Through a Refractive Lens: On the Early Career Success of Evening MBA Students

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Understanding early career success, as defined in terms of earnings, is important for practical as well as scientific reasons. MBA students, for instance, are sometimes motivated to pursue their degrees in the interest of higher salaries, so that success considerations might be relevant to the design of MBA and other educational programs.   At the same time, researchers need to better understand the variables that are associated with early career success in order to better understand how firms work, how society allocates rewards and how learning generates economic returns. To help answer questions about early career success, this study examines how managerial competencies, personality traits, cognitive ability and social stratification interact and correlate with salary differences among two cross sectional samples of early-career professionals in two cities. The professionals primarily work in the corporate world and in the military, and secondarily attend two evening MBA programs. Scholars are beginning to understand how competencies correlate with success and managerial effectiveness (McClelland, 1973; Boyatzis, 1982; Spencer, 1991; Spencer, McClelland and Spencer, 1990).

Furthermore, the work on competencies has proceeded in tandem with ever-deeper insights into other correlates of managerial success (Tharenou, 1997; Judge, Cable, Boudreau & Bretz, 1995; Howard and Bray, 1990), with success defined in terms of earnings and promotions. In this regard, the success literature has identified a number of characteristics, to include cognitive ability, job knowledge (Hunter, 1983; Hunter and Hunter, 1984; Ghiselli, 1969; Kraut, 1969), big five personality traits (Barrick and Mount, 1991; Judge, Higgins, Thoresen and Barrick, 1999), social stratification (Judge, Cable, et al., 1995; Useem & Karabel, 1986) and time preference (Green, Myerson, Lichtman, Rosen and Fry, 1996; Hesketh, 2000) as contributors to success. While scholars have a good idea that these traits contribute to success, they cannot say with certainty that a given trait will be associated with success all of the time, or that traits unimportant in most circumstances will be unimportant all of the time. This paper's claim is that trait- and competency-based approaches to understanding success need to contemplate interactions and contingencies that influence when and how a given characteristic might be critical to success.

Competencies, motives, personality, acquired knowledge and cognitive ability contribute to career success, but do so interactively, as well as through a refractive lens of life cycle, demographic, socioeconomic and institutional context. Researchers need to integrate the considerations because they interact. This paper proceeds to make and illustrate this claim by first discussing literature about the correlates of career success, such as managerial competencies, cognitive ability, personality traits, and time perspective. Then, hypotheses about how these factors contribute to success in the context of evening MBA students are discussed. Third, measures and data are discussed. Last, statistical findings are described and conclusions drawn.

Correlates of Career Success
Managerial Competencies

Managerial competencies are a potential source of early career success. Managerial competencies can be defined as underlying characteristics of a person that result in effective and/or superior performance in a job. Competencies can be motives, traits, skills, aspects of one's self-image, self-concept or a body of knowledge (Boyatzis, 1982). McClelland (1973) argues that it might be desirable to assess competencies, such as leadership and interpersonal skills, that have greater explanatory power than cognitive ability alone in predicting life outcomes. One advantage of thinking in terms of competencies is that competencies often can be learned. Building on McClelland's work, Boyatzis (1982) defines competencies as characteristics that distinguish effective performance. Based on an aggregate sample of over 2,000 managers in 12 organizations, Boyatzis finds that 12 of 21 potential competencies are useful in predicting career outcomes. These include efficiency orientation, proactivity, diagnostic use of concepts, concern with impact, self-confidence, use of oral presentations, conceptualization, use of socialized power, managing group processes, perceptual objectivity, self-control, and adaptability.

In subsequent work, Boyatzis, et al. (1995) develop a case study of an approach to business education that applies competency measurement and competency development in an MBA program. Spencer, McClelland and Spencer (1994) argue that there are twenty competencies in six clusters that predict career outcomes among managers. These include achievement orientation, interpersonal understanding, influence, directiveness, analytical thinking and personal effectiveness. Applying these ideas, Spencer, McClelland and Spencer, in conjunction with the Hay-McBer firm, have developed one of the instruments applied here, the Managerial Competency Questionnaire (MCQ) (Hay Group, 1997). The MCQ measures seven managerial competencies: Achievement orientation, developing others, directiveness, impact and influence, interpersonal understanding, organizational awareness, and team leadership. These dimensions are defined in Table 1. They target motives or intentions as well as behaviors and traits. They are characteristics that can be learned and so potentially can improve the extent to which education and training contribute to managerial performance and outcomes.

Other research suggests similar conclusions, although variables are defined differently from the Boyatzis and Hay-McBer approach. Borman and Brush (1993), for example, factor analyze 187 performance dimensions also sorted by a panel of 25 organizational psychologists to identify 18 competencies that constitute performance requirements. Among others, these include planning, organizing, guiding, training, coaching, and communicating. Howard and Bray (1990) find that motives such as advancement motive and work involvement are important correlates of career success. Cognitive ability and interpersonal skills play a role in the advancement of their non-college sample, while ambition, desire to lead, motivation, achievement motive and high self-esteem are important predictors of success for Howard and Bray's entire sample. Judge, Cable, Boudreau, and Bretz (1995) find that ambition and motivation as well as the quality and reputation of the graduate degree, size of firm and demographic variables influence earnings. Judge and Bretz (1994) find that supervisor-focused ingratiation tactics rather than task oriented tactics contribute to career success.

In a series of older studies, Harrell (1969, 1972) compares the most and least successful thirds (in terms of present compensation) of a sample of MBA graduates. Harrell finds significant differences with respect to personality traits and motives as well as cognitive ability. Especially for graduates working in big business, differences between more and less successful graduates include such dimensions as ascendance, initiative, social interest and self-assurance. Likewise, Ghiselli (1969) finds for a sample of stockbrokers that career success correlates with need for achievement, need for self actualization, decisiveness and self-assurance.

Personality

In recent years there has been a growing body of research concerning the big-five personality traits, namely, neuroticism, extroversion, agreeability, openness and conscientiousness. Such traits overlap and interact with managerial competencies, and are important explanations in themselves of career outcomes. Barrick and Mount (1991) find that conscientiousness has a consistent relationship with job performance criteria for all occupational groups, and that extroversion is a valid predictor when jobs involve social interactions. They also find that openness and extroversion predict training proficiency. They conclude that dimensions other than conscientiousness may be related to job performance, but only for some occupations. Judge, Higgins, Thoresen, and Barrick (1999) find that three of the big five dimensions, neuroticism, extroversion and conscientiousness, are most relevant to career success. Conscientiousness predicts intrinsic and extrinsic career success, and neuroticism negatively predicts extrinsic success. In her review of the correlates of managerial career advancement, Tharenou concludes that conscientiousness is a key factor in managerial success. A standard deviation in conscientiousness increases pay by $18,780 and promotions by .56. On the other hand, Tharenou finds that extroversion, agreeableness and emotional stability have little support.

Cognitive ability

Cognitive ability long has been found to correlate with success and within-firm employee performance, with validities that range from .3 to .50 (Heneman and Heneman, 1997; Gottfredson, 1986; Taubman and Wales, 1975). Hunter (1986) finds that general cognitive ability predicts job knowledge and that job knowledge predicts job performance. Ree and Earles (1991) find that cognitive ability is the key predictor of training success. Ghiselli (1969) finds that cognitive ability correlates significantly with the career success of stockbrokers.

