Anchoring the Leadership Ladder: Perceptions of Systemic Gender Bias and Its Role in Women's Career Progression Across Multiple Industries

Jennifer L. H. Nelson, LaShaunda A. Ford

Peabody College, Vanderbilt University

Table of Contents

VANDERBILT **V** Peabody College

Tables and Figures

VANDERBILT Peabody College

Acknowledgements

LaShaunda A. Ford

"Acknowledging the good that you already have in your life is the foundation for all abundance." — Eckhart Tolle

Lifelong learning is described as one of my superpowers. Obtaining my Doctoral degree could not have been done without the support of my family and amazing cadre of friends. For me, it's always been family over everything – that often included those God assigned to you and those you collected on your journey. To Sean, my Sorors, friends from all levels in my life, travel partners, partners in trouble, dinner buddies and more, I am grateful each day for your existence in my life. Thank you.

To my grandparents here and in heaven, Thank You for the foundations you set as our family heads. They never attended college but ensured that I was involved in activities that built character, desire for learning, passion for people and dynamic leadership qualities. These skills have made me become a successful. Your words of wisdom have guided me through every major milestone in my life and I am eternally grateful for you. This degree is dedicated to you, who made sure I had every opportunity to succeed. You are the reason I strive to be the best!

To my parents, you all push me in your own unique ways to greatness. I have been blessed to have two sets of parents that love and support me in everything. Your prayers, jokes, video calls, and text just to say keep going have pushed me to today. Mom, your video calls to see if I am working keep me going. It's hard to slack off when you never know when the call is coming in 😊. Dad, it took be about 10 extra years to get this degree started than you expected – be we made it and I promise that this is the terminal degree!

To my iron-sharpening sisters, Tayon, Cristal and LaTricia, over the past 20+ years we have encouraged, supported, prayed for, been each other's sounding boards and 1000% each other's cheerleaders – you make me proud to be in this circle. Thank you for the check-in to keep me encouraged on this journey. We will now have 2 Dr's down and 2 to go. Let's get it Sorors!

To my Capstone partner, Jennifer (AKA Carmen Sandiego), I am grateful that you chose to partner with me on this journey. Through all the time zones of your travel we have made it to the end. I look forward to a continued partnership in this work and thank you for wisdom and insights as found sensemaking in our work. Thank you!

To Cohort 10 --- what can I say but you are all simply amazing! We entered this program amid a global pandemic, from all over the globe and made meaningful connections and friendships. Just as Dr. Armstrong said in our first class – "you can't do this alone; your Cohort will get you through." She set us on a path to support one another, provide wise council on deliverables with the goal of getting everyone to the end. Vibe tribe – we do belong. We have proved academic excellence comes in all hues. I am immensely grateful for your collaboration and support in every class. Congratulation to the newly minted Dr's of Cohort 10!

VANDERBILT | Peabody College

Jennifer L. H. Nelson

It takes a village. Not just to raise a child, as the African proverb declares, but to do almost anything great. Thank you to mine…

First, to my husband, Peter. I truly could not have done this without you. You encouraged me to start this journey and spent years ensuring we were all on the ride together. From covering every bedtime to helping brainstorm slides, you were there. Thank you.

To Everley and Alexander, thank you for being next to me while allowing Mommy the space to accomplish this dream. I would not have been able to do this without your love, understanding, and all the extra hugs and kisses. I love you to the moon and back infinity times.

To my mom and dad, Kathy and Ted. All I am, and every way that I developed throughout this degree, is based on the foundation of love, kindness, patience, and generosity that you have instilled in me. I'll be forever grateful for the lifetime of support, the love of learning you nourished, and for teaching me to honor the uniqueness of people. Oh, and for all the editing, Mom.

To my grandma, Mary Nestor, I know you have been watching down cheering me on the entire way. Your fortitude and grace are something I strive for every day and have made me the leader that I am.

To my Capstone partner, LaShaunda, I have been blessed to share this adventure with you. You epitomize the word partner: always bringing the laughs, the truth, and the dedication. Thank you!

To my siblings, friends, and my Core group, the check-ins and the cheers have meant more than you know. To my Core group – you are remarkable women. Thank you for being a source of power and knowledge. To Lisbeth & Chip – Thank you for believing in my abilities, pushing me to challenge myself, and writing the world's best recommendation letters. To Sharon Scott, you provided so many of the building blocks. I am forever grateful.

To Cohort 10, From different backgrounds and different places, we came together to create a space for learning, growth, and a fair bit of humor. I thank you for your support and for keeping me going through all the ups and down, especially with travel memes and being told I have no choice but to register (Andrea). Congrats to you all on this amazing accomplishment!

VANDERBILT Peabody College

Executive Summary

Our partner is a membership-based global networking organization that caters to women at the executive level. The organization desires to understand how systemic gender bias has impacted their members' career trajectory and identify factors linked with women's progression to leadership positions in various industries. The impact of their industry designation could change how the members of this organization digest and actualize the program content currently in circulation. Furthermore, they believe systemic gender bias is experienced differently across industries. As such, this capstone seeks to understand the influence that systemic gender bias has on women's careers across various industries. The partner organization will use the capstone findings and recommendations to understand its member base better and improve its services to satisfy its demands.

The topic has particular relevance to women looking to attain higher roles within organizations. Even with the heavy focus on gender inclusivity programs, women lag behind their male counterparts in attaining top leadership roles across industries. The ladder is high, but more women are reaching the upper bounds. Today, women have taken on more C-Suite roles, increasing from 17% to 21% between 2015 and 2022 (LeanIn.org & McKinsey & Company, 2020). From 2021 to 2022, the Fortune 500 also saw a slight increase in the number of women CEOs from 41 to 44 representing 8.8% of the leadership (Catalyst, 2021). Even so, as women around the globe were rising in corporate or entrepreneurial endeavors, one global pandemic proved to reprioritize what is most important. Cardinal found that members were suddenly faced with decisions around caregiving for school-aged children and ill household members requiring them to step away from career and professional development tools being offered. Through

internal dialog, they began to look for ways to bolster their content to be timely and more relevant to its members. The heavy emphasis on how many women were leaving the workforce and caring for their families highlighted the role of women in a crisis.

To provide specific guidance to Cardinal, through research, we discovered that Diehl et al. (2020) commissioned a study on this topic focusing on four industries: higher education, faith-based nonprofits, healthcare, and law. We built on this initial research, looking at a wider range of industries, the level of seniority within the organization, and other relevant demographics of women leaders. For this study, we leveraged the gender bias construct developed by Diehl et al. (2020) to examine the higher-order and low-order factors that show up across Cardinal's industry classification and how the experience of those factors may impact the trajectory of women leaders. We used Diehl et al. (2020) factor structure, to show the differences that exist across experience of the fifteen aspects of gender bias, and perception of bias overall.

The previously validated gender bias scale, the Gender Bias Sale for Women Leaders (GBSWL), was used as the survey (Diehl et al., 2020). The GBSWL consists of 45 Likert scale questions asking participants to rate their perception of gender bias across six dimensions. Those dimensions are Male privilege, Disproportionate Constraints, Insufficient Support, Devaluation, Hostility, and Acquiescence. We included open-ended questions to gather more data on women's experiences with bias. The open-ended questions would also allow for greater flexibility than a survey would on its own (Babble, 2017).

Incorporating the literature and previous work by Diehl et al. (2016, 2020) and informed by the desire of our partner, we designed the three research questions. Recruitment involved mobilizing members of Cardinal to participate in the study presented through the Qualtrics

VANDERBILT Peabody College

survey tool. The analysis of the study project was directed by the primary research question and sub-questions listed below.

> **PRQ:** What perceptions of systemic gender bias exist among women in leadership roles across different industries?
>
> **Sub- Q1:** How might the industry of one's employment affect how these perceptions of gender bias show up in the workplace?
>
> **Sub- Q2:** How does the employee experience systemic gender bias in their organizational roles?

Our primary research question (PRQ) seeks to understand the participants' perception of systemic gender bias in their current employment industry. The sub-questions are presented to embrace the unique experiences women have relating to various types of bias presented in the survey.

To address the project questions, we used a convergent mixed methods approach for the study. Upon the completion of our data analysis, we identified four findings:

1: Women experienced bias higher frequency in higher-order factors classified as devaluation, hostility, and insufficient support. Lower-order barriers most experienced by members include unequal standards, lack of sponsorship, and salary inequity (PRQ).

2: Industry does not appear to have a statistically significant difference in how systemic gender bias occurs in the workplace. (Sub Q1)

3: Statistical significance exists for the perception of gender bias at the VP level through male privilege. (Sub Q2)

VANDERBILT Peabody College

4: Women leaders experience intersectional bias across individual, organizational, and societal factors. (Sub Q2)

Recommendations for Cardinal's consideration include increasing programmatic focus on resources to support members' ability to recognize and combat devaluation, insufficient support, and unequal standards. Cardinal should consider expanding its member network to include newer female leaders to help them build solid networks and toolkits to overcome the gender bias they may encounter. Development of programs infused with intersectionality topics should become the norm for all content shared with members. Lastly, the study has shown that significance was not found based on the industry therefore we conclude that Cardinal should curate and update programming to reach the general audience of members instead of personalizing content to the members industry of employment.

Introduction

This capstone is centered on studying systemic gender bias for women leaders across multiple industries. Cardinal wanted to take a fresh approach to curating updated content and was strongly interested in helping members deal with systemic gender bias barriers. Their teams frequently heard that systemic gender bias was a career stopper for many women as they sought higher roles and wanted to arm their members with the best content to help them avoid career stagnation. Believing that systemic gender bias may be experienced differently across industries, we partnered to pulse-check their members and provide guidance on how they should proceed.

VANDERBILT Peabody College

Organization Context

In 2019, the founders of Cardinal[1] believed that women leaders could benefit from small networking groups generated to provide the resources and support needed to sustain their careers. The organization started with two hundred members. The members and founders were laser-focused on changing the "face" of leadership. "Cardinal is a private network designed for the most powerful women in leadership to strengthen their leadership, magnify their influence, and pave the way to bring others with them" (Cardinal, 2022). The organization has created a member experience to support women in executive leadership positions and their ability to influence the pipeline of diverse leaders. The organization now has over 15,000 members across the United States, with 42% of members representing the C-suite of their organization and the remaining VP level or above. Cardinal began as a regional model focused on major metropolitan areas nationwide. As they grew, they added membership options for women not residing in metropolitan areas and increased their focus on virtual gatherings and networking. Cardinal has recently made it more accessible for leaders outside those areas and has expanded to its first international location. Qualifications to become a Cardinal member include seniority, background, accomplishments, and impact. Members benefit from a variety of program offerings outlined below.

Cardinal Program Offerings

Cardinal has created a product suite to accomplish its mission of developing women leaders and creating pathways for future ones. This suite includes:

---

[1] Pseudonym

VANDERBILT Peabody College

1. *Network Growth* - Cardinal provides a platform to connect with other women leaders and executives who can relate to similar situations and needs. With regular access to such a network, members can search members' profiles and reach out to connect in direct messages. In addition, geographically based meetups and clubhouse locations in New York, Chicago, Los Angeles, and San Francisco are available. Virtual community groups also exist to discuss pertinent topics and business-critical issues.

2. *Core Group* - Peer support to Cardinal members is also provided through Core Group, a dedicated, focused group meeting with an executive coach every six weeks. Each core groups consist of 12 – 15 women. The experience allows a deeper connection and makes space for personal reflection, support, and growth.

3. *Workshops, Conversations, and Master Classes* - Regularly scheduled live and on-demand workshops and speakers are available for Cardinal members, hosted by world-renowned experts, business leaders, and respected visionaries. These events vary in size and participation but bring members insight, energy, and dialogue. Weekly there are over 40 opportunities for members to experience various pieces of training. They are held in various time zones and stored for replay.

Cardinal has leaned into diversity, equity, and inclusion programs that seek to elevate women into higher roles of authority. They have diligently crafted programs to ensure women leaders receive adequate support to elevate and maintain their executive roles. While Cardinal has been growing successfully, measuring progress against its mission is challenging. The work takes time to implement and impact the larger leadership construct in the US and abroad. Given

the mission's imperative for their organization's success, they are continuously looking to improve program offerings and ensure they stay current on research and application.

This project's stakeholders include Cardinal employees responsible for content creation, including the Customer Experience team and the Product Content teams who develop offerings for the organization, and subscribing members, who are consumers of Cardinal's content. We collaborated with the Senior Special Projects Editor throughout this effort.

Problem of Practice

"Achieving gender equality requires the engagement of women and men, girls and boys. It is everyone's responsibility." Ban Ki-Moon

Women around the globe were rising in corporate or entrepreneurial endeavors and suddenly faced decisions around caregiving for school-aged children and ill household members during the pandemic. Cardinal recognized that member engagement with programming had shifted. Through internal dialog, they began to look for ways to bolster their content to be timelier and more relevant to its members. Women face many barriers inclusive of physical characteristics, societal norms, gender expectations and pay inequity. These barriers and more are the foundation for systemic gender bias and the topic that Cardinal wished to explore.

This capstone project aims to determine factors associated with the ascension of women into leadership positions in different industries and includes the ways in which systemic gender bias affected their trajectory. Further understanding how employment industry impacts systemic gender bias in the workplace will provide our partner with a richer understanding of its member base. The partner organization will utilize the study recommendations to curate new content offerings on the topic and enhance its offerings to meet member needs.

VANDERBILT Peabody College

Literature Review

Women lag behind their male counterparts in attaining top leadership roles across industries. Women have taken on more C-Suite roles, increasing from 17% to 21% between 2015 and 2022 (LeanIn.org & McKinsey & Company, 2020). From 2021 to 2022, the Fortune 500 also saw a slight increase in the number of women CEOs from 41 to 44 representing 8.8% of the leadership (Catalyst, 2021). Despite seeming like progress, these numbers are still unacceptably low. As organizations increase diversity of leadership, many have seen more remarkable performance, measured by financial metrics, employee satisfaction, and affinity. When women are in positions at the top, the company is 50% more likely to outperform its peers (LeanIn.org & McKinsey & Company, 2022). In addition, women are the backbone of a positive company culture. Research shows that women leaders are more likely to champion employee diversity, drive employee-friendly policies, and mentor other women. After years of inequities in the workplace, cracks in the glass ceiling are starting to appear, but women are still drastically underrepresented in senior leadership roles within corporate America.

Overall, women of color face more challenges in the workplace. They experience increased bias and microaggression combined with less support and advocacy (Eckel et al., 2021). Women of color are drastically underrepresented in leadership positions and feel an increased burden of competing in a highly competitive workforce. They hold only 5% of C-suite roles and face significant pay inequity (LeanIn.org & McKinsey & Company, 2020).

During the last three years, the pandemic has compounded gender bias issues as flexible workplaces became the norm. One in four women has noted they earned less than a male counterpart for doing the same job. In this same study, they noted that women are more likely to

VANDERBILT | Peabody College

suffer from feelings of inadequacy and have their efforts dismissed by male leaders (McKinsey

& Company, 2020). These misnomers in the workplace are examples of systemic gender bias.

These barriers can lead to pervasive issues such as inequitable pay gaps and lack of advancement

opportunities when unchecked. For example, women in the US still earn $.82 for every dollar a

man earns (GAO, 2023). As women move into positions of greater responsibilities and higher

income ranges, the wage gap appears to increase with women earning only $.74 for every dollar

a man earns. The wage gap appears consistent across industry, even industries where women are

the majority earners, as studied by the Government Accountability Office in March 2023. The

same trend exists for earnings based on gender and education. Women are more likely to

graduate college and earn an advanced degree, yet every degree attained results in a more

significant wage gap. Women with a high school diploma earn, on average, 78.6% of what men

with the same level of education earn. Women with advanced degrees earn only 69.8% of what

their male counterparts do (LeanIn.org & McKinsey & Company, 2020). These inequities can

lead to the exit of women leaders from the leadership pipeline, crippling the ladder to leadership

for years.

While topic of leadership is most often tied to group and organizations, the nature of

gender bias is far more systemic, impacting women at the societal, organizational, and individual

levels. In our review of the literature, we framed our understanding and developed context by

looking at studies of women in leadership and the manifestation of gender bias across all three

levels. We aimed to understand the complexity of gender bias and the persistent and invisible

barriers that reinforce bias.

Societal barriers

VANDERBILT Peabody College

At the societal level, deeply engrained social expectations, stereotypes, and cultural norms result in systemic gender bias in the workplace. Traditional gender roles tend toward the mother being the primary caregiver, nurturer, and sharer of emotions. This bias results in women needing more opportunities across education and employment, specifically in leadership positions.

Through a review of the contradiction of women's status as leaders, Eagly (2007) discussed the advantages and disadvantages women experience as a leader. Women display more qualities of transformational leaders (Eagly et al., 2003) but are still provided limited access to leadership roles and disadvantaged as leaders, especially in male-dominated roles (Eagly, 2007). The willingness to accept women leaders along with the preference for women leaders continues to grow. A poll ahead of the 2020 US presidential election demonstrated that 53% of Americans are very ready or extremely ready for a woman president, however voters also indicated they believed that only 16% of most Americans are ready for the same (LeanIn.org, 2020). The outdated perception of what it means to be presidential or electable may be prejudicing Americans' willingness to make the change; leaving women at a significant disadvantage.

Eagly and Karau (2002) provide role congruity theory to demonstrate the prejudice women leaders experience through the incongruity of agentic defined leadership roles and the expectation of communal behaviors to satisfy the female gender role. As a result, not only are women viewed as less favorable candidates for leader roles than men, but the evaluation of women in leader roles is often viewed less favorably than male (Eagly & Karau, 2002; Heilman, 2001). Several determinants impacted the level of prejudice including the definition of the leader role and how masculine it was considered, the sex of the participant, and conditions that further

VANDERBILT **V** Peabody College

articulate the female gender role such as physical attractiveness and pregnancy. Women were worse off when considered for executive roles, which are viewed as particularly masculine (Eagly & Karau, 2002).

Regardless of industry, gender bias constrains the ascension of women leaders. Gender stereotypes play a primary role in the root cause of gender-based discrimination when considered from a descriptive or prescriptive perspective (Heilman, 2001). This limits upward mobility and leaves women who reach management positions in a battle between being viewed as incompetent or being socially rejected for their competence. All levels of leadership in an organization have the potential to be susceptible to relational disconnectedness (Silard & Wright, 2020) while simultaneously carrying the double burden of expecting to maintain the role of nurturer at home and masculine leader in the office (Tower & Alkadry, 2008).

Helgesen (2020) has studied women in leadership for the past four decades and notes a shift in the attitudes of women and men concerning leadership roles. Research explored noted that barriers to leadership include: 1. The presumption that women would need to take on male traits to ascend into top leadership roles, 2. Corporate training typically reinforced male traits such as speech or advising women to take up golf, 3. The lack of confidence that women have because of societal norms on gender roles. Helgesen (2020) notes that as late as 1970, books were being written to center women's roles on caring for the home and not careers elsewhere. Noting these, Helgesen (2020) notes that social upheaval, such as the #MeToo movement, has spotlighted the lack of women in leadership, thereby making companies look inwardly at their ranks.

VANDERBILT **V** Peabody College

Organizational Barriers

Systemic inequalities exist in the workplace and can appear within hiring, compensation, and promotion practices, as well as through lack of support, and unequal standards, including blatant and invisible exclusion.

Smith et al. (2019) found that despite comparable qualifications and experience, women were consistently overlooked for promotions in favor of their male counterparts. The study also highlighted the prevalence of biased performance evaluations, with women often receiving lower ratings than equally performing men. Meara et al. (2020) demonstrated how wage gaps interact with other influences by studying the impact of motherhood, part-time work, unionization, and gender segregation on pay. By controlling for several factors, Meara et al. can demonstrate the pay gap effect of simply being female. These findings underscore the deeply entrenched nature of gender bias, which continues to hinder women's progress and perpetuate workplace inequality.

Research shows that women face significant barriers to advancement, including the glass ceiling representing barriers that prevent women from reaching leadership positions as well as the maternal wall and other biases against mothers in the workplace. A lack of sponsorship of women, and even more significantly, women of color, has created an invisible barrier to the highest levels within organizations. Ibarra et al. (2010) demonstrate that even though women are more likely to have a mentor than men, they are mentors of less significant organizational clout and are less able to support a mentee's promotion ability. LeanIn.org and McKinsey & Company (2022) highlight the additional sponsorship barrier faced by women of color, who are less likely

VANDERBILT Peabody College

to have their managers advocate for them and less likely to interact with senior leaders, limiting their opportunity for advancement.

When considering the support of other women in their leadership trajectory, both an allyship gap and the queen bee syndrome are present in an organizational setting. LeanIn.org and McKinsey & Company (2022) acknowledged the increase in allyship training, and when compared with men, women were twice as likely to spend time on diversity, equity, and inclusion work; however, the research also highlighted the misalignment of what the underrepresented needs are and what the privileged ally feels they should provide. Early research on women in leadership highlights the queen bee syndrome, referring to experiences where women in positions of power disassociate or act negatively toward more junior women. Coined by Staines et al. (1974), their research demonstrated that female faculty members were more likely to express stereotypical views of women more junior in their academic careers than men were. Baykal et al. (2020), in their study of Turkish white-collar women, also found women more likely to stay away from their female subordinates to create differentiation from the more disadvantaged group. Faniko et el. (2021) explored the current state of the early research on academics and found the queen bee syndrome to exist still. Female faculty members questioned the commitment of other females at the beginning of their career, more so than men did. They were also more likely to use masculine terms when describing themselves, creating an environment where greater masculinity equates to tremendous success.

A women's life outside of the workplace also impacts the organizational barriers she faces. A meta-analysis on the motherhood wage gap conducted by Cukrowska-Torzewska and Matysiak (2020) reviewed factors driving a 3.6-3.8% wage gap between mothers and comparable

VANDERBILT **V** Peabody College

childless women to understand further why the gap persists. Their findings highlight the choice

of occupation, jobs that pay less, and the lack of mother-friendly work conditions outside of the

loss of experience and tenure. To further highlight this point, a country-based review displayed

the smallest residual gap from direct loss of tenure in Nordic and other countries with

organizational and public policies that actively strive for gender equality and reconciliation of

work and family.

When organizations do support women in leadership positions, another organizational

challenge is the introduction of a glass cliff. Women are put into positions of leadership but

during a particularly challenging period where the risk of failure is high. This leads to the

potential for a self-fulling system on the original gender bias present. Reinwald et al. (2023)

displayed evidence for the theory in their study of 26,156 executive appointments across U.S.

firms between 2000 and 2016. Their findings demonstrate a significant increase in the number

of female leaders appointed during times of crisis and that organizations often used this

appointment to signal change to the market or stakeholders.

