WOMEN'S AND MEN'S CAREER REFERENTS: HOW GENDER COMPOSITION AND COMPARISON LEVEL SHAPE CAREER EXPECTATIONS

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ABSTRACT

This study examines how women's and men's career referents, the people they see as having similar careers, affect career expectations. We raise two questions. First, what is the relative effect of the gender composition and comparison level of career referents on such expectations? Second, what happens to career expectations when women and men identify career referents at the same comparison level? Current research suggests that women have lower career expectations than men because they compare themselves with women who hold lower-level positions than the career referents identified by men. Thus, if women and men identify with similar level career referents, their career expectations should be equal. However, this chain of reasoning has not been tested. Using data collected from a large organization, we identify both the specific individuals women and men perceive as having similar careers and these referents' career levels, defined as their hierarchical level in the firm. The results show that the level of career referents is more important than their gender composition in explaining individuals' career expectations. In contrast to extant explanations, the results show that even when women identify career referents at the same levels as men, they still exhibit significantly lower career expectations. Drawing on social comparison theory, we speculate this occurs because men's expectations are bolstered by extreme upward comparisons, whereas women's expectations are dampened, perhaps because they see high achieving others as representing a less probable goal.

Women's and Men's Career Referents:
How Gender Composition and Comparison Level Shape Career Expectations

Research shows consistent and mounting evidence that women have lower career expectations than men about formal organizational rewards like future promotions and pay (Crosby 1982, Gattiker and Larwood 1990, Jackson et al. 1992, Keaveny and Inderrieden 2000, Major 1994). These lower expectations are important because they tend to lead to lower actual rewards (Major et al. 1984), providing one reason why women's careers lag behind those of their male counterparts. The primary explanation for women's lower expectations involves their career referents, the others they view as having similar careers (Heckert et al. 2002, Jackson et al. 1992, Major and Konar 1984). Both women and men tend to make upward comparisons to career referents at higher levels than their own because such referents provide inspiration about possible achievement and information about how to perform better (Buunk et al. 2003, Gibson 2003, Lockwood and Kunda 1997). However, women's career referents diverge from men's in two ways.

First, women tend to see their careers as similar to those of other women, whereas men see their careers as similar to those of other men (Sumner and Brown 1996). Using same-gender comparisons to determine career expectations makes sense because individuals assume that such referents are similar in attributes *related* to achievement, such as background qualifications, work experiences, education, or family concerns, and are thus appropriate for accurate appraisals of likely achievement (Zanna et al. 1975). Second, women's career referents tend to be at lower levels than men's in their career accomplishments (Jackson et al. 1992, Major and Konar 1984). Women frequently earn less money than men (Heckert et al. 2002, Jackson et al. 1992), and consistently receive fewer promotions than men and this occurs independent of occupation (Blau and DeVaro 2006). Thus, when a woman selects women as career referents, they tend to make less money and hold lower level jobs than the men selected by a man. Using this reasoning, women's career expectations tend to remain lower than men's because expectations depend on the comparison level of one's career referents. From a goal-setting perspective, women don't set the bar high enough (Locke and Latham 1990).

In this reasoning two important questions remain untested. Scholars generally assume that women's lower career expectations largely ensue from differences in career referents (Jackson et al. 1992, Major and Konar 1984). However, scholars disagree about the relative significance of same-gender and lower-level referents in this process, with some emphasizing the former (e.g., Crosby 1982, Major and Forcey 1985, Miller 1984), and others emphasizing the latter (Jackson et al. 1992, Keaveny and Inderrieden 2000). Which is more important? Research suggests that both contribute to explaining expected achievement, but few studies have examined gender composition and comparison level of referents together in the same study (for exceptions, see Felicio and Miller 1994, Major and Forcey 1985; Steil and Hay 1997; Zanna et al. 1975). Nor have these concepts been much examined in an organizational context, where aspects of gender and status implicit in referent comparison levels are likely to hold higher salience than those generated in lab studies, the primary methodology in studies of social referents (Greenberg, Ashton-James and Ashkanasy 2007). Moreover, in studies where both referent gender and comparison level have been examined in an organizational context, comparisons are generally up, down, or lateral, with no measure of the degree of upward comparison (see, e.g., Felicio and Miller 1994, Steil and Hay 1997).

Having more refined measures of the degree of upward comparison are critical, however, in addressing the second untested question, "What happens when women place the bar at the same level as men?" Extant theory assumes that "higher is better," independent of gender (Bylsma and Major, 1992, Felicio and Miller 1994). Thus, if seeking upward comparisons boosts men's achievement expectations, it should produce comparable boosts to women's. However, we know little about whether women and men respond similarly to such upward comparisons (Buunk et al. 2005a). This understanding is critical because the predominant prescription management researchers offer to raise women's lower career achievement is that women should have more upward social comparisons available as exemplars—both women and men (Javidan et al. 1995, Mattis 2001). This prescription assumes that women are inspired by such comparisons. However, research has not examined whether they exert the same positive influence on women's career expectations as on men's.

In addition to addressing these two questions, the data for this study, collected from a large organization, allow us to fill several significant holes in extant research. First, we use field rather than laboratory data, a choice that responds to recent criticisms raised in social comparison literature (Greenberg et al. 2007). Laboratory studies with undergraduates cannot simulate the profound effect that work environments exert on individuals' lives (Goodman and Haisley 2007). Second, our data include the identity and demographic attributes of each career referent. Previous research rarely specifies who individuals' social referents actually are. As Shah (1998, p. 253) argues, although the identity of referents is critical to social comparison and equity theories, "it is astounding that the issue of the social referent has only been addressed in general terms."[1]

This study, then, focuses on two concerns. The first involves the relative contribution which gender composition and level of individuals' career referents make to career expectations. Which, if either, is more important in explaining why women's expectations are lower than men's? Second, we explore how career referents shape expectations when women and men identify referents at the same level. If women's lower expectations result from identifying lower-level career referents than men do, what happens when women identify career referents at the same level?

THEORETICAL BACKGROUND

The central issue underlying these two questions is whom an individual perceives as his or her career referents. Although many social referent definitions exist (see, e.g., Goodman 1974, 1977, Kulik and Ambrose 1992, Shah 1998), we use Wood's (1996, p. 521) inclusive approach, which emphasizes that selecting referent others is based on "[T]hinking about…social information in relation to the self (e.g., observing similarities, differences, or both between the other and the self)." Thus, in this study we define an individual's *career referents* as other people in the organization whom he or she regards as similar in terms of tasks performed and pace of career advancement.[2]

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[1] As far as we are aware, Shah's (1998) work is the only field study in which subjects identify more than one or two actual social referents (see comparable argument in Law and Wong, 1998). Unfortunately, her study does not assess referents' comparison levels or gender.

[2] Previous organizational studies of social comparison have included both comparisons to individuals within organizations and comparisons to individuals in other organizations (see, e.g., Scholl et al. 1987, Sweeney and McFarlin 2005). In this study we focus on comparisons within an organization because this allows us to use the hierarchical level of the employee and referent as a common metric to measure upward social comparison. The firm we studied is a large organization where employees have

Gender Composition and Level of Career Referents

Our first research question concerns the relative impact of two aspects of career referents: their gender composition and comparison level. Social comparison theory suggests that individuals are motivated to evaluate their current abilities, opinions, performance level, outcomes, and future opportunities, and that they do so by comparing themselves to others in their social environment (Festinger 1954, Goodman 1974, Wood 1989). Individuals may identify social referents whose abilities or outcomes closely match their own, but Festinger (1954, p. 124) argued that individuals have a "unidirectional drive upward" that motivates them to desire self-improvement. As a result, their selections depend on the type of evaluative information they seek. In some situations they may compare themselves to similar others whereas in alternate situations, they may select superior others: those with higher performance in a given dimension (Taylor et al. 1996).

