

Gender, Leadership, and Navigating through the Hierarchy: Behavioral Patterns and
Managers' Assessments of Performance, Promotion Potential and Career Derailment

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Abstract

Through the late 1990's, women advanced rapidly in the business world, but today there are signs that progress has slowed. Though a significant amount of research has investigated gender, leadership style and disparities in higher level leadership, little research has examined how behavioral patterns and career outcomes are related within organizational levels and in field-based settings. In addition, little research has explored gender and the multifaceted aspects of performance, such as promotion potential and career derailment. This dissertation contributes to filling this gap in the literature by examining a variety of organizational stakeholders' perceptions of leadership behaviors, managers' assessments of performance, and their relationships across genders. Secondary data from over 3,000 participants from client organizations of a talent management firm were analyzed to: (a) examine the relationship between promotion potential and career derailment across genders; (b) examine differences in manager, peer, direct report, and self competency ratings across gender; (c) explore differences in managers' ratings of a four factor performance scale across gender and explore how well performance ratings are predicted by competency ratings; and (d) examine the relationship between peer, direct report, and self competency ratings and managers' ratings of a four factor performance scale. Overall, this research showed that there were few differences in competency ratings across gender, however men tended to be rated higher on business problem solving leadership, and women tended to be rated higher on task-oriented, interpersonal, and intrapersonal leadership. Across all organizational levels, managers rated women higher on individual performance and leadership effectiveness and they rated men as more likely to derail. However, there were few differences in ratings of

promotion potential. Competency ratings were more predictive of performance for men than they were for women, suggesting that ratings for women tend to be less consistent. Future research should continue to examine the ways in which managers form their views and recommendations of employees' performance and promotion potential to ensure greater equity in these processes.

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Chapter One: Introduction

Women have made significant progress in the business world in the United States over the past half-century. Women now graduate at higher rates than men both at the bachelor's and graduate degree levels (Gieger & Parker, March 2018). Women's participation in the labor force has grown since 1980 and today women make up 47% of the labor force (Gieger & Parker, March 2018). In addition, the general population appears to be supportive of women in business leadership, viewing them as equally capable in leadership positions and even having some advantages in certain areas (Pew Research Center, January 2015). It has become widely accepted, and even embraced, for women to hold top level management positions in large corporations. Despite women's rapid advancement from the 1970s through the first half of the 1990s, there is evidence signaling that women's progress may be stalling (Eagly & Carli, 2007; Lean In & McKinsey & Company, 2016). While women have made considerable progress, there is still much to be done to support women's progress, raise awareness about the problem, and achieve gender parity in US corporations.

It is encouraging that many engaged citizens and dedicated corporations are concerned about women's continued progression and are willing to help. Companies have implemented programs and trainings to reduce or eliminate structural biases against women. Companies are more focused than ever on gender equality, with 78% of corporations indicating that it is a top priority for their CEO (Lean In & McKinsey & Company, 2016). Several United States organizations make it their mission to promote greater participation of women on corporate boards (Deloitte, 2014). Organizations have even publicly committed to making 100 women leaders of Fortune 500 companies by

2025 (Korn Ferry, 2017). While all of this is good, there seem to be some missing pieces to the puzzle as to why women aren't advancing, and without understanding those pieces, we cannot target solutions as effectively.

Researchers have focused a significant amount of attention on assessing the different leadership styles in which men and women tend to engage (Eagly, Johannesen-Schmidt, & van Engen, 2003). Researchers, politicians, and activists have also examined many of the systems and structures that impede advancement and have made a concerted effort to improve them. Yet, one of the greatest sources of information about the problem and its possible solutions has been overlooked. Most of what we currently know about gender and leadership does not take into account the highly political environments in which leaders operate, and the decision makers that are most responsible for the career trajectories of women. Very little research is focused on the perceptions of diverse and important organizational stakeholders and oftentimes the most central people to leaders' careers – their managers.

Furthermore, most of our current knowledge about gender and leadership is based upon broad rather than specific measures of job performance, which ultimately results in a lack of knowledge about why some leaders advance and some leaders derail. While many researchers have sought to analyze the subdimensions of performance, it has proven very difficult to identify and examine the different aspects of performance (e.g. interacting with others vs. technical performance) (Roth, Purvis, & Bobko, 2012). Very few studies have examined ratings of promotability, and as a result, we lack a comprehensive understanding of why men are being promoted at higher rates than women. Furthermore, we lack information about how managers' perceptions of leaders'

career trajectories play out at different organizational levels, as many studies tend to examine women and men employees at the aggregate level.

Finally, we know little about how the daily behaviors in which leaders engage are related to more meaningful, long-term career outcomes. Again, there is a significant amount of research on the different styles in which men and women tend to engage, as well as ultimate career trajectories. Yet, little is known about how day-to-day behaviors are related to important career outcomes. For example, we know relatively little about how women's tendency to engage in more communal leadership behaviors is related to managers' ratings of their performance and promotability. Likewise, we know relatively little about how men's perceived problem-solving skills are related to their probability of derailing. In total, the multifaceted nature of the problem, as well as lack of our understanding of stakeholders' perceptions and how they are related to the nuances of performance have made it difficult to create targeted solutions that will again ignite women's progress.

This study aims to fill some of the missing pieces of the puzzle as to why there are gender disparities in corporations, specifically focusing on the perceptions of myriad organizational stakeholders, as well as on managers' multifaceted perceptions of performance. These perceptions will be examined both across organizational levels as well as within. The study also connects behaviors and important leadership outcomes to better understand which behaviors are related to success and failure across gender. The remainder of Chapter 1 will describe some challenges faced to reach gender parity in US corporations. It will then address some of the limitations of research in the field, focusing on the gap of knowledge regarding managers' perceptions, a more nuanced view of

performance, and the relationship between perceived behaviors and managers' assessments of career outcomes. Finally, it will describe the research problem addressed by this dissertation – our lacking a complete understanding of why women's progress is stalling or pausing.

Background of the Problem

Despite the progress women have made in the business world in the past half-century, evidence shows that progress has slowed and may be stalling. Although the share of women in the labor force tended to grow throughout the second half of the 20th century, projections show that women will continue to make up slightly less as than half of the labor force in upcoming decades (Gieger & Parker, March 2018). While women's participation in the labor force grew over the past several decades, it peaked in 1999 at 60% and has since leveled off (Gieger & Parker, March 2018). Lean In and McKinsey & Company's *Women in the Workplace* study (2017) found that women remain underrepresented at every level of the corporate pipeline. Women and men leave companies at similar rates and almost twice as many men are hired from the outside as directors than women. These patterns result in the proportion of women declining at every step of the organizational hierarchy (Lean In & McKinsey & Company, 2017).

Since the 1990s, women have outnumbered men in both college enrollment and college completion rates. Despite the pipeline of leaders that come from educational institutions, women still make up only 47% of entry level professionals. From there, women have a difficult time moving into managerial positions; for every 100 women promoted into a managerial role, 130 men are promoted (Lean In & McKinsey & Company, 2016). Women make up only 26.5% of senior level and 36.9% of mid-level

managers in S&P 500 companies (Catalyst, June 2018). At the top of the house, they make up only 20% of C-Suite roles and only six percent of CEOs (Lean In and McKinsey & Company, 2017). Even when women do reach the executive positions just below the CEO in corporate hierarchies, they tend to hold positions in finance or legal that, research has suggested, are less likely to transition into CEO roles than roles that are more operationally focused (Desilver, April 2018). Even when women do hold more operationally focused, line jobs, they tend to receive lower performance ratings than they would in staff jobs, likely due to gender stereotyping (Lyness & Heilman, 2006).

Unfortunately, there is little evidence to suggest that these patterns will change soon. Women make up slightly less than half of the U.S. labor force, and that has now leveled off (Gieger & Parker, 2018). Women's participation in the labor force has grown over recent history, but that has now plateaued as well (Gieger & Parker, 2018). In addition, succession pipelines look bleak. A recent study examined responses of 127 Chief Human Resources Officers (CHROs) at large companies and found that in the next three years females represent only 10% of the succession pool in line for CEO positions (Wright, Nyberg, Schepker, Cragun, & Hymer, 2017). In the next three to five years, women still only represent 15% of the CEO succession pool. The CHROs pointed to a lack of a diverse internal talent pipeline and a failure to get diverse individuals into roles of significant responsibility as a couple of the reasons for this disparity (Wright et al., 2017).

The gender disparities in corporate America have some real, tangible consequences. A 2008 Catalyst survey of high-potential individuals who graduated from top MBA programs between 1996 and 2007 showed that women are paid almost \$5,000

less when they move into their post-MBA jobs, which are generally lower-level management positions (Ibarra, Carter & Silva, 2010). They also showed significantly less career satisfaction than the males in the study. These findings held true, even when controlling for years of work experience, industry, and region (Ibarra et al., 2010). On a day-to-day level, a smaller proportion of women report being able to participate meaningfully in meetings and receive challenging assignments (Lean In & McKinsey & Company, 2016). As a result, they are also less likely to believe their contributions are appropriately valued (Lean In & McKinsey & Company, 2016).

Furthermore, many individuals may be unaware of the problem even when it is happening all around them. More than 40% of the population believes that women are held to higher standards in top executive business positions, and the same number believes that are not yet ready to hire women leaders (Pew Research Center, 2015). Therefore, many Americans -- both women and men -- acknowledge there is a problem and recognize the difficulties women face. However, almost 50 percent of men believe that women are well represented in companies where only one and ten senior leaders is a woman (Lean In & McKinsey & Company, 2017). As a result, people may be less aware of the seriousness of the problem when it occurs in their own corporations, ultimately making them less able to advocate for gender equality in their own environments.

The problem is complex and there is no one, agreed upon solution yet. We know that even when performing equally, men are more likely to be promoted and to reap greater organizational rewards than women are (Lean In & McKinsey & Company, 2016; Blau & DeVaro, 2006). We know that organizations often focus on creating equality at the top of their organizations, rather than focusing on where the problem starts, which is

often at the bottom (Carter & Silva, 2010). We know quite a bit about the outcomes of inequality, including differences in promotion rates, salaries, and overall satisfaction. In addition, we know that women face significant bias in the workplace (Eagly & Carli, 2007). However, we know far less about important decision makers' *perceptions* of leadership behavior and particularly those related to performance and leaders' futures. Furthermore, we know quite a bit about differences in men and women's leadership styles, but we know far less about the nuances of these styles and how they are seen at different organizational levels (Bartol, Martin, & Kromkowski, 2003)

Even though social capital is seen as one of the most significant predictors of success for women in leadership roles (Eagly & Carly, 2007), little research has investigated important organizational stakeholders' perceptions of leaders' behaviors and their relationship with leaders' ultimate career paths. Even though one might argue that they are the most important decision makers, little research has examined how managers perceive leaders and how their perceptions are related to their visions of leaders' next career steps. Without a complete understanding of important stakeholder and manager perceptions, we lack a true understanding of how important decisions about career trajectories are formed and ultimately made. Furthermore, there is a scarcity of research examining the various components of performance, especially promotability. Without an understanding of how managers view performance and promotability, we are unable to create fully targeted solutions that can create more equitable performance standards and promotion processes.

Finally, more research is needed to develop a truly interconnected view of how leaders' perceived, and enacted behaviors contribute to ultimate career outcomes. We

lack an understanding of how leaders' behaviors ultimately impact managers' perceptions about their performance, promotability, and likelihood to fail in their roles. Without this understanding, our current knowledge regarding leadership behavior and how leaders impact others becomes relatively less important; we know how leaders are perceived, but we don't know the significance of how their day-to-day behaviors impact their long-term careers.

The Problem Statement

Women have made significant progress in the pursuit of gender equity in corporate America today, yet progress seems to have slowed and has possibly stalled. Women make up almost half of the labor force today (Gieger & Parker, March 2018) and are widely endorsed as having leadership skills comparable to those of men (Pew Research, January 2015). However, as organizational hierarchies ascend, fewer and fewer women are promoted and move up (Lean In & McKinsey & Company, 2016). Ultimately, this results in very few female senior leaders and CEOs, and evidence suggests corporations lack the diverse talent pipeline to allow women to step into these roles in the near future. We know much about the bias women face (Eagly & Carly, 2007) and the inequality it creates. We can quickly cite disparities in promotion rates, salaries, and career satisfaction among men and women. However, we know far less about important organizational stakeholders and decision makers' perceptions of leadership behavior and how they are related to performance, promotion potential and derailment. In addition, we know quite a bit less about how leadership behaviors and perceptions of performance vary by organizational level. If we do not examine these important perceptions, we cannot help to equip important stakeholders and decision

makers with the knowledge of where their own biases might exist and support them in making fairer and more accurate assessments of potential. Without this knowledge we will also be unable to create comprehensive training programs and provide companies tangible approaches for increasing gender equality. Examining these issues is imperative, as the disparity ultimately influences the day-to-day experiences of working women in the United States and their ability to reach their ultimate aspirations.

Research Questions

This dissertation aims to create a deeper understanding of important organizational stakeholders' perceptions of leadership behaviors among men and women and their relationships to potential career trajectories. Results will be examined within organizational levels, allowing for a more nuanced understanding of these behaviors and potential outcomes at each level. This study is guided by four research questions:

1. To what extent are promotion potential and career derailment related to one another?
2. On average, are there differences in self, direct report, peer, and manager ratings regarding men's and women's performance on competencies in the workplace?
3. Do managers perceive there to be differences in men's and women's leadership effectiveness, task performance, promotion potential and career derailment? Which behaviors contribute to this difference?
4. How well do peer, direct report, and self ratings predict managers' ratings of leadership effectiveness, task performance, career derailment, and promotion potential?

Based on leadership and gender research, it is hypothesized that: (1) promotion potential and career derailment will be moderately related to one another; (2) women will be rated higher than men in interpersonal and intrapersonal leadership, men will be rated higher in business problem solving, and men will rate themselves higher than women; (3) women will be rated slightly higher on individual performance and team effectiveness, while men will be rated higher on career derailment and promotion potential, and competencies will be most predictive of individual performance and least predictive of promotion potential and career derailment; and (4) peer ratings will be most predictive of manager ratings and self ratings will be the least predictive, and again competencies will be most related to individual performance and least related to promotion potential and career derailment.

Contributions of the Study

The current study aims to contribute both to research and practice. The study makes several contributions to the field. First, it examines important decision makers' perceptions of leadership behavior and performance within organizational levels. A significant amount of research on gender and leadership, and particularly research examining stereotypes, has been removed from real work settings (Landy, 2008). The field-based nature of the present study with a large sample size and direct perceptions from a variety of important organizational stakeholders is therefore highly valuable. Also, little research has examined the relationship between leadership behavior and performance outcomes. In addition, the present study will examine relationships within a variety of leadership levels, which continues to be a need in the field (Bartol, Martin, & Kromkowski, 2003), and will serve to further our understanding of how leaders progress

through their careers. Finally, the study examines performance in a multifaceted way, focusing on individual performance, leadership effectiveness, promotion potential, and career derailment, when few researchers have made that distinction clear (Roth, Purvis, & Bobko, 2012).

In addition, the present research will serve to inform organizational processes and training programs aiming to create more equitable workplace environments. Having a better understanding of how important decision makers, and particularly managers, view men and women's performance, promotion potential, and career derailment will allow researchers to make clearer recommendations to organizations about the processes and procedures in which they should engage to promote equitable performance reviews and promotion cycles. Finally, understanding stakeholders' perceptions of leadership behaviors and how they are related to managers' decisions will help to create targeted training programs that may create broader awareness of biases and prevent them in the future.

Structure of the Dissertation

This dissertation is organized into five chapters. Chapter One has introduced the dissertation, briefly describing the field of gender and leadership and focusing on the challenges associated with women's advancement. Chapter Two will provide a review of the literature and summarize conceptual models of gender and leadership behavior. Chapter Three will describe the study's methodology. Chapter Four will summarize the findings, and finally, Chapter Five will interpret the findings and discuss potential implications for future research and practice.

Chapter Two: Review of the Literature

This chapter begins with a brief overview of the historical context in which gender, leadership, and the challenges women face in the business leadership roles first emerged as a part of the national conversation. Next, this chapter will review select conceptual models of leadership, gender, and perceptions of performance, including both role congruity theory and expectation states theory. The chapter will also provide an overview of the empirical research regarding gender and work-related competencies, as well as gender and individual performance, leadership effectiveness, promotion potential, and career derailment. Finally, the chapter will discuss some of the current limitations of gender and leadership research, specifically focusing on the lack of research surrounding diverse stakeholders' perceptions of leadership behavior and projections of career trajectories across levels.

Historical Context

Psychological research in gender stereotyping first became widely influential when the Supreme Court used it as evidence for the case, *Price Waterhouse v. Hopkins* (Fiske, Bersoff, Borgida, Deaux, & Heilman, 1991). In the case, it was decided that gender stereotyping contributed to Price Waterhouse refusing to make a woman, Ann Hopkins, a partner of the firm. At the time, Hopkins wanted to be promoted to partner within the firm. Being one of the highest performers at Price Waterhouse, she had amassed more billable hours than any other person being proposed to become partner. She had also brought in an astounding \$25 million dollars of business.

Yet, her candidacy was put on hold due to the firm indicating she had some “interpersonal skills problems.” According to some, this was because she was “macho”

and was “overcompensating for being a woman.” Others said she could use a “course at charm school.” To help resolve the case, a social psychological expert brought forth information about the antecedent conditions, indicators, consequences, and remedies of stereotyping to the court’s attention. The testimony of this expert was cited in decisions in the trial and appeals court, and the Supreme Court’s review (Fiske et al., 1991). Since this time, women’s leadership has been extensively researched (Eagly & Karau, 2002; Eagly & Carly 2007) to understand when and why stereotyping and prejudice are likely to occur in leadership arenas, as well as how to eradicate them. While significant progress has been made since Price Waterhouse vs. Hopkins, women still make up only a small percentage of higher level leaders in S&P 500 companies (Catalyst, 2018) and more research is needed to understand how to make significant progress against the problem.