Individual Barriers

Individual barriers within the workplace focus on the daily interactions and beliefs that a

woman holds about herself and the extra burden of responsibility she bares over her male

colleagues. Disproportionate constraints, often aligned with societal biases, contribute to gender

inequality and make it very personal to overcome. In exploring the gender leadership gap, Eckel

et al. (2020), highlight several reasons for underrepresentation of women in the workplace: 1.

Women choosing differently with less preference towards leadership roles, 2. Limited promotion

or selection into the role, 3. General discrepancies on how women are evaluated for

VANDERBILT **V** Peabody College

effectiveness. Underneath these reasons are varying biases and potential sources of stagnation for women's career advancement. In addition to societal preferences, it is demonstrated that individual beliefs have a part in explaining the gender gap in leadership, with perceptions amplifying or contradicting reality.

Ong (2021) connects role congruity to gender effects of leadership on loneliness through three complementary studies. The work examines how differing female gender roles and leadership roles place conflicting expectations on women resulting in reduced feelings of authenticity leading to increased feelings of loneliness. Women are expected to perform a certain way in their leader role, often forgoing the close, supportive relationships they once had in the organization. "For women, there is little overlap between their gender role that encourages communion and the leader role that encourages agency" (Ong, 2021, p. 3). Female non-leaders do not experience the same conflict.

St. Catherine University (2022) surmised that gender equity has caused bias gaps to be more present in the workplace. According to the Bureau of Labor Statistics for 2020, women earned less than 83% of men. The pandemic stalled the advancement that women accomplished in the last three decades. The work presented notes that the US is back to the same rate of pay equity seen last in 1987. Some areas St. Catherine (2020) noted for the disparity are: caregiver bias, motherhood bias, "women's work" bias, and various intersectional issues. Women tend to be the primary caregiver for children and their aging parents. This leaves women making career decisions based on family obligations.

Conceptual Framework & Project Questions

Gender bias is devitalizing for women leaders and is pervasive in organizations. To understand the way in which women experience gender bias in the workplace, Diehl et al. (2020) developed an instrument to measure how women perceive bias. The Gender Bias Scale for Women Leaders was created based on consideration for an initial framework of twenty-seven gender-based barriers (Diehl and Dzubinski, 2016), item generation to address content validity, down selection and item refinement, dimensionality testing, and exploratory factor analysis which resulted in six high order factors and fifteen low order factors. These six factors (male privilege, disproportionate constraints, insufficient support, devaluation, hostility, and acquiescence) and the overall factor structure were evaluated using confirmatory factor analysis, demonstrating support for the structure.

For this study, we leveraged the gender bias construct developed by Diehl et al. (2020) to examine the higher-order and low-order factors that show up across varying industries and how the experience of those factors may impact the trajectory of women leaders (see Figure 1). We used Diehl et al. (2020) factor structure, to show the differences that exist across experience of the fifteen aspects of gender bias, and perception of bias overall. In addition, Stephenson et al. (2022) explored gender bias across four industries: higher education, faith-based nonprofits, healthcare, and law. We built on this initial research, looking at a wider range of industries, the level of seniority within the organization, and other relevant demographics of women leaders.

Focused on gender bias and sexism in the workplace, Diehl and Dzubinski (2016) first worked to extend Bierema and Cseh's (2003) framework of critical human resource development as it applied to women to leadership roles, outlining a framework of macro, meso, and micro

VANDERBILT **V** Peabody College

barriers to gender equity in leadership. Identifying the social and organizational practices that

lead to gender inequities in leadership allowed Diehl et al. (2020) to develop an instrument to

measure how women perceive bias.

Figure 1: *Hierarchical Factor Structure of Gender Bias Construct (Diehl et al., 2020)*
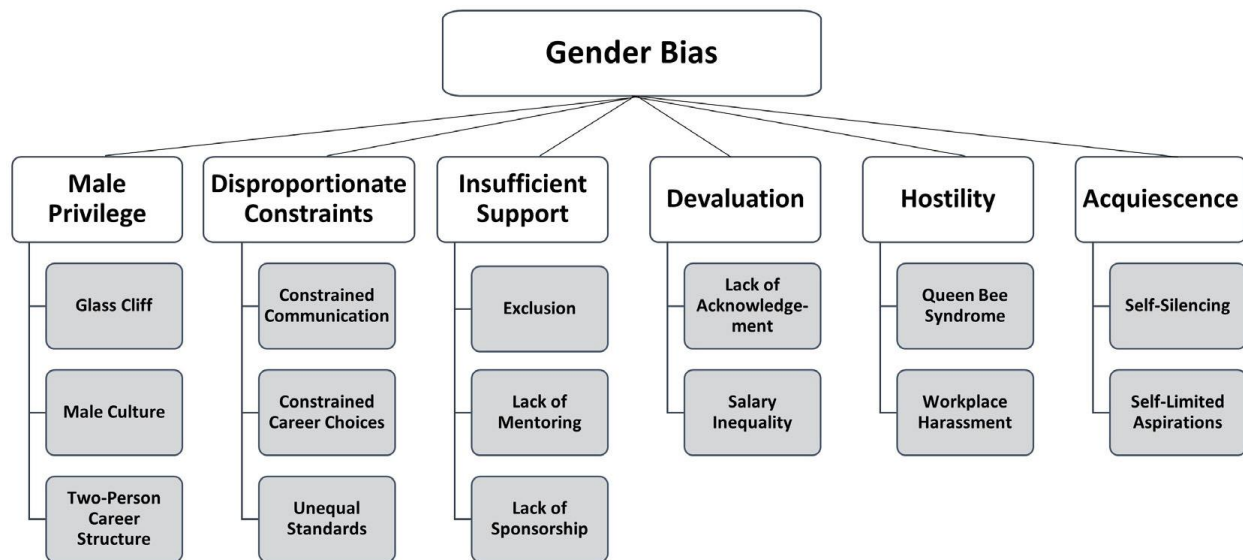
Research Question

      Incorporating the literature and previous work by Diehl et al. (2016, 2020) and informed

by the desire of our partner, we designed the research questions to determine factors associated

with the ascension of women into leadership positions across different industries represented in

its membership and how systemic gender bias affects their trajectory. The analysis of the study

project was directed by the primary research question and sub-questions listed below.

      PRQ: What perceptions of systemic gender bias exist among women in

      leadership roles across different industries?

VANDERBILT Peabody College

Sub- Q1: How might the industry of one's employment affect how these

perceptions of gender bias show up in the workplace?

Sub- Q2: How does the employee experience systemic gender bias in their

organizational roles?

Our primary research question (PRQ) seeks to understand the participants' perception of

systemic gender bias in their current employment industry. Cardinal is interested in how its

members view gender bias across industries and at different role levels. The first sub-question

allows categorizing the responses by industry utilizing the 24 options Cardinal uses in their

member profile. The second sub-question explores gender bias by the level of leadership

attainment for the participant as aligned with levels used by *Women in the Workplace 2020*

(LeanIn.org & McKinsey & Company, 2020).

Project Design

Data Collection

To address the project questions, we used a convergent mixed methods approach for the

study. Surveys are a powerful tool for collecting original, primary data across a large population

(Babble, 2017). Given the breadth of the industries within the study and the size of the

membership base of Cardinal, a survey provides the ability to understand and describe the

characteristics of the membership. Qualtrics online survey tool was used to conduct our data

collection. Within the survey, we leveraged a previously validated gender bias scale, the Gender

Bias Sale for Women Leaders (GBSWL) (Diehl et al., 2020). The GBSWL consists of 45 Likert

scale questions asking participants to rate their perception of gender bias across six dimensions.

Those dimensions are Male privilege, Disproportionate Constraints, Insufficient Support,

VANDERBILT **V** Peabody College

Devaluation, Hostility, and Acquiescence. We included open-ended questions to gather more data on women's experiences with bias. The open-ended questions also allow for greater flexibility than a survey would on its own (Babble, 2017). **Table 1** details our data matrix for obtaining responses.

Table 1*: Data Collection Matrix*

Key Evaluation Question	Data Requirements	Data Source	Collection Method
PRQ: What perceptions of systemic gender bias exist among women in leadership roles across different industries? Sub-Q1: How might the industry of one's employment affect how these perceptions of gender bias show up in the workplace ? Sub-Q2: How does the employee expereince systemic gender bias in their organizational roles?	Demographic data was collected including age, role, level, marital status, current employment industry (based on Cardinal's industry specification in their member profile).	Data was obtained from members of Cardinal. A survey appeal was shared with their subscribers though community board posts and messaging apps. Both a recruitment flyer and letter were used to invite member participation.	We used the Gender Bias Scale for Women Leaders (GBSWL) (Diehl et al., 2020). The GBSWL contains 45 questions on a Likert scale, asking participants to rate their perceptions of gender bias across six domains. Six open-ended questions were presented to gather additional sentiments on bias.

We used a concurrent embedded strategy approach to collect and analyze the qualitative and quantitative data collected (Creswell and Creswell, 2017). In a concurrent parallel design, shown in **Figure 2**, qualitative and quantitative data are collected simultaneously, and the data types are used to support the findings of the other (Creswell, 2013).

VANDERBILT Peabody College

Figure 2*: Convergent Parallel Design (Creswell, 2013)*
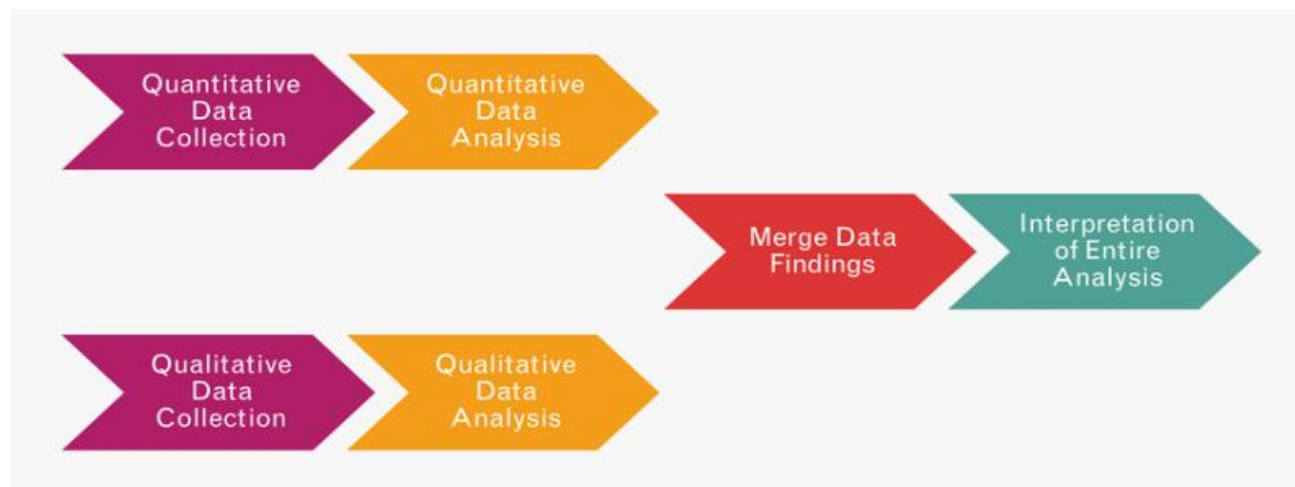
Participant Recruitment

The primary research question utilizes quantitative data to determine if there is a difference in how women encounter systemic gender in the workplace. Cardinal was interested in gaining insights specifically from their member base. Their 15,000 subscribed members were the target population for our study efforts (See Appendix A and B). A previously validated gender bias scale, the Gender Bias Sale for Women Leaders (GBSWL), was used in the survey (Diehl et al., 2020). Recruitment involved mobilizing members to participate in the study presented through the Qualtrics survey tool (See Appendix C). Data collection began on March 28, 2023, with an initial post on Cardinal's internal community platforms. The survey remained open until May 1, 2023. Regular posts were made to Cardinal's internal community boards and social platforms to engage the members. Additionally, the primary investigators sent personal communications to known members requesting participation. We anticipated that the survey

VANDERBILT **V** Peabody College

would generate over 100 responses. During the 30-day survey window we amassed over 300

unique clicks on the survey and obtained 238 completed responses.

We were pleasantly surprised by the responses to the optional open-ended questions, with

robust responses for many surveys. During data collection, we were concerned that some

industries might have too few responses affecting our ability to gain inference for that group. As

data collection progressed, we found sufficient qualitative and quantitative data to support the

research questions as presented.

Demographic Characteristics

Most of the women recruited and completing the survey were married (69.8%). As seen

in Table 4 this was a predominantly White or Caucasian community (72.3%), with a minority of

the sample population identifying as Spanish, Hispanic, or Latino (6.3%). Most participants were

aged 45 and up (66%), and 68.1% were graduates at a master's or doctorate level. In terms of

industry, the majority of participants (14.4%) were linked with internet and technology (14.0%),

professional services (14.0%), and health, pharmaceuticals, and biotech (14.4%). As expected,

most participants (42.9%) were executives, with another 29.4% at the Senior Vice-President

level. 45% of participants have between one and three years of experience in their current role,

with less than one year of experience in role making up the minority (10.9%) (see Appendix E).

Analysis Methodology

Although we received over 300 impressions on the survey, only complete survey

responses were analyzed. We transcribed the Likert scale response into a 1-to-5-point scale, with

one corresponding to disagree strongly and five corresponding to agree strongly. Further, we

categorized the data based on demographics profile, by job level, and employment industry.

VANDERBILT **V** Peabody College

Quantitative Data

Our initial analysis focused on codifying the relationship between systemic gender bias perceptions in various industries and at different levels of authority. We replicated the analysis process used by Stephenson et al. (2022) for the quantitative analysis. We performed correlation analysis to evaluate the project questions to validate the relationship between bias, industry, and leadership level. We completed a one-way multivariate statistic (MANOVA) to investigate the differences by industry on how women experienced gender bias. The dependent variable in this model was the perception of gender bias across the six domains of GBSWL: Male privilege, Disproportionate Constraints, Insufficient Support, Devaluation, Hostility, and Acquiescence. The 24 industry categories indicated by Cardinal in their member profile served as the independent variable. This technique illuminated the interactions between higher and lower-order factors and investigated the effects of individual factors. Tukey's honest significance test (Taber, 2021) was then used to determine statically significant differences in individual comparisons of the industry groups.

During our initial review of the quantitative data, we found that using 24 categories to calculate statistics efficiently was overwhelming. We considered recategorizing the 24 industry types into the four used in the original study by Diehl et al. (2021). Unfortunately, that did not provide us with statistical significance in any area. It was also challenging to fit Cardinal's industry classification into the original categories (Higher education, Faith-based non-profits, Healthcare, and Law). Too much subjectivity went into the placement, which could raise validity issues in proposing the recommendations.

VANDERBILT Peabody College

To mitigate the wideness of our data, we created industry groupings. In the initial data, only nine groups had ten or more responses. To ensure we could find statistical depth, we grouped like industries to ensure sufficient responses for analysis (see **Table 2**). In this manner, all groups contained responses from ten or more Cardinal members, and this helped us find greater depth into the sentiments of similar industries and provided a larger number of respondents viewpoints for sensemaking in both statistical and open-question coding.

Table 2*: Industry Groupings*

#	Grouping	Members	Total Respondents n= 238
1	Academia & Education	Academia (3), Education (11)	14
2	Media, Arts & Communication	Advertising (10), Art & Design (1), Journalism & Publishing (2), Media & Entertainment (5)	18
3	Technology	Cyber Security (2), Internet & Technology (33), Telecommunications (3)	38
4	Financial Services	Financial Services (25)	25
5	Professional Services	Professional Services (31)	31
6	Legal Services	Law (13)	13
7	Health & Biotech	Health, Pharma & Biotech (35)	35
8	Retail & Leisure	Retail & E-Commerce (5), Consumer Services (3), Hospitality (1), Travel & Tourism (6)	15
9	Industry, Utilities & Infrastructure	Government (6), Non-Profit (18)	24
10	Other	Other	8

VANDERBILT Peabody College

We analyzed the dataset using the revised groupings shown in **Table 2**. Multiple iterations of the MANOVA were run to gather tangential views of the respondent's answers by changing the independent variable. We believed that the lower order factors provided a lens to discern intermediary factors that plagued women looking to move up or stay in leadership. To accomplish this view, the dependent variable was changed from the six higher-order factors to fifteen subordinate lower-order factors shown in

Table 1. Additionally, we explored statistical views related to job level as the independent variable. We reviewed statistical data by exploring the following:

1. MANOVA using revised groupings as independent variable; higher-order factors as dependent variable (see Appendix G).

2. MANOVA using revised groupings as independent variable; lower-order factors as dependent variable (see Appendix H).

3. MANOVA using job-level as independent variable; higher-order factors as the dependent variable (see Appendix J).

Cronbach's alpha was utilized to measure the internal consistency and reliability of the study. It is a statistic that determines how well test questions assess the same construct or notion by calculating the degree to which a group of survey items are associated with one another (Taber, 2018). Cronbach's alpha is between 0 and 1, with higher values suggesting greater internal consistency between test items. A value of .70 or above is generally regarded as sufficient for research purposes. The original study by Diehl et al. (2020) noted the greatest reliability on the lower-order factors. Our investigation found that only two of the six higher-order constructs were regarded as reliable based on alpha values over the cut-off of .70. Male

privilege (α=.804) and disproportionate constraints (α=.733) were among them. For the lower-order factors, we found consistent reliability with questions supporting the glass cliff (α=.772), male culture (α=.839), unequal standards (α=.738), salary inequity (α=.790), workplace harassment (α=.724) and lack of sponsorship (α=.834). Cronbach's alpha values for the remainder were lower than the cut-off (see Appendix I).

Qualitative Data

In addition to the quantitative analysis, we analyzed the optional open-ended questions listed as Q27-Q32. To support the sentiments of each respondent, we themed the qualitative data to uncover nuances experienced across multiple industries.

The qualitative data questions presented in the survey utilized pre-validated questions from the original GBSWL. Although optional, the questions provided respondents free space to share thoughts about their experiences with systemic gender bias. The questions include:

(1) Have you been impacted by other types of bias such as racial, ethnic, age-related, sexual orientation, religious, disability, etc.,

(2) What do you see as your next professional step,

(3) Is there anything else we neglected to ask that you wish to share,

(4) Other than those listed in the above questions, are there other aspects of your identity that you believe contribute to your experiences,

(5) Have you experienced barriers or obstacles not reflected in the questions above?

(6) In what ways do you believe that bias in the workplace has affected your career trajectory?

VANDERBILT Peabody College

We employed the single significant case strategy to analyze the qualitative data (Patton, 2014). Our study is an extension of the efforts highlighted in the original 2020 Deihl et al. work. We leveraged the original case as the foundation of understanding, insights, and importance of our findings. From our qualitative data, we sought to understand if new sentiments emerged by expanding the number of industries and in what context the industry changes how systemic gender bias is apparent.

We applied a six-step thematic analysis method and explored the factors, barriers, and effects of systemic gender bias aligned with the conceptual framework. In addition to the higher and lower-order factors identified within the Diehl et al. gender bias construct (2020), we sought new topics and considerations regarding systemic gender bias or intersectionality. Based on Diehl et al. (2020), we categorized all factors as individual, organizational, and or societal.

In the first step, we familiarized ourselves with the data by reading and re-reading the open-ended questions' responses to understand the data for subsequent coding. Next, we employed Qualtrics to generate a word cloud for each open-ended question to flesh out the top recurring words (See Appendix D). McNaught and Lam (2010) regard word clouds as a preliminary starting point that fleshes out potential areas of interest and directs the principal investigators in a direction for deeper analysis. The respondents' answers were synthesized into words and counted based on their frequency in each question. Word counting is an unweighted method for capturing the sentiment of respondents. With each occurrence of the word, the counter gets incremented. As the words occur frequently, the color depth and size are more pronounced in the word cloud output. For example, in reference to Q27 asked about additional

VANDERBILT **V** Peabody College

bias experienced, the word cloud highlighted the presence of age and race as prominent intersectional biases.

 In the third step, we generated the initial codes based on open coding processes, which entailed providing descriptive and interpretive patterns. Codes were generated from the responses that were relevant to the research question. In the fourth step, we identified themes, which were broader patterns that shared significance responses from the data that emerged. In this case, we explored the similarities, differences, and repetitions in developing the themes. Several theme captions were provided for the six higher-order constructs outlined by Diehl et al. (2020). In the fifth step, the themes were then reviewed and refined, and their definitions and boundaries defined to ensure that they represented the content and context of the data. In the last step, the themes were organized into coherent and meaningful structure and assigned clear labels to capture the meaning of the participants and in relation to constructs identified by Diehl et al. (2020). The themes were then categorized as individual, organizational, and societal for easier understanding.

Through the six-step analysis process, we generated a codebook where major themes emerging included:

- Barriers hindering women ascension to leadership

- Effects of systemic gender bias

- Other factors contributing to systemic gender bias

Reordering the groupings in the quantitative data provided a different perspective to view the results of the open-ended questions. It allowed us to take advantage of responses for factors not included in the Likert style or other open-ended questions. In the codebook, we classified

VANDERBILT | Peabody College

overall themes and collated codes into subthemes. The respective codes and the frequency

indicating the cumulative codes for a specific theme/subtheme are bolded in Table 9 (see

Appendix F).

Findings

The data collected during the convergent mixed method approach gave us valuable

insights into the perceptions of systemic gender bias in the workplace. We yielded four overall

findings that aligned with the primary and sub-research questions and emerged from the research

and project design.

Finding #1: **Bias was experienced greatest across higher-order factors classified as devaluation, hostility, and insufficient support. Lower-order barriers most experienced by members include unequal standards, lack of sponsorship, and salary inequity. (PRQ).**

Aligned with the primary research question regarding perceptions of systemic gender bias

among women in leadership roles across industries (PRQ), the forty-five Likert questions

extrapolated data for lower and higher-order factor affinity. We reviewed the overall descriptive

statistics (see Appendix K). Since the question count for each higher-order factor was different,

we looked at the item means to understand where the members most strongly agreed. We then

looked at the item mean for the lower-order factors and looked directly at the mean responses

and percentages per question to obtain more explicit sentiments.

Devaluation (M = 20.676, SD = 3.382) as a higher order factor includes lack of

acknowledgement and salary inequity. With an item mean of 3.58, devaluation was the highest

VANDERBILT Peabody College

average agreement to the bias out of all six higher order factors. The item mean was driven by

the salary inequity, which had at the highest lower-order factor mean (M = 3.998). Over 73% of

respondents believe they have made less money than their male counterparts.

Hostility (M = 23.878, SD = 5.250) as a higher-order factor is made up of queen bee

syndrome, where upper-level women block lower-level women and workplace harassment which

includes both sexual harassment and verbal abuse. Of the 238 respondents, 64% felt high-level

women in their organization protect their own turf. 44% of women agreed or strongly agreed that

they had experience some type of verbal abuse at work.