Career stage

Career stage has been found to modify the effects of cognitive ability, personality and other characteristics on success. Melamed (1996) finds that career stage modifies the effects of human capital and organizational structure on success and that the effects of human capital and organizational characteristics are weakest in the earlier career stages.

Personality traits have significant effects on increasing managerial level after age 28, and have their greatest effects after age 44 in that the parameters in regression equations get stronger in successive career stages. O'Reilly and Chatman (1994), who rely on an adjectives check list to estimate conscientiousness, find that conscientiousness and cognitive ability alone do not predict earnings of recent MBA graduates in the early stages of their careers. This finding contrasts with most research on conscientiousness, and may in part arise from the early career stage of their sample. In their sample, conscientiousness and cognitive ability are significant in regression equations only when they are included as interactive terms in regression equations. Dreher and Bretz (1991) find that cognitive ability is a stronger predictor of *later* career level for individuals experiencing lower levels of *early* career success than for those experiencing higher levels of *early* career success. They conclude that if the early signals of high potential are missing, the ability to compete is dependent on the acquisition of knowledge, skills and information, which in turn depends on cognitive ability.

Human capital versus signaling theory

Better understanding of the relationships among cognitive ability, acquired knowledge and success also might shed light on the debate between advocates of human capital (Becker, 1964) and signaling theory (Spence, 1973). Human capital theory suggests that education is an investment in the acquisition of competencies that subsequently generate investment returns since the labor market rewards better educated graduates with higher pay. In contrast, signaling theory suggests that because it is easier for students with better cognitive ability to complete a better quality MBA program, the higher ranked degree will signal better cognitive ability and personality traits, such as conscientiousness. According to signaling theory, the competencies gleaned from the better quality program are not as important to the labor market as the signal that completion of the degree sends to prospective employers about the students' abilities, traits and motives.

Both human capital and signaling theories are consistent with the claim that cognitive ability and acquired general business knowledge correlate with pay differentials. If the human capital model is correct, then students who attend a higher ranked MBA institution will earn wage premiums that correlate with acquired knowledge, and in turn, acquired knowledge may correlate with cognitive ability. If signaling theory is correct, then students who attend a higher ranked institution will earn wage premiums that correlate with cognitive ability, while cognitive ability may in turn correlate with acquired knowledge. As Melamed (1996) and Dreher and Bretz (1991) point out, though, early career stage may modify the relationships among acquired knowledge, cognitive ability and earnings. If individuals who have faced early career setbacks compensate through the acquisition of general business knowledge, there may be a negative association of business knowledge with earnings.

Time Preference

Time preference has not received the same degree of attention in success research as have other competencies, personality traits and cognitive ability. However, the research so far has been promising. Hesketh (2000) argues that time preference is likely to influence many career-related choices. When faced with a choice between two options, such as $1,000 immediately or $2,000 in two years, some survey respondents prefer the $1,000 immediately, even though in present value terms the $2,000 is more valuable at realistic interest rate assumptions. Green, Myerson, Lichtman, Rosen and Fry (1996) find that income level moderates time preference. That is, the value of delayed hypothetical monetary rewards was discounted at similar rates by adults of similar income levels but different ages. Lower income adults showed a greater degree of temporal discounting than did upper income adults regardless of age. Thus, time preference may be associated with income level. Recent bestsellers about "the millionaire next door" provide data that support the claim that time preference is important in generating career success (Stanley and Danko, 1996). The characteristic trait of millionaires is that they defer current gratification in order to invest for future gain.

Demographic and Socioeconomic Factors

Gender, race and socioeconomic status have been shown to influence career success. Tharenou (1997) concludes that men tend to gain higher managerial levels than comparable women and that there are higher standards for African Americans' managerial career advancement than for Caucasians'. Dreher and Ash (1990) find that the regression parameter for sex is significant in a regression analysis of factors influencing promotion. Judge, Cable, Boudreau and Bretz (1995) conclude, based on a sample of 1,388 executives, that demographic factors, to include age, gender, marital status and non-working spouse, explain objective career success. They find that the *prestige* as well as the *quality*, as measured by the Gourman Report ranking, of the universities the executives attended, positively predict executives' success. Useem and Karabel (1986) argue that the inherited status of top senior managers is far higher than those of other citizens.

In a study of 3,105 senior managers in 208 large companies, they find that receiving an MBA from a top program does not materially improve the senior managers' prospects for becoming a CEO above the prospects of those who have earned a BA from a top university, even though the technical content of the MBA is presumably more relevant to managerial effectiveness. They find that 691 of 2,729 managers hold a BA or MBA from a top university and that high socioeconomic background results in greater likelihood of promotion to CEO. In an earlier study, Pfeffer (1977) finds that career stage influences the effects of socioeconomic status and MBA degrees on earnings. While MBA degrees have a significant effect on starting but not current compensation, socio-economic origins have no effect on starting salaries but do predict current compensation. Pfeffer finds that the number of years worked, socioeconomic origins, self-employment and employment in line versus staff have significant effects on current and starting salary, but the effect of social class on current compensation is larger for those with bachelors only than for those with MBAs. Similarly, Dreher, Dougherty and Whitely (1985) find that previous work experience, sex and the degree earned (bachelor's versus MBA) contribute to the salaries of business school graduates, but that the degree level is predictive of current salary only for those not coming from the highest socioeconomic levels. MBAs counterbalance the advantages of higher socioeconomic origins.

Crites (1976) suggests that beginning workers may flounder due to dissonance between their values and time horizons and the values and time horizons of the organizations in which they work. Such dissonance may reflect less privileged socioeconomic origins, which are inversely associated with the probability of having an Ivy League education. Of course this association may be confounded with the signaling and human capital implications of high-quality education. Moreover, degrees may provide initial advantages in terms of technical skills, but may fail to provide the interpersonal competencies needed to compensate for lower socioeconomic status. Business educators' potential application of enhanced understanding of the competencies required to succeed in business beyond the traditional MBA knowledge base might potentially enhance the career prospects of MBA graduates from lower socioeconomic backgrounds. Training in the kinds of competencies that McClelland (1973), Boyatzis (1982) and Borman and Brush (1993) discuss might help to achieve social equity by empowering MBA students from less advantaged backgrounds with the social, interpersonal and managerial competencies that give advantages to graduates from elite backgrounds.

Hypotheses

I discuss my hypotheses in terms of (1) competencies, to include managerial competencies, time preference and acquired general knowledge about business; (2) personality (3) cognitive ability, institutional affiliation and acquired business knowledge; (4) demographic and socioeconomic factors; (5) structural characteristics such as industry and promotions; and (6) access to elite Wall Street jobs. First, on basis of the foregoing discussion, I hypothesize managerial motives and competencies (as measured by the McBer Competency Questionnaire) to be associated with earnings in expected directions. The association may interact with cognitive ability, institutional affiliation and career context. Also, I hypothesize that both time preference and business knowledge are associated with earnings. Second, I hypothesize that conscientiousness, neuroticism, openness and extroversion are associated with earnings because most of the respondents work in managerial jobs that necessitate human interaction. As with the competency measures, the early career stage characteristic of this sample may reduce the relationship between conscientiousness and other traits and earnings. However, it is also possible that because of the similarity of these samples to O'Reilly and Chatman's (1994) sample, the interaction of the big five personality traits with cognitive ability may correlate with earnings while personality traits alone may not.

