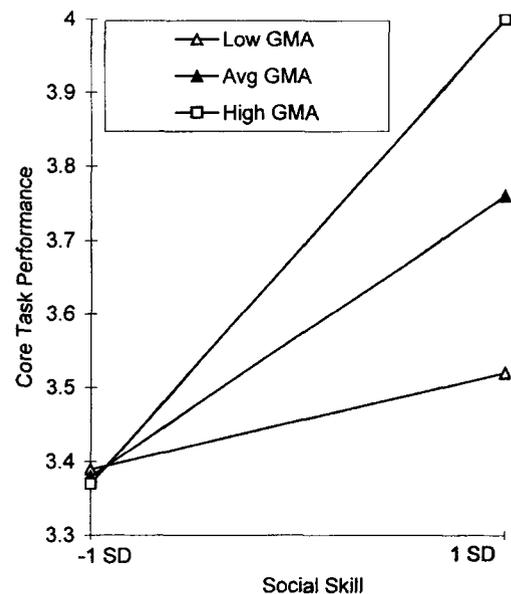


Figure 1. Core task performance regressed on social skill scores for groups with low, average (avg), and high general mental ability (GMA). Low score equals one standard deviation below the mean; high score equals one standard deviation above the mean. Only scores plus or minus one standard deviation from the mean of social skill scores are plotted.

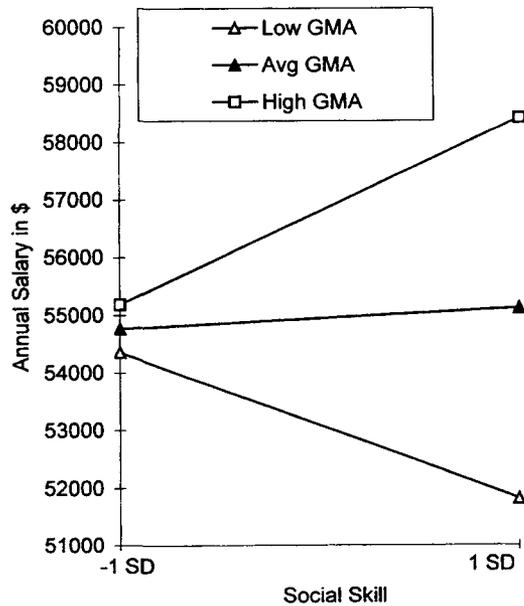


Figure 2. Annual salary (in U.S. dollars) regressed on social skill scores for groups with low, average (avg), and high general mental ability (GMA). Low score equals one standard deviation below the mean; high score equals one standard deviation above the mean. Only scores plus or minus one standard deviation from the mean of social skill scores are plotted.

skill). In a general sense, perhaps possessing GMA provides those with high levels of social skill the “boost” necessary to increase performance and salary.

For those workers high in GMA, social skill may provide a similar boost. As revealed in Figure 2, increases in social skill, coupled with low GMA, actually led to lower salary levels. Perhaps individuals low in GMA may attempt to overcompensate for their lack of intelligence by focusing a disproportionate amount of time and effort on social aspects of the job (Baron, 1986). This flawed strategy may result in unfavorable personnel decisions (e.g., low raises). Alternatively, perhaps the tendency to emphasize interpersonal interaction that is characteristic of individuals high in social skill may serve to expose to others the weaknesses in the problem solving and analyses of the workers who are also low in GMA.

Research has indicated that personality and social skill represent different constructs (see Hogan, 1991), so it was important to empirically demonstrate that in the present study. The FFM scores together accounted for about 20% of the variance in social skill. These results suggest that personality and social skill were only moderately related. Thus, being distinct from personality, social skill may in part be learned.

Contributions of the Study

An important contribution of this study is that it may be one of the first empirical studies in the organizational sciences to investigate the joint contribution of GMA and social skill. Our results also support the multidimensional approach to job performance advocated by Borman and Motowidlo (1997). An implication for human resources management practice may be to implement train-

ing programs designed to enhance the social skill of employees. Although management development programs often include efforts to address social skill, little attention is typically given to enhancing the social skill of first-line supervisors and front-line employees, except in some components of sales and customer service training. In addition, subsequent research may indicate the usefulness of hiring for social skill.

Limitations of the Study

We emphasize two limitations of this study. First, our measure of social skill is relatively new, and thus, despite modest efforts to substantiate its construct validity, it has not been subjected to the long-term evaluation process essential to ensure its adequacy. Second, our sample was somewhat modest in size and constrained with respect to the variety of occupations chosen. It certainly would have been preferable to have a larger sample. However, at this preliminary stage of research development, we thought it appropriate to constrict our sample to those operating in similar functions and positions so as to limit the potential confounding effects that may occur when examining workers who have diverse tasks and levels of responsibility.

Directions for Future Research

We suggest seven areas of opportunity for future research. First, additional research is needed to assess the construct validity of our social skill measure across multiple samples reflecting a wide array of industries, occupational levels, and job types. Second, replication of the interactions is needed. Third, because the Social Skill × GMA interactive effects on job performance ratings and salary were not entirely uniform, an examination of how these outcome judgments are made in other environments is needed. Fourth, we encourage researchers pursuing similar studies to consider applying a situational judgment approach to develop measures of social skill that tap work-specific or profession-specific behaviors. This approach may provide a clearer picture of the relationships of social skill with both GMA and job performance. Fifth, researchers may find it useful to gather perceptions of social skill from those other than the job incumbent. Confidence in the use of self-report measures of social skill would certainly be enhanced if the opinions of survey respondents converged with those of peers as well as decision makers responsible for providing performance ratings, promotability assessments, and salary increases. Sixth, it would be helpful to determine whether social skill and GMA interact to explain objective measures of job performance and other measures of career success, such as promotional progress. Finally, longitudinal research assessing the extent of changes in social skill after training or coaching would not only identify effective training and coaching methods but also help determine the extent to which social skill is learned.

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