Insufficient support (M = 26.899, SD = 4.380) rounds out the top three higher-order

factors where we found the greatest item mean. This grouping of questions asked survey takers

about their experience with being excluded in the workplace and the lack of mentoring and

sponsorship. Socializing with colleagues is often commonplace in industry, and while 92.86%

note that they felt welcome by their male counterparts, 86.13% say that they are often excluded

from events altogether. Regarding mentoring, 47.9% purport to have received extensive

mentoring opportunities. 79.41% had to learn how to lead on their own. As the respondents

looked to change roles within their organization, 68.07% needed to leverage the assistance of a

male colleague to be promoted.

Disproportionate constraints (M = 35.605; SD = 6.133) contained questions about

communication style, career choices, and unequal standards. While the higher order factor had

the fourth highest higher-order factor mean, it contained the second highest lower-order factor

mean, unequal standards (M = 3.973) indicating strong agreement that, when compared to men,

they have been held to unequal standards for performance and behavior. We also found that the

responses skewed negatively for communication style and career choices, whereby the respondents overwhelmingly strongly agreed with the presented statements. Approximately 77.31% of respondents strongly agreed that they had to be mindful of their communication approach when exercising authority (M = 4.76). Of the 238 responses, 80% believed, more than not, that they needed to downplay their accomplishments when speaking with other colleagues. However, 90.76% gave little consideration to whether their career field was suitable for women, and only 3% say they would have made a different choice today.

While not the highest item means, male privilege (M = 27.483, SD = 7.460) which contains groupings about the glass cliff, male culture, and two-person career factors, showed significant support by respondents when analyzing individual question responses. Over 70% of respondents believe they face a glass cliff in the workplace by being elevated into leadership roles and given tasks where they are doomed for failure. Additionally, 71% agree that they are held responsible for organizational problems that are outside of their control.

Utilizing the open-ended questions, statistical affinity was then categorized as individual, organizational, and societal in concert with our conceptual framework and literature review. Findings of similar contexts were apparent through the qualitative analysis of the open-ended responses.

Individual Barriers

From the qualitative analysis, it emerged that there were individual barriers that women experienced, which were hindering them from ascending to higher positions. The individual barriers included their body appearance, height, being overweight, and attractiveness. Participant 6 indicated, "Size, for me height but I know weight can impact promotion, too. Male leaders and

VANDERBILT Peabody College

decision-makers are intimidated by my height". Further, Participant 25 argued, "appearance looking too young/cute". Similarly, Participant 45 indicated, "I have experienced barriers related to not being the prettiest or most attractive woman in the room". In addition to body appearance, the personality of the participants was also a barrier as indicated by Participant 16, who said,

> *I often feel like men champion me, until they realize that I will hold them accountable. I also find that my way of leading is often characterized as "soft". I am an inclusive leader and believe being inclusive early on is best- but it is not seen as authoritative enough.*

Participant 90 commented on personality saying, "I was told my personality was all wrong and that nobody liked me". On the same note, Participant 211 indicated losing confidence saying, "Yes, being a private person and not sharing my personal life has bothered many". Participant 42, noted experiencing a barrier due to personal background, "Yes, coming from a legal field into cyber security made it even harder to gain respect. Being a woman from a non-technical background is very difficult even if you learn it on the job".

Organizational Barriers

We identified several organizational barriers that hindered women from ascending into leadership positions. The two organizational barriers coded frequently in the open-ended questions were hostility ($M = 23.86$) and lack of support ($M = 26.899$). Hostility encompassed horizontal hostility, not being recognized, and stereotyping. In addition, from the organizational level, participants indicated that they lacked support from their superiors, particularly from male counterparts who offered male privileges. **Table 3** below summarizes organizational barriers to women's career ascension.

VANDERBILT Peabody College

Table 3: Organizational Barrier to Career Ascension

Theme	Frequency
Organizational Barriers to Career Ascension	24
Hostility	15
Horizontal hostility	7
Not being recognized	6
Stereotyping	1
Lack of support	9
Lack of support from superiors	3
Male privilege	2

Hostility

From a hostility dimension, there were instances of horizontal hostility where women were hindering their fellow women from ascending into leadership positions. This theme was identified from 15 participants. Participant 20 said, "Women in my organization are like a bucket of crabs. When one rises to the top of the lip, the others pull it back down". This was also exhibited by Participant 191, who indicated, "The women who prevented my rise did not look like me. They were older, white, and blond". Participant 97 said, "Women at the Board level not being supportive of my role in the Company". Participant 216 said, "Other women have expressed jealousy because I work out and care for myself - it makes them feel inadequate and therefore I become a sore subject in some circles".

VANDERBILT **V** Peabody College

Not being recognized was another form of hostility noted by several participants. Participant 56 said,

> I have been responsible for starting up the NA region for a SaaS company. Unfortunately, they did not do their due diligence, they don't understand the market and our product is different here than in the country it is based. Instead of relying on me and the team that I have developed, she continues to make decisions in a vacuum that are not good for our business and then expects us to be accountable.

Similarly, participant 109 narrated,

> Yes - men and supervisors taking credit for my work, supervisors gas lighting me, never being promoted unless I asked for it, non-actionable feedback and performance evaluations not based on my personality traits (too strong, assertive, direct) rather than result.

This is also exhibited by other participants who noted that they felt undermined.

> I have felt at times undermined also by people junior to me. I am heavily reliant on the collaboration of other teams but because they don't report to me, they seem to think they don't have a responsibility to work as hard or trust my authority.

Similarly, participant 31 noted to be stereotyped based on culture and race saying, "Yes as a cultured, multilingual, Muslim who looks white".

Lack of Support

This theme encompassed the participants' perceptions that they experienced barriers to ascension associated with failure by management to support them adequately. Nine participants highlighted the issue of lack of support.

VANDERBILT Peabody College

Participant 140 said:

> *I am from an industry that crosses both the education and travel industries, both*
>
> *predominantly female run. Both organizations I worked for were female lead, but then*
>
> *went through mergers bought by organizations led by men. In both cases, it was amazing*
>
> *to see how quickly the dynamics shifted. Myself and other female leaders went from*
>
> *feeling respected, values, and competent, to having to fight to maintain our voice and*
>
> *authority in the organizations.*

Similarly, participant 53 said,

> *My organization had a stakeholder group (franchisees) that was 98% male and had*
>
> *massive unconscious bias toward women. I was both affected by it (had my candidacy*
>
> *for a leadership job openly blocked) and saw it (another female leader made a*
>
> *presentation to the group for an important business advancement, and she was treated*
>
> *poorly, unprofessionally and her message treated with contempt).*

Participant 72 was also candid in highlighting the lack of support from management for

creativity indicating, "Lack of support for innovative initiatives and non- traditional marketing

campaigns."

Participants also highlighted the issue of male privilege, by demonstrating that men were treated

differently in the organization. For instance, participant 145 noted,

> *Being given less of a chance, a male colleague in the same role stumbles and gets coaching,*
>
> *and I'm laid off. Also, they are given years to prove results in a new role, I was given 6*
>
> *months. I've also been punished for not having children even though female colleagues*
>
> *who do are discriminated against in different ways. I've actively been told I should think*

VANDERBILT | Peabody College

about starting a family rather than pursuing a promotion - I was 25. I was told I chose my

career over ever starting a family and having kids - I was 30. I was told in more than one

company that I had to relocate and my male colleagues didn't ...I didn't 'have a family' -

meaning no kids.

This theme was also exhibited by participant 151 who noted:

I have ADHD inattentive type- which means I am FANTASTIC at connecting the dots and

solving problems. AND- I feel like there is an expectation that I have the detail-oriented

project management skills that many men delegate to their assistant. I am not anyone

assistant and I don't have an assistant- yet all eyes turn to me when there is an event to be

planned.

Societal Barriers

Societal norms and barriers emerged that hindered the participants from ascending to higher positions in the organizations. These barriers encompassed societal expectations such as parenting roles, societal expectations, and unconscious cultural bias. Regarding parenting roles, participant 17 said, "Childcare and parenting had caused pressure to me as a professional".

Regarding the societal expectations, participant 155 narrated, "The challenge is the way women are expected to behave. An assertive male is applauded; an assertive woman is called too forceful". Participant 213 also highlighted this issue stating:

I think women health issues - menstruation, pregnancy, pregnancy loss, menopause affect

women in the workplace significantly - but there is an expectation that we act like it does

not affect our physical and mental health and it not comfortable to ever talk about it.

Participant 239 said:

VANDERBILT Peabody College

I had a female VP early in my career that often spoke of female empowerment and was

herself in a very senior leadership role but she held me back whenever I voiced interest in

a leadership position. I also didn't feel I could focus on my career or apply for leadership

positions/promotions while I was having babies and my kids were toddlers.

Participant 174 said,

The construction industry is just now seeing women emerge in leadership roles. Mentors,

other women leaders never looked like me, had kids, families etc. it was assumed you

were to sacrifice feminine qualities etc to do the work, however NOT assuming and being

my true self was hard- it has benefited me, and hopefully sets an example moving

forward.

From unconscious cultural bias, participant 152 said, "immigrants are seen as worker bees rather than leaders".

    Conclusion from Finding 1. Women across all industries and all job levels experienced varying degrees and types of gender bias in their workplace. The biases were at the individual, organizational, and societal level, with the perception of bias aligning most significantly to devaluation, hostility, and insufficient support. Upon deeper analysis into the barrier type we found that pay inequity and unequal standards coupled with the lack of sponsorship most severely stagnated progress for women from an organizational and societal perspective.

VANDERBILT Peabody College

Finding #2: Industry does not appear to have a statistically significant difference in how systemic gender bias shows up in the workplace. (Sub Q1)

We investigated differences in how women leaders experienced gender bias across the various industries by conducting a one-way MANOVA. In an effort to find the greatest significance, we performed multiple levels of analysis. In our first model, the dependent variables were the perception of gender bias across the six higher-order domains of GBSWL; Male privilege, Disproportionate Constraints, Insufficient Support, Devaluation, Hostility, and Acquiescence. The industry grouping from **Table** *2* served as the independent variable. Wilks' lambda, Pillai's trace, Lawley-Hotelling trace, and Roy's largest root were among the four one-way multivariate statistics MANOVA results reviewed. trace tests were not statistically significant. Roy's largest root, which is based on the upper bound of F statistics, was the only one of the four that had a statistical difference in multivariate analysis. A post-hoc pairwise comparison of marginal linear predictions with the Tukey criterion did not indicate differences in individual comparisons of the recategorized industry groups. Therefore, there were no differences in how women leaders experienced gender bias across the various industries. We used a multivariate regression analysis to estimate the coefficients in our model (See Appendix H).

To test the null hypothesis that the coefficients for the independent variable industry were equal to 0 in all six equations (domains of GBSWL), we accepted the null hypothesis that the coefficients for the industry in all six equations were simultaneously equal to 0. In other words,

VANDERBILT Peabody College

the coefficients for the industry were not statistically significant when all six outcomes were considered together, $F(60, 227) = 1.17$, $p = .210$.

In our second model, the dependent variables were the perception of gender bias across the fifteen lower-order factors; Glass Cliff, Male Culture, Two-person Career Structure, Constrained Communications, Constrained Career Choices, Unequal Standards, Exclusion, Lack of Mentoring, Lack of Sponsorship, Lack of Acknowledgment, Salary Inequity, Queen-Bee Syndrome, Workplace Harassment, Self-Silencing, Self-Limited Aspirations. The industry grouping from **Table 2** served as the independent variable. Again, Wilks' lambda, Pillai's trace, Lawley-Hotelling trace, and Roy's largest root were the four one-way multivariate statistics MANOVA results we compared. Just as the first round, Wilks' lambda, Pillai's trace, and Lawley-Hotelling trace tests were not statistically significant. Roy's largest root was the only one of the four that had a statistical difference in multivariate analysis. Further validations with Tukey criterion and post-hoc pairwise comparison didn't produce differentiation from the first model's results. For this model we completed a test of the null hypothesis where the coefficients for the independent variable industry were equal to 0 in all fifteen equations (domains of GBSWL), we accepted the null hypothesis that the coefficients for the industry in all fifteen equations were simultaneously equal to 0. With all fifteen coefficients set to zero, no significance was found, $F(150, 227) = 1.31$, $p = .0324$. (See Appendix G).

Conclusion from Finding 2. The summation was, therefore, that there were no differences in how women leaders experienced gender bias across the various industries by evaluating higher or lower-order factors in relation to the defined industry pairings. This finding

VANDERBILT Peabody College

is pivotal for Cardinal because it defies their initial belief that women were experiencing systemic gender bias differently based on their employment industry.

> *Finding #3:* **Significance exists for the perception of gender bias at the VP level through male privilege. (Sub Q2)**

During data analysis of higher and lower-order factors, we encountered little to no significance in differentiating the experience of systemic gender bias experienced by women in differing industries. While the lack of significance was surprising, we wanted to ensure we explored all areas of potential correlation. To further investigate the respondents' sentiments, we went to the data and created a third model to juxtapose their job level with the GBWLS higher-order domains. We again used MANOVA, and this time, and we identified statistically significant differences between the job levels and the experience of gender prejudice stated by participants.

We performed post-hoc pairwise comparisons of marginal linear predictions using the Tukey criterion to reveal statistically significant variations among groups by the higher-order bias variable. The sole difference between the L3 - vice presidents and L1 - executives was in the male privilege prejudice category. The multivariate regression analysis also substantiated bias via male privilege prejudice, which revealed that vice presidents had a 3.9-unit bias perception concerning male privilege ($p = .001$, 95% CI [1.501, 6.183]) against the Vice presidents, $F(24, 233) = 1.76$, $p = 0.0187$. (See Appendix H).

VANDERBILT Peabody College

Respondents at the vice president level indicated experiencing male privilege in the open-ended questions as well. Participant 42 noted, "I believe that the bias I've experienced over two decades has led to a much higher probability of burnout as everything I've had to fight so much harder than my male colleagues to be heard, to be promoted, to be paid, and all the other things." Participant 28 referenced experiencing a male organizational culture, "I have felt and continue to feel my industry is all about the good ole boys club." Participant 78 referenced a similar male culture, while also highlighting the tokenism present, "Men promote their friends. Even if they aren't sexist, they are "buddies" and feel loyalty. They let a few of us in as tokens, but the boys' network is alive and well."

Conclusion from Finding 3. Job-level analysis provided a unique finding. Significance at this level leaves us to speculate that many of our respondents have learned to meander the career ladder at higher job levels despite the "boys club" effect. We submit that this does not totally surprise us. The women who seek out organizations such as Cardinal have risen to the ranks of executive leadership, some before the #MeTOO movement or gender equality topics become commonplace.

> *Finding #4:* **Women leaders experience intersectional bias across factors at the individual, organizational, and societal levels. (Sub Q2)**

The analysis shows numerous individual, societal, and organizational factors contributed to systemic bias. By frequency of occurrences, many participants reported that individual dimensions such as, appearance (19), personality (9), and protected characteristics (64) were a

VANDERBILT Peabody College

cause for biases. From an organizational perspective, they perpetrated bias by inequality in

compensation of employees (14). At the societal position, the expectations of people based on

family roles and responsibilities (6), with political affiliation also supported gender bias (1).

Table 4 shows a summary of the themes and subthemes relating to factors contributing to

systemic bias among women and the respective number of codes generated.

Table 4: Contributing Levels to Systemic Bias

Theme/Subtheme	Frequency
Individual	
Appearance	19
Personality	9
Social economic status	1
Biased on protected characteristics (Acquiescence)	64
Organizational	
Acquiescence	7
Societal	
Family roles and responsibilities	6
Political affiliation	1

Individual Factors

Individual-based factors encompassed those that were associated with the employee. The

analysis showed that employees encountered biases based on appearance, body shape, weight,

and dress code. Biases attached to visible traits are further evidence from the analysis that

VANDERBILT **V** Peabody College

participants experienced discrimination based on appearance. For instance, Participant 22 narrated, "There is a big difference in how men treat me now vs. when I was first entering the professional world. They definitely prefer the company of attractive young women, almost like a little mascot for their events or meetings". Participant 63 said, "I have been told I am attractive, which certainly contributed to sexual harassment by my clients". For the overweight, they also narrated their experiences as Participant 76 said, "Appearance - I am obese and average looking. There are pretty girls seem to get a lot of credit for doing far less, their mistakes are overlooked, etc." Participant 172 said, "I think it would be fair to look at how someone presents themselves and how that impacts upward trajectory. Body type, teeth, style of dress, hair style. These things make an impression". A total of 19 participants indicated to have been biased based on their outward appearance.

The personality construct of women was also a factor contributing to gender bias, appearing nine times during coding. Participant 39 demonstrated this,

I'm an extrovert and work in a technology industry. Tech is majority introvert. So, me being a highly educated female executive that is extroverted make people uncomfortable. I work really hard to consciously assess my surroundings and modulate myself, so I do not come across as a bull dozer. If I was a man, I'd be looked at as larger than life but it is negative for me.

This is also evidenced from Participant 67 who said, "My personality. As an introvert I have had to learn to be more outgoing to the extent colleagues consider me an extrovert. But it takes so much out of me my weekends are quiet". This is also substantiated for those with courageous personality. Participant 155 said, "I am strong, determined and courageous. This can lead to

others feeling intimidated and thus I've been put down by higher level leaders so they don't feel

threatened by their own insecurities." Participant 103 also indicated that having an empathetic

personality exemplified the gender bias.

From an individual perspective, women agreed to experiencing bias based on protected

characteristics. This area had the highest frequency of occurrence during coding, showing up 64

times. In this case, participants indicated to experiencing biases based on their age, country of

origin, disability, ethnicity, gender, marital status, pregnancy, race, religion, and sexual

orientation. **Table 5** below shows the breakdown of biases based on protected characteristics.

Table 5: Biased on Protected Characteristics

Theme	Codes/Frequency
Biased on Protected Characteristics	64
Age	17
Country of origin	4
Disability	5
Ethnicity	3
Gender	9
Marital status	5
Pregnancy	4
Race	12
Religion	2
Sexual orientation	3

Regarding age, being reported 17 times, Participant 22 said, "yes - age related. Usually this is when interviewing for a new role. Because of my experience level, I am more expensive to hire than a younger person". Participant 71 said, "Yes. Age-related. I am often called out for looking young and questioned about my years of work experience". Participant 157 also experienced age-related biases,

> I believe I am impacted by age-related bias. I am a young, successful leader who can often out-perform those "older" or with more years of experience. At times, I feel like I am held back because I technically have less years of experience. Yet, on paper, my results are stronger; I have a better rapport with team members, etc.

Regarding country of origin, reported 4 times, Participant 56 narrated,

> My company is based in another country and my boss came from a research firm and has hired mostly other people from the same firm. There is definitely bias for people that worked at the same firm and those that are based in the country where the company is based.

Participant 18 said, "Being an immigrant and not growing up here and understanding all aspects of the culture has set me back". Participant 83 commented on the role of ethnicity saying, "It is difficult for me to tease apart race/ethnicity with gender related experiences as I've experienced more challenges with white male privilege and secondarily white female". Women were also discriminated against based on disability as indicated by Participant 15, "I have for my disabilities- specifically being a veteran with PTSD and for having autoimmune issues that lead to me having more Dr appts that the "average" person". Furthermore, issues relating to marital

status were also a major concern for biases as narrated by Participant 79, "bias for being not married and not a parent. Even in this survey there is bias about having a partner for two questions. It has affected me most of my career."

Participants also noted biases as pregnant women. Participant 200 and four others noted this, saying, "Pregnancy & childcare were major factors. It pushed me to working for myself for many years. My time on my own was not really seen as valuable. I've had people criticize the sound of my voice". In addition, some women experienced discrimination based on religion as shown by Participant 133, "Yes, the fact I have a spiritual life has generated curiosity that it would not generate in a man. It has also considered strange for a scientist to have a spiritual practice". Sexual orientation, mentioned 3 times, was also a cause for exemplified bias among women as indicated by Participant 60, "I am a lesbian, married to a woman. I believe this has helped me throughout my career, as it is much easier to socialize outside of work without it being awkward".

Organizational Factors: Inequality in Salaries and Wages

From an organizational perspective, paying women low wages and salaries was a form of bias identified in this study. We identified wage inequity from seven codes that cemented the makeup of this theme. Participant 103 said, "Difficulty navigating using unspoken rules of the road; being paid less than male subordinates; being pitted against other women for promotion or to retain a role in a merger (while male counterparts are evaluated independently)." Participant 201 said, "In previous roles, I have had to fight for pay equality but I always tout #knowyourworth." Participant 241 noted the low payments for women saying, "Internal job grades. At one point, I was so lowly paid when I made a lateral move an exception needed to be

VANDERBILT Peabody College

made to adjust my salary to get me into the pay band for new lateral role". This is also confirmed by Participant 172, "Earlier in my career, I would agree I was paid less than the man who did it before me. He had significantly more experience but he was pushed out in favor of me...someone they probably paid 30% less." Participant 219 said,

> *I'm definitely underpaid. I work in a partnership and have taken on roles that are focused on long-term investment. Because my value contribution is indirectly financial I am not compensated as well as my peers, many of whom have significantly less market profile and who have not taken the same risks as me.*

These examples portray organizational based discrimination where the management paid women lesser amount compared to men.

Societal Expectation on Family Roles

This theme relates to the biases based on people's expectations of how women should behave. This theme was evident from a total of six codes. In this case, Participant 39 indicated that she was judged based on the fact that she was not married and had no kids:

> *I look younger than I am in addition to being a female executive. I also have multiple degrees in engineering and have more experience than most of the men around me. I am treated like I am junior, inexperienced and like I do not know my job because of these things. I am also judged because I have not gotten married and had children. Because I don't have kids, it is assumed I can do the overtime or travel. It is infuriating.*

Being a mother was also another emerging barrier and having family responsibilities also contributed to biases as narrated by Participant 10:

VANDERBILT Peabody College

I am mom, and I have had my commitment to my team & organization questioned when

has had to leave at a reasonable time to pick my child up from daycare (even when I log

back in to work once I am home). Male peers have been given accolades for leaving work

to pick up their kids or coach their teams. No questions about professional commitment

for the guys.

Participant 209 also showed this by stating:

I am married with 5 biological children. There is significant bias that leads others to

believe that my personal life will impact/prevent success in my professional life.

Fortunately, I have a stay-at-home spouse who throws their weight and brain power

behind me.

Based on the participant descriptions, women experienced biased based on the societal

expectation regarding their family roles.

Effects of Gender Bias

From the analysis, it emerged that there were different effects on the participants. The

effects and their frequency included effects on personality (4), inhibiting career growth (3),

leaving the organization (10), and poor treatment at work (2), and there were positive effects (5)

also. **Table *6*** summarizes the effect of gender bias on the workforce. Leaving the organization

was most frequently reported as the option taken by women looking to get a change of pace.

