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Careers, Social Context and Interdisciplinary Thinking

Barbara S. Lawrence

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CAREERS, SOCIAL CONTEXT AND INTERDISCIPLINARY THINKING

Barbara S. Lawrence
Anderson Graduate School of Management
University of California Los Angeles
Los Angeles, CA 90095-1481
barbara.lawrence@anderson.ucla.edu

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CAREERS, SOCIAL CONTEXT AND INTERDISCIPLINARY THINKING**ABSTRACT**

Scholars have engaged in studies of careers, individuals' work experiences over time, since the early 20th century. Although much has been written about the need for interdisciplinary research, limited work exists. This paper presents a comparative technique that facilitates interdisciplinary thinking. Using data from a large organization, three stories are applied to the associations between social context and career outcomes: a different disciplines story, a multiple disciplines story and an interdisciplinary story. The results suggest that the best career satisfaction outcome results from the multiple disciplines story, whereas the best performance and salary outcomes result from the interdisciplinary story.

Some of the oldest questions about work during the last century involve careers, the sequences of individuals' work experiences throughout their lives (Arthur, Hall, & Lawrence, 1989b). What type of work do people accomplish, how and why do they accomplish it and when during life does this occur? A topic of particular interest to both individuals and organizations is an individual's career success, the formal and informal rewards and validation he or she receives from work. In hierarchical careers, these typically include an individual's performance evaluations as well as his or her salary, mobility from positions of lower to higher status and personal feelings of career satisfaction. Career outcomes have been studied extensively in many fields, for instance psychology (Howard & Bray, 1988), social psychology (Sackett, Dubois, & Noe, 1991), management (Hall, 2002), sociology (White, 1970) and economics (Doeringer & Piore, 1971)¹. However, despite calls for more integrated discussions in which theory evolves from two or more perspectives (Arthur, Hall, & Lawrence, 1989a; Schein, 2007), the careers literature with few exceptions reflects disciplinary separation.

One reason for this distance is that integration means different things to different people. Scholars tend to follow ways-of-thinking consistent with those of their colleagues and the journals in which they publish. These traditions affect all aspects of research from theoretical development to data collection and methods of analysis. As a result, studies often focus on one rather than multiple disciplines, even when the intent is integration. Boehm (1981) provides an example comparing two articles, one by Stumpf & London (1981) and another by Anderson, Milkovich & Tsui (1981). Each presents models of managers' intra-organizational mobility and each was published in 1981 in the same journal. Yet, although both recognize the duality of the psychological and sociological approaches, the former focuses on individual determinants and

the latter on structural processes (see also Gunz, 1989). This distinction is easily observed in the references: Of the 100 or so references in each article, only four are cited in common.

The purpose of this paper is neither theory-generation nor theory-testing, but rather theory-thinking. People refer to more integrated work as thinking-outside-the-box. However, when the box is a discipline it is sometimes difficult to identify the outside. One way to facilitate such thinking is to construct stories that emphasize one or more academic traditions. Applying these stories to data presents generative “if-what” questions. If the story were told from multiple perspectives, what would the narrative look like? If someone from another academic tradition were studying the data, what might he or she say? If more than one tradition is warranted, what are the mechanisms that connect them? Answering these questions induces integrated thinking. This paper illustrates the technique using data on managerial careers from a large public utility.

The data involve individuals’ internal *perceptions* of social context and contrasting external *observations* of social context as explanations for career outcomes, the former grounded in psychology and the latter in sociology. Social context represents fertile ground for interdisciplinary research. It is widely recognized as a central feature of organizational life, the conceptual location in which the two disciplines intersect and the boundaries within which careers are enacted. However, while there is considerable common ground lying within this territory, scholars also recognize general differences (Arthur, 2008; Lawrence, 2004). One of these involves the source of information that defines social context. Psychologists tend to rely on individual perceptions of the situation whereas sociologists use sources outside the individual, such as public or private records and relevant social actors. As a result, few studies examine social context as an interdisciplinary phenomenon.

This paper takes advantage of this difference to generate, and then empirically investigate, three stories about the relationship between social context and career outcomes. The first, a different disciplines story, considers perceived and observed social context separately, assessing whether either produces useful results. The second, a multiple disciplines story, examines how the association between perceived and observed social context play in career success. Finally, an interdisciplinary story explores how the mechanisms that connect the perceived and observed versions of social context are related to career success.

Who Defines Social Context?

All careers are embedded within a social context, whether it involves work groups or labor market opportunities. However, psychology and sociology provide different perspectives on its meaning. Psychologists typically approach social context as something that individuals perceive and of which they are aware (Khapova, Arthur, & Wilderom, 2007). From this perspective, social context is relevant to careers because of how individuals view it, which may include their thoughts about relationships, such as mentors or role models (Bozionelos, 2008; Wayne, Liden, Kraimer, & Graf, 1999), their understanding of what it takes to get ahead or obtain higher status (Lucas & Buzzanell, 2004) or their perceptions of organizational support for their work (Rhoades & Eisenberger, 2002).

In contrast, sociologists typically approach social context as something outside individuals of which they may be unaware and over which they may exert little control. From this perspective, social context involves external definitions of the situation, perhaps including individuals' positions within social networks (Burt, 1992), the opportunity structure in their organization (Bruderl, Preisendorfer, & Ziegler, 1993) or the proportions of minority job incumbents (Barnett, Baron, & Stuart, 2000). While there are no hard and fast boundaries

between these traditions, an important distinction between psychological and sociological approaches is who defines the social context within which careers transpire.

Although many studies include both individual and contextual factors as predictors of career success, few consider the social context itself as an interdisciplinary phenomenon. For instance, Tharenou and colleagues (1994) incorporate several endogenous, situational variables in their managerial advancement model, including career encouragement at work, gender-linked hierarchies and training. They find that advancement follows a “sequenced interaction of situational and personal factors” (p. 922). This study has the advantage that it represents a carefully-collected large sample from multiple organizations that includes both individual and contextual variables. Yet, the data are all self-reports. This means that social context is defined by individuals’ perceptions but not by external observation. For instance, gender-linked hierarchies are measured using individuals’ perceptions of gender proportions in managerial jobs, but not by observations of the actual distributions. This limitation means that the study includes social context, but only from the perceptual perspective.

Gruys et al. (2008) provide a similar example from a more sociological perspective. Their study uses hierarchical linear modeling to separate individual, manager and department level effects of values enactment, the alignment of individual behaviors with core organizational values (p. 808), on promotions. Promotion data were collected two years after initial data collection making causal inferences possible. They find that promotions increase when individuals’ increasing values enactment scores are positively correlated with increasing values enactment scores in their own department. In contrast to Tharenou et al. (2004), the contextual measures here come from externally-observed values obtained from annual performance evaluations. Individuals’ behavior regarding core values is assessed by their managers,

managers' behavior regarding core values is assessed by their managers, and departmental behavior is assessed by the averaging the evaluations within a department. This study includes social context but only from the observed perspective. Individuals' perceptions of social context, their views of the values enactment of their manager and department, are unobserved.