Theoretical Perspectives

Role congruity theory

As research about gender bias in the workplace has advanced, theories have developed that can help to explain Ann Hopkins’ situation. Eagly and Karau’s role congruity theory of prejudice (2002) has been one of the most widely cited theories regarding gender bias in the workplace. Role congruity theory of prejudice is grounded in social role theory, which proposes that people have learned cultural beliefs about how men and women should act. People generally believe women have more communal characteristics, such as being affectionate, helpful and kind. People ascribe more agentic characteristics to men; men are often believed to be aggressive, ambitious, and dominant. These beliefs, which are often ingrained in people’s perspectives, have the potential to lead to stereotyping and bias.

Role congruity theory proposes that prejudice can arise when social perceivers hold a belief about a group of people that is incongruent with those attributes that usually make that group successful. For example, women in leadership positions may experience prejudice when they are viewed as aggressive or pushy because these traits are incongruent with the traits that make women successful in other areas of life, such as being compassionate and supportive. This perceived incongruity between female gender roles and leadership roles results in two forms of prejudice. First, women are seen less favorably in potential leadership positions and are less likely to be selected for them. Second, when women are in leadership roles, they are evaluated less favorably because their behavior is seen as less desirable.

Role congruity theory proposes that the degree of prejudice will vary depending on situational characteristics. Under normal conditions, women should have less access to leadership roles. They should also encounter more obstacles in those roles. However, when there is little or no incongruity between the woman and the role, prejudice may not arise. For instance, if the role requires more compassion and communal behavior, prejudice will be less likely to occur. Nonetheless, if the role requires even more agentic behavior than an average leadership role, women will likely encounter more obstacles to move into the role and will likely be evaluated even more unfavorably. Because agentic characteristics become more important at higher levels of leadership, the incongruity in higher level roles can be magnified, leading to increased prejudice. Furthermore, the sex of the perceiver can influence the degree of prejudice, as men often have a more masculine view of leadership than women do. Women may therefore be evaluated more harshly by men than they are by women (Eagly & Karau, 2002).

Many studies have highlighted the consequences that may be a result of role congruity theory. For example, women tend to be judged more harshly in leadership positions when they are required to discipline others (Atwater, Carey, & Waldman, 2001). When women in leadership positions discipline others, recipients report feeling as though women leaders are less effective. They are less likely to believe the punishment is fair, to accept responsibility for their behavior, and are more likely to think the female manager did not know how to deliver discipline (Atwater et. al, 2001). As a result, women in leadership positions may have more difficulty than men both in delivering discipline effectively and maintaining support from their employees after the discipline has occurred.

A meta-analysis from the early 1990's (Eagly, Makhijani, & Klonsky, 1992) found that women and men were equally effective overall, as measured by performance appraisals. Importantly though, women were evaluated more harshly to the extent that the leadership roles were defined in predominantly masculine terms. Women were found to be evaluated less favorably when working in male-dominated roles, as the number of male subordinates increased, and when the evaluators were men. Furthermore, women were evaluated as substantially less effective in military organizations, which tend to be more masculine environments. Yet, they were slightly more effective in education, government, and social service organizations, which are often perceived to be more feminine (Eagly, Makhijani, & Klonsky, 1992). In addition, women in line jobs, which are stereotypically more masculine, are often rated more harshly than women in staff jobs (Lyness & Heilman, 2006).

Due to the expectations placed on women to both remain aligned with feminine stereotypes and fulfill their leadership obligations, Eagly and Karau (2002) note that women must tread carefully in leadership positions. They must be perceived as businesslike and professional. At the same time, they must also align with feminine stereotypes. Striking this delicate balance of engaging in both masculine and feminine behavior likely allows women to operate effectively across a wide variety of circumstances, especially in lower level management. However, adopting this balanced set of behaviors may negatively impact their ability to climb to higher level leadership positions, as these roles tend to require an agentic set of behaviors (Eagly & Karau, 2002). The present study will allow us to gain a more nuanced understanding of how women and men behave as they ascend in organizations, and how those behaviors lead to important career outcomes.

Expectation states theory

Expectation states theory (EST) provides an alternative theoretical framework to understand gender differences in measures of workplace behaviors and job performance (Berger, Cohen, & Zelditch, 1972). The theory seeks to explain how social hierarchies are established and maintained in small task groups. It also seeks to explain the amount of credibility and influence groups are given because of these hierarchies. According to the theory, there are two types of status characteristics: diffuse status characteristics and specific status characteristics. A diffuse status characteristic influences expectations about the knowledge, ability, or influence of a given person. Examples of diffuse status characteristics are gender and race. Diffuse status characteristics often encourage people to believe one person is superior to another, even if the diffuse characteristic is irrelevant

to the task at hand. Specific status characteristics are particular and relevant skills and abilities that influence the task at hand, such as prior experience, expertise, or training.

While diffuse status characteristics, such as gender, may be associated with perceptions of performance and potential, the theory proposes that specific status cues are more influential when available. This is because specific status cues have shorter logical chains than diffuse status characteristics do. For example, imagine one is tasked with evaluating a woman's managerial abilities. If information regarding specific status cues, such as her ability to delegate, communicate, and work effectively through others are available, it is relatively simple to conclude whether she is an effective manager. It would be more difficult to form an evaluation of the abilities of all females, and then rate an individual woman's managerial abilities based on one's previous knowledge of female managers' performance. As a result, when individuals have access to both specific and diffuse status cues, EST would suggest specific cues generally outweigh diffuse status cues (Dovidio, Ellyson, Keating, Heltman, & Brown, 1988).

EST would suggest that bias would occur when managers are required to make ambiguous decisions and specific status cues are not available or helpful. For instance, racial stereotyping is most likely to occur when decision makers consider and weigh qualifications to make recommendations, rather than rate objective qualifications (Dovidio & Gaertner, 1989), because they have fewer specific status cues to draw upon. Discrimination against black candidates is unlikely to occur when the candidates' qualifications were clearly strong or clearly weak, because decision makers relied on specific status characteristics. Rather, it is most likely to occur when the decision is ambiguous because there are fewer specific status characteristics to draw upon and

participants are required to draw upon diffuse status characteristics (Dovidio & Gaertner, 1989). EST would suggest that, in the present study, bias would be more likely to occur in managers perceptions of promotion potential than their perceptions of performance. As a result, in the present study, I hypothesize that when performing equally well, managers will view men as having greater potential for promotion than women.

Competency Framework

The present study will utilize a research-based competency model to examine differences in workplace behaviors across genders and their relationship with managers' assessments of individual performance, leadership effectiveness, promotion potential, and career derailment. Competency models refer to collections of knowledge, skills, abilities, and other characteristics (KSAOs) that are needed for effective performance in the jobs in question (e.g., Green, 1999; Kochanski, 1997; Lucia & Lepsinger, 1999; Mansfield, 1996; Mirabile, 1997; Parry, 1996; Rodriguez, Patel, Bright, Gregory, & Gowing, 2002; Schippmann et al., 2000) (Campion, Fink, Ruggeberg, Carr, Phillips & Odman, 2011). Consistent with EST, examining and testing competencies allows testing for specific skills and behaviors that will be most relevant for job performance, rather than relying on those that may not be as predictive, such as intelligence.

The competency model in the present study is made up of four factors: Business problem solving leadership, task-oriented leadership, interpersonal leadership, and intrapersonal leadership. Business problem solving leadership emphasizes the importance of making difficult business choices and ensuring the business can meet both current and future market challenges. Task-oriented leadership includes a leader's ability to deliver results by taking action, using resources effectively, and working through others.

Interpersonal leadership includes working effectively with cross-functional teams and hiring and developing the people needed to achieve future organizational goals. Finally, intrapersonal leadership includes managing oneself, adapting to feedback, and engaging in ongoing learning.

The framework is closely related to several influential taxonomies of leadership performance. Borman and Brush (1993) surveyed 26 manager jobs in a wide variety of organizations and discovered 18 dimensions of managerial behavior, which they grouped into four dimensions. Many of the 18 dimensions correspond to the framework in the present study. They both emphasize influencing, being flexible and handling crises, making decisions and problem-solving, and building talented teams. There are a few slight differences, which are likely the result of widespread changes in business environments over time and responses to external trends.

The competency model in the present study also resembles Yukl's taxonomy (2003). Yukl's taxonomy stresses the importance of driving change in a business environment. Like the present study's competency framework, Yukl's taxonomy is organized into four factors: Task-oriented behaviors, relations-oriented behaviors, change-oriented behaviors, and external behaviors. Both models emphasize the importance of task-oriented and relationship-oriented factors. However, the behaviors associated with Yukl's change-oriented and external leadership behaviors, such as advocating for change, encouraging innovation, and networking, are spread out across the four factors in the current study's competency model.

The competency model in the current study also aligns to some of the most well-researched competency models in the literature. Lombardo and Eichinger (2002)

developed an influential competency model with six factors, 21 clusters and 67 competencies, which was built on many of the studies from the Center for Creative Leadership and informs many other competency models today. Lombardo and Eichinger's (2002) model and the model in the present study both highlight the importance of operating skills, working effectively across the organization, interpersonal and personal skills, and problem solving within a global environment.

More recently, John Campbell (2012) created a comprehensive competency model based on years of research on behavior, performance, and effectiveness. From this extensive research, he identified six leadership performance factors and eight management performance factors. A few of the areas he identifies as management performance factors, such as "makes decisions" and "solves problems" and "represents the organization externally" align with the present model's business problem solving leadership factor. "Guides and directs work methods and roles," a leadership performance factor, and "sets goals, plans, organizes, and budgets," and "monitors unit effectiveness," which are management performance factors, closely resemble the present model's task-oriented leadership factor. "Trains and coaches others", "provides recognition and support", and "encourages goal achievement," which are leadership performance factors, and "manages staffing" and "coordinates the work of two or more units," which are management performance factors, align with the present study's interpersonal leadership factor. Finally, "serves as a role model" is closely related with the present model's intrapersonal leadership factor.

While a variety of competency models with different language, structures, and presentations have been proposed over time, researchers have found that the underlying

content remains similar (Tett, Guterman, Bleier, & Murphy, 2000). In fact, John Campbell (2012) notes that while the context of organizations and the business world has shifted significantly over time, the elements that underly effective performance in workplaces tend to remain consistent. The present study's model was built on a similar foundation to other well-known competency models but continues to reflect the shifting organizational contexts in our world today.

Variables of interest

Work-Related Competencies

While there is general agreement that women face more barriers in leadership positions than men do, there is less agreement about the behaviors in which they engage when they are performing in role. There is consensus that there are some differences in competencies across gender. Yet some researchers have found that there are few and they are mostly attributable to men and women holding different jobs (Eichinger & Lombardo, 2004). Others have found that women tend to perform better on both interpersonal and task-oriented behaviors, and they are not necessarily reflective of the differences in the jobs they hold (Pfaff, Boatwright, Potthoff, Finan, Ulrey, & Huber, 2013; Bartol, Martin, & Kromkowski, 2003).

A review by Eichinger & Lombardo (2004) found that there were few significant differences in leadership behavior across men and women. They found that women are required to perform slightly better to move into the same hierarchical level as men. Results showed women tend to be more participative in their style, and more attuned to others than men are, as evidenced by their higher ratings on skills such as compassion

and patience. The researchers also found women score higher on planning, team building, motivating others, organizing and managing, and measuring work.

Men were rated higher in some common business problem solving skills and competencies related to driving change such as strategic agility, technical learning, and skills related to managing crises. Men were also rated higher on competencies such as organizational agility and ambition. In total, these data demonstrate that women are rated higher on many interpersonal and operating skills, and men are perceived to be better in problem solving, and business and organizational savvy. Yet, Eichinger & Lombardo (2004) suggest many of these differences could reflect differences in the jobs men and women hold, as more women tend to be drawn towards staff roles that require more supporting behaviors.

Other individual studies have found that women are rated higher on both relational and task-oriented behaviors (Pfaff, Boatwright, Potthoff, Finan, Ulrey, & Huber, 2013; Bartol, Martin, & Kromkowski, 2003), perhaps due to their need to effectively balance both masculine and feminine behaviors to be successful in leadership roles. Some research has shown women are rated higher on communicating verbally with employees, promoting teamwork, empowering employees, and building trust, among other behaviors (Pfaff et al., 2013). Certain studies have also found that women perform better in ratings of goal setting, planning, and demonstrating technical expertise (Pfaff et al, 2013; Bartol, Martin & Kromkowski, 2003). Women's relational behaviors were seen across a variety of rater groups and in both first and mid-level managers (Bartol, Martin & Kromkowski, 2003). Direct reports saw women as more effective on task-related leadership (Bartol, Martin & Kromkowski, 2003).

These researchers suspect that women were perceived to employ these “masculine” task-oriented behaviors more due to role models encouraging them to adopt these behaviors to ultimately succeed in their careers (Pfaff et al., 2013). Alternatively, these behaviors may be expected less from female managers, making them more memorable for their direct reports. Others have suggested that women may receive higher behavioral ratings on both interpersonal dimensions and task behavior due to their need to demonstrate competence, yet remain consistent with female stereotypes (Bartol, Martin & Kromkowski, 2003).

While extant research finds some differences between men and women, there is less agreement about the pattern of these differences and how meaningful they are when controlling for roles. The present study builds on this previous research by examining competencies across gender and their relationships to important outcomes that influence leaders’ career trajectories. It also examines the balance of behaviors leaders tend to use at different organizational levels. Based on previous research, I hypothesize that women will be rated higher on interpersonal and intrapersonal leadership. I hypothesize men will be rated higher on business problem solving. Due to research demonstrating that women tend to perform better on planning and men tend to perform better on some aspects of driving change, I hypothesize they will be rated equally on task-oriented leadership.

I also hypothesize that interpersonal leadership will be most related to team effectiveness, task-oriented leadership will be most related to individual performance, intrapersonal leadership will be most related to career derailment, and business problem solving will be most related to promotion potential.

Individual Performance

In the present study, individual performance will assess the leaders' capabilities to deliver quality work on time, use varied resources, and perform effectively as a team member. Performance has been a widely researched topic in gender and leadership research, yet it has often been intermixed with other variables, such as leadership effectiveness, making results difficult to interpret and apply. The present study conceptualizes individual performance on the task aspect of performance, specifically focusing on the work the leader produces individually.

Recently, Roth, Purvis, & Bobko (2012) conducted a meta-analysis in which they were able to isolate the construct of job performance in field-based studies, which many researchers had failed to do in the past. They assessed direct measures of job performance such as supervisory ratings, measures of quantity and quality, and measures of output, rather than assessing indirect behaviors such as withdrawal behavior or self ratings. They were therefore able to closely assess operational job performance. Results showed that gender differences in job performance were generally small in magnitude. Women scored slightly higher than men, although men were rated higher on measures of promotability, indicating that ratings of promotability may deserve increased attention (Roth et al., 2012). The authors note that increased research differentiating between the different aspects of job performance is needed going forward, and the present study will contribute in this way.

Leadership Effectiveness

In the present study, leadership effectiveness is defined as the performance level of the team under an individual's leadership. One aspect of performance, the measure of Leadership effectiveness, will assess the degree to which the team's efforts are aligned

with the goals of the organization and the extent to which the direct reports are inspired to perform at a high level. Essentially, this measure assesses how well the leader can effectively work through others to achieve broader, common goals.

While not a direct measure of leadership effectiveness in the way it is described in the present study, Eagly, Johannesen-Schmidt, & van Engen (2003) conducted a meta-analysis comparing women and men on their leadership styles. Examining 45 studies, they found only slight differences across men and women's leadership styles. However, they found that females were more transformational, meaning that they more relationally focused. This type of leadership is associated with establishing oneself as a role model and garnering the trust and respect of followers. Importantly, it is also associated with increased leadership effectiveness (Eagly, Johannesen-Schmidt, & Van Engen, 2003), showing that women may be more likely to create the meaningful and trusting relationships that lead to positive team performance.

A more recent meta-analysis by Paustian-Underdahl, Walker, and Woehr (2014) also suggests that women are viewed as somewhat more effective leaders. Across 99 independent samples from 95 studies, they found that when all leadership contexts were considered, men and women did not differ in their effectiveness. However, when other ratings only were examined, women were rated as significantly more effective than men. Yet, when self ratings were examined, men rated themselves significantly more effective than women rated themselves. Therefore, in the present study, I hypothesize that managers will rate women slightly more effective than men. I also hypothesize that men will tend to rate themselves higher than women.

Promotion potential

In the present study, promotion potential will be conceptualized as how ready the individual is for promotion. Regardless of the environment and industry, men ascend to higher levels of leadership more quickly than women do (Eagly & Carli, 2007). Field studies have shown that even when females perform equal to or slightly better than males, male leaders tend to score higher on measures of promotability (Roth et al., 2002; Blau & DeVaro, 2006). Some evidence shows that women who are promoted have higher performance ratings than men who are promoted, suggesting women are held to higher standards for promotion (Blau & DeVaro, 2006).

These field-based studies are further supported by evidence from experimental studies related to hiring decisions. Forty-nine experimental studies were included in a meta-analysis conducted by Davison and Burke (2000), where individuals were making decisions or evaluations of hypothetical candidates. Consistent with role congruity theory, they found that participants preferred men for jobs that tend to be seen as more masculine, such as an auto sales-person. Participants preferred women for more “feminine” jobs such as a secretary and home economics teacher. Yet, men were also preferred over women for gender neutral jobs, although the effect was smaller than for masculine jobs (Davison & Burke, 2000). This evidence suggests that although the nature of the role influences recommendations for or against candidates, when the playing field is equal, men tend to have a slight advantage.