Table 6: Effect of Gender Bias

Theme	Frequency
Effect on personality	4

VANDERBILT Peabody College

Inhibited career growth	3
Leaving the organization	10
Poor treatment at work	2
Positive effect	5

Effect on Personality

This theme asserts that gender bias affected the participants' personalities by negatively eroding their self-esteem and confidence. This theme was recounted four times and led to the following sentiments. Participant 63 indicated, "It minimized my capabilities and contributed to a lack of confidence which meant I did not feel I could advance as much as I probably could." Participant 84 said, "It has mostly caused me extreme self-doubt and made me want to leave my job." Participant 179 noted, "Lack of confidence in my abilities. I'm always floored when someone makes a point that I was thinking about but was not 100% confident to make myself." Participant 16 said, "Weirdly no. I was an entrepreneur for so long, and then went to another start-up. What it has affected is my confidence, my boldness and my ability to feel free to innovate".

Inhibited Career Growth

Three participants indicated that gender bias and other form of discrimination hindered them from growing in their career. For instance, Participant 10 said,

> *Career advancement has taken me longer than male peers (as has my compensation). I've asked for coaching on specifics when it comes to vague feedback (that I felt was gendered) & then was told that I needed to figure it out myself (while male peers got exec coaches).*

VANDERBILT | Peabody College

Similarly, Participant 62 said, "It has slowed my progress and kept me from more high-profile visible positions." Participant 103 narrated, "It has made my trajectory more difficult and uncertain, and I suspect has limited it to, at minimum, decreased the financial components of success and made attainment for physically and emotionally tasking." Participant 134 narrated, "at times has pushed me to work harder to achieve parity with my male counterparts but also made me hold back my ideas and views at times."

Participants also noted that they were hindered from getting promotions. For instance, Participant 5 said, "Lack of upward and lateral mobility, having to leave firms to get promoted, high expenses to support my ambitions (day care, cooking)." Participant 7 also indicated the same saying, "I am stuck in my current role with no path to move forward for past 6 years. While other male counterparts continue to move up." Participant 31 said,

> I've had 3 men with less experience than me get promoted to VP and SVP positions with me reporting to them. In each situation, I was unaware the position was created and I wasn't considered for it. I've also had a less experienced person apply for an award and used my accomplishments on his application (and then told me about it).

Some of the participants had their CEO positions blocked as narrated by Participant 79:

> I feel like I have always fought for myself. It has never been easy. I have no free passes to include the benefit of knowing someone I have done everything on my own without help or extra support. Men that have been equal, jr and sr have intentionally blocked my CEO mandate multiple times affecting my career stability in critical junctures. I feel if I'm direct, if a male is direct they are simply rife with clarity.

VANDERBILT **V** Peabody College

This theme also confirmed by Participant 163 who said, "I rose to the highest level, COO. But company decisions I cared about were sometimes influenced on by the boys club, or I would be left out." On the same dimension some women were forced to work harder to remain in positions that their male counterparts. Participant 194 narrated, "I have had to fight for every promotion and raise I have ever had. I've also been forced to change jobs due to intense sexual harassment."

Leaving the Organization

This theme represented the assertion that some women had once left the organization for another due to gender bias, while others have the intention to leave their organization due to various reasons. For instance, the ten respondents that provide comments note they left the organization due to cultural incompatibility, to get positions in larger organizations, while others have intentions to start their own businesses. As indicated by Participant 146, some employee left to get another job, "finding another job because I don't see upward mobility in my current position." Participant 133 noted to leaving the industry due to a non-conducive environment, "Leaving my current industry for a less political and less cutthroat environment." Participant 39 was among the nine participants who indicated their intention of leaving and seeking job positions in other entities, "Leaving my current job and find another executive role in a different organization. I'm actively looking." Ten participants indicated to having the intention to leave and start their own businesses due to gender bias. For example, Participant 22 said, "I founded my own company and now consult to organizations -- it's a much better dynamic (I don't have to worry about politics and get more respect) and I'm in control of my next steps, pay, schedule,

VANDERBILT Peabody College

etc." Similarly, Participant 87 said, "I just launched my own company my goal is to close the wealth gap I experienced due to years of inequities and racism".

Poor Treatment at Work

Two participants indicated to have experienced poor treatment at work. This took different forms including bullying, being held accountable in a wrong manner, being questioned even on noble ideas, and facing harsh leaders. Participant 79 said, "Because I am in a small organization and supremely competent, it has not impacted my trajectory it has made the process quite miserable as I have been subject to workplace bullying and other toxic behaviors". Participant 142 said,

> *I came into a role where I had more education, but less experience, than a man and was paid 68% of his salary for MORE responsibility. I was also held accountable for things out of my control that they would never have expected of him and they used this are a reason to reduce my bonus.*

Participant 38 narrated,

> *My CEO (I am president) continues to validate my recommendations and business decisions by old white men outside the company who have no context of the business, people, customers or our products. He does not just trust me based in my expertise and experience like he does the men in other roles in the company.*

The negative treatment was also cited by Participant 49 who said, "While top leaders (CEO, President) have been very inclusive, peers have treated me as subordinate or like my presence is a fluke." Similarly, Participant 88 argued, "knowledge about an ideas or ability are often questioned or underestimated.

VANDERBILT Peabody College

Positive Effect

Despite the negative effects, there was evidence of positive impact of gender bias and commented on by five women. For instance, Participant 85 noted, "I believe that being a woman of color makes me standout and has provided unique opportunities for me for mentorship, roles, and advancement." Participant 230 also noted to have excelled in a male dominated field, "When I excelled in ad sales my gender was always called out because I work in a male dominated field." Participant 193 argued, "Being a working mother, not a golfer, imperfect weight, all challenges in the business world. In spite of these obstacles, I've paved a road to success." In addition, Participant 201 said," I haven't let biased stop me from achieving my passions, goals or how to live a life of significance. I've watched too many people allow bias to curtail their success."

Conclusion from Finding 4. The multiple hats women wear worldwide were apparent and telling as they recant experienced biases. Many respondents noted biases that become occupational stressors that dimmish productivity, erode personal confidence, languish as career stallers or facilitate their desire to retreat to lower-paying roles or external ventures. Whichever way the respondents found solace in their career decisions; it is very apparent that biases are boundless. Unfortunately, our respondents succumb to the fact that they cannot wear just one hat in the world. Their responses also highlight that some biases are purported upon them by others, and there is little change in the external view that others have.

Limitations

This project was based on prior research that put a construct in place to measure women leaders' experiences and perceptions of bias. It simplified a complex topic and provided a

VANDERBILT V Peabody College

framework to understand how systemic gender bias occurs across industries. Both the Gender

Bias Scale and the application of it to understand Cardinal's membership base have limitations.

The Gender Bias Scale for Women Leaders (Diehl et al., 2020) is at a point in time, asking the

participants to reflect on their prior work history as women leaders. Seeing significance at the

vice president level regarding the experience of male privilege highlights the potential for an

observational and longitudinal research design to more fully understand how the perception of

gender bias changes over the course of a woman's career. The nature of the research topic also

leads to a potential limitation. The survey format attempted to capture the participant's lived

experience; however, the unconscious and implicit nature of systemic gender bias may result in a

lack of reflection on the topic, especially in industries or geographies where acceptance of the

bias is the norm.

   The study had many survey respondents who only completed part of the survey. While

several participants commented on the thoroughness of the survey and the fact that it made them

think about biases they had yet to reflect on previously, the length of the survey may have been

more challenging for others to dedicate the time and thought to complete.

   Regarding the participant population, our limited sample surveyed the current Cardinal

membership base, which, by design, is primarily executive women leaders. The membership

criteria consist of holding a VP-level position or higher. Experienced women leaders may

experience bias differently than new women leaders. The demographics of the survey

respondents may reflect a partial membership base based on years of experience as a women

leader or from a diversity perspective.

VANDERBILT **V** Peabody College

Recommendations

Cardinal's primary goal for this capstone study was to generate ideas on topical programming to enact to ensure members have the needed tools to aid in their career progression. The analysis of the data, informed by the conceptual framework and literature, leads us to provide the following recommendations.

Recommendation #1 – **Consideration for Cardinal content should be focused on support and/or resources for recognizing and combatting devaluation, insufficient support and unequal standards.**

To address the findings from the primary research question, Cardinal should focus efforts on developing content to provide women tools to combat the higher- and lower-order barriers they often feel: devaluation, insufficient support and unequal standards. Based on the findings from this research, Cardinal members have experienced many types of systemic gender bias. This capstone study highlighted four lower-order factors where bias was felt more strongly across the member participants: constrained communications, unequal standards, lack of sponsorship, and salary inequity. Respondents felt strongly that they work harder than their male colleagues for the same credibility. To combat this feeling of inequity, Cardinal members should be provided programmatic offerings on dealing with unequal standards and training that provides language that supports the members' ability to communicate successfully within their organizations. Resources should be provided for members to leverage within their organizations.

The enhanced programming may include training content or justification for members to take to the organizations to support learning initiatives. Organizations with manager training that

VANDERBILT | Peabody College

helps them facilitate team conversations about diversity issues deliver greater performance than organizations that do not (LeanIn.org & McKinsey & Company, 2022). Cardinal's members should feel emboldened with new skills to go back into the workplace to drive the systemic changes needed.

Regarding pay inequity, Cardinal members are feeling a reality. Women in the US still earn $.82 for every dollar a man earns (Tanzi, 2022). The differential is known and felt by women, with one in four reporting that they earn less than a male counterpart for doing the same job (LeanIn.org & McKinsey & Company, 2020). As women move into positions of greater responsibilities and higher income ranges, the wage gap appears to increase, with women earning only $.74 for every dollar a man earns (GAO, 2023). The wage gap appears consistent across industries, even industries where women are the majority earners, as studied by the Government Accountability Office in March 2023. The same trend exists for earnings based on gender and education.

Women are historically paid less at job entry than men. Research also shows that women are treated less favorably during salary negotiation (National Women's Law Center, 2023). While it is not the responsibility of Cardinal members to fix this societal and organizational inequity on their own, Cardinal should provide:

1. bias training,

2. ensure women are cognizant of the bias that may be present throughout the HR cycle,

3. include other women in their organization to address queen bee syndrome.

VANDERBILT Peabody College

Informing job applicants about the typical compensation and benefits prior to negotiation has been shown to reduce the disparity between men and women. Cardinal provides a platform for transparency and support. In addition to being comfortable discussing pay with other Cardinal members, resources on pay transparency requirements and initiatives across states should be available on the member portal for members to take back to their HR organizations for implementation.

> *Recommendation #2* **– Cardinal should expand their members networks and develop additional programming for newer female leaders.**

As Cardinal states, "powerful women coming together to become better leaders together," is one of the key benefits of membership. The Cardinal platform provides a space for women leaders to connect with other senior executive peers to broaden their knowledge and network (Cardinal.com, 2023). Designed into the programming is access to business experts and successful leaders, as well as a networking database to find others to learn with and from to reduce the loneliness women are experiencing as they learn to lead.

We recommend Cardinal continue to develop in-person and virtual meet up opportunities focused on growth as a leader. These meetups will continue to help form solid networks of support for members and will reduce the feelings of loneliness that women often feel as leaders. We also recommend Core group content be reviewed to ensure that the group coach and peer facilitation presents a space to help each other learn to lead. Goldman et al. (2013) demonstrate the power of peer coaching and the developmental, functional, and emotional benefits of

VANDERBILT **V** Peabody College

reciprocal peer coaching. Ensuring Core group coaches are properly trained to structure and support a reciprocal coaching space will add in designing a space that becomes a transformational learning opportunity for members and will provide the necessary support to no longer feeling like they are learning to lead on their own.

Secondly, Cardinal should invite more leaders at the vice president job level into membership. Sub Q2 findings revealed that women at higher levels had navigated the systemic gender bias waters and forged paths to success despite of the barriers. This recommendation would directly benefit the VP level who have yet to build the networks and experience to overcome the gender bias they face. The data shows that participants with roles lower than vice president experienced barriers and were likely to leave the organization or change roles, sometimes to lower positions to avoid the negative experiences. As they leave higher-level roles, their path to CXO gets farther away. Our recommendation will require Cardinal to revisit their membership footprint and expand programming to support meet the different needs of that population while ensuring organic connectivity flourishes in core groups.

Research shows that mentoring programs are touted as win-win learning experiences where mentors and mentee participants are enriched (Mitchell, 1998; Bruce,2021; Amis et al, 2020). Additionally, mentoring "details the type of behaviors" expected from executive level employees (Amis et al, 2020). We further believe that building strong leaders through mentoring connections with CXO and junior-level leaders will strengthen the global pipeline of capable, trained women leaders with clear exemplars of success. Curating a space for supported women will in turn allow the natural growth and longevity of organizations like Cardinal.

VANDERBILT **V** Peabody College

Recommendation #3 **– Cardinal should develop programming to address the intersectionality experienced by women leaders.**

"There is no such thing as a single-issue struggle because we do not live single-issue lives."
(Audre Lorde, 1982)

The experiences women share in the workplace (Sub Q2) can be addressed with programming that embraces the intersectionality of its members. In 1980, Kimberlé Crenshaw developed the term intersectionality. It operationalized discrimination people experience based on their multi-faceted identity. It did and continues to be used to shed a harsh light on discrimination and its compounding effect on individuals. Our respondents also shared struggles navigating the workplace as a monolith. The finding suggests that members of dynamic backgrounds do not feel a sense of inclusion and belonging.

Cardinal should ensure that programming is created by teams that have diverse members. Current program offerings, and many in the marketplace focusing on women in leadership, have been created by and are targeting the dominant group (Crenshaw, 1991). More than one size fits all programming will be required to ensure members receive the support needed to traverse their careers. As a women-led organization, it is not enough to focus on gender inequality. Programming must concentrate on the intersectionality of its members, focusing on their race, sexuality, ethnicity, age, disability, and stereotypes, including gender. We believe that if Cardinal takes a step back and includes programming that addresses the complexity of women's experiences, more women of color within their ranks will feel valued and included.

VANDERBILT Peabody College

Married women made up 69.8% of our respondents. These women's careers may capitulate required household tasks. Even so, this balancing act replays itself repeatedly as more balls insert into their lives. What occurs when we add children, caregiving, social standing, sexual orientation, or other biases? Now consider adding the characteristics we have no control over, such as race or appearance, and the directed bias one feels. These comprise the levels of intersectionality that should be incorporated into existing and future training for holistic membership health.

We understand that the work done within Cardinal will not fix the systems that generate the bias and discrimination of its members. This organization has the unique advantage of a solid member base that, when armed with knowledge, tools, and an inclusive viewpoint, can make small but mighty changes. This change will be a "cognitive shift" for the organization as they frame the problem of systemic gender bias through solutioning more inclusive programming to address intersectionality (Foldy et al, 2008).

Recommendation #4 – **Focus programming on the types of bias vs needing to specify by industry across their member base.**

Based on role congruity theory, we expected to see women leaders experiencing bias differently depending on the industry of employment, however, the study results show no significant difference across the higher order and lower order factors of the Gender Bias Scale for Women Leaders (Diehl et al., 2020). As we explored this finding in greater detail, compared with Cardinal's initial desire to institute industry specific programming, we believe that they

VANDERBILT Peabody College

should continue providing general programming to all its members. Instead of focusing on

tailored programs per industry, we recommend that Cardinal focus programming efforts on:

1. combatting bias types in recommendation one,

2. incorporating more cross member collaboration found in recommendation two,

3. infusing intersectionality in all work going forward to drive the most impact for its

    members.

Conclusion

The purpose of this study was to support Cardinal in understanding how their members

experience systemic gender bias to ensure alignment with their programmatic offerings. The

research was designed to build on prior work done by Diehl et al, (2016, 2020) and Stephenson

et al. (2022) which provided a gender bias construct and scale with which to measure six higher

order and fifteen lower order factors as they were experienced by women. The reality is gender

bias has been impacting diversity in leadership for a long time and continues to do so. The study

highlighted higher-order factors (devaluation, hostility, and lack of support) and lower-order

factors (salary inequity, unequal standards, and lack of sponsorship) where bias was perceived to

be strongest and provided recommendations to Cardinal to support women leaders in these areas.

In opposition to our initial hypothesis based on role congruity theory, we saw no significant

difference on how systemic gender bias was perceived based on industry of employment. We did

see significance on experience of male privilege based on job level, and recommend that

Cardinal ensure members at the vice president level are being provided adequate support in this

area. It is our hope that Cardinal can leverage the work of this study and their expanded

VANDERBILT Peabody College

understanding of their member base to provide transformational offerings and continue to move

forward their mission of changing the face of leadership.

References

Amis, J. M., Mair, J., & Munir, K. A. (2020). The organizational reproduction of

      inequality. *Academy of Management Annals*, *14*(1), 195-230.

Babbie, E. (2015). *The basics of social research* (7th ed.). CENGAGE Learning Custom

      Publishing.

Baykal, E., Soyalp, E., & Yeşil, R. (2020). Queen bee syndrome: A modern dilemma of working

      women and its effects on turnover intentions. *Strategic Outlook for Innovative Work*

      Behaviours: Interdisciplinary and Multidimensional Perspectives, 165-178.

Bierema, L. & Cseh, M. (2003). Evaluating AHRD research using a feminist research

      framework. *Human Resource Development Quarterly, 14(1)*, 5–26.

Bruce, M., C. (2021.). *Mentoring Matters: The Importance Of Female Mentorship*. Forbes.

      Retrieved June 30, 2023, from

      https://www.forbes.com/sites/committeeof200/2021/10/26/mentoring-matters-the-

      importance--of-female-mentorship/?sh=41bb0e6bccaa

Cardinal. (2022). https://Cardinal.com/

Catalyst, *Historical List of Women CEOs of the Fortune Lists: 1972-2021* (June 2021).

Crenshaw, K. (1991). Mapping the margins: Intersectionality, identity politics, and violence

      against women of color. Stanford Law Review, 43, 1241–1299.

      https://doi.org/10.2307/1229039

Creswell, J. W. (2013). Steps in conducting a scholarly mixed methods study.

VANDERBILT Peabody College

Creswell, J. W., & Creswell, J. D. (2017). Research design: Qualitative, quantitative, and mixed methods approaches. Sage publications.

Cukrowska-Torzewska, E., & Matysiak, A. (2020). The motherhood wage penalty: A meta-analysis. *Social science research*, *88*. https://doi.org/10.1016/j.ssresearch.2020.102416

Diehl et. al. (2020). Measuring the invisible: Development and multi-industry. *Human Resource Development Quarterly /*, *31*(3). https://doi.org/10.1002/hrdq.21389

Eagly, A. H. (2007). Female Leadership Advantage and Disadvantage: Resolving the Contradictions. Psychology of Women Quarterly, 31(1), 1–12. https://doi.org/10.1111/j.1471-6402.2007.00326.x

Eagly, A. H., & Karau, S. J. (2002). Role congruity theory of prejudice toward female leaders. The Psychological Review., 109(3), 573–598. https://doi.org/10.1037/0033-295X.109.3.573

Eckel, C., Gangadharan, L., Grossman, P. J., & Xue, N. (2021). The gender leadership gap: insights from experiments. In *A Research Agenda for Experimental Economics*. Edward Elgar Publishing.

Faniko, K., Ellemers, N., & Derks, B. (2021). The Queen Bee phenomenon in Academia 15 years after: Does it still exist, and if so, why? *The British Journal of Social Psychology.*, *60*(2), 383–399. https://doi.org/10.1111/bjso.12408

Foldy, E. G., Goldman, L., & Ospina, S. (2008). Sensegiving and the role of cognitive shifts in the work of leadership. *The Leadership Quarterly*, *19*(5), 514-529.

VANDERBILT | Peabody College

Goldman, E., Wesner, M., & Karnchanomai, O. (2013). Reciprocal peer coaching: A critical

    contributor to implementing individual leadership plans. *Human Resource Development*

    Quarterly, 24(1), 63-87.

Government Accountability Office (GAO). (2023). *Women in the Workforce:*

    Underrepresentation in management positions persists, and the gender pay gap varies by

    industry and demographics. https://www.gao.gov/assets/gao-23-106320.pdf

Helgesen, S. (2020). The evolution of women's leadership. Strategy+Business. Retrieved

    January 8, 2023, from https://www.strategy-business.com/article/The-evolution-of-

    womens-

    leadership#:~:text=Excellence%20in%20leadership%20By%20the%20start%20of%20th

    e

Heilman, M. E. (2001). Description and Prescription: How Gender Stereotypes Prevent

    Women's Ascent Up the Organizational Ladder. Journal of Social Issues, 57(4), 657–

    674. https://doi.org/10.1111/0022-4537.00234

Ibarra, H., Ibarra, N. M., & Carter, C. (2010). Why men still get more promotions than

    women. *Harvard Business Review.*, *88*(9), 80–85, 126.

LeanIn.Org (2020). How outdated notions about gender and leadership shaped the 2020

    presidential race. https://media.sgff.io/sgff_r1eHetbDYb/2019-09-

    12/1568250861923/Lean-In-Gender-and-2020_Election_Report_F.pdf

LeanIn.Org & McKinsey & Company. (2020). *Women in the workplace 2020.* https://wiw-

    report.s3.amazonaws.com/Women_in_the_Workplace_2020.pdf

VANDERBILT [V] Peabody College

LeanIn.Org & McKinsey & Company. (2022). *Women in the workplace 2022.* https://wiw-

   report.s3.amazonaws.com/Women_in_the_Workplace_2022.pdf

Meara, K., Pastore, F., & Webster, A. (2020). The gender pay gap in the USA: a matching

   study. *Journal of Population Economics*, *33*, 271-305.

McNaught, C., & Lam, P. (2010). Using Wordle as a Supplementary Research Tool. *The

   Qualitative Report*, *15*(3), 630-643. https://doi.org/10.46743/2160-3715/2010.1167

Mitchell, T. (1998). Mentorship as leadership. Change, 30(1), 48.

   http://proxy.library.vanderbilt.edu/login?url=https://www-proquest-

   com.proxy.library.vanderbilt.edu/scholarly-journals/mentorship-as-

   leadership/docview/208054854/se-2

 National Women's Law Center. (2023). *Salary range transparency reduces gender wage gaps.*

   https://nwlc.org/resource/salary-range-transparency-reduces-gender-wage-gaps/#

Ong, W. J. (2021). Gender-contingent effects of leadership on loneliness. *Journal of Applied

   Psychology*. https://doi.org/10.1037/apl0000907

Patton, M. Q. (2014). Qualitative research & evaluation methods: Integrating theory and

   practice. Sage publications.