The strength of these studies emanates from their thoughtful consideration of both perceived and observed approaches to social context. Each represents good research in which the data represent one side of the social context story. Scholars frequently criticize this single-method approach—whether drawing on self-reports or performance evaluations—citing common methods bias, which introduces systematic errors that inflate regression estimates (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). However, there are also theoretical reasons for questioning this approach. Research suggests that people are not always accurate observers. For instance, individuals' judgments of organizational distributions may regress towards the mean, underestimating the upper boundary and overestimating the lower (Lawrence, 1988). Individuals may develop inflated perceptions of their own probability of promotion (Rosenbaum, 1989), and managers and their bosses may think they understand one another's attitudes towards promotions, when they do not (Herriot, Gibson, Pemberton, & Pinder, 1993).

As a result, individuals' estimates of the proportions of men and women, as in Tharenou et al. (1994), may be inaccurate. The data provide no way to assess subjects' perceptual accuracy or understand what personal or situational factors influence their observations. In Gruys et al. (2008), managers who provide values enactment scores for their subordinates may inaccurately represent their subordinates' behavior. The scores may reflect managers' projection of their own values enactment on those of their subordinates or the performance pressure they experience to

alter their group or department's behavior. If these differences carry relevant meaning, the territory connecting perceived and observed social context deserves further scrutiny.

Perceived And Observed Social Context

The central distinction between perceived and observed social context is awareness. Individuals are typically aware of their perceptions, such as the likelihood they will receive future opportunities, but less likely aware of how others evaluate those probabilities. In order to examine both versions of social context, one set of perceived and one set of observed contextual antecedents of career success were selected. The two sets are matched with each pair indexing one of three concepts: career timetables, status of co-workers and career potential. Neither set represents a theory of career success, a generalizable representation of contextual variables or a causal depiction of antecedents. Rather, they represent examples of social context useful for this interdisciplinary thinking exercise.

Perceived Social Context

Perceptions of social context influence career outcomes because they provide information that helps individuals make sense out of how careers work in a given environment. The sense they make from this information may or may not be accurate, but accurate or not, it represents a criterion they use to assess their own value and that of others.

Perceived career timetable. One type of information individuals use in this evaluation is their perception of the extent to which their own career is on- or off-schedule. Research indicates that individuals' social comparisons with observable others constitute an important perceptual criterion they use to appraise career success (Heslin, 2005). Individuals assess their own progress and organizational value by gauging how they are doing relative to others. For example, managers who see themselves as ahead-of-schedule relative to others may experience more job

moves (Herriott, Gibson, Pemberton, & Pinder, 1993). They also appear more likely to have positive work-related attitudes than those who see themselves as on- or behind-schedule, even when their perceptions are inaccurate (Lawrence, 1984). Similarly, employees' beliefs about salary equity appear based on salary comparisons with known others rather than on absolute pay (Jaques, 1961). Being ahead-of-schedule is both an indicator of past performance and a signal of likely future success.

Proposition 1: The more ahead-of-schedule individuals' perceptions of their own careers, the higher their current career outcomes.²

Status of perceived co-workers. A second component in this process is the status of the people an individual perceives as his or her co-workers. In small organizations, individuals are aware of everyone else and thus receive information from the population of others. However, in large organizations this is not possible. As a result, individuals' perceived social context involves a more limited organizational sample. Research on social networks suggests that individuals who report working closely with prominent others have higher career success than those working with less prominent others. Belliveau (2005) found that college students whose advice networks included higher proportions of men, both employed and peers, received higher numbers of job offers. This makes sense if men are perceived as having higher status than women. The higher the status of students' connections, the higher the number of offers.

Numerous studies examine the impact of dyadic relationships on individuals' career outcomes. Forret and Dougherty (2004) found that the extent to which individuals believe they engage in internally-visible networking activities in their organization is positively related to their promotions, total compensation and perceived career success. It seems likely this occurs because the higher an individual's visibility, the more likely high-level managers who make decisions about these outcomes are to be aware of his or her contributions. In a sample of white-

collar, electronics industry employees in Thailand and Singapore, Lee and Phan (2006) found that although the strength of relationships with supervisors did not influence pay or promotion, the diversity of these relationships, measured by self-reported lateral moves and committees served, was positively associated with pay increases and promotions.

Proposition 2: The higher the status of the people with whom individuals see themselves working, the higher their current career success.

Perceived career potential. The third concept is an individual's perceived career potential. Individuals' perceptions of their career potential may be related to current career outcomes because the higher individuals' current outcomes, the more likely they are to perceive their work as highly-valued. The more highly-valued they feel, the more confident they are likely to be about the future and thus the higher their perceptions of future potential. These relationships have been studied in most detail by scholars trying to understand why women's pay expectations tend to be lower than those of men (Heckert *et al.*, 2002; Sumner & Brown, 1996). This seems to result partly because women compare themselves with other women, who typically hold lower level positions and earn less money than men (Keaveny & Inderrieden, 2000; Major & Konar, 1984). Individuals' perceptions of others within their social context frame their evaluation of personal worth to the organization. Those who perceive they are valued by the organization are likely to develop high expectations of future career potential and to work hard to achieve that potential because it represents an achievable goal.

Proposition 3: The higher individuals' perceptions of their own future career potential, the higher their current career outcomes.

Observed Social Context

Most studies concerning the relationship between observed social context and career success involve some version of an organization's opportunity structure, "the set of probabilities

that individuals with given attributes will gain access to career-related rewards (Lawrence & Tolbert, 2007, p. 402).” Similar to research on perceived social context, these studies address how individuals get valued by organizations. However, here it is the opportunity structure, rather than the individuals themselves, that both represents and confers value.

Observed career timetable. Research consistently suggests that actual early successes in individuals’ careers increase their probability of later successes. Cole and Cole (1967) found that physicists who publish highly cited articles early in their careers are more likely to receive approbation for their later work than those who do not, independent of its quality. Berlew and Hall (1966) found that individuals given the opportunity for challenging jobs in their first year of work increased their likelihood of later high performance and mobility over those who did not get such opportunities for visibility. Similarly, Rosenbaum (1984) observed and identified tournament careers within a large organization in which each managerial promotion represented a contest. Early winners continued their upward movement and losers tended to remain in lower positions. More recently, Dreher and Bretz (1991) found that managers’ early career success explained 35% of the variation in career success ten years later. Merton (1968) calls this early-career phenomenon the “Matthew Effect,” suggesting that those who accrue good fortune continue to accrue it, whereas those who don’t have their subsequent good work ignored. Thus, individuals who are currently ahead-of-schedule are likely to have been rewarded for being ahead-of-schedule in the past.

Proposition 4: The more ahead-of-schedule individuals’ careers relative to the organization’s average career timetable, the higher their current career outcomes.

Status of formal work group members. Taking a social resources approach (Lin, Vaughn, & Ensel, 1981), social capital, which includes the resources individuals acquire through their relationships, provides another contextual explanation for who receives high career outcomes.

People with more access to such resources tend to be more successful in their organizational careers than those who do not. One example of social capital is the status of the people with whom an individual works. There is some indication that the higher their status, the greater individuals' access to power, information and other resources in the organization. Cross and Cummings (2004) found that as the number of a consultant's ties to others higher in the hierarchy increased, his or her individual performance increased. Their results, however, were mixed as they did not replicate this finding with a group of engineers.