As mentioned previously, these findings may be a result of the bias that can interject itself into ambiguous decisions. When managers are considering employees’ promotion potential, they have less specific information to draw upon. This provides diffuse cues, like gender, relatively more room to operate. As a result, in the present

study, I hypothesize that managers will view women, even when performing equally well across many workplace behaviors, as having lower promotion potential than men.

In total, prior research from both field and experimental studies provides evidence that women tend to face significant bias when being assessed for promotions. Yet, very little research examines managers' perceptions of promotion potential and the leadership behaviors that may impact their perceptions. This is a particularly important area of research because managers' perceptions and decisions are a determining factor in employees' probability of advancing. More research examining managers' recommendations of promotion is therefore crucial to understanding why this gap exists.

Derailment

Separate from performance and promotion potential is the importance of derailment, or the likelihood of failing. Derailment has been less of a focus in the gender and leadership research. Managers are perceived as having "derailed" when they do not achieve expected career success and are involuntarily demoted, fired, or plateaued (Lombardo, Ruderman, & McCauley, 1988). Derailment is different from poor performance, lack of promotion or involuntary turnover because leaders who derail have the original expectation to succeed (Lombardo et al., 1988). Career derailment is particularly important to women's success because of the difficult standards they are often held to, particularly in more masculine environments. Due to the difficulty of obtaining leadership positions, women sometimes are jettisoned quickly when they show signs of career derailment (Eagly & Carli, 2007).

Recent evidence suggests that certain behaviors can be more damaging and cause derailment for women (Bono, Braddy, Liu, Gilbert, Fleenor, Quast, & Center, 2016).

Female managers are less likely to engage in ineffective interpersonal behaviors. Yet, when female leaders do engage in ineffective interpersonal behaviors, they are more damaging for their careers than they are for male managers, even though these behaviors do not influence their performance evaluations. These perceptions can lead supervisors to withdraw their mentoring and support from women, further damaging their ability to climb organizational ranks (Bono et. al, 2016).

Consistent with role congruity theory and previous research cited above, I hypothesize that intrapersonal leadership will be more related to career derailment for women. However, I predict that overall, men will be perceived as having a higher likelihood of derailing due to the societal view that men are more agentic and aggressive. In addition, men may also be more likely to push certain boundaries or lack as strong of an understanding of how they are impacting others because they may be overconfident in their abilities and more positive in their ratings of themselves (Paustian-Underdahl et al., 2014).

Limitations of Gender and Leadership Research

Currently, the field knows a considerable amount about the different leadership styles in which men and women engage (Eagly, Johannesen-Schmidt, van Engen, 2003), some about the behaviors they tend to employ (Eichinger & Lombardo, June 2004; Pfaff et al., 2017; Bartol et al., 2003), and a significant amount about disparities in career trajectories. However, much of the current research lacks generalizability to the actual perceptions of important organizational stakeholders and measures of job performance and promotability in organizational settings (Roth et al., 2012). Many studies in the field are experimental and use students as participants. Furthermore, many leadership and

gender studies use self ratings, when performance reviews and decisions about promotions are managers' responsibilities. This therefore limits the field's understanding of how leaders are managed throughout their careers in actual organizations. In addition, self-ratings do not recognize the importance of social capital and of navigating organizational complexities for leaders' advancement. Furthermore, measures of performance, such as job performance, leadership effectiveness, promotability, and job knowledge are often lumped together so that it is difficult to assess their relationships with gender (Roth et al., 2012). Ultimately, this makes it difficult to assess where differences in gender might lie, as well as how to target interventions to remedy these differences. Finally, a surprising number of studies and meta-analyses focus on "blue-collar" jobs, which tend to be more male-dominated and masculine environments. The lack of research in a balance of masculine and feminine environments makes it difficult to assess whether results are a product of the jobs participants are holding or not (Lyness & Heilman, 2006).

Conclusions

There is a solid foundation of research in the gender and leadership field, particularly regarding differences in leadership style and career outcomes. What is missing is a complete understanding of how career trajectories are molded, decided and navigated. To fill this gap, more needs to be known about how and why certain leaders are promoted, and what perceptions inform these decisions. It is also critical to understand what behaviors men and women tend to engage in at various organizational levels, and how those behaviors impact their ability to climb organizational ranks – or not. Eagly and Carli (2007) use the "labyrinth" as a metaphor for women's advancement,

rather than the “glass ceiling.” They say that today women no longer are required to break through a ceiling. They are required to navigate a complex array of twists and turns and overcome obstacles. The field understands the important milestones in gender and leadership research – where women and men are at the beginning of their careers, where they are at the end, and some of the challenges that arise in between. However, there is a need to understand more about “why” and “how” leaders navigate these complicated labyrinths. The real perceptions of important organizational stakeholders, managers, and other critical players are crucial to building this broader understanding. Employing a consistent and nuanced understanding of performance, promotion, and career derailment is also critical to developing this understanding. The present study aims to begin to fill some of these gaps.

Chapter Three: Methodology

The purpose of the present study was to: (1) Examine others' ratings of males and females on the four competency factors and managers' perceptions of individual performance, leadership effectiveness, promotion potential and career derailment (2) Examine the relationship of competency ratings and managers' ratings of individual performance, leadership effectiveness, promotion potential, and career derailment across males and females. This involved a quantitative research study, described in detail below.

The study analyzed secondary data to examine how perceptions of competencies are related to managers' perceptions of individual performance, leadership effectiveness, promotion potential, and career derailment across genders. Analysis were conducted both across and within organizational levels. The study was guided by four main research questions:

1. To what extent are promotion potential and career derailment related to one another?
2. On average, are there differences in direct report, peer, manager, and self ratings of men and women's performance on the four competency factors? If so, which factors show differences?
3. Do managers perceive there to be differences in men and women's individual performance, leadership effectiveness, promotion potential and career derailment? Which factors in the competency model contribute to this difference?
4. How well do peer, direct report, and self ratings predict managers' ratings of individual performance, leadership effectiveness, career derailment, and promotion potential?

Hypotheses were as follows: 1) Promotion potential and career derailment would be moderately related, each representing separate but likely related constructs. 2) Raters would rate women as performing slightly better on average across the range of work-related competencies, with women receiving higher ratings on interpersonal and intrapersonal leadership and men receiving higher ratings on business problem solving. Men's self ratings will be higher than women's self ratings. 3) Bosses will rate women slightly higher in leadership effectiveness and individual performance. Bosses will rate men higher in promotion potential and likeliness to derail. Competency ratings will be more predictive of individual performance and leadership effectiveness than promotion potential and career derailment. 4) Direct report, peer, and self competency ratings will not be as predictive of managers' performance ratings as managers' ratings.

Method

Design

The study is a quantitative study which includes both exploratory and inferential components to examine the relationship of work-related competencies with managers' perceptions of individual performance, leadership effectiveness, promotion potential, and career derailment across genders. While the study is correlational study and causation cannot be inferred, I replicated a randomized experiment as closely as possible through obtaining treated and control groups with exact and similar covariate distributions (Stuart, 2010). Participants were matched on background characteristics through exact matching and propensity score matching, which are described subsequently.

Participants

Participants were drawn from a database from a talent management firm. Data were gathered from client corporations. Employees were included in the dataset due to their company's purchase and use of a 360-feedback assessment tool. Participants in the study were selected by the corporations to undergo the 360-feedback and agreed to be a part of the process for their development.

Analyses were focused on participants who worked within the United States and non-expatriates to avoid any cultural confounds. In addition, analyses included individuals whose companies chose to rate participants on the entire set of competencies to avoid any bias associated with companies who only chose to rate individuals on certain competencies.

Full sample. After removing participants working outside of the United States, expatriates, and those that were rated on fewer than the full set of competencies, 3182 participants remained. Of the 3182 who reported their gender and worked in the United States, 57% were male and 43% were female. The sample had a larger proportion of women managers than the United States labor force. Today, women make up nearly half (47%) of the labor force but only 37% of managers (Catalyst, June 2018). As a result, participants in the study may come from more progressive companies that value female leaders more than typical American companies. Alternatively, companies may have made a concerted effort to select comparable numbers of males and females to undergo this development process. The companies may have viewed their selections as investments in individuals' futures, and therefore did their best to be fair.

Age. Participants ranged from age 18 to over 60, with 39% being 41 to 50, 28% being above 51, and 18% being 36 to 40. There were fewer participants in the younger

age ranges, with 4% being 18-30 and 12% being 31-35. The men and the women were comparable in age with 38% of men and 39% of women being 41-50. Twenty-eight percent of men and 27% of women were 51 and above. The middle age categories were similar across gender, with 12% of men and 11% of women being 31-35, and 18% of men and 18% of women being 36-40. Three percent of men and 5% of women were between the ages of 18 and 30.

Management experience. The men in the data set were more experienced than the women, $X^2(5, N = 3119) = 41.15, p < .001$. Sixty percent of men had ten or more years of managerial experience, compared to 50% of women. More women had five to ten years of managerial experience (22%) than men (19%). Eleven percent of women reported three to five years of managerial experience, compared to 9% of men. Seven percent of women and four percent of men had 2-3 years of experience. Five percent of women and four percent of men had 1-2 years of experience. And six percent of women and three percent of men had one year of experience or less.

Job level. The data set included a greater proportion of women in lower level positions and a greater proportion of men at the executive and senior executive levels, $X^2(5, N = 3128) = 59.71, p < .001$. Two percent of women and one percent of men were entry level individual contributors. Eleven percent of women and seven percent of men were senior individual contributors. Thirty percent of women and 25% of men were first level managers. Thirty six percent of men were managers of managers compared to 35% of women. Twenty-two percent of males and 17% of females were executives. Finally, 10% of males were senior executives, compared to five percent of females.

Function. The top functions reported were management and administration (19%), operations (12%), human resources/training (10%), sales (8%), credit/finance (6%), and information technology (6%). Other functions included education & social service, engineering, law, marketing, medicine, and research and development. Among the top functions, there was a greater proportion of males in management & administration (64%), operations (61%), sales (74%), credit/finance (70%), and information technology (72%). There was a greater proportion of females in human resources/training (73%). Differences between gender and function were significant, $X^2(23, N = 3114) = 309.16, p < .001$.

Exact Matched Set. To examine differences between men and women across all organizational levels, exact matching was used. Participants were matched on job level, years of managerial experience, age, and function. Once participants were exactly matched on background characteristics, a total of 2175 participants remained. Fifty-nine percent were male and 41% were female. Participants received weights proportional to the number of participants they were matched with. For instance, if one male was matched with three females, the three matched females would receive a weight of 1/3 (Stuart, 2010). Three-hundred and six unique matched pairs were found. The data reported below provide weighted descriptions of characteristics of the matched sample. After weighting the proportions are equal.

Age. Ages in the exact matched set were consistent with the full sample. Four percent of matches were age 18-30. Fifteen percent were 31-35. Twenty-three percent were 36-40. Thirty-five percent were 41-50. And 23% were 51 and older.

Managerial experience. Managerial experience was also consistent with the full sample, again showing an experienced sample. Forty-four percent of matches had ten years of experience or more. Twenty-six percent had five to ten years of experience. Thirteen percent had three to five years of experience. Eight percent had two to three years of experience. Five percent had one to two years of experience. And four percent had one year of experience or less.

Job level. One percent of pairs were entry level contributors and seven percent of pairs were senior level individual contributors. Thirty-seven percent were first level managers and 30% were managers of managers. Eighteen percent were executives and 7% were senior executives.

Function. The top functions reported were management and administration (11%), operations (11%), human resources and training (11%) and credit and finance (8%).

PSM Set. After propensity score matching, there were 1351 females and 760 males in the dataset.

Age. As expected after propensity score matching, men and women were similar ages. Three percent of men and five percent of women were 18 to 30. Eleven percent of men and women were 31 to 35. Eighteen percent of women and 19% of men were 36 to 40. Thirty-nine percent of women and 39% of men were 41 to 50. Finally, 27% of women and 28% of men were age 51 and older. Less than one percent of men and women did not indicate their age.

Managerial experience. Again, the group showed significant management experience. Forty-nine percent of women and 57% of men had ten years of experience of

more. Twenty-two percent of women and 20% of men had between five and ten years of experience. Both 10% of women and 10% of men had three to five years of experience. Seven percent of women and five percent of men had two to three years of experience. Five percent of women and four percent of men had one to two years of experience. And six percent of women and three percent of men had one year of experience or less. About one percent of men and women did not indicate their managerial experience.

Job level. Again, most participants were first level managers and managers of managers. Two percent of women were entry level contributors compared to one percent of men. Ten percent of women and six percent of men were senior level individual contributors. Thirty percent of women were first level managers compared to 27% of males. Thirty-four percent of women were managers of managers compared to 39% of men. Seventeen percent of women and 19% of men were executives. Finally, 5% of women and 7% of men were senior executives. About one percent of men and women did not indicate their organizational level. These participants were not used for within group analyses.

Function. The top functions were management and administration (16% of women and 18% of men), operations (11% of women and 15% of men), and human resources and training (16% of women and 9% of men).

Measures

Work-Related Competencies.

360-degree feedback surveys were administered online. It is estimated that nearly 90% of Fortune 1000 firms in the United States utilize some form of 360 feedback for developmental purposes (Waldman & Atwater, 1998). 360 surveys highlight the unique

perspectives different rater groups have of the same person. While self-assessments are often used to measure performance, they can be less accurate. Therefore, 360 tools offer organizations and individuals unique insights into their behavior at work that they might not be aware of otherwise.

The 360-degree feedback survey gathers data from participants, their managers, peers, people they lead, and other coworkers regarding their strengths and weaknesses. The tool measures competencies, which as previously explained, are observed skills and behaviors required for success in the workplace. Participants select their own raters and are encouraged to select individuals who they have worked with across a variety of workplace settings. They are advised to select individuals who they have worked with for over one year, and individuals who will provide them a balance of both constructive and positive feedback. Ratings are aggregated by rater group, and a weighted composite score of all the raters besides the self is created.

For the full data set, participants selected an average of four rater groups to provide feedback, including the self. On average, participants chose a total of 23 non-self raters. Participants were able to select more than one manager if relevant to their situation. While most of the participants selected people they lead, 430 did not, likely due to being individual contributors. On average, participants selected four direct reports and 14 peers for feedback. Finally, some participants selected individuals who did not fit nicely into these categories, such as a higher-level executive or a mentee. They were included in the total others average but are not a focal point of the study.

The competencies assessed are from the competency framework described in Chapter 2. Raters are asked to read each of the descriptions of the competencies and then

to choose the option that best fits the individual on a 5-point Likert type scale, with one being less skilled and five being very skilled. The amount of time required to complete the survey is about 45 minutes. Reliabilities of the four factors were assessed using Cronbach's Alpha. The reliability of the all others rating of business problem solving leadership was .89. The reliability of the all others rating of task-oriented leadership was .92. The reliability of the all others rating of interpersonal leadership was .95. And the reliability of the all others' rating of intrapersonal leadership was .90. Reliabilities are consistent with those seen in recent literature (Greco, O'Boyle, Cockburn, & Yuan, 2018)

Four factor performance scale. In addition to rating each participant on their skill level, participants' managers are asked to rate the participants on a performance scale for research purposes. There are five individual performance rating items, asking about the quality of the individual's work and their overall individual performance. The measure of promotion is a one item scale which asks about the individual's readiness for promotion. The measure of career derailment is a one item scale which asks about the individual's likeliness to fail in their current role. Finally, there are three leadership effectiveness rating items, asking about the extent to which the team is aligned with overall organizational goals. The performance scale is reverse scored, with 1 being most desirable and 5 being least desirable. Using Cronbach's Alpha, the individual performance scale showed a reliability of .86. The team effectiveness scale showed a reliability of .78. Again, these values are consistent with those seen in recent literature (Greco et al., 2018)

Control variables. Finally, participants are asked to complete a set of demographic questions. These questions assess gender, age, country or geography in

which they currently work, country or geography where they were raised, organizational level, years of managerial experience and function. Matching was used to account for pre-existing differences and to evaluate the effect of the treatment. Matching is used to reduce bias in the estimation of treatment effects (Stuart, 2012). Matching methods are complementary to regression and highlight areas of the covariate distribution where there is not enough overlap between the treatment and control groups. In addition, matching methods allow researchers to use diagnostics to assess their performance (Stuart, 2012)

To examine differences in gender across organizational levels, participants were matched exactly on covariates. Exact matching is in many ways considered ideal when the sample size is large enough and there are few covariates (Stuart, 2012). To obtain a large enough sample size to examine differences *within job level*, propensity score matching was used. Propensity score matching allows for matched sets that have similar distributions of covariates without requiring exact matches. Nearest neighbor matching with replacement was used. This technique matches control individuals to the treatment group and discards controls who are not selected as matches. It selects for each treated individual a comparison individual with the smallest propensity score distance from the treated individual (Stuart, 2012). Matching with replacement can decrease bias because controls that are a good match to treated individuals can be used more than once, which is helpful when few control individuals are comparable to the treated individuals (Dehejia and Wahba, 1999).

Participants were matched on job level, age, functional area, and years of managerial experience. Functional area was controlled because prior research demonstrates that women who work in roles and environments that are more masculine

are often evaluated less favorably. The same is true for males who work in roles and environments that are more feminine (Eagly, Karau, & Makhijani, 1995). Matching was used to encourage a balance of masculine and feminine environments within the sample. Level of management and years of managerial experience were also controlled for because different competencies are differentially effective at different job levels and women are less represented at higher levels (Catalyst, 2017; Eagly & Carli, 2007; Lean In & McKinsey & Company, 2017). Age was also included, as researchers are recommended to be liberal in terms of including variables in the matching process (Stuart, 2012).