Reinwald, M., Zaia, J., & Kunze, F. (2023). Shine Bright Like a Diamond: When Signaling

   Creates Glass Cliffs for Female Executives. *Journal of Management.*, *49*(3), 1005–1036.

   https://doi.org/10.1177/01492063211067518

Ryan, M. K. (2023). Addressing workplace gender inequality: Using the evidence to avoid

   common pitfalls. *British Journal of Social Psychology, 62(1)*, 1-11.

VANDERBILT Peabody College

Silard, A., & Wright, S. (2020). The price of wearing (or not wearing) the crown: The effects of

loneliness on leaders and followers. Leadership, 16(4), 389-410.

https://doi.org/10.1177/1742715019893828

Smith, A. N., Watkins, M. B., Ladge, J. J., & Carlton, P. (2019). Making the invisible visible:

Paradoxical effects of intersectional invisibility on the career experiences of executive

Black women. *Academy of Management Journal*, *62*(6), 1705-1734.

Staines, G., Tavris, C., & Jayaratne, T. E. (1974). The queen bee syndrome.

Stephenson, A. L., Dzubinski, L. M., & Diehl, A. B. (2022). A cross-industry comparison of how

women leaders experience gender bias. Personnel Review. https://doi.org/10.1108/PR-

02-2021-0091

Taber, K.S. (2018). The use of cronbach's alpha when developing and reporting research

instruments in science education. *Res Sci Educ 48*, 1273–1296.

https://doi.org/10.1007/s11165-016-9602-2

Tanzi, A. (2022). US women earn 83.4 cents for each dollar men make.

https://www.bloomberg.com/news/articles/2022-10-18/us-women-earn-83-4-of-what-

men-make-in-narrower-pay-

gap?utm_source=website&utm_medium=share&utm_campaign=copy

Tower, L. E., & Alkadry, M. G. (2008). The social costs of career success for women. *Review of

Public Personnel Administration, 28*(2), 144-165.

Wong, C. Y., Kirby, T. A., Rink, F., & Ryan, M. K. (2022). Intersectional invisibility in women's

diversity interventions. Frontiers in Psychology, 13.

https://doi.org/10.3389/fpsyg.2022.791572

VANDERBILT Peabody College

Yıldız, S., & Vural, M. F. (2019). A Cultural Perspective of The Glass Cliff Phenomenon. *Ege*

Akademik Bakış, *19*(3), 309–321. https://doi.org/10.21121/eab.451162

Appendix A: Recruitment Letter

Dear Participant,

You are invited to participate in a capstone project to share your experiences and perceptions around factors associated with the ascension of women into leadership positions across different industries and how bias affects their trajectory. The survey results will be analyzed to complete the Vanderbilt University Ed.D. capstone course. To participate in this survey, please read each question and provide the appropriate response. Your responses will be kept confidential and anonymous.

The study should take you around 10-15 minutes to complete. Completing this survey is voluntary and, you will not be compensated in any way. You have the right to withdraw at any point during the study. If you need assistance during the survey, reach out to the principal investigators, LaShaunda Ford, via email at lashaunda.a.ford@vanderbilt.edu or Jennifer Nelson, via email at jennifer.nelson.2@Vanderbilt.edu. Our faculty advisor, Dr. Jean Forray, Ph.D., can be reached at jeanie.m.forray@vanderbilt.edu. If you have any questions regarding your rights as a participant, contact the Vanderbilt Institutional Review Board (IRB) at (615) 322-2918.

You will consent to participate in this research by submitting the completed survey. Thank you for taking the time to participate in this survey. The survey will be open until April 30th.

Thank you,
LaShaunda Ford & Jennifer Nelson
Vanderbilt Doctoral Candidates and Co-Principal Investigators

Appendix B: Recruitment Flyer

Appendix C: Survey

Anchoring the Leadership Ladder: Perceptions of Systemic Gender Bias and its Role in Women's Career Progression Across Industries

---

Start of Block: Informed Consent

Q1

Anchoring the Leadership Ladder: Perceptions of Systemic Gender Bias and its Role in Women's Career Progression Across Industries

This study focuses on understanding your experiences and perceptions around factors associated with the ascension of women into leadership positions across different industries and how bias affects ones trajectory. The survey results will be analyzed for completion of the Vanderbilt University Ed.D capstone course. To participate in this survey, please read each question and provide the appropriate response. Your responses will be kept confidential and anonymous.

 The study should take you around 10-15 minutes to complete. Completing this survey is voluntary and you will not be compensated in any way. You have the right to withdraw at any point during the study. If you need assistance during the survey, reach out to the principal investigators, LaShaunda Ford, via email at lashaunda.a.ford@vanderbilt.edu or Jennifer Nelson, via email at jennifer.nelson.2@Vanderbilt.edu. Our faculty advisor, Dr. Jean Forray, PhD, can be reached at jeanie.m.forray@vanderbilt.edu. If you have any questions regarding your rights as a participant, contact the Vanderbilt Institutional Review Board (IRB) at (615) 322-2918.

 By submitting the completed survey, you will be providing consent to participate in this research. Thank you for taking the time to participate in this survey.

VANDERBILT Peabody College

○ I consent, begin the study (1)

○ I do not consent, I do not wish to participate (2)

Skip To: End of Survey If Q1 = I do not consent, I do not wish to participate

End of Block: Informed Consent

Start of Block: Personal Demographics

Q2 Demographic data will help us categorize our findings. Please answer the following personal demographic questions.

Q3 What is your current marital status?

○ Married (1)

○ Living with a partner (2)

○ Widowed (3)

○ Divorced/Separated (4)

○ Never been married (5)

VANDERBILT Peabody College

Q4 Choose one or more races that you consider yourself to be

☐　　White or Caucasian (1)

☐　　Black or African American (2)

☐　　American Indian/Native American or Alaska Native (3)

☐　　Asian (4)

☐　　Native Hawaiian or Other Pacific Islander (5)

☐　　Other (6)

☐　　Prefer not to say (7)

Q5 Are you of Spanish, Hispanic, or Latino origin?

○ Yes (1)

○ No (2)

Q6 What is the highest degree or level of education you have completed?

○ No School (1)

○ High school graduate (2)

○ Some college (3)

○ Associates degree (4)

○ Bachelor's degree (5)

○ Master's degree (6)

○ Doctorate degree (7)

VANDERBILT [V] Peabody College

Q7 What is your age?

○ 18 - 24 (1)

○ 25 - 34 (2)

○ 35 - 44 (3)

○ 45 - 54 (4)

○ 55 - 64 (5)

○ 65 or older (6)

End of Block: Personal Demographics

Start of Block: Career Demographics

Q8 Please answer the following demographic questions about your career.

Q9 Select the industry that most aligns with your experience

○ Academia (1)

○ Advertising (2)

○ Art and Design (3)

○ Consumer Services (4)

○ Cyber Security (5)

○ Education (6)

○ Energy and Climate (7)

○ Financial Services (8)

○ Government (9)

○ Health, Pharmaceuticals, and Biotech (10)

○ Hospitality (11)

○ Internet and Technology (12)

○ Journalism and Publishing (13)

○ Law (14)

○ Manufacturing (15)

○ Media and Entertainment (16)

○ Non-profit (17)

○ Professional Services (18)

○ Real Estate and Construction (19)

○ Retail and E-Commerce (20)

○ Telecommunications (21)

○ Transportation and Storage (22)

○ Travel and Tourism (23)

○ Other (24)

VANDERBILT **V** Peabody College

Q11 What is your job level?

○ L1 – Executives: CEO and direct reports to CEO, responsible for company operations and profitability (1)

○ L2 – Senior vice presidents and other similar roles: Senior leaders of the organization with significant business unit or functional oversight (2)

○ L3 – Vice presidents and other similar roles: Leaders within the organization, responsible for activities/initiatives within a sub-unit of a business unit or function, or who report directly to senior vice presidents (3)

○ L4 – Senior managers: Seasoned managers and contributors, with responsibility for multiple teams and discrete functions or operating units   (4)

○ L5 – Managers: Junior managers and contributors, responsible for small teams and/or functional units or operations (5)

○ L6 – Entry level: Employees responsible for carrying out discrete tasks and participating on teams, typically in an office or corporate setting (6)

Q10 How many years have you been in your current job level?

○ Less than one year (1)

○ Between one and three years (2)

○ Between four and seven years (3)

○ Greater than seven years (4)

End of Block: Career Demographics

Start of Block: Male Privilege

Q12 Rank the following statements

VANDERBILT Peabody College

	Strongly Disagree (1)	Somewhat disagree (2)	Neither agree nor disagree (3)	Somewhat agree (4)	Strongly agree (5)
I have been asked to do a job that everyone knew was likely to fail. (1)	○	○	○	○	○
I have been held responsible for organizational problems outside of my control. (2)	○	○	○	○	○
Women in my organization seem to be given leadership roles with a high risk of failure. (3)	○	○	○	○	○
In my organization, there is pressure to conform to gender stereotypes. (4)	○	○	○	○	○
People in my organization assume that top leaders will be men. (5)	○	○	○	○	○
The decisions in my organization are made by men. (6)	○	○	○	○	○
The "boys' club" mentality is present in my workplace. (7)	○	○	○	○	○
Even though my spouse/partner does not work for my organization, s/he is expected to host events. (8)	○	○	○	○	○

VANDERBILT Peabody College

My organization expects spouses/partners of senior leaders to contribute as unpaid volunteers. (9)	○	○	○	○	○
My organization vets spouses/partners of senior leaders as part of the hiring process. (10)	○	○	○	○	○

End of Block: Male Privilege

Start of Block: Disproportionate Constraints

VANDERBILT Peabody College

Q13 Rank the following statements

	Strongly disagree (1)	Somewhat disagree (2)	Neither agree nor disagree (3)	Somewhat agree (4)	Strongly agree (5)
I am mindful of my communication approach when exercising authority at work. (1)	○	○	○	○	○
I chose my field of study because it was considered suitable for for women. (2)	○	○	○	○	○
I would have chosen a different field of study but it was considered inappropriate for women. (3)	○	○	○	○	○
Growing up I was encouraged to pursue certain careers that were appropriate for women. (4)	○	○	○	○	○
My ideas seem more likely to be taken seriously when a man repeats them, (5)	○	○	○	○	○
My job performance has been scrutinized more closely than that of my male colleagues. (6)	○	○	○	○	○

VANDERBILT Peabody College

| As a woman I am expected to be nurturing at work. (7) | ○ | ○ | ○ | ○ | ○ |
| I work harder than my male colleagues for the same credibility. (8) | ○ | ○ | ○ | ○ | ○ |

Q14 Rank the following statements

	Never (1)	Rarely (2)	Sometimes (3)	Often (4)	Always (5)
I wait to be acknowledged prior to speaking in a meeting. (1)	○	○	○	○	○
I am cautious when self-promoting at work. (2)	○	○	○	○	○
I downplay my accomplishments when speaking to others. (3)	○	○	○	○	○

End of Block: Disproportionate Constraints

Start of Block: Devaluation

VANDERBILT Peabody College

Q17 Rank the following statements

	Never (1)	Rarely (2)	Sometimes (3)	Often (4)	Always (5)
At work, I am interrupted by men when I am speaking. (1)	○	○	○	○	○
When I am the only woman in a meeting, I find it difficult to gain support for my ideas. (2)	○	○	○	○	○
It is taken for granted when I help my male colleagues with their responsibilities. (3)	○	○	○	○	○

Q18 Rank the following statements

	Strongly disagree (1)	Somewhat disagree (2)	Neither agree nor disagree (3)	Somewhat agree (4)	Strongly agree (5)
My efforts at creating harmony at work are noticed (1)	○	○	○	○	○
I have made less money than my male counterparts. (2)	○	○	○	○	○
I have made less money than men who have held my position prior to me. (3)	○	○	○	○	○

VANDERBILT Peabody College

Q19 Rank the following statements

	Strongly disagree (1)	Somewhat disagree (2)	Neither agree nor disagree (3)	Somewhat agree (4)	Strongly agree (5)
I have had opportunities blocked by other women at work. (1)	○	○	○	○	○
Women in higher positions have made my job more difficult. (2)	○	○	○	○	○
High-level women in my organization protect their turf. (3)	○	○	○	○	○
High-level women in my organization help other women succeed. (4)	○	○	○	○	○
I have experienced verbal abuse at work. (5)	○	○	○	○	○
The behavior of my male coworkers has sometimes made me feel uncomfortable. (6)	○	○	○	○	○
I have been sexually harassed at work. (7)	○	○	○	○	○

VANDERBILT **V** Peabody College

Q20 Rank the following statements

	Never (1)	Rarely (2)	Sometimes (3)	Often (4)	Always (5)
I speak up about challenges women face at work. (1)	○	○	○	○	○
I advocate for women's rights at work. (2)	○	○	○	○	○
It requires the encouragement of others for me to accept a new opportunity. (3)	○	○	○	○	○

Q21 Rank the following statements

	Strongly disagree (1)	Somewhat disagree (2)	Neither agree nor disagree (3)	Somewhat agree (4)	Strongly agree (5)
I have turned down a promotion because I felt unqualified. (1)	○	○	○	○	○
My personal obligations have prevented me from pursuing opportunities for advancement at work. (2)	○	○	○	○	○

VANDERBILT **V** Peabody College

Q15 Rank the following statements

	Never (1)	Rarely (2)	Sometimes (3)	Often (4)	Always (5)
I feel welcome while attending social events with my male colleagues. (1)	○	○	○	○	○
Male colleagues socialize without me. (2)	○	○	○	○	○
I have been excluded from leadership events (e.g., off-sites, retreats) because of my gender. (3)	○	○	○	○	○

VANDERBILT Peabody College

Q16 Rank the following statements

	Strongly disagree (1)	Somewhat disagree (2)	Neither agree nor disagree (3)	Somewhat agree (4)	Strongly agree (5)
I have received significant mentoring. (1)	○	○	○	○	○
I have had a female mentor (2)	○	○	○	○	○
I have had to learn how to lead on my own. (3)	○	○	○	○	○
Other leaders have recommended me for advancement opportunities. (4)	○	○	○	○	○
I have had another leader sponsor me for promotion. (5)	○	○	○	○	○

End of Block: Insufficient Support

Start of Block: Open Ended Questions

Q27 **The following questions give you an opportunity to provide additional context about your experience in the workplace.**

Have you been impacted by other types of bias such as racial, ethnic, age-related, sexual orientation, religious, or disability?

_____

VANDERBILT Peabody College

Q30 Other than those listed in the above questions, are there other aspects of your identity that you believe contribute to your experiences?

_____

Q31 Have you experienced barriers or obstacles not reflected in the survey questions above?

_____

Q32 In what ways do you believe that bias in the workplace has affected your career trajectory?

_____

Q28 What do you see as your next professional step?

_____

Q29 Is there anything we neglected to ask that you wish to share?

_____

End of Block: Open Ended Questions

VANDERBILT Peabody College

Appendix D: Word Clouds

Questions 1: Have you been impacted by other types of bias such as racial, ethnic, age-related,

sexual orientation, religious, disability, etc.,

Questions 2: What do you see as your next professional step?

VANDERBILT Peabody College

Questions 3: Is there anything else we neglected to ask that you wish to share?

Questions 4: Other than those listed in the above questions, are there other aspects of your

identity that you believe contribute to your experiences?

Questions 5: Have you experienced barriers or obstacles not reflected in the questions above?

Questions 6: In what ways do you believe that bias in the workplace has affected your career

trajectory?

Appendix E: Demographic Breakdown

Table 7: *Demographic Characteristics*

	n	%
Marital Status		
Married	166	69.8
Living with a partner	14	5.9
Divorced/Separated	30	12.6
Never been married	28	11.8
Race / Ethnicity		
White or Caucasian	172	72.3
Black or African American	30	12.6
American Indian/Native American or Alaska Native	4	1.7
Asian	23	9.7
Native Hawaiian or Other Pacific Islander	1	0.4
Other	8	3.4
Spanish, Hispanic, or Latino origin?		
Yes	15	6.3
No	222	93.7
Highest level of education completed?		
No School	1	0.4
Some college	3	1.3
Associates degree	2	0.8
Bachelor's degree	70	29.4
Master's degree	108	45.4
Doctorate degree	54	22.7
Age		
25 - 34	3	1.3
35 - 44	78	32.8
45 - 54	113	47.5
55 - 64	42	17.7
65 or older	2	0.8
Industry most aligned with experience		
Academia	3	1.3
Advertising	10	4.2
Art and Design	1	0.4
Consumer Services	3	1.3
Cyber Security	2	0.8
Education	11	4.6
Energy and Climate	3	1.3
Financial Services	25	10.5

Table 7: *Demographic Characteristics*

Government	6	2.5
Health, Pharmaceuticals, and Biotech	35	14.7
Hospitality	1	0.4
Internet and Technology	33	13.9
Journalism and Publishing	2	0.8
Law	13	5.5
Manufacturing	7	2.9
Media and Entertainment	5	2.1
Non-profit	18	7.6
Professional Services	31	13.0
Real Estate and Construction	5	2.1
Retail and E-Commerce	5	2.1
Telecommunications	3	1.3
Transportation and Storage	2	0.8
Travel and Tourism	6	2.5
Other	8	3.4
Job level		
L1 – Executives	102	42.9
L2 – Senior vice presidents and other similar roles	70	29.4
L3 – Vice presidents and other similar roles	61	25.6
L4 – Senior managers	4	1.7
L5 – Managers	1	0.4
Work Experience		
Less than one year	26	10.9
Between one and three years	107	45.0
Between four and seven years	66	27.7
Greater than seven years	39	16.4

VANDERBILT Peabody College

Appendix F: Descriptive Statistics

Table 8: Descriptive Statistics

	n	Min	Max	Factor Mean*	M	SD	Md	Kur	Skew
Male Privilege	238	10	45	2.678	27.483	7.460	28	-0.574	-0.084
Glass Cliff	238	3	15	3.255	9.765	3.346	10	-0.857	-0.355
Male Culture	238	4	20	3.378	13.513	4.543	15	-0.803	-0.479
Two Person Career	238	3	11	1.402	4.206	2.024	3	1.652	1.625
Disproportionate Constraints	238	14	50	3.298	35.605	6.133	36	0.498	-0.483
Constrained Communication	238	7	20	3.508	14.034	2.549	14	-0.253	-0.394
Constrained Career Choices	238	4	18	2.413	9.651	2.995	9	-0.219	0.449
Unequal Standards	238	3	15	3.973	11.920	2.743	12	1.151	-1.146
Devaluation	238	10	28	3.584	20.676	3.382	21	0.105	-0.440
Lack of Acknowledgment	238	7	19	3.170	12.681	2.313	13	0.022	-0.058
Salary Inequity	238	2	10	3.998	7.996	1.988	8	0.141	-0.835
Hostility	238	7	34	3.390	23.878	5.250	24	-0.091	-0.520
Queen Bee Syndrome	238	4	20	3.536	14.143	3.147	15	-0.426	-0.530
Workplace Harassment	238	3	15	3.245	9.735	3.576	10	-1.022	-0.261
Acquiescence	238	7	23	3.099	14.744	3.317	15	-0.253	0.194
Self-Silencing	238	2	10	3.821	7.702	1.795	8	0.510	-0.736
Self-Limited Aspirations	238	3	15	2.347	7.042	2.657	7	-0.506	0.405
Insufficient Support	238	14	37	3.415	26.899	4.380	27	-0.287	-0.237
Exclusion	238	5	14	3.078	9.235	1.565	9	0.158	0.236
Lack of Mentoring	238	4	15	3.333	10.000	2.404	10	-0.715	-0.009
Lack of Sponsorship	238	2	10	3.832	7.664	2.354	8	-0.158	-0.901

*Factor Mean: Higher-order factor mean calculated as the mean of the component lower-order factors. Lower-order factors means calculated as the mean of component questions.