Burt's (1992) work on structural holes provides the most frequently cited example of social capital. In its simplest form, a structural hole involves three people. Person A talks to Persons B and C, but Persons B and C do not talk with one another: there is a "hole" in the communication between them. As a result, Person A becomes a bridge or broker, a go-to person when Person B needs access to information in Person C's group or vice-versa. This role allows Person A to take advantage of career opportunities that are unknown by the others, acquire career-related information more quickly and become more visible to a wider group. In a study of a large organization, Burt (1992, Chapter 4) shows that the probability of promotions increases with the number of an individual's structural holes. Seibert and his colleagues (2001) also found that structural holes exert a positive impact on salary and promotions. However, their study shows that this results through an indirect effect. Structural holes are positively related to individuals' contacts at upper levels, which are positively related to information and resource access, which influence promotions and salary.

Proposition 5: The higher the career levels of those in individuals' formal work groups, the higher individuals' current career outcomes.

Observed career potential. Opportunity structures also influence career success through the social meaning they acquire. Here research suggests that individuals care about who gets

what career outcomes. The result is that individuals' impressions of successful others—their attributes and career histories—acquire socially-shared meanings indexing others' status, reputation and power. Ridgeway and Correll (2006) suggest that status beliefs "...form a generalization, not just about specific individuals they may have encountered, but about the status worthiness and competence of whole categories of people who share a salient distinguishing characteristic with those individuals (p. 433)." These categories represent a social recognition of what-kind-of-people-succeed that is shared by both those advantaged and those disadvantaged by the definition. Consequently, individuals who achieve higher career success, acquire visibility because their social position is intensely salient to others (Kanter, 1977). Their attributes and the routes they travel to success become institutionalized as known-ways-to-succeed. These shared meanings should be reflected in individuals' perceptions about who, among those they know, has the highest career potential in the future. Independent of what individuals think of themselves, those who are seen by others as having high future career opportunities are more likely than those who aren't to have high career outcomes in the present.

Proposition 6: The higher others' career expectations for individuals' future career potential, the higher individuals' current career outcomes.

Three Stories About Career Success

The research reported above supports the conjecture that both perceived and observed social context are associated with career success. It also suggests that contextual explanations for who-gets-what career outcomes fall across both disciplinary traditions. The results from the study that follows are contrasted by applying three stories to the data. The *different disciplines story* examines explanations from one discipline (see Howard & Bray, 1988 for a psychological example). When studied separately, do perceived and observed measures of social context

explain significant variation in career success? This reductionism is frequently justified, but it is also a key impediment to interdisciplinary research (Karlqvist, 1999).

The *multiple disciplines story* is an extension of the different disciplines story in which at least two perspectives on social context operate as antecedents of individual outcomes. For instance, career success may be related to both individuals' perceptions of the number of others holding desired positions, a perceived social context variable, as well as the actual numbers in each job, an observed social context variable. Finally, the *interdisciplinary story* examines the territory between the two views of social context, focusing on the mechanisms that connect them with the individual outcomes that result. These relationships may suggest a more intricate view of what is going on in the social context that is related to career success.

Method

Empirical Issues in Bridging Disciplines

Bridging perceived and observed definitions of social context requires common data that facilitate discussion and comparison (Bracken & Oughton, 2006). The example that follows intentionally involves a narrow conceptual span: the careers of managers within a single organization. Intra-organizational careers facilitate interdisciplinary discussion because the social context and definition of status remain analogous independent of the individual.³ Inter-organizational careers make observed social context and status-related comparisons difficult. Examining managerial careers in a single organization provides common definitions that disentangle disagreements over “what is a career?” and “what represents career success?” from interdisciplinary disagreements over their meaning to subjects.

Data

The secondary data for this study come from a utility (see Lawrence, 2006 for description of data collection). A 20% systematic, stratified sample (N=537) was drawn from the population

of managers (N=2685). The sample was stratified by gender, ethnicity (White, Black, Hispanic, Asian), age, organizational tenure, education, career level and whether the individual was originally a professional or non-professional hire. Of the 537 surveys distributed, 411 (77%) from the sampling frame were returned. For this analysis, the ready-for-management employees included in the company's managerial population were removed because the survey did not assess their perceptions of their own level. This leaves a sample of 376 (70%). This sample is representative of the population on all stratification dimensions.

In addition to typical survey questions, subjects completed a social network component in which they identified other employees they know at work. To ease recall, a list of the population of 2,685 managers was included. Subjects provided an average of 50 names. Based on previous studies, it seems likely they know more than 50 people (de Sola Pool & Kochen, 1978); however this number is considerably higher than the average of eight names typically obtained in similar ego network studies (Lawrence, 2006). Thus, the data include an incomplete but detailed picture of each individual's perceived social context. After identifying known others, subjects were asked a series of questions about the members of these organizational reference groups.

Measures

Dependent variables. *Performance* and *salary* data were obtained from company records. There are fifteen levels in management careers and five performance evaluation categories.

Performance evaluations include the most recent evaluation subjects received from their supervisors, usually within the previous year. The company uses no additional performance measures, such as 360°, self or peer evaluations. The square root of performance was used to increase the normality of regression residuals (Academic Technology Services, 2009).

The company specifies minimum and maximum salaries for each career level. As a result, salary and career level are highly correlated ($r = 0.88$, $p < 0.001$). Although the variation remaining in salary independent of career level represents a distinct performance outcome, this remaining variation is relatively small. Consequently, career level was not included as a separate outcome. Salary data have been rescaled by a random number for confidentiality. Consistent with similar studies, the natural log of salary was used to increase normality of the residuals (cf. Judge, Cable, Boudreau, & Bretz, 1995; Seibert *et al.*, 2001; Wolff & Moser, 2009).

Career satisfaction is measured using subjects' responses to three questions: 1) "How satisfied are you with your career progress?" 2) "How satisfied are you with your career accomplishments when you compare yourself to the accomplishments of your work associates and friends?" and 3) "I am considered a successful person at [COMPANY NAME]." The first two questions are measured using an anchored scale ranging from 1 = Not At All to 7 = An Exceptional Extent. The scale for the third question ranges from 1 = Strongly Disagree to 7 = Strongly Agree. Responses were summed and averaged. Coefficient alpha for the final scale is 0.77. This measure captures some but not all the dimensions included in the most commonly used career satisfaction scale (Greenhaus, Parasuraman, & Wormley, 1990), which was unavailable.

Independent variables: Perceived social context. The independent variables for this study include both a perceived and an observed measure of subjects' position on the career timetable, the formal status of their work associations, and their career potential. The perceived-observed variable pairs are not perfect matches and the analysis does not assume matched pairs. Rather, it compares the associations between the set of perceived social context variables and that of observed social context variables on career outcomes.

Perceived career timetable is the difference between a subject's perception of the average age for his or her career level, obtained from the survey, minus his or her actual age, obtained from organizational records. The higher the value, the more the subject perceives him or herself as being younger than the average age for his or her level. This provides an indirect measure of the subject's view of his or her own location on the career timetable, as well as how the subject thinks others are likely to view his or her career progress.