Social comparison researchers have noted paradox in the theory's emphasis on similarity in ability or performance as the main determinants of identifying referents. Why would individuals compare themselves to referents whose performance is identical to their own when this provides little evaluative information? Goethals and Darley (1977) suggested a related-attributes hypothesis to resolve this paradox. They argued that individuals are not merely interested in others whose performance is similar to their own. Rather, individuals prefer referents with similar shared attributes like sex, age, or experience that might *relate* to performance, and thus indicate how their performance compares. In judging running ability, for example, they predict that young women will compare themselves to other young women, rather than to others with the best times (Goethals and Darley 1977). This related-attributes hypothesis, specifically focusing on the tendency for individuals to identify same-gender over standard-setter-performance comparisons, receives support in diverse achievement contexts, including laboratory studies of abilities (Suls et al. 1978, Wheeler et al. 1982), students in classrooms (Blanton et al. 1999, Huguet et al. 2001) and employees in organizations (e.g., Crosby 1982, Blanton et al. 2001).

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relatively long tenure ($\overline{X}$ = 17.22 years), so the comparisons that employees make to other employees are likely to carry significant personal relevance.

However, the related-attributes hypothesis does not explain the countervailing tendency, suggested by Festinger's notion of unidirectional upward drive, for individuals to make upward social comparisons. When gender is not primed, compelling evidence suggests that individuals seek higher-level comparisons for assessing their ability. When evaluating task performance in the laboratory, for example, individuals tend to compare themselves with others at higher skill levels (Arrowood and Friend 1969, Gruder 1971). On cognitive achievement tests without competitive pressures, individuals privately ask to see scores of others who did better than they did to assess their achievement. Outside the lab, this tendency to make higher-level comparisons as a first choice has also been observed in competitive bridge players (Nosanchuk and Erickson 1985) and work settings (Buunk et al. 2005b). Research suggests that this strategy helps individuals assess the range, and particularly the upper boundary, of performance (Wheeler et al. 1969).

These two approaches, one underscoring referents with similar attributes such as sex, and the other stressing referents who achieve at higher levels, represent a conflict in emphasis. Researchers emphasizing the similarity approach argue that many comparison level studies, including those cited above, are flawed because they do not make the referents' sex salient (Miller 1984, Suls et al. 1979). In studies that include both same-gender and higher-level comparisons, researchers have found support for the similarity approach. Zanna, Goethals and Hill (1975), for example, found that individuals identify same-gender and same-college major referents rather than higher achievers as first choices in assessing their ability on a cognitive test. Major and Forcey (1985) found that both women and men preferred to maximize similarity using same-gender and same-job referents rather than selecting the highest paid referents in evaluating the fairness of their current pay. The few field studies that have examined these concepts reach similar conclusions. Steil and Hay (1997) found that women and men from multiple organizations tended to make same-gender and comparable level comparisons. Felicio and Miller's (1994) study of medical students found that same-gender comparisons were more frequent overall, though men have a higher tendency to make same-gender comparisons than do women. Both men and women made upward comparisons at about the same rate as peer comparisons.

This conflict in emphasis may result from differences in the time reference scholars use for outcomes. Studies in which individuals prioritize similar-attribute others over higher-level comparisons focus on situations where individuals assess their *current* abilities against the *current* abilities of others (e.g., Feldman and Ruble 1981). Thus, these findings may not translate directly to situations where individuals estimate achievement expectations about the future. In determining career expectations, individuals may prefer higher-level over similar-attribute others. The latter may give more useful information about current performance; the former greater insight into future possibilities (Lockwood and Kunda 1997).

A research context that examines future expectations—the pay expectations literature—validates the importance of higher level comparisons. First, this research shows consistent gender differences in pay expectations (Heckert et al. 2002, Sumner and Brown 1996). Women's pay expectations for entry level and peak career jobs almost always lag behind those of men (e.g., Heckert et al. 2002, Jackson et al. 1992, Jackson and Grabski 1988, Keaveny and Inderrieden 2000, Major and Konar 1984). Second, this difference appears related to social comparisons. Even holding initial pay levels constant, women tend to identify referent others who earn less than those identified by men. In Major and Konar's (1984) work, the referent measure, pay expectations for others, accounted for nearly half the gender difference in entry pay expectations and for more of the difference in peak pay expectations than any other factor in their model (see similar results in Jackson et al. 1992). A drawback to these pay expectation studies, however, is that they do not assess the degree to which women and men are making same-gender comparisons. Thus, these studies suggest that when explaining future expectations, women's tendency to compare to lower-level referents may acquire more importance than their tendency to make same-gender comparisons. However, they have not examined these approaches together. The first question we explore, then, is the relative effect of individuals' higher-level and same-gender referents on their career expectations.

Comparisons to higher achieving referents may offer several psychological benefits to individuals. For instance, such referents depict tangible illustrations of a desired goal, and thus may be inspirational (Lockwood and Kunda 1997; Steil and Hay 1997). Given referents' superior attainment, they

may provide useful information on how to improve. They may also give individuals the feeling of belonging to the "best" in a reference group, thereby providing the vicarious or actual attention bestowed on high status others (Buunk and Ybema 1997). Finally, upward comparisons may be motivating because they cause individuals to set a higher personal standard for evaluating their own success (Huguet et al., 2001).

We expect that while men and women will tend to identify same-gender referents, the *level* of their comparison referents will shape their career expectations more than the prevalence of their same-gender referents. First, we expect that competition for scarce advancement opportunities in organizations makes achievement levels more salient than gender (see Buunk et al. 2005b). Second, the skewed gender distribution at the top of many organizations means that women have fewer same-gender referents than men (Kanter 1977; Lyness & Thompson 2000). Thus, while men are able and likely to compare themselves with other men at higher levels of the organization, this same strategy may not work for women. The result is that as women advance to higher levels, the gender composition of their referents is likely to include more men (see Ibarra, 1992; Lin, 1999).

What this logic suggests is that, in contrast to existing studies outside the organizational context, the relative informational value of comparing upward and gender-related attributes will differ. Within an organization, the informational value of comparing upward to help determine future expectations will exceed the value of the related attribute of gender. For women, this means that they are likely to be more concerned with, "How can I reach higher levels in this organization?" than, "How does a woman, specifically, succeed in this organization?" though both are important. Several findings support this argument. Women's tendency to identify greater numbers of women as social referents does not preclude their sensitivity to high-level referents. Crosby (1982) showed that when women hold high-level positions in male-dominated environments, they increase their use of men as social referents. Another study showed that when women form their pay expectations for a new job offer (rather than those for work they have already performed) they seek out-group comparisons with higher paid men (Blanton et al. 2001). These results suggest that when women have to choose between high-level and same-gender comparisons, the former may be more likely to determine their expectations (see Major 1994; Goodman 1974). For

men, the rationale is the same, though the availability of other men in high-level positions means that they do not have to choose one or the other aspect. Rather, higher-level comparisons are more likely to influence their expectations because there is little variation in their referents' gender composition. Consequently,

> *Hypothesis 1. The average career level of an individual's career referents will exert more influence on career expectations than the individual's gender or the gender composition of his or her career referents.*

Career Referents at the Same Level

This proposed positive association between the level of upward comparisons and expectations suggests that if women make upward comparisons to levels comparable with men's, their goals for achievement and thus their career expectations will resemble those of men. This leads to our second question: What happens to women's career expectations when they identify referents at the same high levels as men?