Appendix F: Qualitative Codebook

VANDERBILT | Peabody College

Table 8: Themes

Theme	Frequency	Subtheme	Codes
Barriers Hindering women Ascension to leadership	**41**		
Individual Barriers to career Ascension	11	Body Appearance	Appearance, height, not being attractive, overweight
		Personality issues	Lack of confidence, Socio-economic background
Organizational Barriers to career Ascension	24	Hostility	Horizontal hostility, not being recognized, stereotyping
		Lack of support	Lack of support from superiors, male privilege
Societal Barriers to career Ascension	6	Disproportionate constraints	Parenting roles, societal expectations, unconscious cultural bias
Effects of systemic Gender Bias	**24**		
Affected my Personality	4		Affected my self-esteem, loss of confidence
Inhibited Career Growth	3		Delayed by career advancement, forced to work harder, lack of promotion, lowered in C-suite
Leaving the organization	10		Leaving due to culture, Trying out another company, to look for other opportunities, starting entrepreneurship, leaving the

VANDERBILT Peabody College

				corporate, leaving for another large company, leaving due to environment
Poor treatment at work	2			Bullying, held accountable wrongly, poor treatment by bosses, questioned ideas
Positive Effect	5			More opportunities, motivated to success, no serious impact on trajectory
Other Factors contributing to Systemic Bias	**108**			
Individual	30		Appearance Health status Personality Social economic Status	Dressing, body weight, body appearance, being attractive, introvert, forthright, empathetic, courageous, collaborator
Organizational	71		Acquiescence Biased on Protected Characteristics (Acquiescence)	Race, religious, sexual orientation, age, country of origin, disability, ethnicity, Gender, marital status, pregnancy
Societal	7		Societal expectation on Family roles	Political Affiliation, family status, family roles and responsibilities

Appendix G: Data Analysis Higher Order Factors

VANDERBILT | Peabody College

Table 9: One-Way MANOVA Analysis of the Perception of Gender Bias Across the Six Domains of GBSWL (Higher Order Factors)

	Statistic	df	df1	df2	F	p
Wilks' lambda	.742	10	60	1168.2	1.14	.221
Pillai's trace	.288		60	1362.0	1.14	.214
Lawley-Hotelling trace	.309		60	1322.0	1.13	.229
Roy's largest root	.102		10.0	227.0	2.32	.013

Table 10: Multivariate Regression Analysis of the Perception of Gender Bias Across the Six Domains of GBSWL (Higher Order Factors)

	β	SE	t	p	95% CI Lower	Upper
Male Privilege						
Academia & Education			Reference			
Media, Arts & Communication	0.714	2.674	0.270	0.790	-4.555	5.984
Technology	2.635	2.346	1.120	0.263	-1.988	7.258
Financial Services	2.254	2.505	0.900	0.369	-2.682	7.190
Professional Services	0.666	2.416	0.280	0.783	-4.096	5.427
Legal Services	1.291	2.890	0.450	0.656	-4.404	6.987
Health & Biotech	1.500	2.373	0.630	0.528	-3.176	6.176
Retail & Leisure	3.881	2.789	1.390	0.165	-1.614	9.376
Industry, Utilities & Infrastructure	4.214	2.708	1.560	0.121	-1.122	9.551
Government & Non-Profits	-0.202	2.524	-0.080	0.936	-5.175	4.770
Other	2.464	3.326	0.740	0.460	-4.089	9.018
Disproportionate Constraints						
Academia & Education			Reference			
Media, Arts & Communication	0.000	2.166	0.000	1.000	-4.268	4.268
Technology	2.553	1.900	1.340	0.181	-1.192	6.297
Financial Services	1.680	2.029	0.830	0.409	-2.318	5.678
Professional Services	-0.645	1.957	-0.330	0.742	-4.502	3.211
Legal Services	-0.769	2.341	-0.330	0.743	-5.382	3.844
Health & Biotech	3.286	1.922	1.710	0.089	-0.502	7.073
Retail & Leisure	3.400	2.259	1.510	0.134	-1.051	7.851
Industry, Utilities & Infrastructure	1.471	2.194	0.670	0.503	-2.852	5.793
Government & Non-Profits	2.792	2.044	1.370	0.173	-1.236	6.819

VANDERBILT | Peabody College

Table 10: Multivariate Regression Analysis of the Perception of Gender Bias Across the Six Domains of GBSWL (Higher Order Factors)

	β	SE	t	p	95% CI Lower	Upper
Other	1.875	2.694	0.700	0.487	-3.433	7.183
Devaluation						
Academia & Education			Reference			
Media, Arts & Communication	0.500	1.204	0.420	0.678	-1.873	2.873
Technology	1.605	1.057	1.520	0.130	-0.477	3.687
Financial Services	0.200	1.128	0.180	0.859	-2.023	2.423
Professional Services	0.000	1.088	0.000	1.000	-2.144	2.144
Legal Services	-0.385	1.302	-0.300	0.768	-2.950	2.180
Health & Biotech	1.486	1.069	1.390	0.166	-0.620	3.592
Retail & Leisure	1.267	1.256	1.010	0.314	-1.208	3.741
Industry, Utilities & Infrastructure	0.941	1.220	0.770	0.441	-1.462	3.345
Government & Non-Profits	-0.083	1.137	-0.070	0.942	-2.323	2.156
Other	0.750	1.498	0.500	0.617	-2.201	3.701
Hostility						
Academia & Education			Reference			
Media, Arts & Communication	0.952	1.848	0.520	0.607	-2.689	4.594
Technology	1.602	1.621	0.990	0.324	-1.594	4.797
Financial Services	0.266	1.731	0.150	0.878	-3.146	3.677
Professional Services	0.624	1.670	0.370	0.709	-2.666	3.915
Legal Services	-1.291	1.998	-0.650	0.519	-5.227	2.645
Health & Biotech	0.214	1.640	0.130	0.896	-3.017	3.446
Retail & Leisure	2.452	1.927	1.270	0.205	-1.345	6.250
Industry, Utilities & Infrastructure	1.668	1.872	0.890	0.374	-2.020	5.356
Government & Non-Profits	1.536	1.744	0.880	0.380	-1.901	4.973
Other	-4.839	2.299	-2.110	0.036	-9.369	-0.310
Acquiescence						
Academia & Education			Reference			
Media, Arts & Communication	2.024	1.181	1.710	0.088	-0.302	4.350
Technology	0.594	1.036	0.570	0.567	-1.447	2.635
Financial Services	0.497	1.106	0.450	0.653	-1.682	2.676
Professional Services	0.599	1.067	0.560	0.575	-1.503	2.701
Legal Services	-1.066	1.276	-0.840	0.404	-3.580	1.448
Health & Biotech	1.143	1.048	1.090	0.276	-0.921	3.207
Retail & Leisure	1.390	1.231	1.130	0.260	-1.035	3.816
Industry, Utilities & Infrastructure	0.504	1.196	0.420	0.674	-1.852	2.860
Government & Non-Profits	-0.268	1.114	-0.240	0.810	-2.463	1.928
Other	0.482	1.468	0.330	0.743	-2.411	3.375
Insufficient Support						

Table 10: Multivariate Regression Analysis of the Perception of Gender Bias Across the Six Domains of GBSWL (Higher Order Factors)

	β	SE	t	p	95% CI Lower	Upper
Academia & Education			Reference			
Media, Arts & Communication	0.683	1.573	0.430	0.665	-2.416	3.781
Technology	-1.613	1.380	-1.170	0.244	-4.332	1.106
Financial Services	-0.509	1.473	-0.350	0.730	-3.411	2.394
Professional Services	-0.590	1.421	-0.420	0.678	-3.390	2.210
Legal Services	-0.967	1.700	-0.570	0.570	-4.316	2.382
Health & Biotech	0.057	1.396	0.040	0.967	-2.693	2.807
Retail & Leisure	0.638	1.640	0.390	0.698	-2.593	3.870
Industry, Utilities & Infrastructure	-0.605	1.593	-0.380	0.704	-3.743	2.533
Government & Non-Profits	-1.345	1.484	-0.910	0.366	-4.270	1.579
Other	-0.304	1.956	-0.160	0.877	-4.158	3.551

Table 11: Results of MANOVA post hoc Industry Mean Comparison Test

The Six Domains of GBSWL	Contrast	SE	t	p	95% CI Lower	Upper
1. Male Privilege						
Media, Arts & Communication vs Academia & Education	0.530	2.623	0.200	1.000	-7.997	9.057
Technology vs Academia & Education	2.573	2.320	1.110	0.990	-4.969	10.116
Financial Services vs Academia & Education	2.368	2.468	0.960	0.997	-5.657	10.393
Professional Services vs Academia & Education	0.871	2.386	0.360	1.000	-6.887	8.628
Legal Services vs Academia & Education	1.291	2.868	0.450	1.000	-8.033	10.616
Health & Biotech vs Academia & Education	1.500	2.355	0.640	1.000	-6.155	9.155
Retail & Leisure vs Academia & Education	3.881	2.767	1.400	0.947	-5.115	12.877
Industry, Utilities & Infrastructure vs Academia & Education	4.214	2.687	1.570	0.894	-4.523	12.951
Government & Non-Profits vs Academia & Education	-0.202	2.504	-0.080	1.000	-8.344	7.939
Other vs Academia & Education	2.881	3.181	0.910	0.998	-7.462	13.224
Technology vs Media, Arts & Communication	2.043	2.083	0.980	0.996	-4.730	8.816
Financial Services vs Media, Arts & Communication	1.838	2.247	0.820	0.999	-5.469	9.145

VANDERBILT Peabody College

The Six Domains of GBSWL	Contrast	SE	t	p	95% CI Lower	Upper
Professional Services vs Media, Arts & Communication	0.340	2.157	0.160	1.000	-6.671	7.352
Legal Services vs Media, Arts & Communication	0.761	2.680	0.280	1.000	-7.952	9.475
Health & Biotech vs Media, Arts & Communication	0.970	2.122	0.460	1.000	-5.929	7.868
Retail & Leisure vs Media, Arts & Communication	3.351	2.572	1.300	0.968	-5.011	11.712
Industry, Utilities & Infrastructure vs Media, Arts & Communication	3.684	2.486	1.480	0.924	-4.398	11.766
Government & Non-Profits vs Media, Arts & Communication	-0.732	2.287	-0.320	1.000	-8.166	6.702
Other vs Media, Arts & Communication	2.351	3.013	0.780	0.999	-7.445	12.147
Financial Services vs Technology	-0.205	1.885	-0.110	1.000	-6.334	5.924
Professional Services vs Technology	-1.703	1.776	-0.960	0.997	-7.477	4.071
Legal Services vs Technology	-1.282	2.385	-0.540	1.000	-9.035	6.471
Health & Biotech vs Technology	-1.073	1.734	-0.620	1.000	-6.710	4.563
Retail & Leisure vs Technology	1.308	2.262	0.580	1.000	-6.047	8.663
Industry, Utilities & Infrastructure vs Technology	1.641	2.164	0.760	1.000	-5.395	8.677
Government & Non-Profits vs Technology	-2.776	1.932	-1.440	0.938	-9.056	3.505
Other vs Technology	0.308	2.754	0.110	1.000	-8.645	9.260
Professional Services vs Financial Services	-1.498	1.966	-0.760	1.000	-7.889	4.894
Legal Services vs Financial Services	-1.077	2.529	-0.430	1.000	-9.300	7.146
Health & Biotech vs Financial Services	-0.868	1.928	-0.450	1.000	-7.136	5.400
Retail & Leisure vs Financial Services	1.513	2.414	0.630	1.000	-6.336	9.362
Industry, Utilities & Infrastructure vs Financial Services	1.846	2.322	0.790	0.999	-5.705	9.397
Government & Non-Profits vs Financial Services	-2.571	2.108	-1.220	0.980	-9.423	4.282
Other vs Financial Services	0.513	2.880	0.180	1.000	-8.850	9.875
Legal Services vs Professional Services	0.421	2.449	0.170	1.000	-7.541	8.383
Health & Biotech vs Professional Services	0.629	1.821	0.350	1.000	-5.292	6.551
Retail & Leisure vs Professional Services	3.010	2.330	1.290	0.969	-4.565	10.586
Industry, Utilities & Infrastructure vs Professional Services	3.344	2.235	1.500	0.920	-3.922	10.609
Government & Non-Profits vs Professional Services	-1.073	2.011	-0.530	1.000	-7.610	5.464
Other vs Professional Services	2.010	2.809	0.720	1.000	-7.124	11.145
Health & Biotech vs Legal Services	0.209	2.419	0.090	1.000	-7.654	8.072
Retail & Leisure vs Legal Services	2.590	2.822	0.920	0.998	-6.584	11.763
Industry, Utilities & Infrastructure vs Legal Services	2.923	2.743	1.070	0.993	-5.996	11.842
Government & Non-Profits vs Legal Services	-1.494	2.564	-0.580	1.000	-9.830	6.843
Other vs Legal Services	1.590	3.229	0.490	1.000	-8.908	12.087

The Six Domains of GBSWL	Contrast	SE	t	p	95% CI Lower	Upper
Retail & Leisure vs Health & Biotech	2.381	2.298	1.040	0.994	-5.090	9.852
Industry, Utilities & Infrastructure vs Health & Biotech	2.714	2.201	1.230	0.978	-4.442	9.871
Government & Non-Profits vs Health & Biotech	-1.702	1.973	-0.860	0.999	-8.118	4.714
Other vs Health & Biotech	1.381	2.783	0.500	1.000	-7.667	10.429
Industry, Utilities & Infrastructure vs Retail & Leisure	0.333	2.638	0.130	1.000	-8.242	8.909
Government & Non-Profits vs Retail & Leisure	-4.083	2.451	-1.670	0.851	-12.051	3.885
Other vs Retail & Leisure	-1.000	3.140	-0.320	1.000	-11.207	9.207
Government & Non-Profits vs Industry, Utilities & Infrastructure	-4.417	2.360	-1.870	0.735	-12.091	3.258
Other vs Industry, Utilities & Infrastructure	-1.333	3.070	-0.430	1.000	-11.313	8.646
Other vs Government & Non-Profits	3.083	2.910	1.060	0.993	-6.379	12.546

2.   Disproportionate Constraints

	Contrast	SE	t	p	95% CI Lower	Upper
Media, Arts & Communication vs Academia & Education	-0.158	2.125	-0.070	1.000	-7.066	6.750
Technology vs Academia & Education	2.436	1.879	1.300	0.969	-3.675	8.546
Financial Services vs Academia & Education	1.846	2.000	0.920	0.998	-4.655	8.348
Professional Services vs Academia & Education	-0.563	1.933	-0.290	1.000	-6.847	5.722
Legal Services vs Academia & Education	-0.769	2.323	-0.330	1.000	-8.323	6.785
Health & Biotech vs Academia & Education	3.286	1.908	1.720	0.823	-2.916	9.488
Retail & Leisure vs Academia & Education	3.400	2.242	1.520	0.913	-3.888	10.688
Industry, Utilities & Infrastructure vs Academia & Education	1.471	2.177	0.680	1.000	-5.608	8.549
Government & Non-Profits vs Academia & Education	2.792	2.029	1.380	0.953	-3.804	9.387
Other vs Academia & Education	1.667	2.577	0.650	1.000	-6.713	10.046
Technology vs Media, Arts & Communication	2.594	1.688	1.540	0.906	-2.893	8.081
Financial Services vs Media, Arts & Communication	2.004	1.821	1.100	0.991	-3.915	7.923
Professional Services vs Media, Arts & Communication	-0.405	1.747	-0.230	1.000	-6.085	5.276
Legal Services vs Media, Arts & Communication	-0.611	2.171	-0.280	1.000	-7.671	6.448
Health & Biotech vs Media, Arts & Communication	3.444	1.719	2.000	0.647	-2.145	9.032
Retail & Leisure vs Media, Arts & Communication	3.558	2.084	1.710	0.830	-3.216	10.332
Industry, Utilities & Infrastructure vs Media, Arts & Communication	1.628	2.014	0.810	0.999	-4.919	8.176
Government & Non-Profits vs Media, Arts & Communication	2.950	1.852	1.590	0.884	-3.073	8.972

VANDERBILT [V] Peabody College

The Six Domains of GBSWL	Contrast	SE	t	p	95% CI Lower	Upper
Other vs Media, Arts & Communication	1.825	2.441	0.750	1.000	-6.112	9.761
Financial Services vs Technology	-0.590	1.527	-0.390	1.000	-5.555	4.376
Professional Services vs Technology	-2.998	1.439	-2.080	0.590	-7.676	1.680
Legal Services vs Technology	-3.205	1.932	-1.660	0.854	-9.486	3.076
Health & Biotech vs Technology	0.850	1.405	0.610	1.000	-3.717	5.416
Retail & Leisure vs Technology	0.964	1.833	0.530	1.000	-4.995	6.923
Industry, Utilities & Infrastructure vs Technology	-0.965	1.753	-0.550	1.000	-6.665	4.735
Government & Non-Profits vs Technology	0.356	1.565	0.230	1.000	-4.732	5.444
Other vs Technology	-0.769	2.231	-0.340	1.000	-8.022	6.483
Professional Services vs Financial Services	-2.409	1.593	-1.510	0.915	-7.587	2.770
Legal Services vs Financial Services	-2.615	2.049	-1.280	0.972	-9.277	4.047
Health & Biotech vs Financial Services	1.440	1.562	0.920	0.998	-3.638	6.517
Retail & Leisure vs Financial Services	1.554	1.956	0.790	0.999	-4.805	7.913
Industry, Utilities & Infrastructure vs Financial Services	-0.376	1.882	-0.200	1.000	-6.493	5.742
Government & Non-Profits vs Financial Services	0.946	1.708	0.550	1.000	-4.606	6.497
Other vs Financial Services	-0.179	2.333	-0.080	1.000	-7.765	7.406
Legal Services vs Professional Services	-0.207	1.984	-0.100	1.000	-6.657	6.244
Health & Biotech vs Professional Services	3.848	1.475	2.610	0.251	-0.949	8.645
Retail & Leisure vs Professional Services	3.963	1.888	2.100	0.579	-2.175	10.100
Industry, Utilities & Infrastructure vs Professional Services	2.033	1.810	1.120	0.989	-3.853	7.919
Government & Non-Profits vs Professional Services	3.354	1.629	2.060	0.608	-1.942	8.650
Other vs Professional Services	2.229	2.276	0.980	0.996	-5.171	9.629
Health & Biotech vs Legal Services	4.055	1.959	2.070	0.600	-2.315	10.425
Retail & Leisure vs Legal Services	4.169	2.286	1.820	0.765	-3.263	11.601
Industry, Utilities & Infrastructure vs Legal Services	2.240	2.223	1.010	0.995	-4.986	9.466
Government & Non-Profits vs Legal Services	3.561	2.077	1.710	0.827	-3.193	10.315
Other vs Legal Services	2.436	2.616	0.930	0.998	-6.069	10.940
Retail & Leisure vs Health & Biotech	0.114	1.862	0.060	1.000	-5.938	6.167
Industry, Utilities & Infrastructure vs Health & Biotech	-1.815	1.783	-1.020	0.995	-7.613	3.983
Government & Non-Profits vs Health & Biotech	-0.494	1.599	-0.310	1.000	-5.692	4.704
Other vs Health & Biotech	-1.619	2.255	-0.720	1.000	-8.949	5.711
Industry, Utilities & Infrastructure vs Retail & Leisure	-1.929	2.137	-0.900	0.998	-8.877	5.018
Government & Non-Profits vs Retail & Leisure	-0.608	1.986	-0.310	1.000	-7.064	5.847
Other vs Retail & Leisure	-1.733	2.544	-0.680	1.000	-10.003	6.536

VANDERBILT Peabody College

The Six Domains of GBSWL	Contrast	SE	t	p	95% CI Lower	Upper
Government & Non-Profits vs Industry, Utilities & Infrastructure	1.321	1.912	0.690	1.000	-4.896	7.538
Other vs Industry, Utilities & Infrastructure	0.196	2.487	0.080	1.000	-7.889	8.281
Other vs Government & Non-Profits	-1.125	2.358	-0.480	1.000	-8.791	6.541

3. Devaluation

The Six Domains of GBSWL	Contrast	SE	t	p	95% CI Lower	Upper
Media, Arts & Communication vs Academia & Education	0.263	1.190	0.220	1.000	-3.605	4.131
Technology vs Academia & Education	1.538	1.052	1.460	0.931	-1.883	4.960
Financial Services vs Academia & Education	0.385	1.120	0.340	1.000	-3.256	4.025
Professional Services vs Academia & Education	0.063	1.082	0.060	1.000	-3.457	3.582
Legal Services vs Academia & Education	-0.385	1.301	-0.300	1.000	-4.615	3.845
Health & Biotech vs Academia & Education	1.486	1.068	1.390	0.950	-1.987	4.959
Retail & Leisure vs Academia & Education	1.267	1.255	1.010	0.995	-2.814	5.348
Industry, Utilities & Infrastructure vs Academia & Education	0.941	1.219	0.770	1.000	-3.022	4.905
Government & Non-Profits vs Academia & Education	-0.083	1.136	-0.070	1.000	-3.777	3.610
Other vs Academia & Education	0.556	1.443	0.380	1.000	-4.137	5.248
Technology vs Media, Arts & Communication	1.275	0.945	1.350	0.959	-1.797	4.348
Financial Services vs Media, Arts & Communication	0.121	1.020	0.120	1.000	-3.193	3.436
Professional Services vs Media, Arts & Communication	-0.201	0.978	-0.210	1.000	-3.381	2.980
Legal Services vs Media, Arts & Communication	-0.648	1.216	-0.530	1.000	-4.601	3.305
Health & Biotech vs Media, Arts & Communication	1.223	0.963	1.270	0.973	-1.907	4.352
Retail & Leisure vs Media, Arts & Communication	1.004	1.167	0.860	0.999	-2.790	4.797
Industry, Utilities & Infrastructure vs Media, Arts & Communication	0.678	1.128	0.600	1.000	-2.988	4.344
Government & Non-Profits vs Media, Arts & Communication	-0.346	1.037	-0.330	1.000	-3.719	3.026
Other vs Media, Arts & Communication	0.292	1.367	0.210	1.000	-4.152	4.736
Financial Services vs Technology	-1.154	0.855	-1.350	0.959	-3.934	1.627
Professional Services vs Technology	-1.476	0.806	-1.830	0.760	-4.095	1.143
Legal Services vs Technology	-1.923	1.082	-1.780	0.792	-5.440	1.594
Health & Biotech vs Technology	-0.053	0.786	-0.070	1.000	-2.610	2.504
Retail & Leisure vs Technology	-0.272	1.026	-0.260	1.000	-3.608	3.065
Industry, Utilities & Infrastructure vs Technology	-0.597	0.982	-0.610	1.000	-3.789	2.594
Government & Non-Profits vs Technology	-1.622	0.876	-1.850	0.748	-4.471	1.227
Other vs Technology	-0.983	1.249	-0.790	0.999	-5.044	3.078

VANDERBILT Peabody College

The Six Domains of GBSWL	Contrast	SE	t	p	95% CI Lower	Upper
Professional Services vs Financial Services	-0.322	0.892	-0.360	1.000	-3.222	2.577
Legal Services vs Financial Services	-0.769	1.147	-0.670	1.000	-4.500	2.961
Health & Biotech vs Financial Services	1.101	0.875	1.260	0.975	-1.742	3.944
Retail & Leisure vs Financial Services	0.882	1.095	0.810	0.999	-2.679	4.443
Industry, Utilities & Infrastructure vs Financial Services	0.557	1.054	0.530	1.000	-2.869	3.982
Government & Non-Profits vs Financial Services	-0.468	0.956	-0.490	1.000	-3.577	2.641
Other vs Financial Services	0.171	1.306	0.130	1.000	-4.076	4.418
Legal Services vs Professional Services	-0.447	1.111	-0.400	1.000	-4.059	3.165
Health & Biotech vs Professional Services	1.423	0.826	1.720	0.822	-1.263	4.109
Retail & Leisure vs Professional Services	1.204	1.057	1.140	0.988	-2.232	4.641
Industry, Utilities & Infrastructure vs Professional Services	0.879	1.014	0.870	0.999	-2.417	4.175
Government & Non-Profits vs Professional Services	-0.146	0.912	-0.160	1.000	-3.111	2.820
Other vs Professional Services	0.493	1.275	0.390	1.000	-3.651	4.637
Health & Biotech vs Legal Services	1.870	1.097	1.700	0.832	-1.697	5.437
Retail & Leisure vs Legal Services	1.651	1.280	1.290	0.970	-2.510	5.813
Industry, Utilities & Infrastructure vs Legal Services	1.326	1.245	1.070	0.993	-2.720	5.372
Government & Non-Profits vs Legal Services	0.301	1.163	0.260	1.000	-3.481	4.083
Other vs Legal Services	0.940	1.465	0.640	1.000	-3.822	5.702
Retail & Leisure vs Health & Biotech	-0.219	1.042	-0.210	1.000	-3.608	3.170
Industry, Utilities & Infrastructure vs Health & Biotech	-0.545	0.999	-0.550	1.000	-3.791	2.702
Government & Non-Profits vs Health & Biotech	-1.569	0.895	-1.750	0.806	-4.480	1.341
Other vs Health & Biotech	-0.930	1.262	-0.740	1.000	-5.035	3.174
Industry, Utilities & Infrastructure vs Retail & Leisure	-0.325	1.197	-0.270	1.000	-4.216	3.565
Government & Non-Profits vs Retail & Leisure	-1.350	1.112	-1.210	0.980	-4.965	2.265
Other vs Retail & Leisure	-0.711	1.424	-0.500	1.000	-5.342	3.919
Government & Non-Profits vs Industry, Utilities & Infrastructure	-1.025	1.071	-0.960	0.997	-4.506	2.457
Other vs Industry, Utilities & Infrastructure	-0.386	1.392	-0.280	1.000	-4.913	4.142
Other vs Government & Non-Profits	0.639	1.320	0.480	1.000	-3.654	4.931