Status of perceived co-workers is the average career level of all the individuals a subject cites as known others and with whom he or she works frequently. The individuals in this group include those with whom subjects speak about general work issues "Roughly Every Week" or "Roughly Every Day," but not those with whom subjects speak "Never," "Less Often Than Every Two Weeks," or "Roughly Every Two Weeks." Career levels of known others were obtained from company records. The average number of subjects' perceived co-workers is 8.4.

Perceived career potential is a subject's response to the question "By the time you leave [COMPANY], what salary level do you expect to attain?" Salary level is the formal name the company uses to designate career level. No additional indicators were added as this might reduce the variable's validity in this work setting.

Independent variables: Observed social context. *Observed career timetable* is the absolute value of the difference between the actual average age for a subject's career level and his or her own age, both obtained from organizational records. The higher the value, the more the subject deviates from the average age for his or her level. The absolute value measure eliminated the original variable's collinearity with age, preserving a measure of actual deviation and to some extent the comparability of the perceived and observed measures.

Status of formal work group members is the average career level of a subject's formally-defined work group. Based on the organization's personnel records, a work group includes all individuals who share the same supervisor. The average size of formal work groups is 6.6.

The *observed career potential* of a target subject is a dummy variable measured by other subjects' perceptions of his or her likely future promotions. Subjects answer the following question for each individual they identified as a known other: "How successful is each person on the list likely to be, in terms of the number of promotions he or she receives, over the next five years?" Response categories include a five-point scale ranging from 0 = I don't know to 4 = Extremely Successful. A dummy variable was used because the scale distribution is highly skewed. A target subject who other subjects list as a known other and assign a 3 or 4 is defined as 1 = high observed career potential. All other target subjects are defined as 0 = low observed career potential. This measure is not based on the target subject's perceptions of him- or herself, but rather on other subjects' perceptions of the target. Forty-nine percent (N=186) of sample subjects are identified by at least one other subject as having high career potential.

Control variables. *Gender, ethnicity* (White, Black, Hispanic & Asian), *age, organizational tenure,* and *education* were included as control variables. Data for all control variables come from the organization's personnel records. Gender and ethnicity are coded with 1 = minority group. Education is measured using a nine-point scale, with 1 = some grade school to 9 = finished doctoral degree.

Table 1 shows the means, standard deviations and correlations among the variables. As many independent variables show significant correlations, a variance inflation factor test was performed after a regression including all independent variables. The two highest values are 5.99 for age and 3.95 for organizational tenure. These values are well below the suggested upper

boundary of ten (Chatterjee & Price, 1991, p. 191) suggesting that the effect of correlations among the independent variables on the regression coefficients is not large.

----- Table 1 About Here -----

Results

The results for each career outcome are reported first for the control variables and then for perceived and observed social context using each of the three stories. Overall, these models explain 15% of the variation in performance, 80% of the variation in salary and 18% of the variation in career satisfaction. To minimize over-interpretation, the results are summarized by variable set rather than by individual coefficients. The exception is the discussion of the interaction variables, where some understanding of the interaction patterns is explored.

Control Variables

The Step 1 results common to Tables 2 and 3 show that demographic attributes contribute relatively little to the explained variation in either performance ($R^2 = 0.02$, $p = ns$) or career satisfaction ($R^2 = 0.05$, $p < 0.05$). Two show borderline associations with career satisfaction: women and Asians are somewhat less satisfied than their majority counterparts. Demographic attributes contribute more to the explained variation in salary ($R^2 = 0.27$, $p < 0.001$). Minority status, including gender and ethnicity, tends to produce lower salaries than majority status.

Increasing age and levels of education are positively associated with higher salaries.

----- Tables 2 & 3 About Here -----

The Different Disciplines Story

Summary. The Step 2 results in Tables 2 and 3 show that scholars using either perceived or observed variables would conclude independently that social context is associated with an individual's career outcomes.

Detailed results. The perceived social context variables make a significant contribution to all three career outcomes. The Step 2 results in Table 2 show that adding the perceived social context variables to the control variables increases the explained variation for performance from 2% to 12% ($\Delta R^2 = 0.10, p < 0.001$), for salary from 27% to 71% ($\Delta R^2 = 0.44, p < 0.001$) and for career satisfaction from 5% to 17% ($\Delta R^2 = 0.12, p < 0.001$). The observed social context variables also make a significant contribution to all three career outcomes. The Step 2 results in Table 3 show that adding the observed social context variables to the control variables increases the explained variation for performance from 2% to 14% ($\Delta R^2 = 0.12, p = 0.001$), for salary from 27% to 71% ($\Delta R^2 = 0.45, p < 0.001$) and for career satisfaction from 5% to 11% ($\Delta R^2 = 0.06, < 0.001$). Thus, the results for both perspectives appear similar. Social context is associated with career success independent of whether it is measured with perceived or observed measures.

The Multiple Disciplines Story

Summary. The Step 2 and 3 results in Tables 2 and 3 suggest that scholars assessing the multiple disciplines story might conclude that perceived and observed social context make somewhat similar contributions to the two objective career outcomes, performance and salary, and somewhat dissimilar contributions to the subjective career outcome, career satisfaction. Perceived social context appears to explain more variation in career satisfaction than observed social context.

Detailed results. For performance, the Step 2 results suggest that perceived and observed social context variables account for similar proportions of the explained variation independent of the controls, with perceived variables adding 10% ($p < 0.001$) and observed variables adding 12% ($p < 0.001$). The Step 3 results suggest that when both sets of social context variables are included in the regression, the perceived variables do not make a significant contribution,

explaining only 1% ($p = ns$) of the variation independent of the observed variables. The observed variables add 3% ($p < 0.01$) to the explained variation beyond that contributed by the perceived variables.

For salary, the Step 2 results also suggest that perceived and observed social context variables account for similar proportions of the explained variation independent of the controls, with perceived variables adding 44% ($p < 0.001$) and observed variables adding 45% ($p < 0.001$). The Step 3 results suggest that both sets of social context variables add a similar proportion of explained variation independent of the other. Perceived variables add 9% ($p < 0.001$) to the explained variation independent of the control and observed variables, and observed variables add 9% ($p < 0.001$) beyond that of the control and perceived variables.

For career satisfaction, the Step 2 results suggest that perceived social context variables account for a greater proportion of the explained variation than observed social context variables. Independent of the controls, the perceived variables add 12% ($p < 0.001$) and observed variables add 6% ($p < 0.001$) to the explained variation. The Step 3 results suggest that when both sets of social context variables are included in the regression, perceived variables add 7% ($p < 0.001$) independent of the observed variables, whereas the observed variables do not make a significant contribution explaining only 1% ($p = ns$) of the variation beyond that of the perceived variables.

The Interdisciplinary Story

Summary. Scholars using an interdisciplinary approach might conclude that, in addition to finding that both perceived and observed social context are associated with career outcomes, interactions between the two variable sets appear associated with two of the three outcomes. This suggests that, instead of considering these sets only as independent predictors, there is something about their relationship with one another that is meaningful for career outcomes.