Third, I hypothesize that cognitive ability, general business knowledge and the MBA program that the student attends affect earnings, and overlap in doing so since students are selected for higher quality academic institutions on the basis of cognitive ability. General business knowledge is likely to be better among students from the higher ranked of the two institutions studied here. Thus, in regression equations that span the two institutions studied here, an institution (university attended) dummy variable is likely to reduce or even eliminate the effects of both cognitive ability and business knowledge on earnings and promotions. Reducing the positive effect of cognitive ability but not acquired general business knowledge would suggest a signaling role for the higher prestige MBA program, while reducing the positive effect of acquired general business knowledge but not cognitive ability would suggest a human capital role. Moreover, the association of earnings with business knowledge may be confounded with Melamed's and Dreher and Bretz's findings. If the *need* to compete later in one's career is magnified due to early career setbacks, while the *ability* to compete later in one's career is dependent on the acquisition of general business knowledge, then effort expended to acquire business knowledge may be negatively related to earnings among early career professionals.

If so, business knowledge might correlate negatively with earnings among this early career sample. Thus, the sign of the correlation of business knowledge with earnings is unclear *a priori*. Fourth, I hypothesize that demographic, socioeconomic and structural variables influence pay and promotions in the expected directions. Students from white collar backgrounds are hypothesized to earn more than students from blue collar backgrounds; men are hypothesized to earn more than equally credentialed women; and Caucasians are hypothesized to earn more than other, equally credentialed students. Fifth, I hypothesize that structural factors play a role. As Tharenou (1997) points out, past promotions are likely to contribute to higher earnings. The industry in which the student works (Wall Street, the military and other) is likely to influence pay. Students who work on Wall Street are hypothesized to earn more than equally credentialed students who work in other occupations.

Sixth, I hypothesize that students with different portfolios of traits and socioeconomic attributes are selected into different industries, either due to their own choice or the industry's demand. More specifically, I hypothesize that socioeconomic background influences access to elite Wall Street jobs. Also, managerial competencies, cognitive ability, general business knowledge and personality may be more important in one industry that in another. Little is known about how personality traits, cognitive ability and competencies differentially influence access to and success in different labor markets and industries. It is possible that along with socioeconomic status, business knowledge and managerial competencies play a role in selection for careers on Wall Street, or the military.

Measures

To measure managerial competencies and motives, I use the Hay-McBer Managerial Competency Questionnaire (Kelner, 1997) together with an unpublished pilot version. I measure the big-five personality traits with the NEO Five- Factor Inventory Form Two (Costa and McCree, 1991). I measure cognitive ability with the Wonderlic Personnel Test (Wonderlic Personnel Test Inc., 1998). In addition, I develop a survey instrument to measure earnings, promotions, age, sex, blue collar or white collar background (father's occupation), race, time preference, breaks in career to raise children, industry, attitudes and other personal information (see Appendix 1). In the instrument, I measure time preference on a scale from one to five where one is "strongly agree" and five is "strongly disagree" with the following question:

> *If I had to choose between a sure $100,000 today and a sure $200,000 in 2 ½ years, I would choose the $100,000 today.*

The survey includes three measures of business knowledge. The first is a question that tests whether the student understands the concept of a present value of one dollar payable in one year. The second is a question that tests whether the student knows that a debit is an entry posted on the left hand side of the ledger. The third is a question that tests whether the student is familiar with the definition of the term *marketing* (as defined in introductory marketing courses) as understanding and meeting customers' needs. I sum the correct answers to create a business knowledge index. I create a dummy variable, "business knowledge" with a value of one when the student got two or three questions right, and zero otherwise. The business knowledge measure and dummy variable are likely confounded with the student's semester in the MBA program (the number of courses the student has taken), and likely capture the student's stage in the program as well as knowledge. I collect data on age and experience, but not the number of courses completed.

I measure recent promotions with a question as to the number of promotions in the past five years. In addition, I ask a question about the employer for whom the respondent works, which I code into "Wall Street", "Military" and "Other". The dependent variables are measured with a question as to the respondent's W-2 earnings. An additional question that frames earnings in terms of earnings bands is included to check the responses. An additional check, not shown, was performed by asking 85 students what their W-2 earnings were during the prior year. I was concerned that estimates of current earnings would be biased because some students receive end-of-year bonuses and need to estimate total current year earnings. It turned out that the students reported earnings in the prior year that highly correlated with current year earnings (r = .93). This finding is similar to those of Baker, Gibbs and Holmstrom (1994), who regress lagged earnings on earnings for 13 cohorts of employees of a single firm and find that the R^2 ranges from .91 to .99 (r = .95 to .995), increasing slightly with tenure. In addition to the data that I discuss here, some versions of the instrument included questions on spousal employment, social attitudes (conservative versus liberal), job change, job search methods and geographic location of upbringing (including U.S. versus non-U.S.), but these questions did not yield significant or interesting findings and are not presented in the discussion.

Samples

The instruments were administered to two groups of evening MBA students over five years.

The first included 117 students in a human resource management course who were attending a southern university's MBA program. The university has a mid-range undergraduate Gourman (1997, 1998) rating between 3.0 and 4.0, and the graduate program is not covered by Gourman's rankings of outstanding professional programs. Forty-eight percent of the southern sample works in the military. The second sample was of 206 evening MBA students in an organizational behavior course from a northeastern university with an undergraduate Gourman ranking of above 4.5, which puts it in the top-ranked category, and a graduate program among the top programs in Gourman's rankings of professional programs. Thirteen percent of the northeastern sample works for Wall Street firms.

Table 2 indicates the response rates to the questionnaires. Only 33 of the 117 students in the southern university were given the managerial skills questionnaire, and two thirds of these were given a pilot version that was available in the late 1990s. The reason was that the pilot instrument was the only one available when the early part of this work was done. The scores for the pilot instrument were adjusted to be proportionate to the scores for the Hay-McBer Managerial Competency Questionnaire. Also, only an overall competency index was collected for the early groups because the complete instrument with the individual dimensions was unavailable at the time. Thus, in comparing the two institutions' students, it is necessary to add the dimensions of the instrument administered to the northeastern sample to obtain an overall competency measure that is comparable to the adjusted southern sample. The small sample size of the southern sample weakens the power of the statistical tests with respect to these measures, and the adjustment to make the scores proportionate introduces measurement error, further weakening the power of the statistical tests. Constraining the regression parameter for the northeastern sample to the sum of the competency measures further introduces measurement error when the two samples are combined. In addition, I did not collect the time preference variable for the southern group.