It is important to note that some prior studies examining promotion potential have used education and salary grades as predictor variables (Landau, 1995). Unfortunately, existing data did not include these variables. In addition, some studies of performance, promotion and career derailment include measures of intelligence and personality traits. Although these variables are not included in the data, competencies are designed to be more predictive of job performance because they are related to actual behavior, rather than underlying qualities.

Data Analysis

Preliminary analyses. A confirmatory factor analysis was conducted to determine if the four factor structure of the competency model held in the study's sample. As mentioned previously, the a priori model includes business problem solving, task-oriented, interpersonal, and intrapersonal leadership as factors. A confirmatory factor analysis was also conducted to examine the four factor structure of the performance scale. The a priori model has individual performance, leadership effectiveness, promotion

potential and career derailment as separate factors. Items were considered to load on a factor if their loading was significantly different from 0. Basic correlational analyses were conducted to examine the interrelationships of the measures of individual performance, leadership effectiveness, career derailment, and promotion potential with background characteristics and competencies.

Research question 1

Research question 1 asked, “To what extent are promotion potential and career derailment related to one another?” Some previous research has combined the measures of career derailment and promotion potential and used it as one measure of potential. However, a large body of literature suggests that career derailment and promotion potential should be treated as separate constructs (Lombardo, Ruderman & McCauley, 1988). Descriptive methods were used to examine the relationship between career derailment and promotion potential. Using the full sample, measures of career derailment and promotion potential were correlated to assess the strength of their relationship. With a correlation of under 0.6, constructs were assumed to be separate and contribute in different ways to advancement. Analyses examined the relationship for both men and women within organizational levels.

Research Question 2

Research question 2 asked, “On average, are there differences in direct report, peer, manager, and self competency ratings of men and women?” Mean differences were examined across gender on the four competency factors. Direct report, peer, manager, and self ratings were all examined. Differences were assessed at each organizational level. To examine differences across levels, independent samples t-tests were conducted

using the exact matching data set. To examine differences within levels, ANCOVAs were conducted using the propensity score matching data set to control for unbalanced covariates after propensity score matching. Assumptions were checked, including normality of distributions and homogeneity of variance.

Research Question 3

Research question 3 asks, “Do managers perceive there to be differences in men and women’s individual performance, leadership effectiveness, promotion potential and career derailment? Which behaviors contribute to this difference?” Mean differences were first examined across organizational levels with independent samples t-tests using the exact matching dataset. Mean differences were examined within organizational levels with ANCOVAs using the propensity score matching set. Regression analysis was used to assess the relationship of managers’ ratings of the four competency factors with managers’ assessments of individual performance, leadership effectiveness, promotion potential, and career derailment. The exact matching dataset was used. Assumptions were checked prior to running the models, including tests for linearity, the normal distribution of variables, homoscedasticity, and multicollinearity. After checking for assumptions, the models were run for both men and women on the four different outcome variables.

Research Question 4

Finally, research question 4 asks, “How well do peer, direct report, and self ratings predict managers’ ratings of individual performance, leadership effectiveness, promotion potential, and career derailment? Again, regression analysis was used to assess the relationship of the four competency factors and managers’ ratings of individual performance, leadership effectiveness, promotion potential, and career derailment. The

exact matching dataset was used again. However, direct report, peer, and self ratings were used rather than manager ratings. Again, assumptions were checked prior to running the models, including tests for linearity, the normal distribution of variables, homoscedasticity, and multicollinearity. After checking for assumptions, the models were run for both men and women on the four different outcome variables.

Chapter Four: Findings

First, a confirmatory factor analysis was conducted on the data provided to examine the goodness-of-fit of the a priori competency model. The “all others” rating was examined, which is a weighted average of the ratings of participants’ managers, peers, and people they lead. Consistent with the model, four factors were selected with the competencies placed in their associated factors. Analyses were first run on the full sample, which excluded expatriates, non-Americans and those that answered fewer than the full set of competencies. Results showed that model performed well on some evaluations of model fit. The SRMR showed a value of .077, with a value of .08 or less indicating an acceptable model (Hu & Bentler, 1999). However, the model did not perform well on other measures of fit. The RMSEA, which avoids issues of sample size, was .096, when a value of .06 or less is indicative of acceptable model fit. In addition, the comparative fit index (CFI) was .8, when a value of .9 or greater suggests an acceptable model fit (Hu & Bentler, 1999) (see Table 1).

Because of the less than desired fit of the model, confirmatory factor analyses were conducted within organizational levels to examine whether the model might be an acceptable fit at certain levels. The best fit model was at the manager of managers level, with an SRMR of .067. However, the RMSEA failed to reach a level below .06. The CFI increased to a value of .827 yet failed to reach the threshold of .9. Other goodness-of-fit indicators at the various levels can be seen in Table 1. Note that individual contributors were included in the all levels analyses, but a confirmatory factor analysis was not conducted for the level due to the smaller sample size.

Table 1. Goodness-Of Fit Indicators for Competency Model

<u>Model</u>	<u>n</u>	<u>χ^2</u>	<u>df</u>	<u>p-value</u>	<u>CFI</u>	<u>RMSEA</u>	<u>SRMR</u>
Senior Level Individual Contributor	266	2338.37	659	0.00	0.772	0.098	0.097
Managers	849	5437.97	659	0.00	0.805	0.092	0.074
Managers of Managers	1118	6905.48	659	0.00	0.827	0.092	0.067
Executives	636	5128.58	659	0.00	0.751	0.103	0.091
Senior Executives	240	2349.26	659	0.00	0.753	0.103	0.087
All levels	3182	19831.73	659	0.00	0.800	0.096	0.077

A confirmatory factor analysis was also run on the managers' ratings of the four factor performance scale. Four factors were selected. The individual performance items were included in the individual performance factor and the team effectiveness items were included in the team effectiveness factor. Because promotion potential and career derailment were measured by single items, their factor loadings were one and their error variance was zero. Results showed the model fit well. The CFI was above .9 and the SRMR was less than .08. The RMSEA was slightly above the .06 threshold (See Table 2).

Table 2. Goodness-Of-Fit Indicators for Four Factor Performance Scale

<u>Model</u>	<u>n</u>	<u>χ^2</u>	<u>df</u>	<u>p-value</u>	<u>CFI</u>	<u>RMSEA</u>	<u>SRMR</u>
Four factor Performance scale	2011	278.59	31	0.000	0.976	0.063	0.028

Basic correlational analyses were conducted between managers' ratings of the four factor performance scale, competency ratings from the all others rater group, and demographic variables. The four factor performance scale factors were moderately to strongly correlated with one another, and moderately correlated with all others competency ratings. The all others competency ratings were highly correlated with one another (Table 3). As expected, age group was positively related to organizational level ($r = .291$) and years of managerial experience ($r = .514$). Demographic variables showed no to very

small relationships with managers' ratings of the four factors of the performance scale (Table 4). Demographic variables also showed small relationships with all others' competency ratings (Table 5). For the four factor performance scale, lower numbers are more favorable. When reporting correlations all items were reverse scored.

Table 3. Correlations Between the Four Factor Performance Scale and all Others Competency Ratings

		<u>1.</u> <u>Promotion</u> <u>potential</u>	<u>2. Career</u> <u>derailme</u> <u>nt</u>	<u>3. Ind</u> <u>perform</u>	<u>4. Team</u> <u>perform</u>	<u>5.</u> <u>Busines</u> <u>s</u> <u>problem</u> <u>solving</u>	<u>6. Task-</u> <u>oriented</u>	<u>7. Inter-</u> <u>personal</u>	<u>8.</u> <u>Intra-</u> <u>perso</u> <u>nal</u>
1	Pearson correlation	1							
	N	2335							
2	Pearson correlation	0.497**	1						
	N	2330	2363						
3	Pearson correlation	0.575**	0.647**	1					
	N	2283	2309	2316					
4	Pearson correlation	0.468**	0.536**	0.676**	1				
	N	2058	2083	2041	2087				
5	Pearson correlation	0.344**	0.365**	0.470**	0.418**	1			
	N	2335	2363	2316	2087	3182			
6	Pearson correlation	0.381**	0.457**	0.565**	0.499**	0.753**	1		
	N	2335	2363	2316	2087	3182	3182		
7	Pearson correlation	0.346**	0.417**	0.487**	0.494**	0.691**	0.719**	1	
	N	2335	2363	2316	2087	3182	3182	3182	
8	Pearson correlation	0.378**	0.475**	0.556**	0.477**	0.757**	0.778**	0.870**	1
	N	2335	2363	2316	2087	3182	3182	3182	3182

**Correlation is significant at the 0.01 level (2-tailed)

Table 4. Correlations Between Managers' Ratings of the Four Factor Performance Scale and Demographic Variables

	<u>1. Age</u>	<u>2. Org level</u>	<u>3. Managerial experience</u>	<u>4. Promotion potential</u>	<u>5. Career derailment</u>	<u>6. Ind perform</u>	<u>7. Team perform</u>
1	Pearson correlation 1						
	N 3164						
2	Pearson correlation .291**	1					
	N 3128	3146					
3	Pearson correlation 0.514**	.479**	1				
	N 3119	3113	3137				
4	Pearson correlation -0.031	0.019	0.015	1			
	N 2324	2317	2315	2335			
5	Pearson correlation -.066**	-0.028	-0.065**	.497**	1		
	N 2352	2346	2342	2330	2363		
6	Pearson correlation -.082**	0.055**	-0.072**	.575**	.647**	1	
	N 2306	2299	2295	2283	2309	2316	
7	Pearson correlation -0.001	0.116**	-0.038	.468**	.536**	.676**	1
	N 2076	2073	2073	2058	2058	2041	2087

**Correlation is significant at the 0.01 level (2-tailed)

Table 5. Correlations Between all Others' Ratings of Competencies and Demographic Variables

		<u>1. Age</u>	<u>2. Org level</u>	<u>3. Managerial experience</u>	<u>4. Business problem solving</u>	<u>5. Task-oriented</u>	<u>6. Inter personal</u>	<u>7. Intra personal</u>
1	Pearson correlation	1						
	N	3164						
2	Pearson correlation	.291**	1					
	N	3128	3146					
3	Pearson correlation	0.514**	.479**	1				
	N	3119	3113	3137				
4	Pearson correlation	0.019	0.228**	.158**	1			
	N	3164	3146	3137	3182			
5	Pearson correlation	-.023**	.098**	.071**	0.753**	1		
	N	3164	3146	3137	3182	3182		
6	Pearson correlation	0.015	.097**	0.072**	.691**	.719**	1	
	N	3164	3146	3137	3182	3182	3182	
7	Pearson correlation	-.047**	0.102**	0.023	.757**	.778**	.870**	1
	N	3164	3146	3137	3182	3182	3182	3182

**Correlation is significant at the 0.01 level (2-tailed)

Research Question 1: To what extent are managers’ ratings of promotion potential and career derailment related to one another?

The first research question asked, “To what extent are managers’ ratings of promotion potential and career derailment related to one another?” Ratings of promotion potential and career derailment were reverse scored with 1 being most favorable and 5 being the least favorable. I hypothesized ratings of promotion potential and career derailment would be moderately related with one another, each representing separate but likely related constructs. That is what I found. Across all organizational levels, correlations ranged from .35 to .59. The relationship between managers’ ratings of promotion potential and career derailment stayed relatively stable across levels, except

for a higher correlation for senior level individual contributor women (Figure 1) and a lower correlation for executive women (Figure 2). However, post hoc chi square analyses revealed that managers' ratings of career derailment were skewed, with only 5% of managers responding "Some possibility" or "Probably yes" of participants' likelihood to fail in their current job. Therefore, correlations would likely increase in size if there were more variability among the observations (Goodwin & Leech, 2006). See Table 6 for results.

Figure 1. Senior Level Individual Contributor Women: Correlation Between Promotion Potential and Career derailment

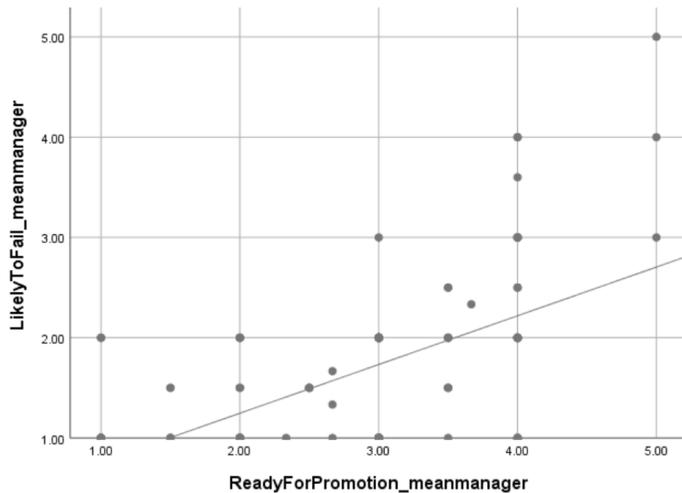


Figure 2. Executive Women: Correlation Between Promotion Potential and Career derailment

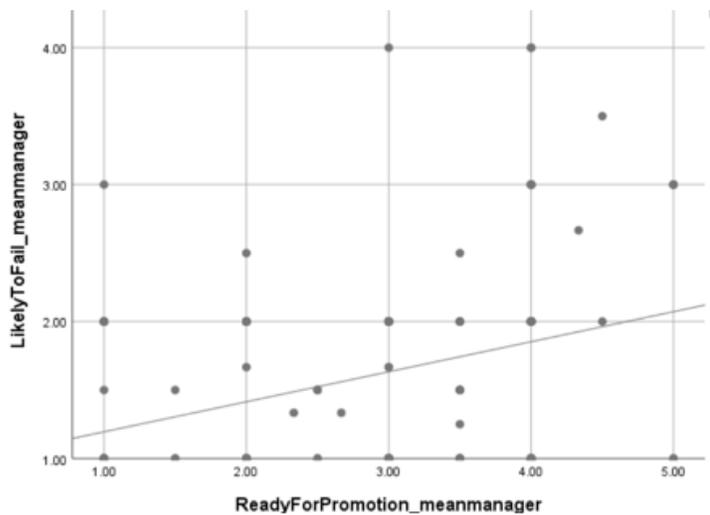


Table 6. Correlations between Promotional Potential and Career Derailment by Gender

<u>Organizational level</u>	<u>Males</u>			<u>Females</u>		
	<u>n</u>	<u>R</u>	<u>R²</u>	<u>n</u>	<u>R</u>	<u>R²</u>
Senior level individual contributor	107	0.47	0.22	110	0.59	0.35
First level managers	348	0.50	0.25	304	0.48	0.23
Manager of managers	413	0.53	0.28	337	0.47	0.22
Executive	304	0.54	0.30	182	0.35	0.12
Senior Executive	119	0.45	0.20	49	0.49	0.24
Overall	1304	0.51	0.26	1014	0.47	0.22

Research Question 2: On average, are there differences in direct report, peer, manager and self competency ratings across men and women?

Research question 2 asked, “On average, are their differences in direct report, peer, manager, and self competency ratings across men and women? If so, which behaviors are they?” To compare men and women across all levels, men and women were matched exactly on background characteristics. 1279 men were matched with 896 women. Scores were weighted so that one-to-one comparisons could be made.

Independent t-tests were conducted to compare ratings across genders. Assumptions were checked, including normality of the distributions and homogeneity of variance. Ratings were positively skewed, and kurtosis was also found. However, most skew and kurtosis values did not exceed the recommended threshold of +/- 2.58 for large samples (Ghasemi & Zahedias, 2012). The all others’ ratings of the task-oriented factor showed a high value of kurtosis, so nonparametric tests were also used. Bonferroni corrections were used, due to the number of hypotheses being tested.

I hypothesized that raters would rate women as performing slightly better on average across the model, with women receiving higher ratings on interpersonal and intrapersonal leadership and men receiving higher ratings of business problem solving.

For the most part, that is what I found. As hypothesized, all raters besides the self rated men higher than women on business problem solving leadership, though results failed to reach significance. Unexpectedly, on average, all raters besides the self rated women significantly higher than men on task-oriented leadership. Results were also significant using a Mann-Whitney U test, though the effect size was smaller ($r=.23$). As expected, on average, all raters besides the self rated women higher than men on interpersonal and intrapersonal leadership, though results failed to reach significance.

Consistent with all other raters, females rated themselves higher than males on task-oriented, interpersonal, and intrapersonal leadership and men rated themselves significantly higher than women on business problem solving leadership. Though women rated themselves higher than men on task-oriented, interpersonal and intrapersonal leadership, results did not reach significance. Men's self ratings were significantly higher than women's self ratings for business problem solving leadership (see Table 7).

Direct report ratings were consistent with other raters, though their ratings were somewhat higher across all factors. Peer ratings were also consistent with all other ratings and direct report ratings, though their raters were somewhat lower than direct report ratings. Peers rated women higher than men on task-oriented, interpersonal, and intrapersonal leadership. The differences in task-oriented and interpersonal leadership reached significance. Finally, manager ratings were consistent with other rater groups. They rated men higher than women on business problem solving leadership and women higher than men on task-oriented, interpersonal, and intrapersonal leadership. Differences in task-oriented leadership reached significance. See Table 7 for results.