We hypothesize that while women's career expectations will be increased by comparing to higher level referents in an organizational setting, they will not rise as much as men's. This hypothesis suggests that women and men react differently to same-level upward comparisons, a contention that has not been explored in the extant literature (see Buunk et al. 2005a). However, our contention can be supported by both psychological and social structural perspectives. The psychological view draws on theories of identification and contrast (see Collins, 1996). It suggests that the influence of upward referents is linked to *perceivers' identification with the upward referent,* that is, the degree to which perceivers believe themselves like the referent, and believe that they can attain the referent's accomplishments (Lockwood and Kunda 1997, Buunk and Ybema 1997).[3] If perceivers observe a high-performing referent and construe themselves as like that person—for instance, if they believe that given the right circumstances, they could perform that well, too—then they are likely to identify with that person, be inspired, and raise their expectations. However, if they construe themselves as different from that person—for instance, if

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[3] We defined a *career referent* as a person with whom a perceiver identifies. *Identification with the upward referent* refers to the strength of this identification, the relative degree to which the perceiver regards the referent as similar.

they believe that no matter how hard they try, they can't achieve at that level—they are likely to feel a contrast with that person, feel inferior, and lower their expectations.

Extending this theory to the realm of gender differences, evidence suggests that women may be less likely to identify with upward referents, regardless of whether they are same-gender. For instance, women appear more attuned and responsive than men to social cues in general and social comparisons in particular (Kemmelmeier and Oyserman 2001). In achievement contexts, women are more likely than men to underestimate their expected achievement when they hear about a socially-defined standard of performance, such as others' performance levels (Feather and Simon 1971), especially when they must report their performance publicly in social settings (Crandall 1969, Roberts 1991). In addition, they are more likely than men to attribute higher-than-expected performance to luck rather than ability (Halperin and Abrams 1978), more likely to feel they deserve lower pay levels and, for identical work, regard lower pay levels as more fair than men do (Major 1989; Jackson and Grabski 1988). Women tend overall to have lower levels of self-confidence and competitiveness than men (Ahlgren 1983; Beyer 1990, Gibbons et al. 1994, Heatherington et al. 1993, Lenney 1977).

These tendencies may contribute to women having greater difficulty identifying with higher level comparison referents than men, because achieving at this high level may seem less realistic for them. Psychologically, women may make lower—and possibly, more realistic—assumptions about their likelihood of success, while men may make less realistic assumptions. Men may be able to identify more fully with upward comparison referents because their higher self-confidence and competitiveness and their assumptions about higher deserved pay may attenuate the feelings of inferiority one might have in comparison with a superior other (Gastorf et al. 1980; Wood 1989). Men may be more likely to identify with upward comparison referents because these comparisons enhance, rather than detract from, their feelings of similarity with a high level referent (see Collins 1996).

Why would women make these "more realistic" assumptions that hamper identification with higher level referents? Social structural theories suggest at least two reasons. First, relative deprivation theory suggests that women may be concerned with self-protection: they are inclined to identify less with higher-level referents because these referents are more likely to make them feel deprived (Major, 1989).

Why should women look to high level leaders when they suspect they have little chance of achieving at that level, and the comparison is likely to make them feel inferior in comparison? Second, women may base their perception of their chance of success on the current distribution of women in higher level positions, which represents the structure of opportunity (Kanter, 1977). That is, if they observe that women hold a lower proportion of higher level positions, this signals that achieving higher level positions is more difficult for women (Ely, 1994). Moreover, if women hold a lower proportion of higher level positions, there are fewer same-gender referents available to identify as career referents (see Beaton & Tougas 1997, Crosby 1982, Kanter 1977). In seeking upward referents at high levels, women may find only men for comparison. Women may more rarely identify with these high-level men than their male counterparts because women do not regard men as models of their own future achievement (Ely 1994; Ibarra, 1992).

Based on both psychological and social structural perspectives, we argue that even when women have same-gender referents available in higher level positions, they are less likely than men to translate such identification into enhanced career expectations.

Hypothesis 2. The positive impact level of career referents has on career expectations is lower for women than men.

THE CURRENT APPROACH

This study will test two fundamental assumptions underlying theories of gender-based career expectations: that women "set the bar" of identifying referents too low and that raising this bar will increase expectations. The existing literature suggests that we should observe several associations in the data. First, research consistently shows that women have lower career expectations than men and we expect to observe this phenomenon in the current data. Second, social comparison theory suggests that individuals have an overall desire to compare upward; thus, we expect both women and men to identify social referents at career levels higher than their own. Third, we expect that the higher the career levels, the higher the expectations. Fourth, research shows that individuals tend to identify same-gender referents; thus, women's sets of career referents should include a larger proportion of women than the proportion in the population; similarly, men's sets of career referents should include a greater proportion

of men. Fifth, we expect that men will name a greater number of career referents than women, based on the greater likelihood that they can identify with higher-level referents (see Ely, 1994). Sixth, based on studies of gender and occupations (e.g., Treiman and Hartman 1981), we predict that women's sets of career referents will hold lower career level positions overall than men's. Finally, drawing on the logic of these predictions, we should find the following effect of employees' career referents on expectations: having a higher proportion of women in an individuals' set of career referents is associated with lower career expectations.

Data used for this study come from management employees in a large company that formally defines the hierarchical levels of management careers. The data address three elements missing in the extant literature. The most important is that examining a management career within one organization produces a commonly understood metric of career level. Everyone understands what each career level means and this permits direct comparisons among subjects' career expectations and levels of career referents. Few studies of upward social comparison have assessed the *degree* of upward comparison and its effects (see Nosanchuck and Erickson 1985). While pay expectations can be used as a proxy for degree of upward comparison, previous studies have been conducted almost exclusively outside organizations for individuals anticipating rather than experiencing careers (e.g., Major and Konar 1984, Jackson et al. 1992), or inside organizations with no attention to gender effects (e.g., Blau, 1994). In addition, although our dataset does not include referents outside the organization, many employees work in this firm for their entire careers. Consequently, a large group of others is available as career referents.

A second advantage is that most research on gender and upward comparisons is conducted in the laboratory with college students as subjects (see reviews in Collins 1996, Miller 1984, Wood 1989). But using an organizational field setting is particularly important for career studies. It seems likely that comparison levels take on increased salience (see Goodman and Haisley 2007) in situations where career success matters to individuals, and life cycle concerns, such as balancing work and family, significantly influence individuals' lives (Bailyn 2006). These organizational data allow us to explore how respondents actually experience their careers at diverse ages and career stages.

Finally, the field context facilitates the identification of specific career referents and their attributes. Existing research has failed to capture the reality and breadth of employees' social referents (see Shah, 1998). Social comparison theory suggests that individuals tend to have a wide range of social comparison referents, some consciously chosen and others from spontaneous comparisons (Wood, 1989). Yet in the past, scholars have operationalized social referent identification by asking respondents to: 1) name one to three specific referents (e.g., Crosby 1982); 2) observe a fictitious referent (Lockwood and Kunda, 1997, Major and Forcey 1985, Wheeler et al. 1969); or 3) respond to a general category of referents where specific others are not identified. For example, instead of naming specific referents, respondents are asked to compare themselves with "others paid more" (Berkowitz et al 1987), "other individuals doing the same job as me in my company" (Scholl et al. 1987), or "co-workers at my job level" (Sweeney and McFarlin 2005). Thus, these studies rarely solicit referents' names. Even when they do, they request a limited number and ask respondents to provide information on the attributes of those identified. This may introduce errors because respondents do not always know others' attributes accurately. It is easy to assess a referent's sex, but respondents may not know the referent's other attributes, such as age or organizational tenure.