The response rates to the various questions for the students from the northeastern university range from 62.1 percent to 100 percent (the worst response rate was for the questions on salary and recent promotions). For the students from the southern university the response rates range from 58 percent to 81 percent. Differences in personality and cognitive ability measures between respondents and non-respondents to the income and managerial skills questions are insignificant and small for both groups. Furthermore, the data from the southern university were collected over a 5 year period from 1996 to 2000, while the data from the northeastern institution were collected in 2000. There are differences between the two samples in addition to the institutions' Gourman ratings (US Department of Commerce, 2003). One sample is in a city in the northeast, within a 250 mile radius of New Haven, Connecticut. The second is in a city in the south, within a 250 mile radius of Charlotte, North Carolina. The city near the northeastern school has a per capita money income 2.1 times greater; a median value of owner occupied housing eight times greater; and 75 percent more baccalaureate degrees per capita than the city near the southern school. In addition, there are demographic differences between the two samples (see Table 2).

Thus, in doing the regression analyses the effects of geography, cost of living and sample characteristics are likely confounded with the institutional effects. In the multivariate regression equations that combine the two samples (Table 8), a dummy variable for institutional effects controls for these as well as the institutional differences in all specifications. Earnings are transformed into their natural logs. The advantage of taking the natural logs of earnings is that incomes are often skewed, and transforming earnings into their natural logs helps to normalize pay distributions, improving model fit (Judge, Cable, et al., 1995; Gerhart and Milkovich, 1989). When earnings are transformed into natural logs, the regression parameter can be interpreted as approximating a percentage. Also, the square of experience is included in regression equations where earnings are the dependent variable to account for the curvilinearity in the relationship between experience and earnings (Mincer, 1975).

Findings
Differences between the samples
As Table 2 shows, there are a number of significant differences between the two samples. The northeastern MBA program has a mean Wonderlic cognitive ability score of 32.5, versus 26.1 for the southern MBA program, which is a significant difference. There were several differences in personality traits. For the northeastern institution, neuroticism is significantly higher, agreeability lower and, contrary to the signaling hypothesis, conscientiousness lower than for the southern institution. Several of the Hay-McBer Managerial Competency Questionnaire scores are significantly higher for the southern program, but the southern sample is small. As hypothesized, a significantly larger percentage of students in the northeastern program with the higher Gourman rating know the meanings of *present value* and *debit*, but the difference for the two programs with respect to the percentage who could define *marketing* is insignificant.

In addition, there are significant demographic differences between the two samples. The samples are significantly different as to percentage that is male; industry in which they work; inherited socioeconomic status (as measured by whether the respondent's father was a white collar worker); race; whether the respondent has a child; and age. Twenty percent of the northeastern sample earned over 100,000 dollars, and six students in the northeastern sample earned over 250,000 dollars, with the highest two earning 400,000 dollars. The skewed earnings distribution results in mean earnings of $100, 562 for the northeastern sample.

Correlations-northeastern sample

Although the correlations are modest (in the .15 to .29 range), Table 3 shows that within the sample from the northeastern program, the natural log of W-2 earnings and raw W-2 earnings correlate significantly and positively with (a) promotions in the last 5 years, (b) achievement orientation, (c) developing others, (d) directiveness, (e) impact and influence, (f) organizational awareness, (g) team leadership, (h) the sum of all of the Hay-McBer managerial skills scores (the competency index), (i) time preference and (j) years of experience. Earnings correlate negatively with neuroticism and agreeability. Remarkably, in the northeastern sample, neuroticism and agreeability show a negative and significant association while conscientiousness has an insignificant correlation with earnings. This finding is likely localized to the age group and employment status of the sample (young professionals in MBA programs), since most other studies have found that agreeability does not correlate and that conscientiousness does (but see O'Reilly and Chatman, 1994). Turnover data was collected for 85 of the students from the northeastern program, but there is no significant correlation of neuroticism or agreeability with turnover rate, which contradicts the explanation that job matching may play a role in understanding the correlation of these personality traits with earnings (Jovanovic, 1984).

Other correlations

Recent promotions among students in the northeastern institution correlate with several managerial competencies measures, namely, achievement orientation, developing others, organizational awareness and the competency index (the sum of the competency scores). No other measures correlate significantly with recent promotions. Cognitive ability has small but significant correlations with neuroticism (negative) and conscientiousness (positive) for the northeastern sample. There are also significant correlations of cognitive ability with achievement orientation, interpersonal understanding (negative), time preference and years of experience. For the northeastern sample, there are interactions within the big-five personality traits and the competency measures, as has been noted elsewhere, but they are somewhat stronger here. For example, the correlations that Judge and Cable (1997) find between conscientiousness and neuroticism, extraversion and agreeability are -.16, .27 and .18, while for the northeastern students they are -.37, .24 and .25, and for the combined sample discussed below they are -.43, .25 and .30. The high correlations within the competency variable set are confirmed by a factor analysis, not shown here. A single factor with an eigenvalue of 4.3 explains 61 percent of the variance in the competency measures. In effect, the measures in the Hay-McBer Managerial Competency Questionnaire form a single large factor. This is consistent with Boyatzis's (1982) argument that competencies overlap and ought to be highly correlated because they are all associated with outstanding performance.

Correlations-combined samples

When the two samples are combined (see Table 4), the correlations of earnings with cognitive ability are stronger and, contrary to hypothesis, the correlation of earnings with managerial competencies is insignificant. Furthermore, the correlation between business knowledge and earnings for the combined sample is significant, with the correlation between the natural log of earnings and business knowledge of .25 significant at the .001 level. This would seem to fit human capital theory in a straightforward manner. But when partial correlations are run for the correlations of business knowledge with earnings controlling for (a) cognitive ability and (b) institution (northeastern versus southern), the partial correlations of earnings with general business knowledge become insignificant in both cases. This weakens the support for the human capital theory because under human capital theory the rewards from the degree would be attributable to acquired business knowledge rather than cognitive ability.

The combined findings are modified in partial correlations in some additional ways. Partial correlations among the variables were computed controlling first for the year the data was collected and second for the institution. In these partial correlations missing data was replaced by the mean per institution to improve statistical power. Controlling for the year the data were collected and substituting for missing data strengthened the correlations, with generally a one to two percent increase in the correlation coefficient. Controlling for the institution from which the data were collected and substituting for missing data weakened some of the correlation coefficients, but strengthened the correlation between the managerial competency index and earnings.

Controlling for the institution reduces the correlation between cognitive ability and the natural log of earnings to .12, which is still significant at the five percent level. It increases the correlation between the Hay-McBer competency measure and earnings to .15, which is significant at the one percent level. It increases the correlation between the number of promotions in the last five years and the Hay-McBer competency measure to .12, which is significant at the five percent level. Thus, the combined sample gives modest support to the claim that managerial competencies influence earnings, albeit interactively, through a refractive institutional lens. Controlling for the institutional differences also yields a -.15 correlation between agreeability and raw earnings, and a -.13 correlation between neuroticism and raw earnings, both of which are significant at the five percent level (the correlations fall slightly to -.14 and -.10 for the natural log of earnings, which are significant at the five and ten percent level respectively). Also, when controlling for the institutional differences, (a) the correlation between neuroticism and conscientiousness is .40, (b) the correlation between neuroticism and extroversion is -.38, (c) the correlation between managerial competencies and extroversion is .31, and (d) the correlation between managerial competencies and conscientiousness is .27, all of which are significant at the .001 level.