Detailed results. The Step 4 results common to Tables 2 and 3 show that interactions contribute 4% ($p < 0.05$) to the explained variation in performance and 1% ($p < 0.10$), a borderline contribution, to the explained variation in salary. Interactions do not contribute to the explained variation in career satisfaction. A probe of each interaction provides more detail on how the relationship between perceived and observed social context is associated with career outcomes.

Figure 1 shows that the positive association between increasing status of perceived co-workers and performance decreases with the increasing status of formal work group members. When the status of formal work group members is one standard deviation below its mean the positive association between performance and perceived co-worker status is significant ($b = 0.03, p < 0.05$). However, this association decreases as the status of formal work group members increases and at one standard deviation above its mean it is not significant ($b = -0.00, p = ns$). Thus, the status of others with whom subjects perceive they work is positively related to performance only when subjects belong to low-status work groups. When subjects belong to high-status work groups, they receive high performance evaluations independent of the status of their perceived co-workers.

----- Figure 1 About Here -----

Figure 2 shows that the positive association between perceived career potential and performance differs significantly for those subjects who are seen by others as having high career potential and those who are not. The slope for perceived career potential when others see the subject as having high career potential is significant and positive ($b = 0.02, p < 0.01$). However, the slope for perceived career potential when others see the subject as having low career potential is not significant ($b = -0.01, p = ns$). Thus, a subject's perceived career potential is

positively associated with performance, but only if he or she is seen as having high career potential by others. If a subject is seen as having low potential, then his or her perceived career potential exhibits no association with his or her performance.

----- Figure 2 About Here -----

Figure 3 shows that the positive association between subjects' perceptions of being ahead-of-schedule and salary increases with their actual deviation from the organization's observed career timetable. The slope for subjects' perceived career timetable when they are one standard deviation below the mean of the observed career timetable is significant ($b = 0.004, p < 0.01$). When their deviation from the observed career timetable is one standard deviation above the mean this slope increases ($b = 0.007, p < 0.001$). These results suggest that while subjects' perceptions of being ahead-of-schedule show a positive association with salary, this association increases with subjects' increasing deviation from the organization's observed career timetable.

----- Figure 3 About Here -----

Elaboration: Two Patterns in the Results

When used in this theory thinking exercise, two patterns are worth noting. The first is that perceived and observed social context produce results whose similarities are more compelling than their differences. One explanation may be that in this organization, individuals' perceptions are consistent with observed social context and relatively accurate. In support of consistency, further examination shows significant correlations between perceived and observed variables: career timetables, where the observed variable is measured without its absolute value ($r = 0.77, p < 0.001$), co-worker status ($r = 0.61, p < 0.001$) and career potential ($r = 0.32, p < 0.001$). In opposition to accuracy, perceived career timetables show that on average, subjects view

themselves as 4.9 years ahead-of-schedule, which differs significantly from the observed value of 0.6 years behind-schedule ($t = -18.75, p < 0.001$).

One explanation for consistency may be that commonalities among individuals' perceptions of careers in general rather than their specific accuracy produce the observed similarities. In other words, individuals' perceptions may produce shared meanings that index observed social context rather than provide accurate measurement. For instance, employees may develop a shared picture of "successful manager" that includes perceptions of multiple career attributes, such as on- and off-schedule careers and the status of co-workers. Consequently, norms for successful careers may evolve around their meaning. If these shared interpretations are correlated with but not necessarily accurate versions of actual successful careers, then the outcomes associated with perceived and observed social context would be quite similar. Their effects covary but exhibit different constants.

The second pattern is that, at least in this organization with these variables, the best result for objective career outcomes entails the relationship between perceived and observed social context. As expected, the main effect of the status of subjects' perceived co-workers on performance is positive: the higher the status, the higher the performance. However, this relationship is only important for subjects who work in low status formal work groups. If they work in high status groups, the status of their perceived co-workers adds no explained variation. Thus, it doesn't matter whether subjects' high status colleagues are perceived or observed as long as some have high status. This may result because managers associate performance with the status of subjects' work relationships. They interpret upward connections as signals identifying subjects as valued employees. These subjects then receive high performance ratings partly by association.

A similar connection is observed in the relationship between career potential and performance. As expected, the main effect of subjects' self-perceptions of career potential on performance is positive: the higher the career potential, the higher the performance. However, this relationship holds only if others also view them as having high career potential. If their high potential is not observed by others, their positive self-perceptions add no explained variation. Thus, subjects' self-appraisals of high career potential exert little impact on their performance unless others also observe this potential. Once again, subjects' perceptions of social context are related to their career outcomes. In this case the relationship depends on the concurrence between perceived and observed reality.

Finally, and again as expected, the main effect of subjects' perceptions of themselves as being ahead-of-schedule on salary is positive. In this case, the association increases slightly with increases in subjects' observed deviation from the observed career timetable. This seems a bit counterintuitive as the main effect of the observed career timetable on salary is not significant. One explanation may be that the positive association between being ahead-of-schedule on the observed career timetable and salary is greater than the negative association of being behind. This could not be tested directly because the original distribution of the observed career timetable variable is highly correlated with age. However, in order to get an idea of whether this interpretation makes sense, the original observed variable was divided into three categories by quartile, with the first quartile including observed ahead-of-schedule subjects ($N = 94$), the second and third quartiles including on-schedule subjects ($N=189$) and the fourth quartile including behind-schedule subjects ($N = 93$). The regression was run three times, once for each category. The results are consistent with the inferred explanation. The positive association between perceived career timetable on salary is greatest when subjects' observed career

timetable is ahead-of-schedule ($b = 0.01, p = 0.01$) and, although the association is still positive, subjectively lower when their observed career timetable is either on-schedule ($b = 0.004, p = 0.004$) or behind-schedule ($b = 0.004, p = 0.05$).

Discussion

Despite widespread recognition that careers represent a subject that requires interdisciplinary study, scholars have left considerable room for new contributions. An appropriate topic for such study is the association between social context and individuals' career success. This relationship lends itself to interdisciplinary study because although psychologists and sociologists often differ in their definitions of social context both agree that it plays an important role in individuals' careers. Social context represents the space where individuals' perceptions and social structure intersect and evolve. Although this territory has been discussed by theorists, such as Giddens (1984) and Bourdieu (Grenfell, 2008), few empirical studies exist. And while the study presented here does not test these theories, it does use data measured from each tradition to explore this space. An important though not surprising conclusion is that interdisciplinary data are required in addition to interdisciplinary theory.

This paper illustrates a technique for facilitating interdisciplinary thinking. The data were examined using three stories: a different disciplines story, a multiple disciplines story and an interdisciplinary story. These stories are neither unique nor the only stories that might apply. They represent contrasting frames of reference that encourage interdisciplinary thinking by reminding us what the data might say from different perspectives. This is not deductive, hypothesis-testing work. It is an inductive approach to examining patterns in data, an approach to building theory whose history emanates from scholars such as Durkheim (1897/1951) and in career studies by Hughes (Barley, 1989) and others (see discussion in Gunz, 1989).