To our knowledge, no research exists within an organization in which the impact of gender on an individual's broad set of career referents and the degree to which those referents reflect upward comparisons and affect career expectations is examined. Of existing organizational studies, Goodman (1974) had respondents list a limited set of referents, but did not examine gender effects; Oldham, Kulik, Stepina and Ambrose (1986b) had respondents identify a primary referent, but did not examine gender effects; Crosby (1982) had respondents list their first three referents, but did not examine a single organization or the comparison level of these referents (see also Steil and Hay 1997); Shah (1998) controlled for demographic variables such as gender, education level, tenure and age, and requested that respondents select specific referents, but, aside from the average number selected, did not provide either the gender or status level of those referents.

METHOD

Setting, Respondents, and Sample

We used an existing data set collected from a large regionally-dispersed utility company with over 9,000 employees. Managers ($N = 2,685$) were selected as the study population because the fifteen levels of the managerial career are clear and known by all employees. They thus provide a salient metric with consistent meaning showing the upward or downward levels of career referents named by a respondent. In this company, managers move frequently to different divisions in different regions; their average time in one position is under two years. Thus, they have ample opportunities to develop work and friendship associations with a large and diverse group of people. Demographic data were obtained from company records on the population of management employees. In this company, 32% ($N = 848$) of these employees are women, 62.1% (N=1,668) are White, 9.8% ($N = 263$) are Black, 15.9% are Hispanic ($N = 428$), and 12.1% ($N = 326$) are Asian. Of the 1,011 employees that the organization defines as high-level managers, 22% ($N = 226$) are women. Of the 200 highest-level managers, 12% ($N = 24$) are women. These numbers indicate that while fewer women than men hold high-level positions relative to their numbers in the population, high-level women are available as career referents.

Surveys were mailed to a 20% sample of management employees ($N = 537$) stratified by age, organizational tenure, career level, gender, ethnicity and hire type (whether the employee was in a professional or non-professional job when hired). This sampling procedure typically reduces the error variance in population estimates beyond what is achieved using random sampling (Kalton 1983). Four hundred and twenty-three surveys were returned (79%). Twelve surveys were deleted because they were completed by employees outside the sampling frame, leaving 411 (77%) usable surveys. The survey sample is similar to the population in all stratification dimensions: age ($t = 1.11$, $p = 0.27$), organizational tenure ($t = -0.31$, $p = 0.75$), career level ($t = 0.79$, $p = 0.43$), gender ($\chi^2 = 0.23$, $p = 0.63$), ethnicity ($\chi^2 = 1.02$, $p = 0.91$), and hire type ($\chi^2 = 0.12$, $p = 0.73$).

Surveys were confidential but not anonymous. Respondents were requested to provide their social security number on an identification page that was perforated and easily detached from the survey booklet. Two envelopes were provided for returning each survey: one for the identification page and one

for the completed survey. Respondents' sealed responses could not be identified without opening the

envelopes and matching the codes, thus giving them greater confidence that their responses would not be

examined by others inside the company. After the surveys were returned, coded, and double-entered, a

5% sample was re-evaluated to estimate the percent of entry errors. This evaluation yielded an error rate

of 0.002%.

Name generation, a data collection approach used to study social networks, was employed to

create the sample of others from whom respondents identified their career referents. Respondents first

completed a booklet instructing them to list the names of people they know within the organization. Fifty-

six blank lines were provided for these names, and a complete list of managers was provided for

reference. Respondents were asked to add names if necessary; the average number of names listed was

49.86 (range 0 - 56). This number is right-censored because of space limitations on the survey. Research

suggests that people may hold hundreds of close and distant associations (Killworth et al. 1990); however,

these are difficult to capture in survey work. Writing out names produces subject fatigue, and this

generally limits the number listed. Lawrence (2006) noted that the average number of names in large

survey studies was around eight. Thus, relative to much previous research, respondents provided a broad

set of known others from which they later identified career referents. The employee identification

numbers of each name on each booklet, totaling around 20,000 names, were coded by hand using the

company's personnel data. One advantage of this name generation approach is that it produced a sample

of known others *before* the respondent was asked to identify his or her career referents. Moreover,

demographic attributes for respondents' samples of known others were obtained from the company's

employment records. Thus, respondents were not primed to over- or under-select people with a given

attribute (Smith 2002).[4]

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[4] Smith (2002) suggests that a two-step approach, such as the one used here, is desirable. When subjects are asked to list their black/white friends they report significantly more cross-race relationships than if they are first asked about their friends and then asked which of these friendships are cross-race (2002, p. 577). In the current study our interest is: Of the people an individual knows, which ones does he or she see as having similar careers? We expect that separating an individual's knowledge of network members from his or her career assessments improves the accuracy of referent information. However, the literature provides little guidance on sampling an individual's population of known others independent of the roles those known others play. The name generator used here, "Copy the names of those employees you know from the [COMPANY NAME] list to the spaces below," follows that of Hampton and Wellman (2000) who presented subjects with a list of all community members (N=271) and asked "Do you recognize this person?" (see also Nosanchuk and Erickson 1985). However, it seems possible, perhaps even likely, that subjects interpreted the name generator "Copy the names of those employees you know from the

This approach possesses several advantages over those emphasizing a respondent's identification of referent based on immediate recall. First, this approach addresses a possible time bias, since asking a respondent for one to three career referents is likely to elicit referents the respondent has used most recently or who are currently salient for reasons unrelated to the research question (Marin 2004). Second, instead of presenting a yes-no choice to respondents about their identification of referents, our measure requested that respondents identify the degree to which their referents are similar, providing a more fine-grained measure of the extent to which each is regarded as a career referent. Third, respondents may use more than one to three salient referents. For example, Scholl et al. (1987, p. 115) find that individuals tend to make "multiple, simultaneous comparisons" and role model research suggests that individuals create cognitive, composite referents made up by comparing several referents (Gibson 2003). The wider set of referents elicited here increases the likelihood of capturing both specific and composite information about career referents. Thus, by priming respondents to think about everyone they know before identifying and assessing career referents, our measure reduces the likelihood of forgetting important referents (Brewer 2000) and, by eliciting responses on a wide range of others, may reflect more accurately the nature of respondents' actual social comparisons (see also Law and Wong, 1998).

Measures

     Dependent variable. *Career expectation* was measured using a single item in which respondents were asked: "By the time you leave [THE COMPANY], what salary level do you expect to attain?" Salary level is the formal term the company uses to define an individual's career level, and this designation is understood by all employees in management careers. There are fifteen salary levels. Given that this designation is unambiguous to the respondent, a single-item measure is preferable over a multiple-item measure. Adding additional scale items would not increase, and might decrease, the validity of respondents' responses (Sackett and Larson 1990, Wanous et al. 1997).

     Independent variables. *Gender* of each respondent was identified using company employment records. For each career referent identified through the procedure outlined above, female career referents

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[COMPANY NAME] list to the spaces below" in different ways. Further study of methods for eliciting total personal networks is needed.

were coded as 1 and male referents as 0. *Level of career referents* was measured using the sample of

known others provided by each respondent. For each person listed as known, the respondent was asked

two questions: "How similar are you to each person on the list in terms of the *types of jobs* you have held

during your career?" and "How similar are you to each person on the list in terms of the pace of your

advancement during your career?" Respondents were given five response categories (0 = I Don't Know; 1

= Very Dissimilar; 2 = Somewhat Dissimilar; 3 = Somewhat Similar; and 4 = Very Similar).