4.   Hostility

	Contrast	SE	t	p	Lower	Upper
Media, Arts & Communication vs Academia & Education	0.628	1.819	0.350	1.000	-5.285	6.541
Technology vs Academia & Education	1.555	1.609	0.970	0.997	-3.675	6.785
Financial Services vs Academia & Education	0.247	1.712	0.140	1.000	-5.318	5.812

VANDERBILT [V] Peabody College

The Six Domains of GBSWL	Contrast	SE	t	p	95% CI Lower	Upper
Professional Services vs Academia & Education	0.598	1.655	0.360	1.000	-4.781	5.977
Legal Services vs Academia & Education	-1.291	1.989	-0.650	1.000	-7.757	5.174
Health & Biotech vs Academia & Education	0.214	1.633	0.130	1.000	-5.094	5.523
Retail & Leisure vs Academia & Education	2.452	1.919	1.280	0.972	-3.786	8.691
Industry, Utilities & Infrastructure vs Academia & Education	1.668	1.863	0.900	0.998	-4.390	7.727
Government & Non-Profits vs Academia & Education	1.536	1.736	0.880	0.998	-4.110	7.181
Other vs Academia & Education	-4.103	2.206	-1.860	0.742	-11.275	3.069
Technology vs Media, Arts & Communication	0.927	1.445	0.640	1.000	-3.769	5.624
Financial Services vs Media, Arts & Communication	-0.381	1.558	-0.240	1.000	-5.447	4.686
Professional Services vs Media, Arts & Communication	-0.030	1.495	-0.020	1.000	-4.891	4.832
Legal Services vs Media, Arts & Communication	-1.919	1.858	-1.030	0.994	-7.961	4.123
Health & Biotech vs Media, Arts & Communication	-0.414	1.471	-0.280	1.000	-5.197	4.370
Retail & Leisure vs Media, Arts & Communication	1.825	1.783	1.020	0.995	-3.974	7.623
Industry, Utilities & Infrastructure vs Media, Arts & Communication	1.040	1.724	0.600	1.000	-4.564	6.645
Government & Non-Profits vs Media, Arts & Communication	0.908	1.586	0.570	1.000	-4.247	6.063
Other vs Media, Arts & Communication	-4.731	2.089	-2.260	0.462	-11.524	2.062
Financial Services vs Technology	-1.308	1.307	-1.000	0.996	-5.558	2.942
Professional Services vs Technology	-0.957	1.232	-0.780	0.999	-4.961	3.047
Legal Services vs Technology	-2.846	1.654	-1.720	0.823	-8.222	2.530
Health & Biotech vs Technology	-1.341	1.202	-1.120	0.990	-5.249	2.568
Retail & Leisure vs Technology	0.897	1.569	0.570	1.000	-4.203	5.998
Industry, Utilities & Infrastructure vs Technology	0.113	1.501	0.080	1.000	-4.766	4.992
Government & Non-Profits vs Technology	-0.019	1.340	-0.010	1.000	-4.374	4.336
Other vs Technology	-5.658	1.909	-2.960	0.110	-11.866	0.550
Professional Services vs Financial Services	0.351	1.363	0.260	1.000	-4.081	4.783
Legal Services vs Financial Services	-1.538	1.754	-0.880	0.999	-7.241	4.164
Health & Biotech vs Financial Services	-0.033	1.337	-0.020	1.000	-4.379	4.313
Retail & Leisure vs Financial Services	2.205	1.674	1.320	0.965	-3.238	7.648
Industry, Utilities & Infrastructure vs Financial Services	1.421	1.610	0.880	0.998	-3.815	6.657
Government & Non-Profits vs Financial Services	1.288	1.462	0.880	0.998	-3.463	6.040
Other vs Financial Services	-4.350	1.997	-2.180	0.522	-10.843	2.142
Legal Services vs Professional Services	-1.889	1.698	-1.110	0.990	-7.411	3.632
Health & Biotech vs Professional Services	-0.384	1.263	-0.300	1.000	-4.490	3.722

The Six Domains of GBSWL	Contrast	SE	t	p	95% CI Lower	Upper
Retail & Leisure vs Professional Services	1.854	1.616	1.150	0.987	-3.399	7.107
Industry, Utilities & Infrastructure vs Professional Services	1.070	1.550	0.690	1.000	-3.968	6.108
Government & Non-Profits vs Professional Services	0.938	1.394	0.670	1.000	-3.595	5.470
Other vs Professional Services	-4.701	1.948	-2.410	0.363	-11.035	1.632
Health & Biotech vs Legal Services	1.505	1.677	0.900	0.998	-3.947	6.958
Retail & Leisure vs Legal Services	3.744	1.957	1.910	0.708	-2.617	10.105
Industry, Utilities & Infrastructure vs Legal Services	2.959	1.902	1.560	0.899	-3.226	9.144
Government & Non-Profits vs Legal Services	2.827	1.778	1.590	0.885	-2.954	8.608
Other vs Legal Services	-2.812	2.239	-1.260	0.975	-10.091	4.467
Retail & Leisure vs Health & Biotech	2.238	1.593	1.400	0.946	-2.942	7.419
Industry, Utilities & Infrastructure vs Health & Biotech	1.454	1.526	0.950	0.997	-3.509	6.416
Government & Non-Profits vs Health & Biotech	1.321	1.368	0.970	0.997	-3.128	5.770
Other vs Health & Biotech	-4.317	1.930	-2.240	0.481	-10.591	1.956
Industry, Utilities & Infrastructure vs Retail & Leisure	-0.784	1.829	-0.430	1.000	-6.731	5.162
Government & Non-Profits vs Retail & Leisure	-0.917	1.699	-0.540	1.000	-6.442	4.609
Other vs Retail & Leisure	-6.556	2.177	-3.010	0.097	-13.634	0.522
Government & Non-Profits vs Industry, Utilities & Infrastructure	-0.132	1.637	-0.080	1.000	-5.454	5.189
Other vs Industry, Utilities & Infrastructure	-5.771	2.128	-2.710	0.201	-12.691	1.149
Other vs Government & Non-Profits	-5.639	2.018	-2.790	0.167	-12.200	0.923

5. Acquiescence

	Contrast	SE	t	p	Lower	Upper
Media, Arts & Communication vs Academia & Education	2.015	1.158	1.740	0.813	-1.749	5.779
Technology vs Academia & Education	0.652	1.024	0.640	1.000	-2.677	3.981
Financial Services vs Academia & Education	0.396	1.090	0.360	1.000	-3.147	3.938
Professional Services vs Academia & Education	0.545	1.053	0.520	1.000	-2.880	3.969
Legal Services vs Academia & Education	-1.066	1.266	-0.840	0.999	-5.182	3.050
Health & Biotech vs Academia & Education	1.143	1.039	1.100	0.991	-2.236	4.522
Retail & Leisure vs Academia & Education	1.390	1.221	1.140	0.988	-2.581	5.362
Industry, Utilities & Infrastructure vs Academia & Education	0.504	1.186	0.430	1.000	-3.353	4.361
Government & Non-Profits vs Academia & Education	-0.268	1.105	-0.240	1.000	-3.862	3.326
Other vs Academia & Education	0.413	1.404	0.290	1.000	-4.153	4.978
Technology vs Media, Arts & Communication	-1.363	0.920	-1.480	0.924	-4.353	1.627

The Six Domains of GBSWL	Contrast	SE	t	p	95% CI Lower	Upper
Financial Services vs Media, Arts & Communication	-1.619	0.992	-1.630	0.867	-4.845	1.606
Professional Services vs Media, Arts & Communication	-1.470	0.952	-1.540	0.903	-4.565	1.625
Legal Services vs Media, Arts & Communication	-3.081	1.183	-2.600	0.253	-6.927	0.765
Health & Biotech vs Media, Arts & Communication	-0.872	0.937	-0.930	0.998	-3.917	2.173
Retail & Leisure vs Media, Arts & Communication	-0.625	1.135	-0.550	1.000	-4.316	3.066
Industry, Utilities & Infrastructure vs Media, Arts & Communication	-1.511	1.097	-1.380	0.953	-5.078	2.057
Government & Non-Profits vs Media, Arts & Communication	-2.283	1.009	-2.260	0.464	-5.564	0.999
Other vs Media, Arts & Communication	-1.602	1.330	-1.200	0.981	-5.927	2.722
Financial Services vs Technology	-0.256	0.832	-0.310	1.000	-2.962	2.449
Professional Services vs Technology	-0.107	0.784	-0.140	1.000	-2.656	2.442
Legal Services vs Technology	-1.718	1.053	-1.630	0.867	-5.140	1.704
Health & Biotech vs Technology	0.491	0.765	0.640	1.000	-1.997	2.979
Retail & Leisure vs Technology	0.738	0.999	0.740	1.000	-2.508	3.985
Industry, Utilities & Infrastructure vs Technology	-0.148	0.955	-0.150	1.000	-3.254	2.958
Government & Non-Profits vs Technology	-0.920	0.853	-1.080	0.992	-3.692	1.853
Other vs Technology	-0.239	1.215	-0.200	1.000	-4.191	3.712
Professional Services vs Financial Services	0.149	0.868	0.170	1.000	-2.672	2.971
Legal Services vs Financial Services	-1.462	1.117	-1.310	0.967	-5.091	2.168
Health & Biotech vs Financial Services	0.747	0.851	0.880	0.999	-2.020	3.514
Retail & Leisure vs Financial Services	0.995	1.066	0.930	0.998	-2.470	4.460
Industry, Utilities & Infrastructure vs Financial Services	0.109	1.025	0.110	1.000	-3.225	3.442
Government & Non-Profits vs Financial Services	-0.663	0.930	-0.710	1.000	-3.688	2.361
Other vs Financial Services	0.017	1.271	0.010	1.000	-4.116	4.150
Legal Services vs Professional Services	-1.611	1.081	-1.490	0.922	-5.125	1.904
Health & Biotech vs Professional Services	0.598	0.804	0.740	1.000	-2.015	3.212
Retail & Leisure vs Professional Services	0.846	1.029	0.820	0.999	-2.498	4.190
Industry, Utilities & Infrastructure vs Professional Services	-0.040	0.986	-0.040	1.000	-3.248	3.167
Government & Non-Profits vs Professional Services	-0.813	0.888	-0.920	0.998	-3.698	2.073
Other vs Professional Services	-0.132	1.240	-0.110	1.000	-4.164	3.900
Health & Biotech vs Legal Services	2.209	1.068	2.070	0.601	-1.262	5.680
Retail & Leisure vs Legal Services	2.456	1.246	1.970	0.668	-1.593	6.506
Industry, Utilities & Infrastructure vs Legal Services	1.570	1.211	1.300	0.969	-2.367	5.507

The Six Domains of GBSWL	Contrast	SE	t	p	95% CI Lower	Upper
Government & Non-Profits vs Legal Services	0.798	1.132	0.710	1.000	-2.882	4.478
Other vs Legal Services	1.479	1.425	1.040	0.994	-3.155	6.113
Retail & Leisure vs Health & Biotech	0.248	1.014	0.240	1.000	-3.050	3.545
Industry, Utilities & Infrastructure vs Health & Biotech	-0.639	0.972	-0.660	1.000	-3.798	2.520
Government & Non-Profits vs Health & Biotech	-1.411	0.871	-1.620	0.873	-4.243	1.421
Other vs Health & Biotech	-0.730	1.228	-0.590	1.000	-4.724	3.264
Industry, Utilities & Infrastructure vs Retail & Leisure	-0.886	1.164	-0.760	1.000	-4.672	2.899
Government & Non-Profits vs Retail & Leisure	-1.658	1.082	-1.530	0.907	-5.176	1.859
Other vs Retail & Leisure	-0.978	1.386	-0.710	1.000	-5.484	3.528
Government & Non-Profits vs Industry, Utilities & Infrastructure	-0.772	1.042	-0.740	1.000	-4.160	2.616
Other vs Industry, Utilities & Infrastructure	-0.092	1.355	-0.070	1.000	-4.497	4.314
Other vs Government & Non-Profits	0.681	1.285	0.530	1.000	-3.496	4.857

6.   Insufficient_Support

The Six Domains of GBSWL	Contrast	SE	t	p	95% CI Lower	Upper
Media, Arts & Communication vs Academia & Education	0.571	1.556	0.370	1.000	-4.489	5.631
Technology vs Academia & Education	-1.736	1.377	-1.260	0.974	-6.212	2.740
Financial Services vs Academia & Education	-0.467	1.465	-0.320	1.000	-5.229	4.295
Professional Services vs Academia & Education	-0.429	1.416	-0.300	1.000	-5.032	4.175
Legal Services vs Academia & Education	-0.967	1.702	-0.570	1.000	-6.500	4.566
Health & Biotech vs Academia & Education	0.057	1.397	0.040	1.000	-4.486	4.600
Retail & Leisure vs Academia & Education	0.638	1.642	0.390	1.000	-4.701	5.977
Industry, Utilities & Infrastructure vs Academia & Education	-0.605	1.595	-0.380	1.000	-5.790	4.580
Government & Non-Profits vs Academia & Education	-1.345	1.486	-0.910	0.998	-6.177	3.486
Other vs Academia & Education	0.571	1.888	0.300	1.000	-5.566	6.709
Technology vs Media, Arts & Communication	-2.308	1.236	-1.870	0.738	-6.327	1.712
Financial Services vs Media, Arts & Communication	-1.038	1.334	-0.780	0.999	-5.374	3.297
Professional Services vs Media, Arts & Communication	-1.000	1.280	-0.780	0.999	-5.161	3.161
Legal Services vs Media, Arts & Communication	-1.538	1.590	-0.970	0.997	-6.709	3.632
Health & Biotech vs Media, Arts & Communication	-0.514	1.259	-0.410	1.000	-4.608	3.580
Retail & Leisure vs Media, Arts & Communication	0.067	1.526	0.040	1.000	-4.895	5.029
Industry, Utilities & Infrastructure vs Media, Arts & Communication	-1.176	1.475	-0.800	0.999	-5.973	3.620

VANDERBILT Peabody College

The Six Domains of GBSWL	Contrast	SE	t	p	95% CI Lower	Upper
Government & Non-Profits vs Media, Arts & Communication	-1.917	1.357	-1.410	0.944	-6.328	2.495
Other vs Media, Arts & Communication	-0.000	1.788	0.000	1.000	-5.813	5.813
Financial Services vs Technology	1.269	1.119	1.130	0.988	-2.368	4.907
Professional Services vs Technology	1.308	1.054	1.240	0.977	-2.119	4.734
Legal Services vs Technology	0.769	1.415	0.540	1.000	-3.832	5.370
Health & Biotech vs Technology	1.793	1.029	1.740	0.811	-1.552	5.138
Retail & Leisure vs Technology	2.374	1.343	1.770	0.797	-1.990	6.739
Industry, Utilities & Infrastructure vs Technology	1.131	1.284	0.880	0.998	-3.044	5.306
Government & Non-Profits vs Technology	0.391	1.146	0.340	1.000	-3.336	4.118
Other vs Technology	2.308	1.634	1.410	0.944	-3.005	7.620
Professional Services vs Financial Services	0.038	1.167	0.030	1.000	-3.755	3.832
Legal Services vs Financial Services	-0.500	1.501	-0.330	1.000	-5.380	4.380
Health & Biotech vs Financial Services	0.524	1.144	0.460	1.000	-3.195	4.244
Retail & Leisure vs Financial Services	1.105	1.433	0.770	1.000	-3.553	5.763
Industry, Utilities & Infrastructure vs Financial Services	-0.138	1.378	-0.100	1.000	-4.619	4.343
Government & Non-Profits vs Financial Services	-0.878	1.251	-0.700	1.000	-4.945	3.188
Other vs Financial Services	1.038	1.709	0.610	1.000	-4.518	6.595
Legal Services vs Professional Services	-0.538	1.453	-0.370	1.000	-5.263	4.187
Health & Biotech vs Professional Services	0.486	1.081	0.450	1.000	-3.028	3.999
Retail & Leisure vs Professional Services	1.067	1.383	0.770	1.000	-3.429	5.562
Industry, Utilities & Infrastructure vs Professional Services	-0.176	1.326	-0.130	1.000	-4.488	4.135
Government & Non-Profits vs Professional Services	-0.917	1.193	-0.770	1.000	-4.796	2.963
Other vs Professional Services	1.000	1.667	0.600	1.000	-4.420	6.420
Health & Biotech vs Legal Services	1.024	1.435	0.710	1.000	-3.642	5.690
Retail & Leisure vs Legal Services	1.605	1.674	0.960	0.997	-3.839	7.049
Industry, Utilities & Infrastructure vs Legal Services	0.362	1.628	0.220	1.000	-4.931	5.655
Government & Non-Profits vs Legal Services	-0.378	1.522	-0.250	1.000	-5.325	4.569
Other vs Legal Services	1.538	1.916	0.800	0.999	-4.691	7.768
Retail & Leisure vs Health & Biotech	0.581	1.364	0.430	1.000	-3.853	5.014
Industry, Utilities & Infrastructure vs Health & Biotech	-0.662	1.306	-0.510	1.000	-4.909	3.585
Government & Non-Profits vs Health & Biotech	-1.402	1.171	-1.200	0.982	-5.210	2.405
Other vs Health & Biotech	0.514	1.651	0.310	1.000	-4.855	5.884
Industry, Utilities & Infrastructure vs Retail & Leisure	-1.243	1.565	-0.790	0.999	-6.332	3.846
Government & Non-Profits vs Retail & Leisure	-1.983	1.454	-1.360	0.956	-6.712	2.745

VANDERBILT Peabody College

The Six Domains of GBSWL	Contrast	SE	t	p	95% CI Lower	Upper
Other vs Retail & Leisure	-0.067	1.863	-0.040	1.000	-6.124	5.991
Government & Non-Profits vs Industry, Utilities & Infrastructure	-0.740	1.401	-0.530	1.000	-5.294	3.814
Other vs Industry, Utilities & Infrastructure	1.176	1.822	0.650	1.000	-4.746	7.099
Other vs Government & Non-Profits	1.917	1.727	1.110	0.990	-3.699	7.532

Appendix H: Data Analysis Lower Order Factors

Table 12: *One-Way MANOVA Analysis of the Perception of Gender Bias Across the Six*

Domains of GBSWL (Lower-Order Factors)

				F		
	Statistic	**df**	**df1**	**df2**	**F**	**p**
Wilks' lambda	.449	10	150	1804.1	1.20	.052
Pillai's trace	.742		150	2220.0	1.19	.066
Lawley-Hotelling trace	.867		150	2112.0	1.22	.040
Roy's largest root	.322		15	222.0	4.77	< .001

Table 13: Multivariate Regression Analysis of the Perception of Gender Bias Across the Six Domains of GBSWL (Lower Order Factors)

					95% CI	
	β	**SE**	**t**	**p**	**Lower**	**Upper**
Male Privilege						
Glass Cliff						
Academia & Education			Reference			
Media, Arts & Communication	-1.079	1.187	-0.910	0.364	-3.419	1.260
Technology	0.011	1.042	0.010	0.991	-2.041	2.064
Financial Services	-0.677	1.112	-0.610	0.543	-2.869	1.514
Professional Services	-1.841	1.073	-1.720	0.088	-3.955	0.273
Legal Services	-1.742	1.283	-1.360	0.176	-4.271	0.787
Health & Biotech	-0.786	1.054	-0.750	0.457	-2.862	1.290
Retail & Leisure	0.443	1.238	0.360	0.721	-1.997	2.883
Industry, Utilities & Infrastructure	-0.122	1.203	-0.100	0.919	-2.491	2.248
Government & Non-Profits	0.310	1.121	0.280	0.783	-1.898	2.517
Other	-1.232	1.477	-0.830	0.405	-4.142	1.678
Male Culture						
Academia & Education			Reference			
Media, Arts & Communication	1.286	1.614	0.800	0.426	-1.894	4.466
Technology	2.075	1.416	1.470	0.144	-0.715	4.865
Financial Services	2.446	1.512	1.620	0.107	-0.533	5.425
Professional Services	1.995	1.458	1.370	0.173	-0.878	4.869
Legal Services	2.286	1.744	1.310	0.191	-1.152	5.723
Health & Biotech	2.171	1.432	1.520	0.131	-0.651	4.994
Retail & Leisure	2.219	1.683	1.320	0.189	-1.097	5.535
Industry, Utilities & Infrastructure	3.345	1.635	2.050	0.042	0.124	6.565
Government & Non-Profits	-0.423	1.523	-0.280	0.782	-3.424	2.579

	β	SE	t	p	95% CI Lower	Upper
Other	2.161	2.007	1.080	0.283	-1.795	6.116
Two Person Career						
Academia & Education			Reference			
Media, Arts & Communication	0.508	0.722	0.700	0.483	-0.915	1.931
Technology	0.549	0.634	0.870	0.387	-0.700	1.798
Financial Services	0.486	0.677	0.720	0.474	-0.847	1.819
Professional Services	0.512	0.653	0.780	0.434	-0.775	1.798
Legal Services	0.747	0.781	0.960	0.339	-0.791	2.286
Health & Biotech	0.114	0.641	0.180	0.859	-1.149	1.377
Retail & Leisure	1.219	0.753	1.620	0.107	-0.265	2.703
Industry, Utilities & Infrastructure	0.992	0.732	1.360	0.177	-0.450	2.433
Government & Non-Profits	-0.089	0.682	-0.130	0.896	-1.432	1.254
Other	1.536	0.898	1.710	0.089	-0.234	3.306
Disproportionate Constraints						
Constrained Communication						
Academia & Education			Reference			
Media, Arts & Communication	-0.024	0.896	-0.030	0.979	-1.790	1.742
Technology	0.538	0.786	0.680	0.495	-1.012	2.087
Financial Services	1.403	0.840	1.670	0.096	-0.252	3.057
Professional Services	-0.325	0.810	-0.400	0.689	-1.921	1.271
Legal Services	-0.049	0.969	-0.050	0.959	-1.958	1.860
Health & Biotech	1.471	0.795	1.850	0.066	-0.096	3.039
Retail & Leisure	1.576	0.935	1.690	0.093	-0.266	3.418
Industry, Utilities & Infrastructure	0.702	0.908	0.770	0.440	-1.087	2.490
Government & Non-Profits	0.976	0.846	1.150	0.250	-0.691	2.643
Other	0.768	1.115	0.690	0.492	-1.429	2.964
Constrained Career Choices						
Academia & Education						
Media, Arts & Communication	0.079	1.072	0.070	0.941	-2.033	2.192
Technology	0.831	0.941	0.880	0.378	-1.022	2.684
Financial Services	0.297	1.004	0.300	0.768	-1.682	2.276
Professional Services	0.567	0.969	0.590	0.559	-1.342	2.476
Legal Services	-1.143	1.159	-0.990	0.325	-3.426	1.140
Health & Biotech	1.114	0.951	1.170	0.243	-0.760	2.989
Retail & Leisure	0.590	1.118	0.530	0.598	-1.612	2.793
Industry, Utilities & Infrastructure	0.034	1.086	0.030	0.975	-2.106	2.173
Government & Non-Profits	1.065	1.012	1.050	0.293	-0.928	3.059
Other	0.482	1.333	0.360	0.718	-2.145	3.109
Unequal Standards						
Academia & Education			Reference			
Media, Arts & Communication	-0.056	0.969	-0.060	0.954	-1.966	1.854