Applying the three stories to these data directs attention to different facets of the results. The *different disciplines story* focuses on the “does social context matter” question. The results suggest that scholars from either tradition would conclude that it does. The *multiple disciplines story* focuses on the “which provides a better explanation” question by comparing the results from each independent of the other. The results indicate that perceived and observed social context exhibit similar associations with performance and salary. However, perceived social context has the stronger association with career satisfaction. This may result from common methods’ bias or because perceived social context and career satisfaction share a common antecedent. Both emanate from subjects’ cognitions of and affective responses to their organizational experiences.

The *interdisciplinary story* focuses on the “do interdependencies exhibit consequences” question. The results suggest that individuals may be unaware of the full extent to which some portion of their success depends on social structure. The highest performance and salary outcomes in this organization occur when expectations from perceived and observed social context covary. This raises several additional questions. For instance, under what conditions does the positive relationship between self-perceived career potential and performance change independent of individuals’ reputation? At what point does a negative or positive reputation influence individuals’ performance evaluations independent of their self-perceived potential? And, how long does it take before the association between perceived and observed social context and career outcomes gets fossilized by the “history” of relationships?

The foci of these discussions and the questions they generate differ across the three stories. The different disciplines study does not consider both versions of social context. The

multiple disciplines story considers both but focuses on their independent effects. The interdisciplinary story focuses on how their interdependence helps explain career outcomes.

Limitations

The most important strengths and limitations of this study involve the data. The strengths include the deep detail they provide on individuals, their social networks and organizational demography, as well as the empirical separation between the individual- and social system-level measures. The limitations include the qualified generalizability that results from a case study. While the results accurately describe this organization, it's unclear to what extent they generalize to others. The data are also cross-sectional, which means that questions regarding change over time, which are particularly important in careers research, cannot be addressed. Existing studies suggest that historical mobility patterns exert a significant impact on the opportunity structure and distribution of individuals in the present (Bruderl *et al.*, 1993; Cohen, Broschak, & Haveman, 1998; Rosenbaum, 1984). The relationship may work the other way around if individuals' experiences shape and reinforce historical mobility patterns (Lawrence & Tolbert, 2007). Thus, these findings provide, at most, snap shots of emergent social context.

Finally, the results are limited because the secondary data used here include only a few of many possible perceptual and structural social context measures. Other measures might easily explain or contradict the findings reported here. Certainly, the three sets of two variables studied here do not represent everything that can be learned about social context and career outcomes. Perceived social context might include individuals' perceptions of their relationships with mentors and supervisors, experience of their psychological contract, perceptions of the organization's equitable distribution of rewards and beliefs about the importance of other kinds of relationships such as friendships. Observed social context might include historical mobility

patterns, the availability of appropriate role models within the organization, social capital, information on the organization's growth or decline and actual vacancy chains representing possible hierarchical mobility. Each represents a legitimate contender for exploring the effects of social context on career outcomes.

Revisiting the Dilemma of Empirical Interdisciplinary Research

There are many ways of approaching and defining interdisciplinary careers research. The approach presented here examines career research as interdisciplinary when it explores the interdependence between perceived and observed social context. One way to facilitate this kind of interdisciplinary thinking is to construct stories that encourage comparisons of divergent perspectives, purposefully painted in their extremes. A major impediment is that interdisciplinary data, theorized *and* measured from multiple perspectives, are difficult to collect. As noted by many authors, careers transpire over time thus longitudinal data are desirable (Arthur *et al.*, 1989a). Moreover, much interdisciplinary theory rightly recommends a focus on the processes that explain the duality of individuals and organizations in their association with careers (Gunz, 1989). If these do not create a sufficiently demanding empirical agenda, we might add calls for interview data that provide rich information on individuals' understandings of objective and subjective success (Arthur *et al.*, 2005) as well as survey and population data from multiple organizations that facilitate generalization. It seems unlikely that a single study can include all the data necessary for the kind of integrated theory most scholars desire. Thus, a practical place to begin is by slicing off pieces of the whole in the hope that scholars will intellectually locate their work within the broader collage.

Table 1
Means, Standard Deviations & Correlations (N=376)

Objective Career Outcomes	Means	S.D.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
1. Performance (square root)	1.56	0.23																	
2. Salary (log) ^a	3.94	0.20	0.36																
3. Career Satisfaction	4.44	1.32	0.19	0.20															
Individual Attributes																			
4. Gender ^b	0.29	0.45	-0.08	-0.20	-0.09														
5. White	0.62	0.49	0.07	0.20	0.06	-0.17													
6. Black	0.10	0.30	-0.08	-0.08	-0.02	0.05	-0.43												
7. Hispanic	0.15	0.36	0.02	-0.14	0.07	0.02	-0.52	-0.15											
8. Asian	0.13	0.34	-0.06	-0.07	-0.14	0.18	-0.49	-0.14	-0.17										
9. Age	42.96	8.49	-0.02	0.25	-0.13	-0.13	0.14	0.07	-0.10	-0.18									
10. Organizational Tenure	17.11	9.90	0.05	0.18	-0.09	-0.19	0.18	0.06	-0.02	-0.30	0.81								
11. Education	5.81	1.09	0.00	0.26	-0.03	0.04	-0.07	-0.10	-0.10	-0.30	-0.30	-0.45							
Perceived Social Context																			
12. Perceived Career Timetable	4.92	7.60	0.16	0.10	0.25	0.01	-0.02	-0.07	0.05	0.05	-0.74	-0.52	0.20						
13. Status of Perceived Co-Workers	8.57	1.43	0.24	0.65	0.15	-0.03	0.07	-0.09	-0.08	0.06	0.08	-0.03	0.33	-0.07					
14. Perceived Career Potential	9.99	2.46	0.21	0.59	0.31	-0.12	-0.01	-0.02	-0.01	0.05	-0.25	-0.31	0.44	-0.34	0.54				
Observed Social Context																			
15. Observed Career Timetable	6.74	4.47	-0.04	-0.07	-0.03	-0.01	0.05	-0.11	-0.03	0.06	-0.08	-0.08	0.19	0.10	-0.01	0.00			
16. Status of Formal Work Group Members	7.90	2.02	0.27	0.78	0.16	-0.07	0.15	-0.12	-0.11	0.01	0.12	0.06	0.22	-0.13	0.61	0.53	-0.01		
17. Observed Career Potential	0.50	0.50	0.21	0.23	0.23	-0.02	0.06	-0.02	-0.03	-0.02	-0.22	-0.19	0.14	-0.25	0.21	0.34	0.01	0.19	

Note. Values > +/- 0.1012 = p < 0.05.

^a Salaries have been rescaled by a random number for confidentiality.

^b Minorities, including women and ethnic groups, are coded = 1.