Table 7. T-tests for the Relationship of Competency ratings and Gender across levels

	Males			Females			<i>t</i>	<i>p</i>	<i>d</i>
	<i>N</i>	<i>M</i>	<i>SD</i>	<i>N</i>	<i>M</i>	<i>SD</i>			
<i>All others rating</i>									
Business problem solving	306	3.77	0.25	306	3.74	0.25	1.584	0.114	0.12
Task-oriented	306	3.76	0.29	306	3.89	0.25	-5.555	0.000*	0.48
Interpersonal	306	3.70	0.29	306	3.77	0.24	-3.346	0.001	0.26
Intrapersonal	306	3.82	0.27	306	3.87	0.24	-2.399	0.017	0.20
<i>Self rating</i>									
Business problem solving	306	3.64	0.35	306	3.49	0.41	4.826	0.000*	0.39
Task-oriented	306	3.64	0.38	306	3.73	0.42	-2.533	0.012	0.22
Interpersonal	306	3.63	0.36	306	3.66	0.36	-1.152	0.250	0.08
Intrapersonal	306	3.80	0.36	306	3.82	0.38	-0.767	0.443	0.08
<i>People you lead rating</i>									
Business problem solving	284	3.92	0.32	282	3.91	0.35	0.598	0.550	0.03
Task-oriented	284	3.84	0.36	282	3.93	0.38	-2.889	0.004	0.24
Interpersonal	284	3.83	0.38	282	3.91	0.38	-2.451	0.015	0.21
Intrapersonal	284	3.91	0.36	282	3.97	0.38	-1.969	0.049	0.16
<i>Peer ratings</i>									
Business problem solving	306	3.76	0.22	306	3.73	0.23	1.846	0.065	0.13
Task-oriented	306	3.75	0.25	306	3.86	0.23	-5.797	0.000*	0.46
Interpersonal	306	3.69	0.26	306	3.76	0.23	-3.641	0.000*	0.29
Intrapersonal	306	3.81	0.24	306	3.85	0.22	-2.294	0.022	0.17
<i>Manager ratings</i>									
Business problem solving	303	3.65	0.37	301	3.60	0.37	1.738	0.083	0.14
Task-oriented	303	3.71	0.44	301	3.86	0.40	-4.406	0.000*	0.36
Interpersonal	303	3.58	0.39	301	3.64	0.36	-2.156	0.031	0.16
Intrapersonal	303	3.75	0.39	301	3.78	0.35	-0.985	0.325	0.08

*Denotes significance at the .001 level

To compare men and women within levels, propensity score matching was used. Differences across men and women were examined using ANCOVAs, controlling for the unbalanced covariates in the propensity score matching. For age, the unbalanced covariates were the 18-30 age group. For function, the unbalanced covariates were education & social service, human resources and training, law, those that didn't provide a function (NA). For job level, the unbalanced covariates were the senior individual contributor job level and those that didn't provide a job level (NA). For management experience, the unbalanced covariates were 1-2 years, over 10 years, and those that didn't

provide their management experience (NA). Covariates were considered unbalanced if their standardized mean differences were above .05 and less than .25. Controlling for these covariates allows for the “cleaning up” of small residual covariate unbalance between the groups (Stuart, 2012). Assumptions were again checked, including tests for normality, homogeneity of variances, and homoscedasticity.

Table 8. Nearest Neighbor with Replacement Covariate Standardized Mean Differences after Matching

<u>Covariate</u>	<u>Standardized mean difference</u>
Age group	
NA	0.036
18-30	0.052
31-35	0.046
36-40	0.012
41-50	0.011
51+	0.003
Function	
Accounting	0.004
Administration	0.030
Advertising/Public Relations	0.022
Credit/Finance	0.023
Education/Social Services	0.062
Engineering	0.009
Human Resources	0.084
Information Technology	0.009
Law	0.050
Management and administration	0.033
Purchasing	0.016
Manufacturing	0.026
Marketing	0.018
Materials	0.032
Medicine	0.028
NA	0.051
Operations	0.039
Other	0.003
Product Development	0.014
Quality Control	0.007
Research and analysis	0.020
Research and development	0.012
Sales	0.000
Security	0.000
Systems analysis	0.016
Management experience	
NA	0.062
1 year or less	0.028
1-2 years	0.060
2-3 years	0.026
3-5 years	0.025
5-10 years	0.050
10+	0.060

Job level	
NA	0.069
Entry level contributor	0.021
Senior level individual contributor	0.095
First level manager	0.042
Manager of managers	0.028
Executive	0.021
Senior Executive	0.017

Senior level individual contributors

First, analyses were conducted for senior level individual contributors. While relationships neared significance, none of them reached the $p < .001$ threshold (Table 9).

Table 9. Level Individual Contributors: ANCOVAS for the Relationship of Gender and Competency Ratings

	Males			Females			<i>F</i>	<i>p</i>	η_p^2
	<i>N</i>	<i>M</i>	<i>SE</i>	<i>N</i>	<i>M</i>	<i>SD</i>			
<i>All others rating</i>									
Business problem solving	49	3.73	0.05	141	3.65	0.03	2.463	0.118	0.013
Task-oriented	49	3.81	0.05	141	3.84	0.03	0.217	0.642	0.001
Interpersonal	49	3.77	0.05	141	3.77	0.03	0.003	0.958	0.000
Intrapersonal	49	3.87	0.05	141	3.86	0.03	0.016	0.898	0.000
<i>Self rating</i>									
Business problem solving	49	3.55	0.07	141	3.41	0.04	3.591	0.060	0.019
Task-oriented	49	3.60	0.08	141	3.67	0.05	0.615	0.434	0.003
Interpersonal	49	3.73	0.07	141	3.63	0.04	1.339	0.249	0.007
Intrapersonal	49	3.76	0.07	141	3.79	0.04	0.113	0.737	0.001
<i>Peer ratings</i>									
Business problem solving	49	3.90	0.13	141	4.02	0.08	0.591	0.445	0.010
Task-oriented	49	3.76	0.04	141	3.83	0.03	1.920	0.168	0.010
Interpersonal	49	3.76	0.05	141	3.75	0.03	0.008	0.928	0.000
Intrapersonal	49	3.84	0.05	141	3.84	0.03	0.001	0.970	0.000
<i>Manager ratings</i>									
Business problem solving	47	3.68	0.07	129	3.50	0.04	5.695	0.018	0.033
Task-oriented	47	3.79	0.07	129	3.75	0.04	0.152	0.697	0.001
Interpersonal	47	3.69	0.07	129	3.60	0.04	1.029	0.312	0.006
Intrapersonal	47	3.83	0.07	129	3.74	0.04	1.159	0.325	0.007

*Denotes significance at the .001 level

First Level Managers

Second, analyses were conducted for first level managers. Gender had a significant relationship with self ratings for business problem solving leadership, with men rating themselves significantly higher than women. Gender also had a significant relationship with peers' ratings for task-oriented leadership, with women being rated significantly higher than men (see Table 10).

Table 10. First Level Managers: ANCOVAS for the Relationship of Gender and Competency Ratings

	<u>Males</u>			<u>Females</u>			<u>F</u>	<u>p</u>	η_p^2
	<u>N</u>	<u>M</u>	<u>SE</u>	<u>N</u>	<u>M</u>	<u>SD</u>			
<i>All others rating</i>									
Business problem solving	206	3.72	0.02	402	3.67	0.02	3.974	0.047	0.007
Task-oriented	206	3.74	0.02	402	3.84	0.02	10.143	0.002	0.017
Interpersonal	206	3.66	0.03	402	3.73	0.02	4.888	0.027	0.008
Intrapersonal	206	3.78	0.02	402	3.82	0.02	1.869	0.172	0.003
<i>Self rating</i>									
Business problem solving	206	3.53	0.03	402	3.37	0.02	15.942	0.000*	0.026
Task-oriented	206	3.55	0.04	402	3.68	0.03	8.873	0.003	0.015
Interpersonal	206	3.54	0.03	402	3.61	0.02	3.001	0.084	0.005
Intrapersonal	206	3.72	0.04	402	3.73	0.03	0.043	0.836	0.000
<i>People you lead ratings</i>									
Business problem solving	178	3.94	0.03	344	3.89	0.02	1.439	0.231	0.003
Task-oriented	178	3.91	0.04	344	3.94	0.03	0.495	0.482	0.001
Interpersonal	178	3.92	0.03	344	3.85	0.04	2.051	0.153	0.004
Intrapersonal	178	3.97	0.03	344	3.94	0.04	0.429	0.513	0.001
<i>Peer ratings</i>									
Business problem solving	206	3.70	0.01	402	3.65	0.02	3.408	0.065	0.006
Task-oriented	206	3.72	0.02	402	3.82	0.02	15.684	0.000*	0.026
Interpersonal	206	3.65	0.02	402	3.72	0.02	6.393	0.012	0.011
Intrapersonal	206	3.77	0.02	402	3.81	0.02	2.018	0.156	0.003
<i>Manager ratings</i>									
Business problem solving	201	3.58	0.03	390	3.47	0.023	7.615	0.006	0.013
Task-oriented	201	3.66	0.04	390	3.73	0.03	2.412	0.121	0.004
Interpersonal	201	3.51	0.04	390	3.55	0.03	0.850	0.357	0.001
Intrapersonal	201	3.69	0.04	390	3.7	0.03	0.032	0.858	0.000

*Denotes significance at the .001 level

Manager of managers

Gender had a significant relationship with self ratings for business problem solving leadership, with men rating themselves significantly higher than women. All other tests were nonsignificant at the $p < .001$ level (see Table 11).

Table 11. Managers of Managers: ANCOVAS for the Relationship of Gender and Competency Ratings

	<u>Males</u>			<u>Females</u>			<i>F</i>	<i>p</i>	η_p^2
	<u>N</u>	<u>M</u>	<u>SE</u>	<u>N</u>	<u>M</u>	<u>SD</u>			
<i>All others rating</i>									
Business problem solving	294	3.82	0.02	465	3.76	0.01	7.413	0.007	0.010
Task-oriented	294	3.83	0.02	465	3.88	0.02	6.510	0.011	0.009
Interpersonal	294	3.75	0.02	465	3.78	0.02	1.355	0.245	0.002
Intrapersonal	294	3.86	0.02	465	3.87	0.02	0.184	0.668	0.000
<i>Self rating</i>									
Business problem solving	294	3.66	0.03	465	3.52	0.02	16.801	0.000*	0.022
Task-oriented	294	3.71	0.03	465	3.76	0.02	1.506	0.220	0.002
Interpersonal	294	3.67	0.03	465	3.70	0.02	0.635	0.426	0.001
Intrapersonal	294	3.82	0.03	465	3.81	0.02	0.037	0.847	0.000
<i>People you lead ratings</i>									
Business problem solving	277	3.97	0.03	442	3.91	0.02	3.894	0.049	0.005
Task-oriented	277	3.91	0.03	442	3.94	0.02	0.458	0.499	0.001
Interpersonal	277	3.88	0.03	442	3.90	0.02	0.173	0.677	0.000
Intrapersonal	277	3.97	0.03	442	3.97	0.02	0.016	0.900	0.000
<i>Peer ratings</i>									
Business problem solving	294	3.81	0.02	465	3.75	0.01	7.602	0.006	0.010
Task-oriented	294	3.80	0.02	465	3.87	0.02	7.521	0.006	0.010
Interpersonal	294	3.74	0.02	465	3.78	0.02	2.290	0.131	0.003
Intrapersonal	294	3.84	0.02	465	3.86	0.01	0.537	0.464	0.001
<i>Manager ratings</i>									
Business problem solving	286	3.70	0.03	451	3.60	0.02	7.499	0.006	0.010
Task-oriented	286	3.76	0.03	451	3.83	0.03	3.208	0.074	0.004
Interpersonal	286	3.62	0.03	451	3.64	0.02	0.179	0.673	0.000
Intrapersonal	286	3.78	0.03	451	3.77	0.02	0.029	0.864	0.000

*Denotes significance at the .001 level

Executive

At the executive level, gender had a relationship with all others' ratings for task-oriented leadership, with females being rated significantly higher than males. Self ratings showed a significant relationship with gender for task-oriented leadership, with women rating themselves significantly higher than men. Peer ratings showed a significant relationship with gender for task-oriented leadership, with women being rated significantly higher than men (see Table 12).

Table 12. Executives: ANCOVAS for the Relationship of Gender and Competency Ratings

	<u>Males</u>			<u>Females</u>			<u>F</u>	<u>p</u>	<u>η_p^2</u>
	<u>N</u>	<u>M</u>	<u>SE</u>	<u>N</u>	<u>M</u>	<u>SD</u>			
<i>All others rating</i>									
Business problem solving	146	3.84	0.02	229	3.82	0.02	0.321	0.571	0.001
Task-oriented	146	3.83	0.03	229	3.95	0.02	12.333	0.001*	0.033
Interpersonal	146	3.76	0.03	229	3.82	0.02	2.201	0.139	0.006
Intrapersonal	146	3.89	0.02	229	3.93	0.02	1.645	0.200	0.004
<i>Self rating</i>									
Business problem solving	146	3.65	0.04	229	3.62	0.03	0.162	0.688	0.000
Task-oriented	146	3.69	0.04	229	3.87	0.03	10.695	0.001*	0.028
Interpersonal	146	3.66	0.04	229	3.79	0.03	6.738	0.010	0.018
Intrapersonal	146	3.91	0.03	229	3.82	0.04	2.889	0.090	0.008
<i>People you lead ratings</i>									
Business problem solving	137	3.94	0.03	213	3.98	0.03	0.758	0.385	0.002
Task-oriented	137	3.84	0.04	213	3.99	0.03	9.432	0.002	0.027
Interpersonal	137	3.84	0.04	213	3.93	0.03	2.926	0.088	0.009
Intrapersonal	137	3.91	0.04	213	4.03	0.03	6.088	0.014	0.018
<i>Peer ratings</i>									
Business problem solving	146	3.81	0.02	229	3.79	0.02	0.536	0.465	0.001
Task-oriented	146	3.8	0.02	229	3.92	0.02	15.751	0.000*	0.041
Interpersonal	146	3.73	0.034	229	3.81	0.31	2.802	0.095	0.008
Intrapersonal	146	3.86	0.02	229	3.90	0.02	1.977	0.161	0.005
<i>Manager ratings</i>									
Business problem solving	138	3.74	0.04	215	3.69	0.03	0.849	0.357	0.002
Task-oriented	138	3.86	0.05	215	3.95	0.04	2.035	0.155	0.006
Interpersonal	138	3.67	0.04	215	3.70	0.03	0.473	0.492	0.001
Intrapersonal	138	3.87	0.04	215	3.86	0.03	0.069	0.794	0.000

*Denotes significance at the .001 level

Senior Executives

Finally, there were no significant differences at the $p < .001$ level at the senior executive level (see Table 13)

Table 13. Senior Executives: ANCOVAS for the Relationship of Gender and Competency Ratings

	<u>Males</u>			<u>Females</u>			<u>F</u>	<u>p</u>	<u>η^2</u>
	<u>N</u>	<u>M</u>	<u>SE</u>	<u>N</u>	<u>M</u>	<u>SD</u>			
<i>All others rating</i>									
Business problem solving	53	4.00	0.041	67	3.85	0.04	5.025	0.027	0.043
Task-oriented	53	3.91	0.05	67	3.96	0.05	0.678	0.412	0.006
Interpersonal	53	3.83	0.05	67	3.90	0.04	1.379	0.243	0.012
Intrapersonal	53	3.97	0.04	67	3.96	0.04	0.016	0.899	0.000
<i>Self rating</i>									
Business problem solving	53	3.77	0.06	67	3.58	0.06	4.712	0.032	0.040
Task-oriented	53	3.67	0.07	67	3.74	0.06	0.567	0.453	0.005
Interpersonal	53	3.67	0.06	67	3.76	0.06	1.097	0.297	0.010
Intrapersonal	53	3.75	0.07	67	3.92	0.06	3.471	0.065	0.030
<i>People you lead ratings</i>									
Business problem solving	50	4.02	0.05	60	4.01	0.05	0.327	0.969	0.009
Task-oriented	50	3.86	0.06	60	3.95	0.05	1.235	0.269	0.012
Interpersonal	50	3.80	0.06	60	3.97	0.06	3.924	0.050	0.037
Intrapersonal	50	3.94	0.06	60	4.02	0.05	0.882	0.350	0.009
<i>Peer ratings</i>									
Business problem solving	53	3.94	0.04	67	3.83	0.04	4.513	0.036	0.039
Task-oriented	53	3.86	0.04	67	3.93	0.04	1.198	0.276	0.011
Interpersonal	53	3.79	0.05	67	3.89	0.04	1.949	0.165	0.017
Intrapersonal	53	3.92	0.04	67	3.94	0.04	0.116	0.691	0.001
<i>Manager ratings</i>									
Business problem solving	43	3.94	0.07	56	3.82	0.06	1.506	0.223	0.016
Task-oriented	43	3.94	0.08	56	4.06	0.07	1.400	0.240	0.015
Interpersonal	43	3.84	0.07	56	3.87	0.06	0.161	0.689	0.002
Intrapersonal	43	3.99	0.07	56	3.99	0.06	0.001	0.982	0.000

*Denotes significance at the .001 level

Research question 3: Do managers perceive there to be differences in men and women’s individual performance, leadership effectiveness, promotion potential, and career derailment? Which behaviors contribute to this difference?

Research question 3 asked, “Do managers perceive there to be differences in men and women’s individual performance, leadership effectiveness, promotion potential, and

career derailment?” I hypothesized that managers would rate women slightly higher in individual performance and leadership effectiveness. I also hypothesized that managers would rate men higher in promotion potential and believe they are more likely to fail. Unexpectedly, I found that all ratings favored women.

First, results were pooled across levels, using exact matching. Independent t-tests were used to examine differences in managers’ ratings of men and women. Assumptions were again checked, including tests for the normality of the distributions and homogeneity of variance. Ratings were positively skewed and kurtosis was found. However, most values did not exceed the recommended threshold of +/- 2.58 for large samples (Ghasemi & Zahedias, 2012). Career derailment ratings, however, did show a non-normal distribution, with very few managers rating the participants as likely to fail. Therefore, Mann-Whitney tests were used to assess mean differences for the scale. Bonferroni adjustments were used to adjust for the number of hypotheses tested.

Managers rated women significantly higher than men on individual performance (see Table 14). Managers rated men as significantly more likely to fail than women (see Table 15).