VANDERBILT Peabody College

	β	SE	t	p	95% CI Lower	Upper
Technology	1.184	0.850	1.390	0.165	-0.492	2.860
Financial Services	-0.020	0.908	-0.020	0.982	-1.809	1.769
Professional Services	-0.887	0.876	-1.010	0.312	-2.613	0.839
Legal Services	0.423	1.048	0.400	0.687	-1.641	2.488
Health & Biotech	0.700	0.860	0.810	0.417	-0.995	2.395
Retail & Leisure	1.233	1.011	1.220	0.224	-0.759	3.225
Industry, Utilities & Infrastructure	0.735	0.982	0.750	0.455	-1.199	2.670
Government & Non-Profits	0.750	0.915	0.820	0.413	-1.053	2.553
Other	0.625	1.206	0.520	0.605	-1.751	3.001
Insufficient Support						
Exclusion						
Academia & Education			Reference			
Media, Arts & Communication	0.984	0.548	1.800	0.074	-0.095	2.064
Technology	0.086	0.481	0.180	0.857	-0.861	1.034
Financial Services	0.569	0.513	1.110	0.269	-0.443	1.580
Professional Services	0.187	0.495	0.380	0.707	-0.789	1.162
Legal Services	0.082	0.592	0.140	0.889	-1.084	1.249
Health & Biotech	0.214	0.486	0.440	0.660	-0.744	1.172
Retail & Leisure	0.195	0.571	0.340	0.733	-0.930	1.321
Industry, Utilities & Infrastructure	0.517	0.555	0.930	0.353	-0.576	1.610
Government & Non-Profits	-0.821	0.517	-1.590	0.113	-1.840	0.197
Other	-0.321	0.681	-0.470	0.638	-1.664	1.021
Lack of Mentoring						
Academia & Education			Reference			
Media, Arts & Communication	0.143	0.859	0.170	0.868	-1.551	1.836
Technology	-0.989	0.754	-1.310	0.191	-2.474	0.497
Financial Services	-0.837	0.805	-1.040	0.300	-2.424	0.749
Professional Services	-0.454	0.777	-0.580	0.559	-1.984	1.076
Legal Services	-0.126	0.929	-0.140	0.892	-1.957	1.704
Health & Biotech	-0.071	0.763	-0.090	0.925	-1.574	1.431
Retail & Leisure	0.376	0.896	0.420	0.675	-1.390	2.142
Industry, Utilities & Infrastructure	-0.945	0.870	-1.090	0.279	-2.661	0.770
Government & Non-Profits	-0.107	0.811	-0.130	0.895	-1.705	1.491
Other	0.268	1.069	0.250	0.802	-1.838	2.374
Lack of Sponsorship						
Academia & Education			Reference			
Media, Arts & Communication	-0.444	0.851	-0.520	0.602	-2.122	1.233
Technology	-0.711	0.747	-0.950	0.343	-2.183	0.761
Financial Services	-0.240	0.798	-0.300	0.764	-1.812	1.332
Professional Services	-0.323	0.769	-0.420	0.675	-1.839	1.193
Legal Services	-0.923	0.920	-1.000	0.317	-2.737	0.890

	β	SE	t	p	95% CI Lower	Upper
Health & Biotech	-0.086	0.756	-0.110	0.910	-1.575	1.403
Retail & Leisure	0.067	0.888	0.080	0.940	-1.683	1.816
Industry, Utilities & Infrastructure	-0.176	0.862	-0.200	0.838	-1.876	1.523
Government & Non-Profits	-0.417	0.804	-0.520	0.605	-2.000	1.167
Other	-0.250	1.059	-0.240	0.814	-2.337	1.837
Devaluation						
Lack of Acknowledgment						
Academia & Education			Reference			
Media, Arts & Communication	-0.429	0.818	-0.520	0.601	-2.040	1.183
Technology	0.466	0.717	0.650	0.517	-0.948	1.880
Financial Services	-1.009	0.766	-1.320	0.189	-2.518	0.501
Professional Services	-0.896	0.739	-1.210	0.226	-2.352	0.560
Legal Services	-1.005	0.884	-1.140	0.256	-2.747	0.736
Health & Biotech	0.357	0.726	0.490	0.623	-1.073	1.787
Retail & Leisure	-0.329	0.853	-0.390	0.700	-2.009	1.352
Industry, Utilities & Infrastructure	0.130	0.828	0.160	0.875	-1.502	1.762
Government & Non-Profits	-0.470	0.772	-0.610	0.543	-1.991	1.050
Other	-0.179	1.017	-0.180	0.861	-2.183	1.825
Salary Inequity						
Academia & Education			Reference			
Media, Arts & Communication	0.929	0.711	1.310	0.193	-0.473	2.330
Technology	1.139	0.624	1.830	0.069	-0.091	2.369
Financial Services	1.209	0.666	1.810	0.071	-0.105	2.522
Professional Services	0.896	0.643	1.390	0.165	-0.370	2.163
Legal Services	0.621	0.769	0.810	0.420	-0.894	2.136
Health & Biotech	1.129	0.631	1.790	0.075	-0.115	2.373
Retail & Leisure	1.595	0.742	2.150	0.033	0.133	3.057
Industry, Utilities & Infrastructure	0.811	0.720	1.130	0.262	-0.609	2.231
Government & Non-Profits	0.387	0.671	0.580	0.565	-0.936	1.710
Other	0.929	0.885	1.050	0.295	-0.815	2.672
Hostility						
Queen Bee Syndrome						
Academia & Education			Reference			
Media, Arts & Communication	-1.603	1.093	-1.470	0.144	-3.757	0.551
Technology	-1.109	0.959	-1.160	0.249	-2.999	0.781
Financial Services	-2.194	1.024	-2.140	0.033	-4.212	-0.177
Professional Services	-2.263	0.988	-2.290	0.023	-4.209	-0.316
Legal Services	-3.176	1.181	-2.690	0.008	-5.504	-0.848
Health & Biotech	-1.514	0.970	-1.560	0.120	-3.426	0.397
Retail & Leisure	-0.914	1.140	-0.800	0.423	-3.160	1.332
Industry, Utilities & Infrastructure	-0.773	1.107	-0.700	0.486	-2.954	1.408

VANDERBILT Peabody College

	β	SE	t	p	95% CI Lower	Upper
Government & Non-Profits	-0.798	1.032	-0.770	0.440	-2.830	1.235
Other	-4.714	1.359	-3.470	0.001	-7.393	-2.036
Workplace Harassment						
Academia & Education			Reference			
Media, Arts & Communication	2.556	1.265	2.020	0.045	0.063	5.048
Technology	2.711	1.110	2.440	0.015	0.524	4.897
Financial Services	2.460	1.185	2.080	0.039	0.125	4.795
Professional Services	2.887	1.143	2.530	0.012	0.635	5.139
Legal Services	1.885	1.367	1.380	0.169	-0.809	4.579
Health & Biotech	1.729	1.122	1.540	0.125	-0.483	3.940
Retail & Leisure	3.367	1.319	2.550	0.011	0.767	5.966
Industry, Utilities & Infrastructure	2.441	1.281	1.910	0.058	-0.083	4.966
Government & Non-Profits	2.333	1.194	1.950	0.052	-0.019	4.686
Other	-0.125	1.573	-0.080	0.937	-3.225	2.975
Acquiescence						
Self Silencing						
Academia & Education			Reference			
Media, Arts & Communication	0.492	0.648	0.760	0.448	-0.784	1.768
Technology	0.083	0.568	0.150	0.884	-1.037	1.202
Financial Services	-0.386	0.607	-0.640	0.525	-1.581	0.810
Professional Services	0.021	0.585	0.040	0.972	-1.132	1.174
Legal Services	-0.555	0.700	-0.790	0.429	-1.934	0.824
Health & Biotech	-0.186	0.575	-0.320	0.747	-1.318	0.947
Retail & Leisure	0.014	0.675	0.020	0.983	-1.316	1.345
Industry, Utilities & Infrastructure	-0.197	0.656	-0.300	0.764	-1.490	1.095
Government & Non-Profits	-0.119	0.611	-0.190	0.846	-1.323	1.085
Other	-0.411	0.805	-0.510	0.611	-1.998	1.176
Self Limited Aspirations						
Academia & Education			Reference			
Media, Arts & Communication	1.532	0.944	1.620	0.106	-0.329	3.393
Technology	0.511	0.829	0.620	0.538	-1.121	2.144
Financial Services	0.883	0.885	1.000	0.319	-0.860	2.626
Professional Services	0.578	0.853	0.680	0.499	-1.103	2.260
Legal Services	-0.511	1.021	-0.500	0.617	-2.522	1.500
Health & Biotech	1.329	0.838	1.590	0.114	-0.323	2.980
Retail & Leisure	1.376	0.985	1.400	0.164	-0.564	3.317
Industry, Utilities & Infrastructure	0.702	0.956	0.730	0.464	-1.183	2.586
Government & Non-Profits	-0.149	0.891	-0.170	0.868	-1.905	1.607
Other	0.893	1.175	0.760	0.448	-1.422	3.207

Appendix I: Cronbach's Alpha

Table 14: Cronbach's Alpha Reliability Statistics Higher Order and Lower Order

	n	n Items	Item Mean	Scale Mean	Cronbach's Alpha
Male Privilege	**238**	**10**	**2.748**	**27.483**	**.804**
Glass Cliff	238	3	3.255	9.765	.772
Male Culture	238	4	3.378	13.513	.839
Two Person Career	238	3	1.402	4.206	.661
Disproportionate Constraints	**238**	**11**	**3.237**	**35.605**	**.733**
Constrained Communication	238	4	3.508	14.034	.649
Constrained Career Choices	238	4	2.413	9.651	.534
Unequal Standards	238	3	3.973	11.920	.738
Devaluation	**238**	**6**	**3.446**	**20.676**	**.517**
Lack of Acknowledgment	238	4	3.170	12.681	.306
Salary Inequity	238	2	3.998	7.996	.790
Hostility	**238**	**7**	**3.411**	**23.878**	**.607**
Queen Bee Syndrome	238	4	3.536	14.143	.443
Workplace Harassment	238	3	3.245	9.735	.724
Acquiescence	**238**	**5**	**2.949**	**14.745**	**.496**
Self-Silencing	238	2	3.821	7.702	.857
Self-Limited Aspirations	238	3	2.347	7.042	.481
Insufficient Support	**238**	**8**	**3.362**	**26.899**	**.451**
Exclusion ±	238	3	3.078	9.235	.
Lack of Mentoring	238	3	3.333	10.000	.033
Lack of Sponsorship	238	2	3.832	7.664	.834

± - Negative average inter-item covariance

Appendix J: Data Analysis of Bias at Job Level

VANDERBILT **V** Peabody College

Table 15: One-Way MANOVA Analysis of the Perception of Gender Bias Across the Five Job Levels

	Statistic	df	df1	df2	F	p
				F		
Wilks' lambda	.841	4	24	796.6	1.68	.021
Pillai's trace	.165		24	924.0	1.66	.025
Lawley-Hotelling trace	.181		24	906.0	1.71	.019
Roy's largest root	.127		6	231	4.89	.0001

Table 16: Multivariate Regression Analysis of the Perception of Gender Bias Job Levels

VANDERBILT Peabody College

	β	SE	t	p	95% CI β Lower	Upper
Male Privilege						
L1 - Executives			Reference			
L2 - Senior vice presidents	1.903	1.139	1.670	0.096	-0.342	4.147
L3 - Vice presidents	3.842	1.188	3.230	0.001	1.501	6.183
L4 - Senior managers	-0.412	3.742	-0.110	0.912	-7.784	6.960
L5 - Managers	8.088	7.377	1.100	0.274	-6.446	22.623
Disproportionate Constraints						
L1 - Executives			Reference			
L2 - Senior vice presidents	0.080	0.955	0.080	0.933	-1.800	1.961
L3 - Vice presidents	-0.126	0.995	-0.130	0.899	-2.087	1.835
L4 - Senior managers	4.730	3.135	1.510	0.133	-1.446	10.907
L5 - Managers	3.480	6.180	0.560	0.574	-8.696	15.657
Devaluation						
L1 - Executives			Reference			
L2 - Senior vice presidents	0.687	0.522	1.320	0.190	-0.342	1.716
L3 - Vice presidents	1.348	0.545	2.480	0.014	0.275	2.421
L4 - Senior managers	-0.127	1.715	-0.070	0.941	-3.506	3.251
L5 - Managers	0.873	3.381	0.260	0.797	-5.788	7.533
Hostility						
L1 - Executives			Reference			
L2 - Senior vice presidents	-0.249	0.817	-0.300	0.761	-1.860	1.361
L3 - Vice presidents	0.075	0.852	0.090	0.930	-1.604	1.754
L4 - Senior managers	0.358	2.684	0.130	0.894	-4.931	5.647
L5 - Managers	8.108	5.292	1.530	0.127	-2.319	18.535
Acquiescence						
L1 - Executives			Reference			
L2 - Senior vice presidents	-0.738	0.513	-1.440	0.152	-1.749	0.273
L3 - Vice presidents	-0.609	0.535	-1.140	0.256	-1.664	0.445
L4 - Senior managers	-3.167	1.686	-1.880	0.062	-6.488	0.154
L5 - Managers	0.833	3.323	0.250	0.802	-5.714	7.381
Insufficient Support						
L1 - Executives			Reference			
L2 - Senior vice presidents	0.268	0.684	0.390	0.696	-1.081	1.616
L3 - Vice presidents	0.163	0.714	0.230	0.819	-1.243	1.569
L4 - Senior managers	-1.804	2.247	-0.800	0.423	-6.231	2.623
L5 - Managers	1.196	4.430	0.270	0.787	-7.532	9.924

Table 17: Results of MANOVA post hoc Five Job Levels Mean Comparison Test

Five Job Levels					95% CI	
	Contrast	SE	t	p	Lower	Upper
1. Male Privilege						
L2 - Senior vice presidents and other similar roles vs L1 - Executives	1.775	1.121	1.580	0.510	-1.307	4.858
L3 - Vice presidents and other similar roles vs L1 - Executives	3.854	1.163	3.310	0.009	0.658	7.051
L4 - Senior managers vs L1 - Executives	-0.471	3.712	-0.130	1.000	-10.673	9.731
L5 - Managers vs L1 - Executives	8.029	7.319	1.100	0.808	-12.090	28.148
L3 - Vice presidents and other similar roles vs L2 - Senior vice presidents and other similar roles	2.079	1.261	1.650	0.468	-1.387	5.545
L4 - Senior managers vs L2 - Senior vice presidents and other similar roles	-2.246	3.743	-0.600	0.975	-12.536	8.043
L5 - Managers vs L2 - Senior vice presidents and other similar roles	6.254	7.335	0.850	0.914	-13.910	26.417
L4 - Senior managers vs L3 - Vice presidents and other similar roles	-4.325	3.756	-1.150	0.779	-14.650	5.999
L5 - Managers vs L3 - Vice presidents and other similar roles	4.175	7.342	0.570	0.979	-16.007	24.356
L5 - Managers vs L4 - Senior managers	8.500	8.144	1.040	0.835	-13.886	30.886
2. Disproportionate Constraints						
L2 - Senior vice presidents and other similar roles vs L1 - Executives	0.064	0.940	0.070	1.000	-2.519	2.647
L3 - Vice presidents and other similar roles vs L1 - Executives	0.005	0.975	0.010	1.000	-2.674	2.684
L4 - Senior managers vs L1 - Executives	4.779	3.111	1.540	0.540	-3.771	13.329
L5 - Managers vs L1 - Executives	3.529	6.134	0.580	0.979	-13.333	20.390
L3 - Vice presidents and other similar roles vs L2 - Senior vice presidents and other similar roles	-0.059	1.057	-0.060	1.000	-2.964	2.845
L4 - Senior managers vs L2 - Senior vice presidents and other similar roles	4.715	3.137	1.500	0.562	-3.909	13.338
L5 - Managers vs L2 - Senior vice presidents and other similar roles	3.465	6.148	0.560	0.980	-13.434	20.364
L4 - Senior managers vs L3 - Vice presidents and other similar roles	4.774	3.148	1.520	0.553	-3.879	13.427

VANDERBILT Peabody College

Five Job Levels					95% CI	
	Contrast	SE	t	p	Lower	Upper
L5 - Managers vs L3 - Vice presidents and other similar roles	3.524	6.153	0.570	0.979	-13.390	20.437
L5 - Managers vs L4 - Senior managers	-1.250	6.825	-0.180	1.000	-20.012	17.512

3. Devaluation

	Contrast	SE	t	p	Lower	Upper
L2 - Senior vice presidents and other similar roles vs L1 - Executives	0.641	0.516	1.240	0.727	-0.778	2.059
L3 - Vice presidents and other similar roles vs L1 - Executives	1.434	0.535	2.680	0.060	-0.037	2.905
L4 - Senior managers vs L1 - Executives	-0.106	1.708	-0.060	1.000	-4.801	4.590
L5 - Managers vs L1 - Executives	0.894	3.369	0.270	0.999	-8.365	10.154
L3 - Vice presidents and other similar roles vs L2 - Senior vice presidents and other similar roles	0.793	0.580	1.370	0.649	-0.802	2.388
L4 - Senior managers vs L2 - Senior vice presidents and other similar roles	-0.746	1.723	-0.430	0.993	-5.482	3.989
L5 - Managers vs L2 - Senior vice presidents and other similar roles	0.254	3.376	0.080	1.000	-9.026	9.534
L4 - Senior managers vs L3 - Vice presidents and other similar roles	-1.540	1.729	-0.890	0.900	-6.291	3.212
L5 - Managers vs L3 - Vice presidents and other similar roles	-0.540	3.379	-0.160	1.000	-9.828	8.749
L5 - Managers vs L4 - Senior managers	1.000	3.748	0.270	0.999	-9.303	11.303

4. Hostility

	Contrast	SE	t	p	Lower	Upper
L2 - Senior vice presidents and other similar roles vs L1 - Executives	-0.331	0.804	-0.410	0.994	-2.542	1.880
L3 - Vice presidents and other similar roles vs L1 - Executives	0.042	0.834	0.050	1.000	-2.251	2.335
L4 - Senior managers vs L1 - Executives	0.356	2.662	0.130	1.000	-6.962	7.674
L5 - Managers vs L1 - Executives	8.106	5.250	1.540	0.535	-6.326	22.537
L3 - Vice presidents and other similar roles vs L2 - Senior vice presidents and other similar roles	0.373	0.904	0.410	0.994	-2.113	2.859
L4 - Senior managers vs L2 - Senior vice presidents and other similar roles	0.687	2.685	0.260	0.999	-6.694	8.068
L5 - Managers vs L2 - Senior vice presidents and other similar roles	8.437	5.262	1.600	0.497	-6.027	22.900

VANDERBILT | Peabody College

Five Job Levels	Contrast	SE	t	p	95% CI Lower	95% CI Upper
L4 - Senior managers vs L3 - Vice presidents and other similar roles	0.313	2.694	0.120	1.000	-7.092	7.719
L5 - Managers vs L3 - Vice presidents and other similar roles	8.063	5.266	1.530	0.543	-6.413	22.540
L5 - Managers vs L4 - Senior managers	7.750	5.842	1.330	0.675	-8.308	23.808

5. Acquiescence

	Contrast	SE	t	p	Lower	Upper
L2 - Senior vice presidents and other similar roles vs L1 - Executives	-0.722	0.505	-1.430	0.609	-2.111	0.667
L3 - Vice presidents and other similar roles vs L1 - Executives	-0.681	0.524	-1.300	0.692	-2.121	0.759
L4 - Senior managers vs L1 - Executives	-3.173	1.672	-1.900	0.322	-7.770	1.424
L5 - Managers vs L1 - Executives	0.827	3.298	0.250	0.999	-8.239	9.893
L3 - Vice presidents and other similar roles vs L2 - Senior vice presidents and other similar roles	0.041	0.568	0.070	1.000	-1.520	1.603
L4 - Senior managers vs L2 - Senior vice presidents and other similar roles	-2.451	1.687	-1.450	0.594	-7.087	2.186
L5 - Managers vs L2 - Senior vice presidents and other similar roles	1.549	3.305	0.470	0.990	-7.537	10.635
L4 - Senior managers vs L3 - Vice presidents and other similar roles	-2.492	1.692	-1.470	0.581	-7.144	2.160
L5 - Managers vs L3 - Vice presidents and other similar roles	1.508	3.308	0.460	0.991	-7.586	10.602
L5 - Managers vs L4 - Senior managers	4.000	3.670	1.090	0.812	-6.088	14.088

6. Insufficient Support

	Contrast	SE	t	p	Lower	Upper
L2 - Senior vice presidents and other similar roles vs L1 - Executives	0.229	0.681	0.340	0.997	-1.642	2.101
L3 - Vice presidents and other similar roles vs L1 - Executives	0.237	0.706	0.340	0.997	-1.705	2.178
L4 - Senior managers vs L1 - Executives	-1.827	2.254	-0.810	0.927	-8.022	4.368
L5 - Managers vs L1 - Executives	1.173	4.444	0.260	0.999	-11.044	13.390
L3 - Vice presidents and other similar roles vs L2 - Senior vice presidents and other similar roles	0.007	0.766	0.010	1.000	-2.097	2.112
L4 - Senior managers vs L2 - Senior vice presidents and other similar roles	-2.056	2.273	-0.900	0.895	-8.305	4.192

VANDERBILT **V** Peabody College

Five Job Levels	Contrast	SE	t	p	95% CI Lower	95% CI Upper
L5 - Managers vs L2 - Senior vice presidents and other similar roles	0.944	4.454	0.210	1.000	-11.300	13.188
L4 - Senior managers vs L3 - Vice presidents and other similar roles	-2.063	2.281	-0.900	0.895	-8.333	4.206
L5 - Managers vs L3 - Vice presidents and other similar roles	0.937	4.458	0.210	1.000	-11.318	13.191
L5 - Managers vs L4 - Senior managers	3.000	4.945	0.610	0.974	-10.594	16.594