Table 2
The Relationship Between *Observed Social Context* and Career Success
(Independent of Control Variables and Perceived Social Context)

	Performance		Salary ^a		Career Satisfaction	
	B	<i>b</i>	B	<i>b</i>	B	<i>b</i>
Step 1: Control Variables						
Gender ^b	-0.03	-0.06	-0.08 ***	-0.17	-0.28 †	-0.10
Black	-0.02	-0.02	-0.05 †	-0.07	-0.22	-0.05
Hispanic	-0.01	-0.02	-0.07 **	-0.13	0.04	0.01
Asian	-0.02	-0.02	-0.07 *	-0.12	-0.49 †	-0.13
Age	0.00	-0.17	0.01 *	0.23	-0.02	-0.11
Organizational Tenure	0.00	0.14	0.00	0.12	-0.01	-0.06
Education	0.00	0.00	0.08 ***	0.41	-0.11	-0.09
F	0.80		16.28 ***		2.54 *	
R ²	0.02		0.27		0.05	
Step 2: Different Disciplines Story						
Perceived Social Context						
Perceived Career Timetable	-0.01 *	-0.17	-0.01 ***	-0.32	-0.03 *	-0.17
Status of Perceived Co-Workers	0.03 **	0.19	0.05 ***	0.33	0.04	0.04
Perceived Career Potential	0.01 †	0.15	0.03 ***	0.41	0.17 ***	0.32
F	3.71 ***		79.42 ***		5.82 ***	
R ²	0.12		0.71		0.17	
ΔR ²	0.10 ***		0.44 ***		0.12 ***	
Step 3: Multiple Disciplines Story						
<i>Observed Social Context</i>						
Observed Career Timetable	0.00	0.00	0.00	-0.01	0.00	0.01
Status of Formal Work Group Member	0.02 *	0.18	0.04 ***	0.42	-0.03	-0.05
Observed Career Potential	0.07 **	0.15	0.24 *	0.06	0.28 *	0.11
F	4.43 ***		104.48 ***		4.79 ***	
R ²	0.15		0.80		0.18	
ΔR ²	0.03 **		0.09 ***		0.01	
Step 4: Interdisciplinary Story						
Perceived x Observed Interactions						
PxO Career Timetable	0.00	-0.10	0.00 **	-0.08	0.00	0.00
PxO Status of Co-Workers/Work Group	-0.01 *	-0.13	0.00	0.02	-0.02	-0.06
PxO Career Potential	0.03 *	0.26	0.00	-0.02	-0.01	-0.02
F	4.65 ***		93.25 ***		3.92 ***	
R ²	0.19		0.81		0.18	
ΔR ²	0.04 *		0.01 †		0.00	

Note. Significance levels reported using robust standard errors. (N=376)

^a Salaries have been rescaled by a random number for confidentiality.

^b Minorities, including women and ethnic groups, are coded = 1.

*** p < .001, ** p < .01, * p < .05, † p < .10.

Table 3
 The Relationship Between *Perceived Social Context* and Career Success
 (Independent of Control Variables and Observed Social Context)

	Performance		Salary ^a		Career Satisfaction	
	B	<i>b</i>	B	<i>b</i>	B	<i>b</i>
Step 1: Control Variables						
Gender ^b	-0.03	-0.06	-0.08 ***	-0.17	-0.28 †	-0.10
Black	-0.02	-2.00	-0.05 †	-0.07	-0.22	-0.05
Hispanic	-0.01	-0.02	-0.07 **	-0.13	0.04	0.01
Asian	-0.02	-0.03	-0.07 *	-0.12	-0.49 †	-0.13
Age	0.00 †	-0.17	0.01 *	0.23	-0.02	-0.11
Organizational Tenure	0.00	0.14	0.00	0.12	-0.01	-0.06
Education	0.00	0.00	0.08 ***	0.41	-0.11	-0.09
F	0.80		16.28 ***		2.54 *	
R ²	0.02		0.27		0.05	
Step 2: Different Disciplines Story						
Observed Social Context						
Observed Career Timetable	0.00	-0.02	0.00	-0.01	-0.01	-0.03
Status of Formal Work Group Members	0.03 ***	0.29	0.07 ***	0.04	0.10 **	0.16
Observed Career Potential	0.08 ***	0.18	0.05 *	0.07	0.45 **	0.17
F	5.18 ***		79.47 ***		3.81 ***	
R ²	0.14		0.71		0.11	
ΔR ²	0.12 ***		0.45 ***		0.06 ***	
Step 3: Multiple Disciplines Story						
<i>Perceived Social Context</i>						
Perceived Career Timetable	0.00	-0.12	-0.01 ***	-0.21	-0.03 *	-0.18
Status of Perceived Co-Workers	0.02 †	0.11	0.02 ***	0.17	0.04	0.05
Perceived Career Potential	0.00	0.05	0.02 ***	0.25	0.17 ***	0.31
F	4.43 ***		104.48 ***		4.79 ***	
R ²	0.15		0.80		0.18	
ΔR ²	0.01		0.09 ***		0.07 ***	
Step 4: Interdisciplinary Story						
Perceived x Observed Interactions						
PxO Career Timetable	0.00	-0.10	0.00 **	-0.08	0.00	0.00
PxO Status of Co-Workers/Work Group	-0.01 *	-0.13	0.00	0.02	-0.02	-0.06
PxO Career Potential	0.03 *	0.26	0.00	-0.02	-0.01	-0.02
F	4.65 ***		93.25 ***		3.92 ***	
R ²	0.19		0.81		0.18	
ΔR ²	0.04 *		0.01 †		0.00	

Note. Significance levels reported using robust standard errors. (N=376)

^a Salaries have been rescaled by a random number for confidentiality.

^b Minorities, including women and ethnic groups, are coded = 1.