Correlations of interactions with cognitive ability and earnings

O'Reilly and Chatman (1994) have emphasized the role of interactions of personality and cognitive ability in early career success. Tables 5 and 6 examine the correlations of cognitive ability interactions with earnings for the northeastern and combined samples. Consistent with O'Reilly and Chatman's (1994) findings, for the combined sample the interaction of cognitive ability and conscientiousness has a stronger correlation with earnings than has the conscientiousness variable alone (but not the cognitive ability variable alone).The combined samples' correlation matrix for the interactions reveals differences from the northeastern sample alone. The correlation of the extroversion interaction with earnings is significant in both samples, but the correlation of the openness interaction with earnings is significant in the combined sample but not the northeastern sample. The correlation of the competency index interaction with earnings is significant for both samples, but the business knowledge interaction is significant only for the combined sample. The correlation of the time preference interaction with earnings is significant for the northeastern sample, while the experience interaction is significant only for the northeastern sample.

Earnings equations for the northeastern sample

Data for the northeastern institution with the higher Gourman rating are analyzed first, followed by data for the combined samples. All of the data concerning the students in the northeastern institution were collected in 2000, so there is no control for year in equation 7, which includes just the northeastern students. In tables 7 and 8 missing data are replaced with their mean value by institution. Table 7-A suggests that among students in the northeastern institution, experience and gender contribute to the natural log of earnings. Disappointingly, the parameter on the dummy variable for gender, suggesting a 20 to 30 percent pay differential, is stronger and more consistently significant than for most of the other variables throughout this data (only employment on Wall Street and the institution dummy have stronger effects than gender).

In regressions not shown here, when the independent variables are regressed on raw earnings rather than the natural log, the fit is not as good, but the results are similar. For instance, when the variables in Table 7-A are regressed on raw W-2 earnings, experience becomes insignificant, but gender remains significant. Table 7-B suggest that neuroticism and agreeability are negatively and significantly associated with earnings in this sample (neuroticism is only significant at the 10 percent level in 7-B). Contrary to hypothesis, conscientiousness is insignificant. Table 7-C indicates that cognitive ability and general business knowledge do not play a role in determining earnings within the northeastern sample. This is the only insignificant equation for the northeastern sample. In contrast, managerial competencies do contribute to earnings. The equation in Table 7-D has significant parameters for time preference and organizational awareness. Developing others is significant at the 10 percent level while interpersonal understanding and team leadership have negative signs.

Again, in regressions not shown here, fewer variables are significant and the relationships are weaker when raw earnings rather than the natural logs of earnings are the dependent variable. Organizational awareness remains significant at the five percent level while interpersonal understanding is negative and significant at the 10 percent level. When the Hay-McBer dimensions are summed to form a competencies index in Table 7-E, the sum is significant at the 5 percent level for the natural log of earnings as dependent variable and the raw earnings as well (not shown). Time preference is significant at the .001 level. The business knowledge dummy variable has a negative sign but the parameter is insignificant. Employment on Wall Street is a strong correlate of earnings and has a significant parameter in Table 7-F.

In the northeastern sample, the students working on Wall Street enjoy a 30 to 40 percent pay advantage over their classmates, controlling for the other factors. Using Table 7-A as the restricted or base model, blocks of alternative independent variables are added in Tables 7-G through 7-M, and F tests for additional variables performed to test the significance of the additional variables as blocks. The F tests determine whether the additional variable blocks add explanatory power to the restricted model. In Table 7-G, the big-5 personality traits are added to Table 7-A, and the F test is significant for the big-five personality traits at the five percent level. Again, agreeability and neuroticism are negative and significant. In Table 7-H, cognitive ability and business knowledge are added to the restricted model. This time the F test for the additional variable set is not significant at the five percent level. The business knowledge dummy variable is negative and significant at the 10 percent level, while cognitive ability is not significant. This may be attributable to attenuation.

In Table 7-I, time preference, developing others and organizational awareness have significant positive parameters, while interpersonal understanding and team leadership have negative parameters. Also, the business knowledge variable is negative and significant at only the ten percent level in 7-I. The F tests for full versus restricted models for adding the individual competency dimensions and the competency index (Tables 7-I and 7-J) are both significant. The negative signs for some of the managerial skills measures are likely artifacts of the multicollinearity discussed earlier. But the negative sign for business knowledge remains when the managerial competencies measures are summed in Table 7-J to form a competency index. The negative sign for the business knowledge dummy may be related to the argument that students who experience early career setbacks acquire knowledge to compensate for the setbacks.

In Table 7-K, Wall Street employment and promotions in the last five years add significant explanatory power to the restricted model. In Table 7-L, the full model suggests that the additional variables add significant explanatory power over the restricted model at the .001 level of significance. Agreeability is negative and significant only at the ten percent level, and time preference is significant at the five percent level (ten percent in Table 7-M). General business knowledge has a negative sign and is significant at the one percent level (one percent in Table 7-L). This continues when the managerial competencies measures are summed in Table 7-M. When the competency measures are summed so that the parameter is restricted, the competencies index is insignificant in the full model. Developing others and organizational awareness are significant for Table 7-L, though, and this holds when raw earnings are the dependent variable.

Earnings equations-combined samples

When the two samples are combined in Table 8 in regressions on the natural log of earnings, a dummy variable called *institution* is retained in each model to capture the effects of the different Gourman ratings as well as the unidentifiable differences between the two samples, for example due to geographic location and cost of living. The dummy increases earnings by 70 to 80 percent. Also, a year variable is included in the earnings equations to account for inflation and market dynamics due to the data's being collected over several years. Table 8-A shows that experience, gender, the year the data were collected and the institutional dummy have significant signs and that the restricted model has a healthy fit with the natural log of earnings ($R^2 = .61$). In Table 8-B, general business knowledge has a negative sign, but it is insignificant. Managerial competencies as well as the institutional variable have significant parameters in the expected directions. In Table 8-C, agreeability retains its significant and negative effect on the natural log of earnings. In Table 8-D, cognitive ability, but not business knowledge, has a significant parameter. That is, controlling for the institution effect, cognitive ability is still significant.

In Table 8-E, the effect of military employment on the natural log of earnings is negative but insignificant, while the effects of Wall Street employment and institution have strong positive effects. Again, the students who find a job on Wall Street enjoy a 30 to 40 percent raise over and above the 74 percent pay advantage that the students in the northeastern institution enjoy.Despite the significant parameter for cognitive ability in Table 8-D, The F tests for full versus restricted models are significant for at least a one-tailed test except for the cognitive ability and general business knowledge variables in Table 8-F. This is due to the institution dummy.In Table 8-G, the managerial competency index has a significant t statistic, and the F test for the model that includes the business knowledge and competency measures versus the restricted model 8-A (demographic variables only) is significant.

In Table 8-H the agreeability variable is again negative and significant at the one percent level. Because the other big-five personality measures are insignificant, the F test for the full versus the restricted model is significant only at the 10 percent level. In Table 8-I, Wall Street but not military employment has a significant t statistic, and the F statistic for these variables is significant at the one percent level. The full model with all variables is in Table 8-J. Gender has an 18 percent effect on earnings. The parameter for business knowledge is negative and significant at the five percent level.