Respondents' answers to these questions measure the degree of perceived likeness among others they

know in the company and relevance in terms of types of jobs, factors considered important in choosing

social referents (Festinger 1954, Goodman, 1974, Kulik and Ambrose 1992, Shah 1998). Each person that

a respondent rated as similar to him or her with a value of 3 or 4 is considered a career referent. The

hierarchical level of each career referent was identified through company records and their average was

computed for each question. The variable, level of career referents, then, is the average of the average

career levels for the two questions. This approach improves on previous studies (e.g., Crosby 1982,

Goodman 1974, Oldham et al. 1986a, Shah 1998) by explicitly identifying 1) which individuals a

respondent includes in his or her set of career referents, and 2) the career level of each of these referents.

Coefficient alpha of the level of career referent scale is 0.93. *Gender composition* is the proportion of a

respondent's set of career referents who are women.

       Control variables. Respondents' demographic attributes, obtained from company records, were

used as control variables because research shows that they influence the identification of social

comparison referents (Kulik and Ambrose 1992; also see Shah 1998). Five demographic attributes were

used: *ethnicity* (White, Black, Hispanic, Asian), *age, organizational tenure, education,* and *current career*

level. Education was measured using a nine-point scale, with 1 = some grade school to 9 = finished

doctoral degree.

       A sixth control variable, *expected organizational tenure,* was added because low career

expectations in an organization may result when respondents intend to leave, not because they don't

anticipate achieving higher levels. For instance, employees may leave for better opportunities, raising

families, or retirement. Expected organizational tenure was measured using respondents' answers to the

question "How long do you expect to remain with [THE COMPANY]?" Responses were coded on an

eight-point scale, with 1 = less than 1 year, 2 = 1-2 years, 3 = 3-4 years, 4 =5-9 years, 5 = 10-14 years, 6 =

15-19 years, 7 = more than 20 years and 8 = until retirement. Expected organizational tenure was coded

as 8 = until retirement if respondents' age plus their expected tenure exceeded 65. There is no gender

difference in expected organizational tenure (t = -0.06, p = 0.95).

The final control variable, *same-gender availability*, was included because respondents' career

expectations may be influenced by the proportion of similar others holding jobs above them. In particular,

the literature suggests that the higher the proportion of women above a female employee, the more likely

she is to perceive that high career expectations are realistic (Ely, 1994). Same-gender availability is a

structural variable measured by the proportion of same-gender managers in the level above the

respondent. Data for this variable were obtained from company records.[5]

Descriptive statistics and relationships among variables. Table 1 shows a correlation matrix of

the variables. Since many of the independent variables are significantly correlated, a Variance Inflation

Factor (*VIF*) diagnostic was used to test for collinearity. The highest Variance Inflation Factors are for

gender (*VIF* = 4.46), organizational tenure (*VIF* = 3.81) and age (*VIF* = 3.21) which are well below the

suggested cut-off of 10 (Chatterjee and Price 1991, p. 191). Thus, collinearity may attenuate the estimates

for these variables, but does not appear harmful.

Insert Table 1 about here

RESULTS

Before testing our hypotheses, we explored the data to check their consistency with extant social

comparison theory and research. The results are reported in Table 2. As the literature predicts, women

have lower career expectations than men. As shown in Model 1, the unstandardized estimate for the

regression of career expectations on gender shows a significant difference in expectations between

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[5] Although Cohen, Broschak & Haveman (1998) use the proportion of women in all levels above, the same and below a subject to assess structural availability, their study includes a sample of organizations. In this single organization, similar measures produced variables with insufficient variance. One level above the respondent seemed the best compromise between theoretical and empirical concerns. This adaptation provides some indication, although certainly not a complete picture, of the structural availability of higher level jobs.

women and men in the hypothesized direction (b = -0.88, p < 0.05). Moreover, this difference produces a small but significant increase in explained variation beyond that contributed by the control variables (ΔR^2 = 0.01, p < 0.05).

Insert Table 2 about here

Several other results are consistent with extant research. The managers in our study exhibit upward social comparisons in identifying career referents. The average career level of respondents is 7.42, while the average career level of their referents is 8.36. Also consistent with current research, the level of a respondent's career referents is related to his or her career expectations. As shown in Model 2, the relationship between the average level of career referents and career expectations is positive and significant (b = 0.88, p < 0.001; ΔR^2 = 0.11, p < 0.001).

Next, the literature suggests that both women and men tend to identify same-gender referents; thus, women's sets of career referents should exhibit a larger proportion of women than men's. The results in Model 3 support this expectation, showing a significant association between gender and gender composition (b = 0.49, p < 0.001). This represents a significant increase in explained variation beyond that contributed by the control variables (ΔR^2 = 0.23, p < 0.001). Based on this regression, the average expected proportion of women in women's sets of career referents is 0.71 (range = 0.23 – 1.00). The average expected proportion of women in men's sets of career referents is 0.20 (range = 0.03 – 0.42). As anticipated given identification theory, men perceive that they have more career referents than women (women: $\overline{X}$ = 17.47, men: $\overline{X}$ = 21.61; t = 5.19, p < 0.001).[6]

The literature also indicates that women's career referents overall are likely to hold lower career level positions than men's career referents. The results shown in Model 4 do not support this expected relationship, with gender exhibiting no significant effect on level of career referents (b = -0.23, p = ns). Based on this regression, the average expected level of women's sets of career referents is 7.99 (range =

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[6]After observing this difference, we added *Number of Career Referents* as a control for potential differences between respondents who perceive many similar others and respondents who perceive few. This variable did not exert an impact on career expectations in any model.

5.40 – 10.77). The average expected level of men's sets of career referents is 8.38 (range = 5.18 – 12.12).

Finally, current research suggests that higher proportions of women in an individual's set of career

referents should be related to lower expected achievement. The results shown in Model 5 negate this: no

association exists between the gender composition of career referents and career expectations (b = -0.26,

p = ns).

Results for Hypotheses 1 and 2 are shown in Table 3. Models 6 and 7 provide support for

Hypothesis 1, that the average career level of an individual's career referents shapes career expectations

more than either the individual's gender or the gender composition of his or her career referents. Model 6

shows that when both gender and gender composition are included in the regression, gender exhibits a

significant relationship with career expectations but gender composition does not (gender: b = -1.16, p <

0.01; gender composition: b = 0.59, p = ns). Their joint addition adds a small but significant increase in

explained variation (ΔR^2 = 0.01, p < 0.05). Model 7 shows that level of career referents and career

expectations exhibit a significant relationship (b = 0.89, p < 0.001) that significantly increases explained

variation (ΔR^2 = 0.11, p < 0.001). This 11% addition is considerably larger than the 1% joint contribution

of gender and gender composition. The standardized estimates for level of career referents (B = 0.54),

gender (B = -0.21) and gender composition (B = 0.10) also support the conclusion that level of career

referents exerts the greater impact on career expectations.