Table 14. T-tests for the Relationship of Gender and Managers' Assessments of the Four Factor Performance Scale Across Levels

<i>Ratings</i>	<i>N</i>	<u>Males</u>		<u>Females</u>			<i>t</i>	<i>p</i>	<i>d</i>
		<u>M</u>	<u>SD</u>	<i>N</i>	<u>M</u>	<u>SD</u>			
Individual Performance	276	2.38	0.46	262	2.23	0.48	3.698	0.000*	0.32
Team effectiveness	264	2.28	0.50	251	2.15	0.49	2.883	0.004	0.26
Promotion potential	277	2.92	0.86	266	2.88	0.88	0.556	0.579	0.05

*Denotes significance at the .001 level

*Note lower scores are more desirable

Table 15. Mann Whitney Test for the Relationship of Gender and Managers' Ratings of Career Derailment

Variable	Males			Females			Mann-Whitney U	z	Sig.	d
	N	M	SD	N	M	SD				
Likely to fail	283	1.83	0.69	275	1.66	0.686	32192	-3.566	0.000*	0.15

Second, results were examined within levels. No significant differences were found at the $p < .001$ level (see Table 16)

Table 16. ANCOVAS for the Relationship of Gender and the Four Factor Performance Scale Within Levels

	Males			Females			F	p	η_p^2	
	N	M	SE	N	M	SE				
<i>Senior individual contributors</i>										
Individual Performance	38	2.20	0.09	108	2.24	0.06	0.177	0.675	0.001	
Team performance	20	2.13	0.15	44	2.35	0.1	1.462	0.232	0.026	
Ready for promotion	39	2.62	0.16	110	2.72	0.09	0.902	0.344	0.006	
Likely to fail	40	1.40	0.13	110	1.64	0.08	2.554	0.112	0.018	
<i>First level managers</i>										
Individual Performance	162	2.42	0.04	303	2.33	0.03	2.578	0.109	0.006	
Team performance	148	2.32	0.05	281	2.23	0.04	2.416	0.121	0.006	
Ready for promotion	166	2.93	0.09	306	2.84	0.07	0.689	0.407	0.001	
Likely to fail	167	1.88	0.07	308	1.70	0.05	4.507	0.034	0.010	
<i>Manager of managers</i>										
Individual Performance	201	2.38	0.04	334	2.30	0.03	2.986	0.085	0.006	
Team performance	203	2.29	0.04	332	2.20	0.03	3.431	0.065	0.006	
Ready for promotion	204	2.94	0.08	338	2.98	0.06	0.127	0.722	0.000	
Likely to fail	207	1.80	0.06	343	1.76	0.05	0.187	0.666	0.000	
<i>Executive</i>										
Individual Performance	114	2.36	0.05	180	2.23	0.04	4.110	0.044	0.014	
Team performance	108	2.22	0.05	167	2.10	0.04	3.083	0.080	0.011	
Ready for promotion	112	2.95	0.11	182	2.80	0.09	1.053	0.306	0.004	
Likely to fail	115	1.87	0.08	184	1.64	0.06	5.711	0.017	0.019	
<i>Senior executive</i>										
Individual Performance	41	2.10	0.10	48	2.10	0.09	0.008	0.929	0.000	
Team performance	39	1.94	0.09	48	1.95	0.08	0.007	0.932	0.000	
Ready for promotion	39	2.62	0.20	49	2.71	0.19	0.103	0.749	0.001	
Likely to fail	41	1.83	0.83	50	1.60	0.79	1.599	0.210	0.019	

*Denotes significance at the .001 level

*Note that lower scores are more desirable

Regression analyses were conducted to determine the relationship of competency ratings with managers' global assessments of participants' individual performance, leadership effectiveness, promotion potential, and career derailment. To assess results across levels, exact matching was used. Bonferroni corrections were again used to control for the number of hypotheses tested. A conservative *p*-level of .001 was used. Assumptions were checked prior to running the models, including tests for linearity, the normal distribution of variables, homoscedasticity, and multicollinearity. Competency ratings were found to be highly correlated with one another and therefore, the results need to be interpreted with that in mind.

Overall, regression analyses showed managers' ratings of competencies ratings were more predictive of global outcomes for men than for women. Competencies explained the most variance in individual performance, accounting for 49% across men and 35% across women (see Table 17). For men, managers' ratings of task-oriented leadership were most predictive of individual performance. For women, managers' ratings of intrapersonal leadership were most predictive of individual performance.

Table 17. Results of Multiple Regression Analyses for the Relationship of Manager Competency Ratings and Individual Performance

<i>Competency rating</i>	<i>t</i>	<i>p</i>	β	<i>F</i>	<i>df</i>	<i>p</i>	Adj. <i>R</i> ²
<i>Men</i>							
Overall model				68.582	280	0.000	0.491
Business problem solving	-0.554	0.580	-0.048				
Task-oriented	4.640	0.000*	0.355				
Interpersonal	3.797	0.000*	0.317				
Intrapersonal	2.766	0.006	0.273				
<i>Women</i>							
Overall model				37.128	269	0.000	0.349
Business problem solving	0.567	0.571	0.057				
Task-oriented	2.495	0.013	0.245				
Interpersonal	2.500	0.013	0.247				
Intrapersonal	3.462	0.001*	0.369				

*Denotes significance at the *p*<.001 level

Managers' competency ratings explained less variance in team effectiveness than individual performance across both men and women, accounting for 37% of the variance for men and 27% of the variance for women (see Table 18). For men, managers' ratings of task-oriented and interpersonal leadership were most predictive of managers' assessments of team effectiveness. As expected, for women, managers' ratings of interpersonal leadership were most predictive of assessments of team effectiveness.

Table 18. Results of Multiple Regression Analyses for the Relationship of Manager Competency Ratings and Team Effectiveness

<i>Competency rating</i>	<i>t</i>	<i>p</i>	β	<i>F</i>	<i>df</i>	<i>p</i>	Adj. R^2
<i>Men</i>							
Overall model				40.142	268	0.000	0.369
Business problem solving	-0.944	0.346	-0.102				
Task-oriented	5.464	0.000*	0.517				
Interpersonal	3.821	0.000*	0.393				
Intrapersonal	0.203	0.839	0.025				
<i>Women</i>							
Overall model				24.882	257	0.000	0.271
Business problem solving	1.025	0.306	0.114				
Task-oriented	1.227	0.221	0.132				
Interpersonal	3.572	0.000*	0.389				
Intrapersonal	1.501	0.135	0.178				

*Denotes significance at the $p < .001$ level

Managers ratings of work-related competencies were less predictive of promotion potential than of individual performance and team effectiveness across men and women. For men and women, the four factors were significantly predictive of promotion potential. However, no predictor was significant on its own (see Table 19).

Table 19. Results of Multiple Regression Analyses for the Relationship of Manager Competency Ratings and Promotion Potential

<i>Competency rating</i>	<i>t</i>	<i>p</i>	β	<i>F</i>	<i>df</i>	<i>p</i>	Adj. R ²
<i>Men</i>							
Overall model				18.555	281	0.000	0.2
Business problem solving	0.907	0.365	0.181				
Task-oriented	2.623	0.009	0.474				
Interpersonal	2.703	0.007	0.529				
Intrapersonal	0.242	0.809	0.056				
<i>Women</i>							
Overall model				6.809	272	0.000	0.079
Business problem solving	0.691	0.490	0.154				
Task-oriented	0.117	0.901	0.025				
Interpersonal	1.635	0.103	0.355				
Intrapersonal	1.356	0.176	0.319				

Finally, managers' competency ratings were somewhat more predictive of career derailment than promotion potential. Notably, managers' competency ratings were more than twice as predictive of career derailment for men than for women. For men, managers' ratings of task-oriented and interpersonal leadership were significantly related to ratings of career derailment. For women, no predictor was significant on its own (see Table 20).

Table 20. Results of Multiple Regression Analyses for the Relationship of Manager Competency Ratings and Career Derailment

<i>Competency rating</i>	<i>t</i>	<i>p</i>	β	<i>F</i>	<i>df</i>	<i>p</i>	Adj. R ²
<i>Men</i>							
Overall model				39.173	282	0.000	0.351
Business problem solving	-1.124	0.262	-0.162				
Task-oriented	5.267	0.000*	0.680				
Interpersonal	3.901	0.000*	0.551				
Intrapersonal	0.047	0.962	0.008				
<i>Women</i>							
Overall model				15.159	274	0.000	0.171
Business problem solving	-0.205	0.838	-0.033				
Task-oriented	0.148	0.099	0.260				
Interpersonal	0.149	0.078	0.279				
Intrapersonal	0.203	0.017	0.407				

*Denotes significance at the .001 level

Research question 4: How well do peer, direct report, and self ratings predict managers' ratings of individual performance, leadership effectiveness, promotion potential, and career derailment?

Research question 4 asked “How well do peer, direct report, and self ratings predict managers' ratings of individual performance, leadership effectiveness, promotional potential, and career derailment? Ratings of individual performance, leadership effectiveness, promotion potential, and career derailment were reverse scored to be consistent with the competency rating scale. As expected, peer, direct report, and self competencies were less predictive of managers' assessments of the four factor performance scale than managers' competency ratings. Overall, peer ratings were the most predictive and self ratings were the least predictive. Peer and direct report ratings were more predictive of managers' assessments of males than their ratings of females. Only significant findings will be reported, with all results summarized efficiently in tables.

For men, peer competency ratings explained 33% of the variance in managers' ratings of individual performance. Peers' ratings of task-oriented leadership significantly predicted managers' ratings. For females, peer competency ratings explained a smaller amount of the variance in managers' ratings of individual performance (12%). None of the predictors were significant on their own (see Table 21).

Table 21. Results of Multiple Regression Analyses for the Relationship of Peer Competency Ratings and Individual Performance

<i>Competency rating</i>	<i>t</i>	<i>p</i>	β	<i>F</i>	<i>df</i>	<i>p</i>	Adj. R ²
<i>Men</i>							
Overall model				34.623	275	0.000	0.328
Business problem solving	-0.156	0.876	-0.028				
Task-oriented	3.462	0.001*	0.635				
Interpersonal	0.024	0.806	0.043				
Intrapersonal	2.287	0.023	0.509				
<i>Women</i>							
Overall model				10.228	261	0.000	0.124
Business problem solving	-1.286	0.199	-0.283				
Task-oriented	1.014	0.312	0.246				
Interpersonal	-0.593	0.554	-0.154				
Intrapersonal	3.044	0.003	0.974				

*Denotes significance at the .001 level

Peers' competency ratings explained less variance in managers' ratings of team effectiveness than individual performance. For men, peers' ratings explained 19% of the variance in team effectiveness. Peers' ratings of task-oriented leadership significantly predicted managers' ratings of team effectiveness. For females, peers' ratings explained 10% in team effectiveness. No predictor was significant on its own (see Table 22).

Table 22. Results of Multiple Regression Analyses for the Relationship of Peer Competency Ratings and Team Effectiveness

<i>Competency rating</i>	<i>t</i>	<i>p</i>	β	<i>F</i>	<i>df</i>	<i>p</i>	Adj. R ²
<i>Men</i>							
Overall model				16.333	263	0.000	0.189
Business problem solving	-0.520	0.603	-0.119				
Task-oriented	3.246	0.001*	0.728				
Interpersonal	0.764	0.446	0.446				
Intrapersonal	0.654	0.514	0.514				
<i>Women</i>							
Overall model				8.072	250	0.000	0.102
Business problem solving	1.290	0.198	0.300				
Task-oriented	0.269	0.788	0.068				
Interpersonal	1.142	0.255	0.308				
Intrapersonal	0.534	0.594	0.174				

*Denotes significance at the .001 level

Peers' competency ratings were less predictive of promotion potential. For men, peers' competency ratings explained 16% of the variance in managers' ratings of promotion potential. For women, peers' competency ratings explained five percent of the variance in managers' ratings of promotion potential. No predictors were significant on their own (see Table 23).

Table 23. Results of Multiple Regression Analyses for the Relationship of Peer Competency Ratings and Promotion Potential

<i>Competency rating</i>	<i>t</i>	<i>p</i>	β	<i>F</i>	<i>df</i>	<i>p</i>	Adj. R^2
<i>Men</i>							
Overall model				14.045	276	0.000	0.159
Business problem solving	0.116	0.908	0.044				
Task-oriented	2.274	0.024	0.869				
Interpersonal	1.334	0.183	0.482				
Intrapersonal	0.292	0.771	0.134				
<i>Women</i>							
Overall model				4.811	265	0.001	0.054
Business problem solving	0.387	0.699	0.161				
Task-oriented	1.132	0.259	0.516				
Interpersonal	0.880	0.380	0.421				
Intrapersonal	0.138	0.891	0.079				

Peers' competency ratings were similarly predictive of career derailment. For men, peers' competency ratings explained 18% of the variance in managers' ratings of career derailment. For women, peers' competency ratings explained 10% of the variance in managers' ratings of career derailment. No predictors were significant on their own (see Table 24).

Table 24. Results of Multiple Regression Analyses for the Relationship of Peer Competency Ratings and Career Derailment

<i>Competency rating</i>	<i>t</i>	<i>p</i>	β	<i>F</i>	<i>df</i>	<i>p</i>	Adj. R^2
<i>Men</i>							
Overall model				16.326	277	0.000	0.181
Business problem solving	0.406	0.685	0.123				
Task-oriented	2.030	0.043	0.617				
Interpersonal	0.892	0.373	0.258				
Intrapersonal	0.967	0.334	0.356				
<i>Women</i>							
Overall model				7.974	266	0.000	0.095
Business problem solving	-1.214	0.226	-0.385				
Task-oriented	1.468	0.143	0.509				
Interpersonal	0.568	0.570	0.207				
Intrapersonal	1.653	0.099	0.721				

Direct reports' competency ratings were less predictive of managers' ratings than peer ratings. For men, direct reports' competency ratings explained 10% of the variance in managers' ratings of individual performance. For women, direct reports' competency ratings explained six percent of the variance in managers' ratings of individual performance. No predictor was significant on its own (see Table 25)

Table 25. Results of Multiple Regression Analyses for the Relationship of Direct Report Competency Ratings and Individual Performance

<i>Competency rating</i>	<i>t</i>	<i>p</i>	β	<i>F</i>	<i>df</i>	<i>p</i>	Adj. R^2
<i>Men</i>							
Overall model				7.952	259	0.000	0.097
Business problem solving	0.053	0.958	0.009				
Task-oriented	1.749	0.082	0.309				
Interpersonal	1.096	0.274	0.177				
Intrapersonal	-0.255	0.799	0.050				
<i>Women</i>							
Overall model				4.588	239	0.001	0.057
Business problem solving	-1.726	0.086	-0.290				
Task-oriented	0.169	0.866	0.031				
Interpersonal	-1.447	0.149	-0.250				
Intrapersonal	3.203	0.002	0.695				

Direct reports' competency ratings were less predictive of managers' ratings of team effectiveness than individual performance. For men, direct reports' competency ratings explained seven percent of the variance in managers' ratings of team effectiveness. For women, direct reports' competency ratings explained four percent of the variance in managers' ratings of team effectiveness. Again, no predictor was significant on its own (see Table 26).

Table 26. Results of Multiple Regression Analyses for the Relationship of Direct Report Competency Ratings and Team Effectiveness

<i>Competency rating</i>	<i>t</i>	<i>p</i>	β	<i>F</i>	<i>df</i>	<i>p</i>	Adj. R^2
<i>Men</i>							
Overall model				5.599	254	0.000	0.068
Business problem solving	0.382	0.703	0.067				
Task-oriented	2.083	0.038	0.407				
Interpersonal	1.254	0.211	0.214				
Intrapersonal	-1.449	0.149	-0.311				
<i>Women</i>							
Overall model				3.675	236	0.006	0.043
Business problem solving	0.080	0.936	0.014				
Task-oriented	-0.387	0.699	-0.073				
Interpersonal	0.097	0.923	0.018				
Intrapersonal	1.633	0.104	0.365				

Direct reports' competency ratings were also poor predictors of managers' ratings of promotional potential. For men, direct reports' competency ratings explained six percent of the variance in managers' ratings of promotional potential. For women, reports' competency ratings explained less than one percent of the variance in managers' ratings of promotion potential. Again, no predictor was significant on its own (see Table 27).

Table 27. Results of Multiple Regression Analyses for the Relationship of Direct Report Competency Ratings and Promotional Potential

<i>Competency rating</i>	<i>t</i>	<i>p</i>	β	<i>F</i>	<i>df</i>	<i>p</i>	Adj. R^2
<i>Men</i>							
Overall model				5.445	259	0.000	0.064
Business problem solving	0.956	0.340	0.299				
Task-oriented	0.586	0.558	0.199				
Interpersonal	0.819	0.413	0.254				
Intrapersonal	0.025	0.980	0.010				
<i>Women</i>							
Overall model				1.065	234	0.374	0.001
Business problem solving	0.045	0.885	0.045				
Task-oriented	0.339	0.318	0.339				
Interpersonal	0.224	0.478	0.224				
Intrapersonal	-0.280	0.483	-0.280				

Like promotion potential, direct reports' competency ratings were also poor predictors of career derailment. For men, direct reports' competency ratings explained four percent of the variance in managers' ratings of career derailment. For women, direct reports' competency ratings explained five percent of the variance in managers' ratings of career derailment. No predictor was significant on its own (see Table 28).