At the same time, the competencies measure is positive and significant at only the ten percent level, and agreeability is negative and significant at the one percent level. Also significant are Wall Street employment, the year the data were collected and the institution dummy. Table 8-K excludes the institution dummy from Table 8-J, the full model. A comparison of Table 8-K with 8-J lends some support to signaling as opposed to human capital theory. True, when the institutional variable is removed, the parameter for business knowledge increases so that it is no longer significant, but it remains negative. But the parameter for cognitive ability more than triples (from .005 to .018), and becomes significant at the .001 level. The effect of the institution dummy on earnings seems to be related to cognitive ability more than to business knowledge, which suggests signaling. This finding is not conclusive, of course, because geographic and other factors are confounded with the institutional dummy. Yet, the negative sign on business knowledge is especially damaging to the human capital theory because the business knowledge measure might be confounded with years in the program, the omission of which likely reinforces the positive earnings effect of general business knowledge.

It is, however, consistent with Melamed's findings that the effects of human capital investments are weakest at the early career stage and with the argument suggested by Dreher and Bretz that acquisition of knowledge may compensate for early career setbacks. Of course, that point begs the question as to the sources of success of those who did not suffer early setbacks. It also begs the question as to why the effects of the Hay-McBer managerial competencies are positive at this career stage, while the effects of acquired traditional MBA-style knowledge are not. When the institution dummy is removed, the year and industry effects are also strengthened, and having at least one child becomes negative with a significant parameter. The competencies index loses significance altogether in Model 8-K, however. Again, there seems to be an interaction in this data of the role of competencies with institution and/or labor market characteristics.

Missing data

For the northeastern sample, I ran regressions (not shown) where observations with any missing data were dropped. For these equations, experience, gender and Wall Street employment are significant. The big-five personality traits, cognitive ability, business knowledge and time preference are not significant. Business knowledge retains its negative parameter, although it is insignificant. When the seven individual competency dimensions are added to the model, the significance of experience is reduced and time preference (at only the ten percent level), developing others, organizational awareness, and Wall Street employment are significant. Team leadership is significant, but its sign is negative. For the combined samples, when observations with missing values are dropped, gender is significant at the .001 level, agreeability is negative and significant (only at the ten percent level), and working on Wall Street is significant at the one percent level. When the competencies index measure is added, it is significant only at the 10 percent level.

Equations that include interactions of personality and cognitive ability

Table 9 adds interactions of the managerial competencies, time preference, experience, business knowledge and big five traits with cognitive ability to test the importance of interactions as claimed by O'Reilly and Chatman (1994). When the interactions are regressed on the natural log of earnings for both the northeastern (Table 9-A) and combined samples (Table 9-C) several parameters have significant t statistics and the R^2s are .23 and .24. This is consistent with the claim that interactions are important to understanding the determinants of early career earnings, although contrary to O'Reilly and Chatman's findings the interaction of conscientiousness and cognitive ability is insignificant.However, when the non-interactive variables are included as controls, the t statistics for the interaction terms are generally insignificant. The exception is the interaction of cognitive ability and extroversion for the combined sample. Also, using the full models in Tables 7-L and 8-J as the restricted models for F tests on tables 9-B and 9-D respectively, the interactive terms do not add significant explanatory power to the models without interaction terms. That is, the F tests for additional variables fail to reject the null hypothesis. Thus, these data ultimately do not support the claim that interactions of cognitive ability and personality are crucial to understanding early career success, despite the significant correlation coefficients discussed above.

Wall Street and Military Employment

Do the same traits that influence earnings influence the matching of individuals with careers? In Tables 10 and 11, Wall Street (Tables 10 and 11) and military (Table 11) careers are dependent dummies in logistical equations, and the independent variables are competencies, abilities, personality traits and factors associated with selection into those careers. Table 10-A suggests that business knowledge and achievement orientation are key competency variables associated with selection into a Wall Street career. In table 10-B, extroversion (positive) and openness at the ten percent level (with a negative sign) are associated with having a Wall Street career.

In Table 10-C, having a father with a white collar job is a significant contributor at the one percent level. In the full model, table 10-D, business knowledge remains significant for working on Wall Street but only at the ten percent level, achievement orientation remains significant at the five percent level, developing others becomes significant at only the ten percent level, extroversion falls to a ten percent level of significance and having a white collar father is significant at the five percent level. The chi square statistic for the full model is significant at the one percent level. In Table 11, the two institutions are first viewed separately (with military careers the dependent variable for the southern institution and Wall Street careers the dependent variable for the northeastern institution). The chi square statistics are significant for all the logistic models in Table 11 at the .001 or one percent levels.   The managerial competence index is significantly associated with selection into a career in the military at the one percent level and into a career on Wall Street at the ten percent level. Cognitive ability is positively associated with a military career (within the southern sample) at the five percent level, while it does not play a role for selection into Wall Street careers within the northeastern sample. Neuroticism is negatively associated with selection into a military career (but unrelated to a Wall Street career) at the five percent level, while openness is negatively associated at the five percent level with a Wall Street career.

Extroversion is associated with a Wall Street career at only the ten percent level. Having a white collar father is associated at only the ten percent level for both military and Wall Street careers. Different personality traits are associated with different careers.When the two institutions are combined, the parameter for the competencies index remains significant for the students with military careers at the one percent level. Having at least one child is positively associated with military careers. Not surprisingly, business knowledge is positively associated with Wall Street careers (at the five percent level), while having a white collar father is also significant at the five percent level despite the control for the managerial competencies index. That is, managerial competencies play a more important role for a career match in the military, while coming from a white collar background plays a more important role for a career match on Wall Street. Note, however, that in Tables 10-A and –D, when the dimensions of managerial competencies are introduced individually, achievement orientation is significant for having a Wall Street career.Clearly, different factors are at play in selection into the different careers. In Wall Street careers, acquired general business knowledge plays a role. In military careers, managerial skills are more important, except for achievement orientation in Wall Street careers. In Wall Street careers, white collar background plays a role in selection that is significant when controlling for managerial competencies and other factors.

Summary and Conclusion

The findings herein modestly support my claim that managerial competencies interact with time preference, cognitive ability, school quality, demographic and socioeconomic factors and industry in influencing earnings. They also support my claim that contextual factors influence the effects of some traits of evening MBA students on earnings. It is important to introduce controls in order to gain a balanced view of how competencies, personality traits and cognitive ability influence earnings. Cognitive ability and the institution attended are so intertwined, for instance, that findings from a narrow sample likely understates the relationship. Competencies, in contrast, appear to have more visible effects in settings where individuals have been pre-screened for cognitive ability.A few points deserve to be emphasized with respect to my first hypotheses concerning the effects of managerial motives and competencies. In the northeastern sample, several competency measures correlate with earnings, to include achievement orientation, developing others, directiveness, impact and influence, organizational awareness and team leadership. As well, the sum of these measures, the competency index, correlates with earnings.

The correlations are modest but significant. The correlation of the managerial competency index with earnings is not significant, however, for the southern or combined samples. However, partial correlations that control for the institutional differences (southern versus northeastern) do yield a correlation that is significant at the one percent level for the managerial competency index and earnings. Thus, the institutional differences may influence and interact with the effects of managerial competencies just as they do with cognitive ability. In addition, the competency index is significant in regressions for the two institutions combined when the full array of controls is omitted, as well as for the northeastern institution alone. In full models that control for demographic, socioeconomic, cognitive ability and personality traits as well as institution and promotions, the competency index loses significance in the northeastern sample (for the full sample it becomes significant at only the ten percent level). However, two competency dimensions, developing others and organization awareness remain significant in the full models for the northeastern sample (the individual dimensions were not collected for the southern sample). In part because the managerial competencies index introduces measurement error, these findings deserve further research.