Insert Table 3 about here

Model 8 supports Hypothesis 2: the positive impact of level of career referents on career

expectations is lower for women than men. The interaction between gender and level of career referents is

significant (b = -0.50, p < 0.001), indicating that the slopes for women and men differ as the level of

career referents increases. Adding this interaction produces a small but significant increase in explained

variation over that in Model 7 (ΔR^2 = .01, p < 0.001). A further probe shows that the simple slope for

women of expected achievement on level of career referents is b = 0.55 (p < 0.001). The simple slope for

men of expected achievement on level of career referents is b = 1.04 (p < 0.001). Thus, as the level of

upward social comparisons increases, gender differences in expected achievement become more

pronounced with women having lower expectations than men. When the level of career referents is one standard deviation below its mean, this difference is not significant ($b = -0.57$, $p = $ ns). When the level of career referents is at its mean, gender differences in expected achievement are significant ($b = -1.30$, $p < 0.001$). At one standard deviation above its mean, the slope of this difference increases ($b = -2.04$, $p < 0.01$). Figure 1 shows the relationship between gender and expected achievement at different levels of career referents.

Insert Figure 1 about here

DISCUSSION

Contribution

This study examines the persistent puzzle of why women exhibit lower career expectations than men. Although scholars argue that women's lower expectations result from their same-gender comparisons and lower-level referents (Jackson et al. 1992, Major and Forcey 1985, Major and Konar 1984), the connections among these explanations, to the best of our knowledge, have not been tested. We started with two questions: What relative contributions are made by the gender composition and level of individuals' career referents to their career expectations? And, what happens to such expectations when women and men identify career referents at the same levels? Contrary to extant research and related attributes theory, we found that gender composition is less important than comparison level in understanding career expectations. The comparison level results, that higher levels of career referents are related to higher career expectations, are consistent with current studies. But women do not increase their expectations to the same degree as men in response to observing high-achieving others. If this result is generalizable, it is unclear whether the standard managerial solution of providing women with more exemplars or role models in high status jobs will work. The literature suggests several alternative explanations for our results. Although the secondary data used here were not designed to test these explanations, some questions included in the survey allow us to explore them.

Q1: Relative Contributions of Gender Composition and Comparison Levels

The results show that the gender composition of an individual's career referents explains less of the variation in career expectations than does the career level of those referents. In fact, contrary to existing research, gender composition shows no association with career expectations in any of the models we tested. Given that prior research finds this association, why is this so?

One possibility is that this study was conducted in a single organization while others use samples from multiple organizations. Given that the results replicate many previous findings about gender and achievement expectations, there is some promise that they generalize to other organizations. However, this company may be an idiosyncratic example from one end of the distribution. Another possibility is that both career expectations and career referents were assessed on the same survey, raising the potential for common method bias. On our survey, the former is a respondent perception. The latter is not: respondents identified career referents by name, and their gender and career level were derived from company data. These different measures and response formats represent a psychological separation, which may reduce the effects of common method bias (Podsakoff et al. 2003). Although these two limitations cannot be addressed here, there are several other explanations for this contradictory finding that we explore below.

One is that men respond differently from women to the gender composition of their career referents and this produces the non-significant result. To examine this possibility, we conducted a regression including all the control variables: gender, gender composition and the interaction between gender and gender composition. The coefficient for this interaction is not significant ($b = -.38$, $p = $ ns). Thus, at least in the sample used here, gender differences in response to the gender composition of career referents do not explain why gender composition is unrelated to career expectations.

A second explanation is that most existing studies have been conducted in the laboratory (e.g., Major and Forcey 1985, Major and Forcey 1985, Miller 1984) or use survey data based on the perceptions of students about future careers (e.g., Jackson et al. 1992, Major and Konar 1984). The short-term status differences induced by these methods may not absorb the same meaning to subjects as do long-term status-related relationships in work organizations. As a result, previous studies may underestimate or

ignore the impact such differences exert on career expectations. For instance, it is possible that instead of using gender composition to index similarity, respondents in previous studies use it to denote their own current status (see Major and Forcey 1985, Ostroff and Atwater 2003). The larger the proportion of women, the lower the respondents' perceptions of their own current status and thus the lower their career expectations. In an organizational setting, much of respondents' status relative to others is defined by career level and therefore gender composition may not provide additional status information. Thus, the gender composition of career referents may not play the same role in laboratory and general perception studies as it does in organizational studies. To examine this, we conducted a regression including all the individual level control variables *except* for career level. This subset of control variables explains 23% of the variation in expected achievement. When gender composition is added, its coefficient is significant in the expected direction ($b = -1.54$, $p < 0.01$) and it adds small but significant explained variation to expected achievement ($\Delta R^2 = 0.02$, $p < 0.01$). This suggests that differences in respondents' current career levels may attenuate the importance of gender-based comparisons in predicting career expectations. The result would facilitate the non-significant findings for gender composition.

Q2: The Impact of Same-Level Career Referents

The results show that even when women identify career referents at the same level as men, they still have lower career expectations. This challenges the extant expectation that identifying lower-level referents accounts for women's lower expectations. However, our results cannot explain why. The first alternate explanation we examined involves the availability of high-level women as career referents. This organization does have women in high-level positions, but respondents may not use them as career referents. While we controlled for the availability of same-gender referents at the level above respondents, we did not explore whether respondents' *perceive* that they have same-gender referents available to them in upper levels of the organization. It remains possible that only women who use same-gender, high-level career referents are following both the same-gender and high-level comparison models. Thus, the theory may hold, but only for these women. To assess this, two high-level comparison variables were created. *High-level women career referents* is a 0-1 variable where 0 designates respondents who have no women referents in upper levels and 1 designates respondents who do. *Highest-level women career referents* is a

0-1 variable where 0 designates respondents who have no women referents in top leadership positions and 1 designates employees who do. Seventy-seven percent of the women who have high-level career referents have high-level women referents. Seventy percent of the women who have highest-level career referents have highest-level women referents.

Regression analyses show that having high-level women career referents exerts a small but significant negative effect on career expectations (b =-.72, p <0.01; ΔR^2 = 0.01, p < 0.01). However, having highest-level women career referents does not contribute to career expectations (b = -0.17, p =ns; ΔR^2 = 0.00, p = ns). Subsequent interaction analyses show that the effect of having high- or highest-level women career referents on career expectations does not differ for women and men. Thus, it appears that in this organization, women's lower career expectations cannot be explained by isolating women who do use high- and highest-level women as career referents.

A second alternate explanation involves gender differences in disposition. Women tend to be less self-confident and optimistic than men, and these differences may produce lower career expectations (Heatherington et al. 1993, Pelham and Wachsmuth 1995). Women may pick up organizational cues more accurately than men; thus, their lower career expectations may result from more realistic appraisals of promotion chances (Kanter 1977). Our data include no trait measures for such dispositional differences. However, several state measures of respondents' affective feelings about their careers are available and these may indicate dispositional traits such as optimism and self-confidence.

Perceived Probability of Attainment[7] assesses how likely respondents believe they are to attain their career goals. It seems probable that respondents who feel they have a high probability of attaining career goals are more optimistic and self-confident than those who don't. *Perceived Career Progress*[8] assesses respondents' affective feelings towards their career development in the company. Respondents

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[7] *Perceived Probability of Attainment* was measured using responses to the question "Realistically, how sure are you to attain the position you aspire to as reported in [QUESTION NUMBER]?" Responses were coded on a five-point scale, with 1 = 100% sure, 2 = 75-99% sure, 3 = 50-74% sure, 4 = Less than 50% sure and 5 = Not at all sure. This question was reverse-coded so that increasing values indicate increasing perceived probability of attainment.