Table 28. Results of Multiple Regression Analyses for the Relationship of Direct Report Competency Ratings and Career Derailment

<i>Competency rating</i>	<i>t</i>	<i>p</i>	β	<i>F</i>	<i>df</i>	<i>p</i>	Adj. R^2
<i>Men</i>							
Overall model				3.994	260	0.004	0.044
Business problem solving	1.267	0.206	0.316				
Task-oriented	0.435	0.664	0.117				
Interpersonal	0.599	0.550	0.148				
Intrapersonal	-0.161	0.872	-0.049				
<i>Women</i>							
Overall model				4.188	244	0.003	0.05
Business problem solving	0.124	0.902	0.03				
Task-oriented	-0.057	0.954	-0.015				
Interpersonal	0.408	0.683	0.099				
Intrapersonal	1.313	0.190	0.402				

Finally, self ratings of work-related competencies were even less predictive of managers' ratings than peer or direct report ratings. Men's ratings of their own competencies explained only one percent of the variance in managers' ratings of individual performance. Women's ratings of their own competencies did not explain any of the variance in managers' ratings of individual performance. None of the predictors were significant on their own (see Table 29).

Table 29. Results of Multiple Regression Analyses for the Relationship of Self Competency Ratings and Individual Performance

<i>Competency rating</i>	<i>t</i>	<i>p</i>	β	<i>F</i>	<i>df</i>	<i>p</i>	Adj. R^2
<i>Men</i>							
Overall model				1.801	275	0.129	0.012
Business problem solving	0.232	0.817	0.027				
Task-oriented	0.807	0.420	0.084				
Interpersonal	0.368	0.713	0.041				
Intrapersonal	0.874	0.283	0.103				
<i>Women</i>							
Overall model				0.992	261	0.412	0.000
Business problem solving	-0.907	0.365	-0.098				
Task-oriented	0.315	0.753	0.035				
Interpersonal	-0.947	0.345	-0.117				
Intrapersonal	0.153	0.878	0.018				

Self ratings were poor predictors of managers' ratings of team effectiveness. Men's self ratings explained two percent of the variance in managers' ratings of team effectiveness. Women's self ratings did not explain any variance in managers' ratings of team effectiveness. No predictor was significant on its own (see Table 30).

Table 30. Results of Multiple Regression Analyses for the Relationship of Self Competency Ratings and Team Effectiveness

<i>Competency rating</i>	<i>t</i>	<i>p</i>	β	<i>F</i>	<i>df</i>	<i>p</i>	Adj. R^2
<i>Men</i>							
Overall model				2.337	263	0.056	0.02
Business problem solving	-0.578	0.564	-0.074				
Task-oriented	0.888	0.376	0.102				
Interpersonal	-0.205	0.837	-0.026				
Intrapersonal	2.099	0.037	0.278				
<i>Women</i>							
Overall model				0.593	250	0.668	-0.007
Business problem solving	0.290	0.772	0.033				
Task-oriented	0.652	0.515	0.075				
Interpersonal	-0.848	0.397	-0.111				
Intrapersonal	-0.867	0.387	-0.102				

Self competency ratings were also poor predictors of managers' ratings of promotion potential. Men's self ratings explained one percent of the variance in managers' ratings of promotional potential. Women's self competency ratings explained less than one percent of the variance in managers' ratings of promotion potential (see Table 31).

Table 31. Results of Multiple Regression Analyses for the Relationship of Self Competency Ratings and Promotion Potential

<i>Competency rating</i>	<i>t</i>	<i>p</i>	B	<i>F</i>	<i>df</i>	<i>p</i>	Adj. R^2
<i>Men</i>							
Overall model				1.886	276	0.113	0.013
Business problem solving	-0.741	0.460	-0.157				
Task-oriented	1.559	0.120	0.303				
Interpersonal	0.462	0.645	0.096				
Intrapersonal	0.784	0.434	0.172				
<i>Women</i>							
Overall model				1.045	265	0.284	0.001
Business problem solving	-0.102	0.919	-0.020				
Task-oriented	0.418	0.676	0.083				
Interpersonal	-1.652	0.100	-0.372				
Intrapersonal	0.170	0.865	0.035				

Finally, self competency ratings were also poor predictors of managers' ratings of career derailment. Men's self competency ratings explained one percent of the variance in managers' ratings of career derailment. Women's self competency ratings explained two percent of the variance in managers' ratings of career derailment. No predictor was significant on its own (see Table 32).

Table 32. Results of Multiple Regression Analyses for the Relationship of Self Competency Ratings and Career Derailment

<i>Competency rating</i>	<i>t</i>	<i>p</i>	B	<i>F</i>	<i>df</i>	<i>p</i>	Adj. R ²
<i>Men</i>							
Overall model				1.738	277	0.142	0.011
Business problem solving	0.171	0.865	0.029				
Task-oriented	-0.218	0.827	-0.034				
Interpersonal	-0.718	0.473	-0.121				
Intrapersonal	2.141	0.033	0.381				
<i>Women</i>							
Overall model				2.075	266	0.084	0.016
Business problem solving	-0.173	0.863	-0.026				
Task-oriented	0.964	0.337	0.148				
Interpersonal	-2.010	0.045	-0.35				
Intrapersonal	-0.56	0.575	-0.089				

Chapter Five: Discussion of Findings

The present study makes several contributions to gender and leadership literature. Previous research has examined differences in gender and leadership behaviors (Bartol et al., 2003; Pfaff et al., 2013). It has also examined gender differences in performance (Roth et al., 2012), leadership effectiveness (Paustian-Underdahl et al., 2014), promotability (Blau & DeVaro, 2006) and career derailment. The present study builds upon past research and makes important links between gender, leadership behaviors, and managers' projections of career trajectories. Previous studies have examined leadership behaviors and managers' assessments of performance, but few studies have examined them in combination in a field-based setting. In addition, Roth, Purvis, & Bobko (2012) cite a dearth of research on promotion potential and make a call for increased study in this area. The present study contributes to this area, examining the multifaceted aspects of performance. It is also one of few studies to examine promotion potential and career derailment in one study.

Preliminary analyses

Confirmatory factor analyses showed that the data provided was a good fit with the four factor performance scale. Reliabilities were high, and all goodness-of-fit indicators were in acceptable ranges. In addition, correlations between demographic variables and the performance scale were in line with expectations. Age group, organizational level and years of managerial experience were all moderately and positively related to one another. Demographic variables showed no or small relationships with the four factors of the performance scale. Demographic variables also showed no or small relationships with the four factors in the competency model.

Confirmatory factor analyses showed that the data provided was less than an ideal fit with the competency model. This could be due to several reasons. First, the current study only used a portion of the population. Analyses focused on individuals working in the United States, excluded expatriates, and included participants whose organizations chose to rate participants on the entire set of competencies. In addition, there were high correlations among the factors, which has been shown to lead to type II errors in conclusions (Grewal, Cote & Baumgartner, 2004). However, this occurs most often in combination with low measure reliability and small sample sizes (Grewal et al., 2004), which was not the case in the current study.

Most 360-feedback tools, and the tool used in the current study, use Likert-type question formats. One of the biases that is elicited by this type of format is the *halo* effect. The *halo* effect is the unmotivated tendency for raters to strive to create consistency across their ratings. This is guided by their overall feeling about the target, rather than individual considerations of the target's behavior (Kahneman, 2011; Thorndike, 1920). This type of format also allows for raters to inflate their ratings, which happens when raters think their ratings will be or could be revealed (Eichinger & Lombardo, 2004). While all the raters besides the manager are anonymous in 360-degree feedback, participants could be concerned about their ratings being more obvious if they are in a rater group with few raters, and their ratings carry significant weight.

Recent research has shown these motivated and unmotivated response distortions are so strong that they can result in deterioration of score validity and make even theoretically unrelated competencies correlate highly (Brown, Inceoglu, & Lin, 2017). As a result, bias-controlled Likert ratings or forced-choice rankings modeled with

Thurstonian item response theory (IRT) would have yielded better construct and convergent validities. These techniques should result in finer differentiation in behaviors (Brown et al., 2017).

Because of the multicollinearity, regression analyses need to be interpreted with caution. Issues of multicollinearity do not reduce the predictive power or reliability of the model as a whole (Aneshensel, 2013). However, parameter estimates of the multiple regression may change in response to the small changes in the model or the data. As a result, the models may not provide valid results about any individual predictor or show which predictors could be redundant with others. These considerations need to be kept in mind when interpreting the results in the present study.

Research question 1: Relationship of promotion potential and career derailment

Results suggest that promotion potential and career derailment are, in fact, separate but likely related constructs. As a result, they should be avoided being used as one measure of potential. The constructs were moderately and positively related to one another. Senior level individual contributor females showed the strongest relationship. While speculative, these findings could indicate senior level individual contributor women who are ready for future roles are taking fewer risks or are being given fewer challenging assignments (Lean In & McKinsey & Company, 2017) that would push them towards possibly derailing.

Executive women showed the weakest relationship. While again speculative, this relationship could be indicative of women's difficulty moving into executive positions. Some women who were rated as ready or almost ready for promotion were also rated as somewhat likely to derail, perhaps due to the difficult standards to which they are held to

or their difficulty balancing the “masculine” and “feminine” aspects of higher level leadership roles. Interestingly, these executive women also rated their task-oriented leadership higher than males rated their own. For women, the relationship between a task-oriented style and managers’ perceptions of career derailment might be an area for future research.

Importantly, analyses showed few managers were likely to endorse some possibility of failure for participants. Truncated responses such as these tend to constrain correlations (Goodwin and Leech, 2006). As a result, more variability in ratings would have likely increased correlation sizes. As a result, the quality of measurement in assessing career derailment might be an important area for future research.

Research question 2: Differences in self, direct report, peer, and manager ratings of competencies across genders

Overall, results showed that men and women were rated similarly across the four competency factors. There were, however, some small but potentially meaningful differences. In line with hypotheses, men were rated higher than women on business problem solving leadership when results were examined across all levels. This supports previous research indicating that men tend to do slightly better at common business problem solving skills such as strategic agility and technical learning (Eichinger & Lombardo, 2004). Across self, direct report, peer, and manager ratings, however, only self ratings were significant. This suggests that men’s perceptions of their own business problem solving leadership are significantly higher than women’s. Direct reports, peers, and managers tended to rate men higher in this area, but the differences between men’s and women’s self ratings were more pronounced. Within-level analyses showed a

significant relationship between gender and self ratings for business problem solving leadership at the first level manager and manager of managers levels. Because women appear to fall behind early on in their career trajectories (Lean In & McKinsey & Company, 2017), the importance of business problem solving leadership at these levels might be a critical area for future research.

At first glance, one might expect that the difference between men's and women's perceptions of their business problem solving leadership is because men are overestimating their skills. Indeed, research has shown that women often show greater correspondence than men in self and other ratings; men's self ratings tend to be more inflated than women's (Paustian-Underdahl et al., 2014; McKee, Lee, Atwater, & Antonakis, 2018). However, the present findings show that men's self ratings for business problem solving leadership, as well as for other competencies, are aligned with ratings of managers, who tend to be the most accurate raters (Atkins & Wood, 2002; Eichinger & Lombardo, 2004). The difference between men's and women's self ratings for business problem solving leadership occurs because women's self ratings for business problem solving leadership are relatively low, seemingly indicating lower confidence or self-efficacy in this area.

One aspect of business problem solving leadership that is worth examining is women's confidence or skill in making complex decisions in highly political organizational contexts. Other researchers have suggested that more research is needed in this area to understand gender differences in political skills or perceived political skills (Roth et al., 2012). Developing the skills or the willingness to engage in the perceived conflict in higher-level positions (Gino, Wilmut, & Brooks, 2015) may be one of the

important keys to women's success. Post hoc analyses also revealed that women's perceived business, financial and technical skills would be a valuable area for future research.

Somewhat unexpectedly, analyses across all organizational levels showed women were rated higher than men for task-oriented leadership, with findings significant for all other, peer, and manager ratings. Within-levels analyses were consistent for peer ratings of first level managers. Peer, self and all other ratings also showed women outperforming men on task-oriented leadership at the executive level. These findings are consistent with research indicating that women perform better on some operating skills such as planning (Eichinger & Lombardo, 2004). Yet they are inconsistent with social role theory, which would indicate that others would perceive men as more agentic and results driven (Eagly & Karau, 2002). Regardless, women didn't see their task-oriented leadership being as strong as others did. Analyses across all organizational levels showed women rated themselves higher than men rated themselves, but those results did not reach significance. However, the difference in women's and men's self-ratings for task-oriented leadership was smaller in magnitude than all other direct report, peer, and manager ratings of the difference.

One possibility is that women have struck a balance between being task and relationally oriented that is conducive to leadership roles, yet they have not completely embraced this view of themselves. Research showed women had lower self-confidence in achievement settings in the 1970's, though it was acknowledged as being situationally dependent (Lenney, 1977). Despite most Americans supporting women in leadership roles today (Pew Research, January 2015), a recent study suggests that women show less

confidence and more humility today in CEO roles (Korn Ferry, 2017). While these women CEOs have excelled with more modest views of themselves, this begs the question as to whether more modest self-assessments are preventing some early career women from advancing, as evidence suggests more modest individuals may be underrated by their managers (Atkins & Wood, 2002). The present findings indicate that further exploration is needed to understand why women might be rating themselves lower in these areas, and how their self-assessments might be improved so that managers are able to recognize their true capabilities.

Consistent with extant 360-degree feedback research and general women's leadership research, women were rated slightly higher than men on interpersonal and intrapersonal leadership (Bartol et al., 2003; Pfaff et al., 2013; Eagly & Carli, 2007; Eagly & Karau, 2002). Analyses across all organizational levels showed significant results for peers' ratings of interpersonal leadership. This indicates that regardless of level in the organization, women's slight advantage in interpersonal skills tends to be most apparent when working laterally. When examining differences in interpersonal and intrapersonal-leadership within levels, the pattern held, with women being rated slightly higher than men. However, results did not reach significance. These findings suggest that women's leadership skills may be more widely recognized when they are working within flatter and less hierarchical organizations where more peer-to-peer interaction is encouraged. Given the demographic and intellectual changes that have occurred in recent decades, research suggests going forward, leaders will need to be more dependent on others to be most effective (Eagly & Chin, 2010). Therefore, women's slight advantage in this area likely bodes well for them managing future leadership challenges.

Research question 3: Differences in managers' perceptions of the four factor performance scale across gender

Analyses across all organizational levels showed that although differences were small, managers' ratings tended to favor women. Consistent with hypotheses, managers rated women significantly higher than men on individual performance, with a moderate effect size ($d=.32$). Results are consistent with a meta-analysis by Roth, Purvis, and Bobko (2012) which examined job performance measures from field studies. However, Roth and colleagues found a smaller effect size than the one found in the present study. The larger effect size might be due to the sample in the present study. In the exact matched data set, 37% were first level managers and 30% were managers of managers. Females' strong performance at these levels is consistent with the theory posited by Eagly and Karau (2002).

Analyses within organizational level showed an interesting pattern. Male senior individual contributors were rated higher on individual performance than females, but ratings favored women at the first level manager, manager of managers and executive levels. Male and female senior executives were rated the same. Findings are again consistent with role congruity theory, which suggests that women should be most effective in middle management roles and may be seen as less effective in senior level positions (Eagly and Karau, 2002). Results are also consistent with the notion that women have some difficulty moving into first level manager roles (Lean In & McKinsey & Company, 2017). It may be that women face significant barriers to get into these first level managerial roles and therefore the women who are able to do so tend to be better performers.

Also consistent with hypotheses, across all organizational levels, managers rated women higher than men on team effectiveness ($d=.26$), though results failed to reach significance. This is consistent with a meta-analysis examining leadership effectiveness by Paustian-Underdahl and colleagues (2014). When examining results within organizational levels, the pattern was similar to individual performance findings. Men were again rated higher at the senior individual contributor level, though results should be interpreted with caution due to the smaller sample size and because many individual contributors lack the opportunity to work effectively through a team. Women were then rated slightly higher than men at the first level manager, manager of managers, and executive levels. At the senior executive level, ratings were virtually identical. Again, these findings are consistent with role congruity theory which would suggest that women would perform well in mid-level management roles, and may also reflect the difficulty women face moving into managerial roles and senior level leadership.

The hypothesis regarding promotion potential was not supported. Although previous research has found men tend to be rated higher on promotion potential (Roth et al., 2014), the present study showed no significant differences between managers' ratings of promotion potential. One potential reason for the difference in findings between their meta-analysis and the present study might be the way promotion potential was presented. In the present study, managers were asked about participants' readiness for a next level role, which has also been conceptualized as promotional readiness. Questions that more explicitly ask about long-term promotion potential or likeliness to be promoted to an upper management position could yield different outcomes. As more researchers examine

promotion potential and related constructs , it will be important to create more consistency in both the language and measurement.

Alternatively, there is a possibility that the present study's sample includes companies that are more supportive of women's advancement than average companies. In Lean In & McKinsey & Company's *Women in the Workplace* study (2017), companies were ranked in terms of their representation of women in manager roles, representation of women in senior leadership, and the average rate at which they promote women across the talent pipeline. In companies that were deemed as "top performers," women were four percent less likely to be promoted to manager, whereas in "average" companies women were 18% less likely to be promoted to manager (Lean In & McKinsey & Company, 2017). Because almost half of participants in the present study's full sample are female, it is possible that the companies in the present study are similar to "top-performing companies" and may be more supportive of promoting women to higher level positions.

On one hand, managers' rating women as higher on individual performance across all organizational levels but equally in promotion potential could be interpreted as bias. Across a variety of occupations, results have shown that sex differences in organizational rewards are almost 14 times larger than sex differences in performance evaluations (Joshi, Son, & Roh, 2015). Consistent with EST, managers may rely on specific status cues when assessing individual performance but allow diffuse cues such as gender to influence more ambiguous recommendations. Nonetheless, there is a widespread view in industrial-organizational psychology that performance is not the same as potential. It might be that women have the tools and capabilities they need to perform

at their current level, but they could be more proactively investing in building the skills and capabilities needed for future roles. To echo Roth, Purvis, and Bobko's (2012) call, future research should continue to examine managers' perceptions of promotion potential, how women and men are building their skills for the future, and link these factors to actual promotion data to gain a better understanding of this issue.