Also, the F test for additional variables that views experience, gender, white collar background, having a child, race, institution and year as independent variables in the restricted model, suggests that competencies, time preference and business knowledge add significant explanatory power. In addition, time preference, which was collected only for the northeastern sample, correlates .23 with the natural log of earnings and has significant t statistics in regression equations. Its significance falls to the ten percent level in the full model that omits the institution dummy. In addition, the cross sectional findings described herein do not support the claim that interactions of cognitive ability with personality traits or managerial competencies provide better explanations of earnings than the individual variables. It is true that the cognitive ability interactions have significant t statistics when they are viewed as the independent variables in regressions with the natural log of earnings as the dependent variable. However, F tests for equations that view the non-interactive characteristics as restricted models and the interactions as additional variables are insignificant.

With respect to my second hypotheses concerning big five personality traits, the data discussed herein do suggest effects of personality on earnings, but the relationships are likely unique to the refractive lens of the early career stage that characterizes the two samples. Neuroticism (r=-.2) and agreeability (r=-.26) correlate negatively and significantly with the natural log of earnings in the northeastern sample, and only agreeability correlates negatively and significantly with the natural log of earnings in the combined samples. Agreeability's parameter retains its negative significance in regression equations, although it is significant at only the ten percent level in Table 7-L and 7-M. The F test for additional variables, yields a significant F statistic for the big five traits for the northeastern sample at the five percent level, but only at the ten percent level for the combined samples. When interacted with cognitive ability, agreeability has a significant t statistic in the northeastern sample while neuroticism, extroversion and openness have significant t statistics in the combined samples. But again, the significance is not robust to controls for non-interactive variables. F tests for additional variables do not confirm the claim that interactions with cognitive ability provide better explanations of earnings than big five traits alone, including conscientiousness.

With respect to my third hypotheses concerning cognitive ability, attenuation in the northeastern sample eliminates the correlation between cognitive ability and earnings. But cognitive ability is the strongest correlate of earnings in the combined sample. Cognitive ability is not robust to the control for institution attended in the regression equations, and when cognitive ability and business knowledge are added to the restricted models for the northeastern sample alone (due to attenuation) and the combined sample (due to the institutional control) the F test for additional variables is insignificant. However, when the institutional dummy is removed in table 8-K, the full regression equation for the combined sample, the parameter for cognitive ability more than triples (from .005 to .017) and becomes significant at the .001 level. Table 8-K suggests that each Wonderlic point increases earnings by 1.7 percent. This would seem to lend better support for signaling as against human capital views of education since the acquired business knowledge parameter remains negative (although the parameter increases from -.09 to -.065). This finding is not conclusive because the institutional dummy is confounded with factors such as geographic location and a range of other characteristics.

It is true that the acquired general business knowledge measure is significantly higher for the northeastern sample than for the southern sample, and the correlation of business knowledge with earnings is positive and significant when the two institutions are combined. But partial correlations between acquired business knowledge and earnings that control for both cognitive ability and institution yield insignificant correlations between acquired business knowledge and earnings. Furthermore, in regression equations, the parameter for the acquired business knowledge variable is persistently negative, and it becomes significant at the one percent level in the full equation for the northeastern institution alone and at the five percent level for the combined samples when the institutional control is included (Table 8-J). This finding may be consistent with Dreher and Bretz's (1991) finding that cognitive ability is a stronger predictor of later career success for individuals experiencing lower levels of early career success. If students who suffer early career setbacks are more assiduous in acquiring business knowledge, then business knowledge will have a negative association with earnings that is peculiar to the early career stage of the evening students in the two samples. But this argument begs the question as to why some of the Hay-McBer managerial competency variables do not have negative signs. With respect to my fourth hypotheses, concerning demographic and socioeconomic factors, experience and gender have significant effects on earnings, but not race, having children or being from a white collar background. In regression equations, years of experience have a 12 to 15 percent effect for the northeastern sample and a 3 to 7 percent effect for the combined samples. With respect to my fifth hypotheses, working on Wall Street, past promotions and the institution attended influence earnings.

The institution dummy is confounded with geographic location and other incidental characteristics, but it overlaps with Gourman ranking and cognitive ability as well. The mean earnings of students from the northeastern institution is 231 percent of the mean earnings of students from the southern institution ($100,562 versus $43,435) although the mean is skewed by a small proportion of high earners in the northeastern sample. Controlling for factors studied here, students in the northeastern institution earn 66 to 82 percent more than students in the southern institution. Over and above that difference, Wall Street employment is associated with a 35 to 42 percent pay increment. Far smaller than occupation is the effect of promotions. The number of promotions in the past five years is associated with a 6.5 percent to 7.4 percent pay increment per promotion in the northeastern sample and a 5 percent to 8 percent pay increment in the combined sample. With respect to my sixth hypotheses, the factors that are associated with selection into careers, including high paying Wall Street careers, are different from the factors associated with earnings.

In logistical equations, acquired general business knowledge, achievement orientation and coming from a white collar background have significant chi square statistics where working on Wall Street is the dependent variable. Where working in the military is the dependent variable, managerial competencies and cognitive ability seem to play a role. Clearly there are important differences with respect to how early career professionals are matched to their careers, and these differences are not the same differences that determine pay. The refractive lens of contextual differences plays a role throughout the findings discussed herein. Attenuation and the institutional dummy mask the effects of cognitive ability that are revealed when the institutional dummy is removed in the full regression for the combined sample. The unique negative influence of agreeability and the negative influence of business knowledge in the regression equations may be due to the early career stage. Managerial competencies appear to play a stronger role in the northeastern institutional context than in the southern one with respect to earnings, while military employment with relatively modest earnings is associated with good managerial competencies.

My findings about managerial competencies and cognitive ability contrast with my findings concerning acquired general business knowledge. The parameter for acquired general business knowledge, the bread and butter of most MBA programs, tends to be negative in the earnings equations. My claim is that the negative sign for acquired knowledge results from the refractive lens of the early career stage studied here. In contrast, though, managerial competencies and institution quality tend to have positive regression parameters in the earnings equations. Is it possible that MBA programs ought to focus to a greater degree on organizational and team oriented competencies over and above general knowledge about finance, accounting and marketing? The findings herein suggest the possibility of a greater early career role of MBA programs for signaling than for human capital. In partial correlations, controlling for cognitive ability and for institution, the correlation between business knowledge and earnings is eliminated. In regressions, eliminating the control for institution attended triples the effect of cognitive ability on earnings. Might this imply that business schools can do a better job of providing human capital to their students?