[8] *Perceived Career Progress* was measured using the summed and averaged responses to three questions "My fast progress has increased my expectations higher than what they were when I started work here," "My expectations have changed because I can see the company does not plan to promote me" (reverse-scored), and "My expectations have changed because my slow progress has lowered my expectations below what they were when I started work here" (coefficient alpha = 0.71). Responses were coded using a Likert-type scale, with seven anchored responses from 1=Strongly Disagree to 7=Strongly Agree.

who feel their career is going well based on feedback they receive from the company are likely to be more

optimistic and self-confident than those who feel less valued. A third variable, *Average Promotion Rate,*[9]

indicates the possible confidence respondents may acquire from the speed of their promotions. Research

suggests that rapid promotions, particularly at early stages in organizational careers, produce signaling

effects that result in higher career achievement (Berlew & Hall 1966; Rosenbaum 1984). Respondents

with a history of rapid promotions may enjoy more confidence in their future achievement than those who

experience slow promotions.

Comparing women's and men's perceived probability of attainment, perceived career progress

and average promotion rate shows no gender differences (attainment: $t = 0.22$, p =ns; progress: $t = -0.43$,

$p = $ ns; promotion rate: $t = -0.56$, $p = $ ns). When added to regressions with all the control variables

including gender composition, level of career referents and the interaction of gender and level of career

referents, the first two show a significant positive association with career expectations, as would be

expected (attainment: $b = 0.18$, $p < 0.05$; $\Delta R^2 = 0.01$, $p < 0.05$; progress: $b = 0.31$, $p < 0.001$; $\Delta R^2 = $

0.03, $p < 0.001$), but the third does not (promotion rate: $b = 0.30$, p = ns; $\Delta R^2 = 0.00$, $p = $ ns). To assess

possible gender differences in these effects, the regressions were run again including the interaction of

each variable with gender. The results show no gender differences in how these variables affect career

expectations. Thus, although positive affective states appear to increase career expectations, they do not

explain why women's career expectations are lower than men's, at least in this organization. Average

promotion rates appear unrelated to career expectations.

A third explanation for persisting gender differences in career expectations is that women have

different work and family values than men. Women may use different metrics than men to assess their

achievement. For example, there is evidence that women tend to place a lower value on money as a

component of career achievement than men, favoring outcomes such as interesting work or stimulating

social environments (Nieva and Gutek 1981). Thus, women may compare themselves with lower-level

career referents because these referents more closely represent the characteristics women regard as

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[9] *Average Promotion Rate* is measured as the number of promotions since the respondent was hired divided by his or her organizational tenure.

important; they may cognitively "trade off" higher pay for other job aspects (Heckert et al. 2002).

Similarly, research frequently notes that women place a high value on spending time with their family and this may lower their career expectations over time (Cinamon and Rich 2002).

Our data include several questions concerning work and family values and we report two here. *Value of Family*[10] is the extent to which respondents place a priority on time with their families, significant others and outside activities. *Value of Work*[11] indicates whether respondents perceive their work as a job or a career. Comparing the value women and men place on family shows a marginally significant difference opposite to the expected direction. Women are slightly less likely to tradeoff work for family than men (women: $\overline{X}$ = 3.99, men: $\overline{X}$ = 4.24; t = 1.63, p = 0.10). There are no gender differences in the value women and men place on work (t = -1.17, p = ns). When added to regressions with all the control variables, gender composition, level of career referents and the interaction of gender and level of career referents, both variables show a significant association with career expectations in the expected direction (family: b = -0.25, p < 0.01; ΔR^2 = 0.01, p < 0.05; work: b = 1.07, p < 0.001; ΔR^2 = 0.04, p < 0.001). However, neither the interaction between value of family and gender nor that between value of work and gender exhibits a significant relationship with expected achievement. Thus, although the values respondents place on family and work in this organization appear to influence career expectations, they do not explain why women's career expectations are lower than men's.

In summary, the alternate explanations we explored for our findings shed little light on either the non-significant relationship between gender composition and career expectations or the continuing gender difference in career expectations when referent career level is controlled.

Conclusion

This study's results are consistent with previous research that finds gender differences in career expectations. However, as other researchers have commented on the pay gap between women and men,

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[10] *Value of Family* is measured using the summed and averaged responses to three questions "My expectations have changed because I want to spend more time with my family or other outside activities and this means I cannot devote as much time to work as I once did," "It is very important to me that my job leaves me sufficient time for family and personal life," and "My expectations have changed because I have decided I am less interested in further promotions" (coefficient alpha = 0.61). Responses were coded using a Likert-type scale, with seven anchored responses from 1=Strongly Disagree to 7=Strongly Agree.

[11] *Value of Work* is measured using responses to a single item "I see my work as: A job. A career." Responses were coded 1 for job and 2 for career.

"We do not have clear answers as to why this gap exists" (Ostroff and Atwater 2003, p. 736). The results

here suggest that the primary extant explanation for different expectations, that women identify the

"wrong referents" may be oversimplified. Women have lower expectations than men even when they do

identify high-level referents and even when some of those referents are women. The alternate theoretical

explanations we explored based on affective measures such as self-confidence and attitudinal measures

such as work and family values also failed to provide clear answers to this puzzle.

This suggests several research directions. First, if we continue current approaches and draw on

psychological theories such as identification-contrast in social comparison, we conclude that for complex

psychological reasons, women are not able to identify with high-level social comparison referents in the

same way as men. This behavior attenuates their career expectations. Although our findings are consistent

with this reasoning, we have no data on the degree to which respondents actually identify with their

referents. Future research should examine directly whether identification helps explain career

expectations. If so, does it work better for men than for women? Women may be less inspired by such

identifications than men. Or, women may experience more difficulty than men identifying with either

other women or men at the highest levels in their organization.

A second psychologically-oriented explanation for engendered differences in career expectations

is that women's *motivations* for making social comparisons may differ from men's. Recent theory

suggests that a motivation to self-evaluate prompts slightly upward comparisons, while a motivation to

self-improve prompts more extreme upward comparisons (Nosanchuk and Erickson 1985, Taylor et al.

1996). The current study shows gender differences in the degree of upward social comparison, but does

not examine women's and men's motivations. It is possible that the differences in upward comparisons

result because women are more likely than men to use these comparisons for self-evaluation whereas men

are more likely than women to use them for self-improvement. More research is needed on possible

gender differences in the motivation to seek social comparisons.

However, our findings also indicate a third direction that departs from most existing research.

Almost all current explanations for gender differences in expectations involve psychological processes.

However, we know little about how social context influences these processes. For instance, in this

organization, women represent 32% of all managers and 12% of the top leadership of the firm. Despite the availability of exemplars, it is possible that a larger proportion is necessary before women feel motivated to identify with high-level leaders (Ely, 1994). Extending this idea, identifying with high-level others may be easier when individuals have salient, positive relationships with those who hold influential positions. Ibarra (1997) found that women with high-potential for advancement are more likely than both high-potential men and low-potential women to rely on close relationships. From this perspective, gender differences in career expectations may result because women who do not develop close relationships with their high-level comparison others have difficulty identifying with them.

In another example, Valian (1999), suggests that the accumulation of disadvantage plays a large role in the slow advancement of women. Small gender differences in evaluations or pay appear non-significant each time they occur, but over time, they accumulate into large differences. This result, also known as the Matthew Effect, has been observed in the recognition and non-recognition of scientific contributions (Merton 1968) and in the heterogeneous activities of older cohorts relative to younger cohorts (Dannefer 1987). Recent studies (e.g., Bailyn 2003) suggest that women become aware of these cumulative effects and either internalize them as accurate assessments or perceive them as barriers over which they have no control. Either way, such perceptions would tend to reduce women's career expectations. Finally, given the difficulty in explaining gender differences in career expectations, an inductive interview study that explored respondents' views and explanations of their career expectations would greatly contribute to this literature.