The hypothesis regarding career derailment was supported. Analyses across levels showed that managers rated women significantly less likely to derail than men. Analyses within organizational level also showed that managers rated women less likely to derail than men, though results did not reach the significance threshold. Small to medium effect sizes were found at the executive and senior executive levels, indicating that the differences were more magnified at higher leadership levels. This is consistent with research suggesting that bolder and more agentic leadership styles are often needed at higher-levels of leadership, which are more consistent with cultural expectations of men (Eagly & Karau, 2002).

I hypothesized that task-oriented leadership would be most predictive of individual performance. This hypothesis was supported for men. However, for women, intrapersonal leadership was most predictive of individual performance. I hypothesized that interpersonal leadership would be most predictive of team effectiveness. This hypothesis was supported for women. Yet for men, task-oriented leadership was most predictive of team effectiveness. I hypothesized that business problem solving would be the most predictive of promotion potential. This hypothesis was not supported. For both men and women, interpersonal leadership was most predictive. Finally, I hypothesized that intrapersonal leadership would be most predictive of career derailment. This

hypothesis was supported for women. However, for men, interpersonal leadership was most predictive.

These inconsistent patterns may be a result of the multicollinearity of the model. As mentioned previously, multicollinearity does not influence confidence in the model overall. However, parameter estimates of the multiple regression may change in response to the small changes in the model or the data. Because of this, the results may not provide valid results about any individual predictor or show which predictors could be redundant with others. While there are some expected patterns, the differences in gender might be more attributable to multicollinearity than actual gender differences. Due to these issues, it will be important to examine similar relationships in future studies where there is little multicollinearity.

However, as mentioned, issues of multicollinearity do not affect the predictability of the model as a whole. With competency ratings together explaining at most half of the variance in outcome variables, future studies would benefit from including more predictors. Variables such as general intelligence, experience, and motivation might be used in future research to account for a greater proportion of the variance in performance variables. Regression findings also showed that competency ratings were more predictive of the four factor performance scale for men than for women. The pattern of competencies being more predictive for men than for women suggests that for women, managers' assessments of behaviors are less related to more global assessments that ultimately influence their careers.

The question is why? Even though women were rated slightly higher across all organizational levels on individual performance and team effectiveness, the poorer

prediction of competencies shows that managers' competency and performance ratings were somewhat inconsistent. Consistent with expectation states theory (EST) (Berger et al., 1972), managers may have based their appraisals of competencies on very specific status cues, or behavioral indicators. However, when managers were rating the four factor performance scale and were making more general global judgments, they may have drawn more upon diffuse status characteristics, such as gender (Dovidio & Gaertner, 1989). Fortunately, these inconsistencies don't seem to be negatively impacting managers' ratings of individual performance and leadership effectiveness. However, they might be impacting their assessments of promotion potential, as women consistently scored higher on both competencies and performance yet were rated similarly to men on promotion potential.

In certain ways, these findings are both consistent and diverge from Eagly & Karau (2002)'s role congruity theory. Women received higher ratings in middle management levels, presumably roles where they would be required to use a balance of "masculine" and "feminine" behaviors. Ratings tended to be more balanced or slightly favor men at the senior level contributor and senior executive roles, which is consistent with previous findings (Paustian-Underdahl et. al, 2004).

However, findings diverge from role congruity theory in that managers rated women equal to men as potential occupants of leadership roles. In addition, the behaviors that were consistent with decisive leadership such as task-oriented leadership were rated highly when enacted by women. Interestingly, though, these behaviors were less influential of managers' assessments of women's individual performance, leadership effectiveness, promotion potential, and career derailment. For women, managers' ratings

of interpersonal and intrapersonal leadership were more predictive of important outcomes. Said differently, when managers assessed women's performance, they may have been thinking more about their interpersonal and self-management skills. While results need to be interpreted with caution due to multicollinearity, findings suggest that corporations may want to tie performance ratings and measures of potential more explicitly to behavioral assessments to create more equitable performance and promotion processes.

Research question 4: Peer, direct report, and self ratings as predictors of managers' ratings of performance

As hypothesized, peer, direct report, and self competency ratings were less predictive of managers' ratings of performance than managers' competency ratings. Peers' ratings were the most predictive of managers' assessments of the four factor performance scale, followed by direct report, and self ratings. Findings are consistent with previous research, which has demonstrated that self ratings tend to be the least predictive, and sometimes unrelated to performance (Atkins & Wood, 2002). While the present study did not have an independent, objective view of performance, research suggests that manager ratings tend to be most positively correlated with performance at assessment centers.

Findings reflected the pattern of managers' competency ratings, with peer, direct report and self ratings being more predictive of the four factor performance scale for men than for women. Findings were also reflective of managers' competency ratings, with peer, direct, and self ratings being more predictive of individual performance and leadership effectiveness than promotion potential and career derailment, which is

consistent with hypotheses. For men, peers' ratings of task-oriented leadership were the most predictive of the four factor performance scale. For women, there was no consistent pattern. Direct report and self ratings showed less of a consistent pattern across the four factor performance scale and were generally poor predictors. Due to the poor predictability of these rater groups, practitioners are strongly cautioned to use their assessments for evaluative purposes.

Limitations and Recommendations

The present study has several limitations. First, the study is limited in its generalizability. To avoid cultural confounds, the sample was limited to corporations within the United States. Expatriates were not included. Most of the studies in the sample were larger corporations or non-profits. While not directly assessed, these companies or non-profits might have more traditional cultures, where tenure is more related to advancement. Therefore, findings may be less generalizable to start-up companies with less traditional cultures. Future research might examine how these types of environments influence managers and their ratings. Furthermore, there were some indications that the companies in the present sample were more supportive of women than typical US companies might be. These limitations need to be kept in mind when interpreting results.

In addition, there are were some limitations in measurement. In 360-degree feedback assessments and in the present study, participants can select their own raters. As a result, participants might be inclined to select raters who will provide them positive ratings, wanting to present themselves as the "ideal employee" (Schmit & Ryan, 1993). As a result, ratings in the present study may be inflated compared to a random sample of respondents. In addition, the length of the survey may have introduced some

measurement error. Although typical for 360-degree feedback instruments, the survey in the present study takes about 45 minutes to complete. As a result, participants may become less mindful of the quality and differentiation of their responses, providing less variability in results. With Likert-type response formats such as the one in the present study and with a lengthy survey, acquiescence becomes much more likely. Furthermore, while 360-degree feedback aggregates direct report and peer scores to ensure anonymity, some raters, and particularly those in groups with a smaller number of respondents, may be concerned about their answers being obvious to participants and facing consequences due to their responses.

In addition, it is important to note that the four factor performance scale was based on managers' perceptions of outcomes, rather than actual performance, promotion, or derailment data. While managers' perceptions inform their decisions, it is important to note that there is often a gap between attitudes and actual behavior or real recommendations. Although difficult in practice, future studies should continue to try to obtain actual performance ratings and promotion data.

Implications

Implications for Research

The present study makes several contributions to research in the field of gender and leadership. Consistent with recent research, findings showed that women were rated slightly higher in task-oriented leadership, yet results showed that they haven't fully embraced this view of themselves. Women tended to underrate themselves in this area, as well as in business-problem solving leadership, suggesting that these are potential future

areas of research and may provide some clues as to some of the barriers women face moving into managerial roles.

In addition, the study examined the multifaceted aspects of performance, assessing individual performance, leadership effectiveness, promotion potential and career derailment, when many previous studies have lumped together the construct of performance. Consistent with previous research, women were rated slightly higher on individual performance and leadership effectiveness, and men were seen as slightly more likely to derail. Unexpectedly, managers rated men and women equally in promotion potential. Future research should continue to examine promotion potential and career derailment, as these constructions have received less attention in the field. How they are defined and measured is an important future area of research to reach consistency across the field and inform meaningful recommendations.

Finally, and perhaps most importantly, the present study linked work-related competencies with the multifaceted aspects of performance. Results showed that managers' competency ratings were more predictive for performance outcomes for men than for women. Future qualitative research might benefit from understanding what types of factors managers tend to consider when rating men versus women on assessments of performance, promotion potential, and career derailment. Understanding what types of factors managers weigh and consider when making career recommendations allows a more complete understanding of how recommendations are made, and may serve to inform the creation of structures and processes that allow them to weight important factors equally.

Going forward, there are a few future research directions that will be important to explore. The current data set had information about the gender of the participants, however, unfortunately, it lacked information about the gender of the raters. While some research has shown that the gender of the rater is of little importance (Eichinger & Lombardo, June 2004), men tend to have more access to senior leaders who are more likely to be male, which may create norms where men tend to rate males more favorably (Lean In & McKinsey & Company, 2016). Likewise, women may rate women more favorably, particularly in more feminine environments. Future research should aim to obtain data with the gender of the rater, rather than only the gender of the participant, to increase confidence that the present study's findings are due to the gender of the participant rather than some unaccounted for factor.

Likewise, future research should aim to obtain or collect data about family structure of the participants. Evidence shows that just as many men as women intend to leave the workforce to focus on family. The number that do is surprisingly low – less than two percent (Lean In & McKinsey & Company, 2017). Nonetheless, the present study failed to account for the time men and women spend outside of their jobs attending to children and family affairs, and was unable to examine whether simply having a family regardless of time spent with them might adversely affect women because of how they could be perceived. Going forward, it will be important to examine this variable to be certain that the findings are in fact due to gender, rather than the disproportionate amount of time women spend raising children and managers' unconscious or conscious removal of their support due to the fact that their perceived responsibilities would take away from their time at work.

Finally, there is large body of literature suggesting that men and women tend to engage in somewhat different leadership styles (Eagly, Johannesen-Schmidt, & van Engen, 2003). While competencies are somewhat related to leadership style, they are distinct in the literature. As such, future research should also aim to control for leadership style to again ensure that results are a due to gender, rather than some unaccounted for variable.

Implications for Practice

First, the present study showed that there is a need in the field for more precise measurement of 360-degree feedback assessments. Competency factors were found to be highly intercorrelated, indicating that raters tended to rate one general performance factor, rather differentiating among four distinct ones. Recent research has shown that bias-controlled Likert ratings or forced-choice rankings modeled with Thurstonian-item response theory (IRT) yield good construct and convergent validities in 360-degree feedback instruments (Brown et al., 2017). As a result, multidimensional forced-choice response formats appear to be effective in reducing the impact of the *halo* effect and should be adopted by 360-feedback creators for more superior measurement, which will help provide employees more meaningful feedback.

Second, the present study found that managers' competency ratings for men are more predictive of their assessments of performance, promotion, and derailment than for women. As a result, practitioners should consider implementing performance and promotion processes that are more explicitly tied to behavioral ratings, or at least indicate the extent to which managers should weight behaviors when making recommendations. Without this type of guidance, managers may tend to rely on broad, global assessments of

performance and promotion which may differ in the extent to which they are founded upon actual behavior. Ensuring that managers are guided to make performance ratings and promotion recommendations in a fair and unbiased way is a critical part of ensuring that men and women are managed and promoted in an equitable manner.

Finally, current findings clearly indicate that self ratings should not be used for measures of performance and promotability. Anecdotal evidence suggests that companies still use self-assessments for performance reviews. The current study, and previous research show that self ratings of competencies on Likert-type scales tend to be unrelated to more objective ratings of performance and promotability, such as assessment center and manager ratings. While direct report ratings were more positively related to managers' assessments, practitioners should also be cautioned in using their ratings as significant pieces of performance assessments and recommendations for or against promotion, as they explained little variance.

Conclusions

This dissertation utilized secondary data from a talent management firm to: (a) examine the relationship between promotion potential and career derailment (b) assess manager, peer, direct report, and self ratings of work-related competencies (c) examine managers' ratings of a four factor performance scale and explore which competencies were most related to the four factors of performance and (d) explore how predictive peer, direct report, and self ratings are of the four factor performance scale.

Findings suggest that promotion potential and career derailment are in fact separate constructs and should not be used together as one measure of potential. While related, they contribute to advancement in separate ways and therefore should be treated

as such in future research and organizational settings. Furthermore, findings indicate that the measurement of promotion potential and career derailment should continue to be a focus of future research to create more consistency across the field. Further research in this area will help to parse out gender differences in the multifaceted construct of performance and increase our understanding of how disparities in organizational leadership occur, as well as make progress in eliminating them.

While differences in ratings of work-related competencies were small overall, across all organizational levels men were rated higher on business problem solving leadership and women were rated higher on task-oriented, interpersonal, and intrapersonal leadership. Although consistent with other raters, men tended to rate themselves higher than women in business problem solving, particularly in lower organizational levels. This was primarily a result of women's relatively low self ratings, rather than men's inflation of their own. In addition to the structural inequalities women face, this discrepancy could suggest that their self-confidence or self-efficacy in business problem solving could be one of the many reasons they are less likely to be promoted into early managerial roles. Particularly in lower level leadership roles, employees are often required to rely upon their expertise, which includes problem solving and technical skills. If they are less self-assured in these areas, they may be less likely to apply for or advocate for promotions into higher level leadership roles. Bosses may also be less likely to recognize these skills and be the sponsors they need to further their careers.

Furthermore, findings showed that although other rater groups, and particularly peers, recognize women's skills in task-oriented leadership, they may not fully recognize these capabilities themselves. These findings are important because they suggest that

despite the progress women have made in the past half century, they may still underestimate their skills in the more technical and operational aspects of business, and particularly in lower managerial levels. This may be hindering their abilities to identify and promote their skills and abilities and be recognized by others as ready to take on greater responsibility. As a result, educational and corporate environments might benefit from creating early interventions where women's skills in these areas are recognized and encouraged for the strengths they really are, or ensuring managers are actively looking for these strengths and reinforce them. Interventions such as these might help to create more equal representations of men and women at lower managerial levels, which would ultimately serve to increase the representation of women in higher-level leadership roles.

Managers rated women slightly higher on individual performance and leadership effectiveness, and men as slightly more likely to derail. Managers' higher ratings of performance for women were mostly at the middle management levels, which is consistent with previous research. However, managers rated men and women similarly on promotion potential. This demonstrates that overall women tend to have a slight advantage in terms of performance, but this advantage subsides as managers consider them for promotions, particularly in senior level individual contributor and executive roles.

These results indicate that there needs to be some type of change in the way organizations think about promotion processes, particularly in lower- and higher-level leadership roles. Corporations may benefit from more structured promotion processes with specific criteria regarding what constitutes readiness for promotion, as well as training managers on how to implement these criteria. Alternatively, these findings may

indicate that organizations and managers, and women themselves may benefit from spending less time and energy focusing on women's performance today and more time preparing them for future roles.

All rater groups' competency ratings were more predictive of managers' ratings of individual performance, leadership effectiveness, performance potential, and career derailment for males than females. This suggests that managers tend to weigh women's behaviors less heavily when assessing global constructs. While this does not seem to impact their performance ratings, the pattern seems to indicate that managers are basing their opinions and recommendations for men and women on a different constellation of factors. These findings point to a need for corporations to explicitly instruct managers on how much weight to provide on-the-job behaviors versus other factors, such as motivation, experience, and career derailment when making performance decisions and recommendations for promotion. Corporations may also consider hiring trained professionals in this area to ensure that factors are weighed appropriately.

It was difficult to assess how heavily managers weighed work-related competencies when rating the four factor performance scale due to the multicollinearity of the model. One critical takeaway from these results is the need to encourage more differentiated ratings in 360-degree feedback tools through bias-controlled Likert ratings or forced-choice rankings modeled with Thurstonian item response theory (IRT). 360-degree feedback instruments elicit the *halo* effect (Brown et al., 2017), or ratings of participants based upon broad judgements and overall feelings of participants, rather than individuating factors. Creating more differentiation in these ratings is critical to providing more targeted and helpful feedback, or participants are at risk of spending significant

time and energy developing competencies at which they are already strong or do not need attention. Without more differentiated ratings, corporations may also be at risk of spending significant time, energy, and resources on developmental efforts that have less impact than they anticipated.

While the regression findings need to be interpreted with caution due to the multicollinearity of the model, for men there was a stronger relationship of ratings of task-oriented leadership and managers' more global ratings of outcomes. This means that when managers tend to think about men's performance and promotion potential, they may be more likely to form their opinions based upon men's ability to organize resources, plan effectively, and meet challenging goals under difficult timelines. While there is nothing inherently wrong with this, it is unclear whether managers place the same weight on these factors when assessing women's performance and making promotion recommendations. While future research is needed to further explore these findings, these results again point to the importance of creating clearer and more specified criteria on which managers can base their performance ratings and recommendations for or against promotion, or to bring in trained professionals to do so.

Findings from this work contribute to both research and practice, emphasizing the importance of understanding the complex relationships between diverse organizational stakeholders ratings of work-related competencies and managers' assessments of performance. Findings inform both research in gender and leadership and the development of human resources processes and practices. While the glass ceiling metaphor for women no longer appears completely relevant in today's day and age, it has

become apparent recently that the path to gender equity in US corporations is a complex one.

The myriad of important organizational stakeholders, their perspectives, and their willingness to support organizational initiatives that emphasize gender equity will become increasingly important in helping women to navigate their careers and advance into higher-level leaderships. Ensuring that managers have a sound understanding upon which to base their recommendations will be important to promoting and fostering fair and equitable workplace environments where everyone has a chance to succeed. Supporting women through recognizing that they have the abilities they need to navigate these complex organizational dynamics and lead organizations from an operational and thought leadership perspective will also be critical. While we may be experiencing a pause in women's advancement, dedicated researchers, politicians, organizational leaders, and both men and women are an encouraging sign that this is only a pause in a movement that will again move forward with concerted and refined effort.

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