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Table 1. Competencies Measured by the Managerial Competency Questionnaire (a)

Competency	Trait	Motive
I. Achievement Orientation	Thinking about and meeting and surpassing goals and taking calculated risks for measured gains	A concern for working well or for surpassing a standard of excellence
II. Developing Others	Working to develop the long-term characteristics of others	An intent to foster the long-term learning or development of others
III. Directiveness	Setting firm standards for behavior and holding people accountable to them	The intent to make others comply with one's wishes by appropriate and effective use of personal power or the power of one's position, with the long term good of the organization in mind
IV. Impact and Influence	Use of deliberate influence strategies or tactics	The intention to persuade, convince, influence or impress others in order to get them to go along with or to support one's own agenda
V. Interpersonal Understanding	Awareness of what others are feeling and thinking but not saying. Increasing complexity and depth of understanding of others and cross-cultural sensitivity	Wanting to understand other people
VI. Organizational Awareness	Sensitivity to the realities of organizational politics and structure. . The ability to learn and understand the power relationships in one's own organization or in other organizations	Wanting to understand political structure, power relations and related organizational issues
VII. Team Leadership.	Ability to lead groups of people to work effectively together	The intention to take a role as leader of a team or other group. A desire to lead others

(a) Source: Kelner, 1997.

Table 2. Sample Characteristics and Institutional Difference

	Evening MBA Students in Northeastern Institution			Evening MBA Students in Southern Institution				
	Sample Size	Mean	Standard Deviation	Sample Size	Mean	Standard Deviation	T Statistic For Diff.	Chi Square Stat. (g)
Cognitive Ability	172	32.5	4.4	82	26.1	6.4	8.12 (a)	
Neuroticism	191	18.2	7.9	68	15.1	8.6	2.64 (c)	
Extroversion	191	30.6	6.8	72	31.8	5.9		
Openness	191	29.2	6.1	72	28.2	5.6		
Agreeability	191	30.3	6.0	72	32.4	5.6	-2.48 (c)	
Conscientiousness	191	35.0	6.7	72	37.0	6.6	-2.2 4(c)	
Achievement Orientation	188	17.8	5.7	13	19.8	5.1		
Developing Others	188	20.7	5.8	13	23.9	6.0	-1.94 (d)	
Directiveness	188	15.4	5.9	13	21.5	6.4	-3.63 (b)	
Impact and Influence	188	16.8	5.1	13	19.7	6.4	-1.97 (d)	
Interpersonal Understanding	188	17.9	4.9	13	17.7	4.6		
Organizational Awareness	188	20.3	5.9	13	23.3	5.2		
Team Leadership	188	16.4	6.1	13	21.7	4.1	-4.37 (b)	
Managerial Skills (f)	188	125.3	6.1	33	148.3	26.0	-5.57	
Time Preference	128	3.2	1.6	-	-	-	-	
% Who Know: "What is Present Value?"	206	47	5	95	5.3	22.4	7.66 (a)	49.4(a)
% Who Know: "What is a debit?"	206	35	5	95	13.6	34.5	3.94 (a)	14.9(a)
% Who Know: "What is marketing?"	206	38	5	95	32.7	47.1		
% Two or more business knowledge questions correct (g)	207	44.9	50	95	17	4	5.41 (a)	22.3(a)
Number of business knowledge questions correct (g)	207	1.2	1.1	95	1.19	0.44		142.4(a)
% Male	129	71		88	55	51	2.47 (d)	6.01 (c)
% Works on Wall Street	206	13	33	95	0	0	5.44(a)	13.1 (a)
% Works in Military	206	0	0	88	48	50	-9.39	118.2 (a)
% Father White Collar	206	48	5	95	20	40	5.24 (a)	21.9 (a)
% With one or more children	129	13	3	95	69	47	-8.1(a)	58.0(a)
% Caucasian	130	69.2	57	95	63.2	48		
% African Amer.	207	0.5	7	95	15.8	4	-4.04(a)	30.4(a)
W-2 Earnings	128	100,562		73	43,435	13.948	10.16(a)	
Ln(W-2) Earnings	128	11.4		73	10.6	0.32	14.05 (a)	
Promotions in last 5 years	130	2.4	1.2	68	1.5	1.4	5.18 (a)	
Age	128	28.9	2.7	66	32.9	10.0	-4.77(a)	

(a) $p < .0001$ (b) $p < .001$ (c) $p < .01$ (d) $p < .05$ (e) $p < .10$ (f) Managerial skills is the sum of achievement orientation, developing others, directiveness, impact and influence, interpersonal understanding, organizational awareness, and team leadership (g) Chi square statistic for a frequency table of institution by variable.

Appendix 1. Questionnaire.

1.   ID No. (Last 4 digits of ss no.)_____

2. Industry in which you are employed: Please circle one: Manufacturing   Consulting   Wall Street

Other Financial (commercial banks, insurance, etc.)   Military   Other Government   Other Services

3. Date of birth_____

4. Nation and if applicable state and city where you spent most of your childhood_____

5. Gender (please circle one):   M   F

6. If the market rate of interest is 10 percent, the present value of one dollar payable in one year is about (please circle the best one):

    (a) don't know (b) 75 cents (c) 91 cents (d) $1.00 (e) $1.10

7. Which of the following statements is most correct (please circle the best one)?

    (a) a debit is on the right (b) a debit is on the left (c) a debit means an increase (d) a debit means a
       decrease

8. Which of the following statements is most correct (please circle the best one)?

(a) marketing means selling (b) marketing means convincing (c) don't know (d) marketing means understanding what the customer wants and delivering it (e) marketing means creating a positive image

Please answer questions 9-15 on a scale from one to five where one means 'strongly agree'
and five means 'strongly disagree'. Please circle one.

Strongly   Not   Strongly
agree   sure   disagree

9. If I had to choose between a sure $100,000 today and a sure $200,000 in 2 ½ years, I would choose the $100,000 today.

1   2   3   4   5

10. My spouse currently works full time (if unmarried leave blank)

1   2   3   4   5

11. Government regulation is more efficient than free market processes

1   2   3   4   5

12. I know where I will be in ten years

1   2   3   4   5

13. If one is to succeed it is important to fit in

1   2   3   4   5

14. I enjoy having power

1   2   3   4   5

15. I prefer Democrats to Republicans

1   2   3   4   5

Strongly   Not   Strongly
agree   sure   disagree

16. My race is (please circle one)

African-American   American Indian   Asian Hispanic   White/Caucasian

17. My W-2 earnings are (please circle one):

(a) $0-20,000 (b) 20,001 -30,000   (c)30,001-40,000 (d)40,001-55,000 (e) 55,001-75,000

(f) 75,001-100,000 (g) 100,001-150,000 (h) 150,001-200,000 (I) 200,001-300,000

(j) above 300,000

18. In the past five years, I have been promoted_____times (please circle one)

zero   one   two   three   four   five   more than five

19. Since I was 21, I have changed jobs _____times.

20. In the past, how many years off have you taken from your career (other than for related educational purposes), for example, for child rearing or starting your own business

(a) 0   (b) 1   (c) 2-3 (d) 4-5 (e) 6-7 (f) 8-9   (g) 10 or more

21.Please check one:

(a) I am married without children _____   (b) I am single without children_____

(c) I am married and have children_____   (d) I am single and have children_____

22.When you were a child, your father's occupation was_____

23.My employer is_____

25. My W-2 earnings are_____

26.   Since I was 21, I have changed jobs_____times.