Overall, this approach suggests a multi-level territory about which little is known: the intersection between studies of gender-based career expectations and actual attainment. To what extent are expectations shaped by the actual careers people observe and to what extent do expectations shape behavior in ways that influence eventual achievement? Although the literature makes many inferences about the answers to these questions, studies that examine them are sparse (See Yoder & Kahn (2003) for a discussion of social context in psychological studies of gender comparison). Social psychological approaches tend to focus on what produces career expectations rather than on whether such expectations are realized (Jackson et al. 1992; Major & Konar 1984; Major, Vanderslice, & McFarlin 1984).

Sociological approaches examine the relationship between the structural availability of women, women's negative work experiences and their career success but do not examine career expectations (recent examples include Budig 2002; Lyness & Thompson 2000; Pazy & Oron 2001; Roth 2004). The former perspective infers that increasing expectations produce increasing attainment, whereas the latter infers that structural availability influences women's career expectations through its association with negative work experiences and lower career success. This missing territory warrants theoretical development and empirical attention.

Regardless of the final outcome of such studies, the results suggest that simply having some women in high-level positions as exemplars may not solve the problem of low expectations. To the extent that women continue to set the bar low, they may contribute to—and help sustain—lower achievement levels than men, even when the difference is unwarranted. As a result, it seems possible that this will not solve the problem of poorer career outcomes. Certainly, leaders of organizations should recognize that gender equity is more complex than the simple solution of increasing the numbers of exemplars. Rather than assuming that one or two women in top leadership positions provide adequate symbols of success, leaders need to uncover what cultural patterns, hiring and selection patterns, and promotion practices in their own organizations may be producing lower expectations in women than men. Until we know more about where these gender differences come from, leaders should begin with the assumption that women tend to shoot for positions below men, and then use careful assessments to make sure these women are not undervalued and underemployed. It seems likely that future research on gender and achievement expectations will uncover the increasingly complex picture that is emerging in this literature. The effect of career referents on expectations is not based solely on referents' structural characteristics—the demography and hierarchy of the work environment—but also on differences in the way women and men learn from, perceive, and relate to other people at their jobs.

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TABLE 1
Means, Standard Deviations, and Correlation Matrix[a] ($N = 411$)

Variables	Mean	s.d.	1	2	3	4	5	6	7	8	9	10	11	12
1. Expected Career Achievement	12.85	2.53												
2. Gender[b]	0.30	0.46	-0.15											
3. Gender Composition of Career Referents	0.33	0.28	-0.12	0.75										
4. Level of Career Referents	8.36	1.51	0.65	-0.25	-0.27									
5. Black	0.10	0.31	-0.02	0.05	0.09	-0.11								
6. Hispanic	0.16	0.37	-0.04	0.04	0.03	-0.13	-0.15							
7. Asian	0.13	0.34	0.05	0.17	0.15	-0.01	-0.13	-0.17						
8. Age	43.08	8.32	-0.24	-0.09	-0.12	0.13	0.07	-0.07	-0.16					
9. Organizational Tenure	17.22	9.81	-0.30	-0.18	-0.22	0.04	0.05	-0.00	-0.28	0.81				
10. Expected Organizational Tenure	6.19	2.32	0.07	0.00	-0.01	-0.11	0.00	0.20	-0.07	-0.02	0.03			
11. Education	5.74	1.07	0.42	0.02	0.11	0.37	-0.08	-0.11	0.30	-0.29	-0.43	-0.09		
12. Career Level	7.42	2.86	0.53	-0.23	-0.28	0.76	-0.03	-0.16	-0.00	0.10	0.05	0.11	0.34	
13. Same-Gender Availability	0.58	0.22	0.07	-0.79	-0.54	0.21	-0.03	-0.04	-0.14	0.13	0.19	-0.01	-0.02	0.18

[a]Correlations larger than 0.10, $p < .05$

[b]Gender and ethnicity variables dummy-coded with 1 = minority category

TABLE 2[a]
Expected Relationships among Gender, Gender Composition, Level of Career Referents
and Career Expectations based on Previous Research

Dependent Variable	Career Expectations	Career Expectations	Career Expectations	Gender Composi-tion	Level of Career Referents	Career Expectations
	Controls	Model 1	Model 2	Model 3	Model 4	Model 5
Control Variables:						
Black	0.22	0.26	0.38	0.05†	-0.38*	-0.00
Hispanic	0.31	0.33	0.27	0.02	-0.01	0.18
Asian	-0.51	-0.45	-0.12	-0.02	-0.14	-0.39
Age	-0.02	-0.02	-0.05**	0.00	0.02	-0.03
Org Tenure	-0.06***	-0.07***	-0.04*	-0.00†	-0.00	-0.05*
Expected Org Tenure	0.15***	0.14***	0.17***	-0.00	-0.03	0.14**
Education	0.37***	0.38***	0.18†	0.03*	0.25***	0.41***
Career Level	0.47***	0.46***	0.17***	-0.01***	0.37***	0.47***
Similar-Gender Availability	0.32	-1.10	-0.07	0.16*	0.15	0.20
Independent Variables:						
Gender		-0.88*		0.49***	-0.23	
Level of Career Referents			0.88***			
Gender Composition of Career Referents						-0.26
F	33.28***	30.98***	45.17***	53.34***	57.86***	29.07***
R^2	0.45	0.45	0.57	0.60	0.62	0.46
ΔR^2		0.009	0.11	0.23[b]	0.002[c]	0.01
F for ΔR^2		6.18*	84.96***	200.43***	1.61	0.33

[a] Entries are unstandardized regression coefficients; *** $p < .001$, ** $p < .01$, * $p < .05$, † $p < .10$; $N = 411$.
[b] The equation for Model 3 with control variables only has an explained variance, $R^2 = 0.37$.
[c] The equation for Model 4 with control variables only has an explained variance, $R^2 = 0.62$.

TABLE 3[a]
Hypothesized Relationships among Gender, Gender Composition of Career Referents,
and Level of Career Referents on Career Expectations

Model:	Controls	H1		H2
		Model 6	Model 7	Model 8
Control Variables:				
Black	0.23	-0.01	0.36	0.43
Hispanic	0.31	0.17	0.25	0.22
Asian	-0.51	-0.33	-0.06	-0.08
Age	-0.02	-0.03	-0.05**	-0.05**
Org Tenure	-0.06***	-0.05*	-0.04*	-0.04*
Expected Org Tenure	0.15***	0.14***	0.17***	0.18***
Education	0.37***	0.40***	0.17	0.18†
Career Level	0.47***	0.47***	0.17***	0.15**
Similar Gender Availability	0.32	-1.14	-1.30†	-1.81**
Independent Variables:				
Gender		-1.16**	-1.12**	-1.30**
Gender Composition of Career Referents		0.59	0.95†	0.49
Level of Career Referents			0.89***	0.89***
Gender x Level of Career Referents				-0.50***
F	33.28***	27.51***	38.99***	38.06***
R²	0.45	0.46	0.58	0.59
ΔR²		0.01	0.12	0.01
F for ΔR²		3.60*	86.46***	11.74***

[a]Entries are unstandardized regression coefficients; *** $p < .001$, ** $p < .01$, * $p < .05$, † $p < .1$; $N = 411$.

FIGURE 1
Interaction of Women's and Men's Career Expectations by Level of Career Referents