*** p < .001, ** p < .01, * p < .05, † p < .10.

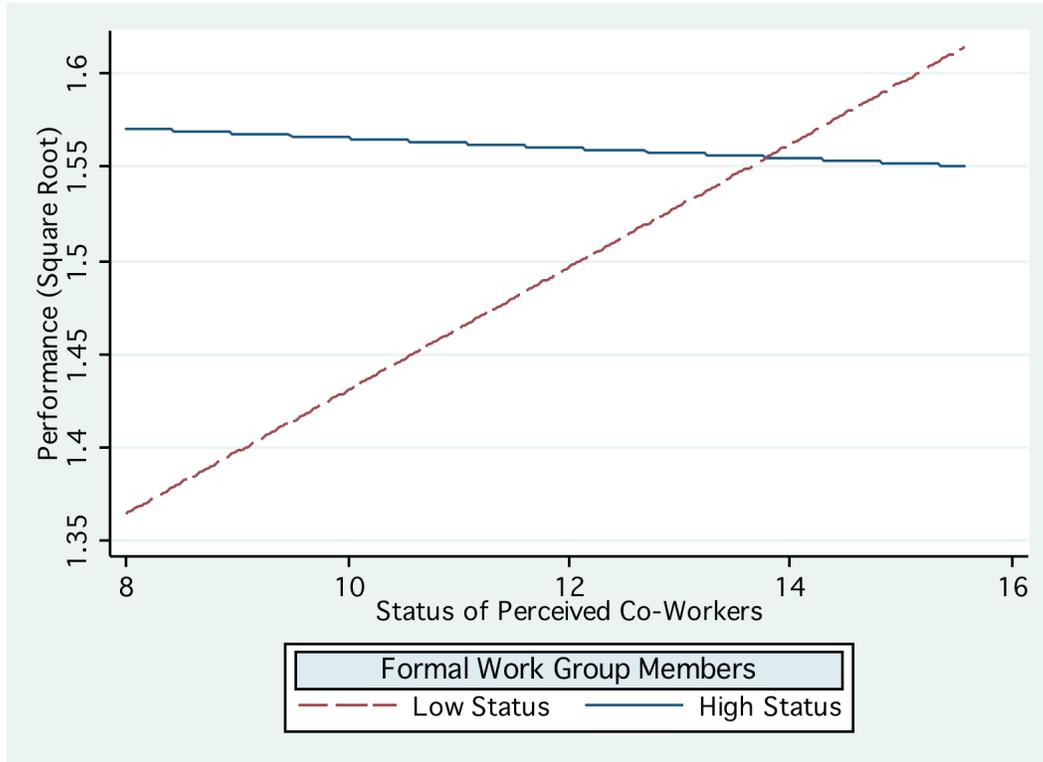


Figure 1. The relationship between the status of a subject’s perceived co-workers on his or her performance moderated by the status of those observed in his or her formal work group.

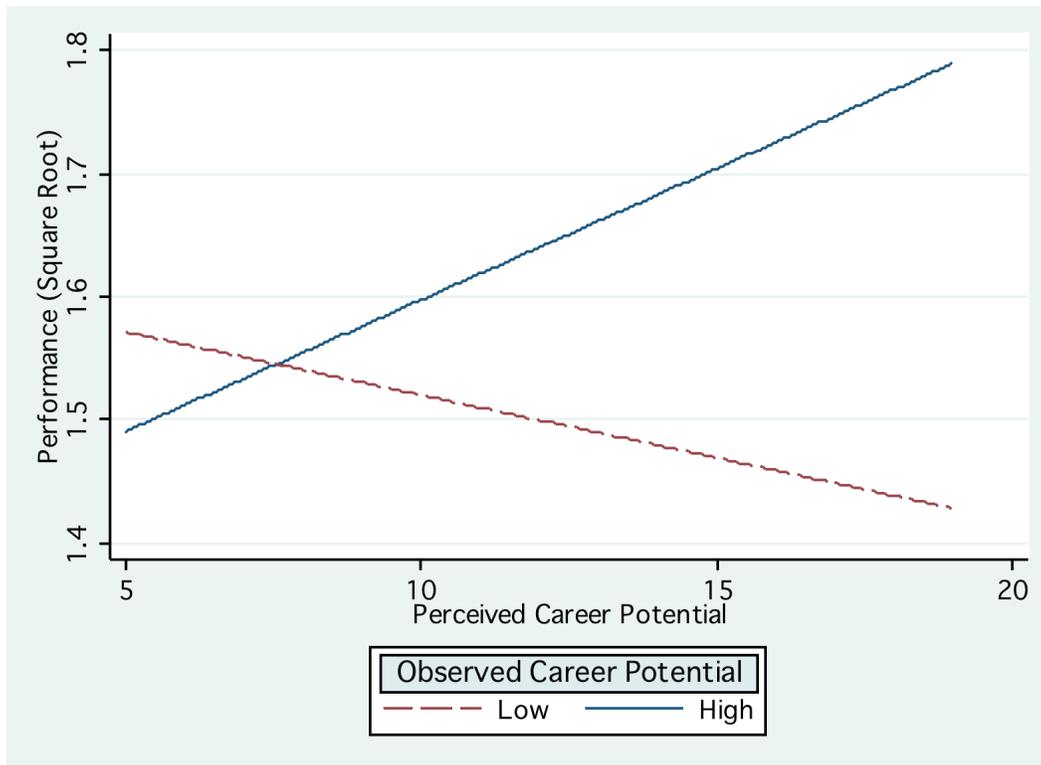


Figure 2. The relationship between a subject's perceived career potential and his or her performance moderated by others' observations of his or her career potential.

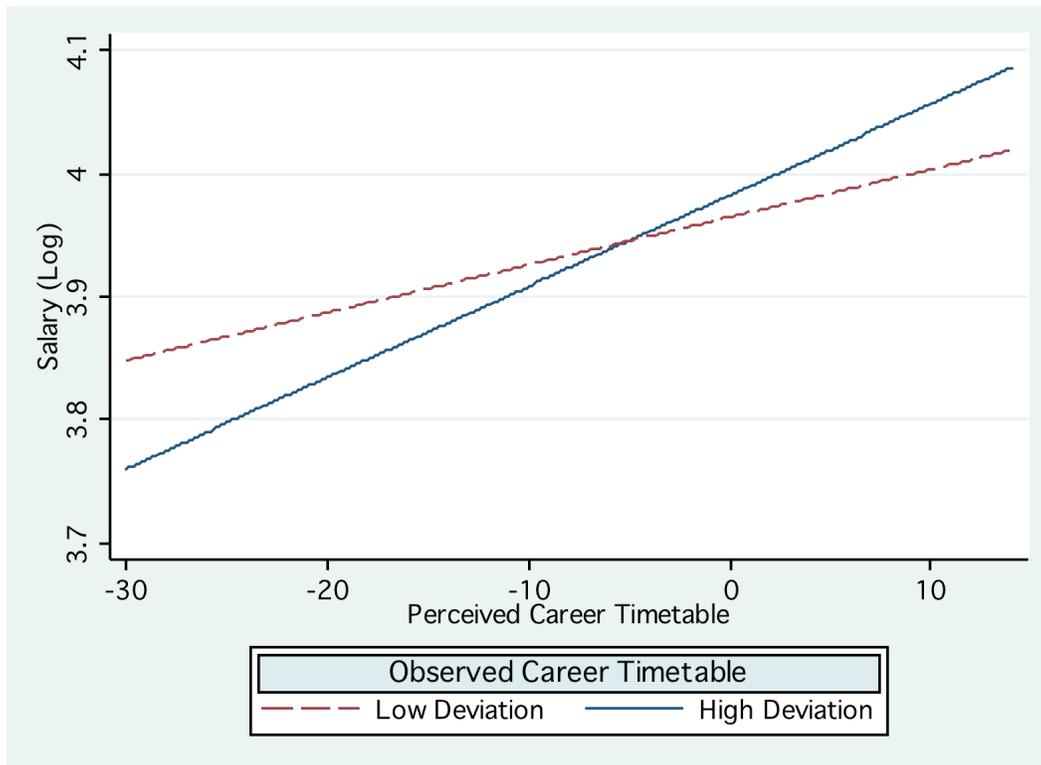


Figure 3. The relationship between a subject's perceived career timetable and his or her salary moderated by his or her deviation from the observed career timetable.

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¹ The citations in this article represent a fraction of the career-related research done in each discipline. I apologize in advance for the many relevant, missing and significant career studies not included here.

² Propositions are presented to summarize each discussion. They should not be interpreted as formal hypotheses being tested in the study.

³ While much contemporary careers research focuses on the possibilities for inter-organizational mobility (Arthur, Khapova, & Wilderom, 2005), intra-organizational managerial careers remain an important component of the workforce (Baruch, 2006; Jacoby, 1999; Royal & Althausser, 2003).