# AN EX POST FACTO STUDY OF THE GLASS CLIFF PHENOMENON IN HIGHER EDUCATION PRESIDENCIES

by

Michelle Louise Samuel

Liberty University

A Dissertation Presented in Partial Fulfillment

Of the Requirements for the Degree

Doctor of Philosophy

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2021

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APPROVED BY:

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## ABSTRACT

This study reviews if the glass cliff phenomenon is occurring in U.S. higher education presidential hires. This topic is essential to review as U.S. higher education institutions are primarily presided over by male presidents. Female presidents do exist, but more often at more risky institutions. One reason for the lack of equity may be the glass cliff phenomenon, which asserts that women are more likely to be hired into leadership roles at riskier institutions. This inequity in hiring practices places women in leadership positions at considerable career risk. This study is a nonexperimental study using an ex post facto, causal-comparative design using publicly available data. The methods review data on female presidents of private and for-profit U.S. institutions from the Integrated Postsecondary Education Data System. Purposive sampling matched female presidents with male presidents at similar institutions. Data from the financial responsibility composite score database from the U.S. Department of Education (2020) are used to look for patterns in financial responsibility composite scores (FRCS) before and after presidential hires. Due to non-parametric data, a Mann-Whitney U test reviewed gender differences in FRCS before and after hiring. No significant results were found. Additionally, a Friedman test examined differences in FRCS across years within each gender; however, no significant results were found. This analysis suggests that when utilizing FRCS, there is no indication that women are hired into riskier institutions. This has positive implications for gender equity in high-profile academic leadership positions. Suggestions for future research include changing the dependent variable, looking at patterns of gender leadership, observing change over time, and analyzing colleges with a higher percentage of female faculty members.


*Keywords*: glass cliff phenomenon, higher education leadership, presidential hiring, gender equity

## Dedication

This dissertation is dedicated to my husband, Matt, who encouraged me to pursue my doctorate and finish my dissertation during a very difficult time.

**Acknowledgments**

Throughout the writing of this dissertation, I have received a great deal of support and assistance. I wish to express my sincere appreciation to my chair, Dr. Jillian Wendt, whose feedback, and problem-solving skills were invaluable during the research and dissertation process. Without her persistent and quick responses, the goal of this project would not have been realized. I want to acknowledge my committee member, Dr. Eric Lovik, who brought in ideas about gathering the data that helped streamline the process and whose feedback improved the dissertation significantly. Many professors helped shape this dissertation while it was in the literature review and proposed methodology phases. Dr. Nathan Street, Dr. Michelle Barthlow, and Prf. Alisha Castaneda provided early support that helped launch the dissertation. Thank you.

I wish to show my gratitude to the tutors at the LU writing center for their suggestions and the LU librarians' assistance in finding obscure studies. Also, I am indebted to the data assistants at Fiverr, Saspas, Anwarhossen, Jillupapu, and Immortal704. Their work resulted in a smoother and faster data collection process. Additionally, I would like to thank Michelle St. Pierre in the U.S. Government Accountability Office for her willingness to take a phone call from me, a random stranger, and talk to me about the finer points of the Financial Responsibility Composite Score. Her insights and suggested papers greatly improved this dissertation.

In addition, I would like to thank my parents for their wise counsel and sympathetic ear. You are always there for me. Finally, I could not have completed this dissertation without the encouragement of my husband, Matt, who provided moral support and the time and space to research and write. To my two young daughters, Hazel and Sloane, thank you

for being happy distractions outside of my research; both of you provided much balance and fun during this process.

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## List of Abbreviations

Association of Christian Schools International (ACSI)

National Center for Education Statistics (NCES)

Glass cliff phenomenon (GCP)

Think-crisis-think-female (TCTF)

Think-manager-think-male (TMTM)

Financial responsibility composite score (FRCS)

Chief Executive Officer (CEO)

Science, technology, engineering, and mathematics (STEM)

# CHAPTER ONE: INTRODUCTION

## Overview

This chapter will start with the background for studying the glass cliff phenomenon (GCP) and female presidents' hiring in higher educational settings. This is followed by the problem statement, which describes why this is worthy of further study. The purpose statement will come next, identifying why gender-biased hiring practices, such as the GCP, are problematic for higher education institutions. This study will build on and extend the body of research on the GCP, and then later, the study's significance will be detailed. This chapter concludes with the research questions.

## Background

Gender inequity in higher education leadership exists, with 70% of all college and university presidents being male (Johnson, 2017). This inequity is not spread evenly throughout all types of higher education institutions. Female presidents are concentrated in two-year institutions rather than four-year or doctoral-granting institutions (Johnson, 2017). One reason for this could be the GCP. The GCP "refers to the tendency for women to be more likely than men to be appointed to leadership positions that are risky and precarious" (Ryan et al., 2016, p. 446). Two-year institutions generally have a riskier financial position than four-year and doctoral-granting institutions as they have no or negligible endowments (Finkel, 2019). Endowments are financial reserves that higher education institutions hold and invest in to ensure funding to offset future operating costs (Bok, 2013). A sufficient endowment provides a perpetual fund of money that the institution can use in future years; thus, an endowment offers stability and security for colleges and universities (American Council on Education, 2014). Higher education institutions without sufficient endowments have less security and are more

likely to rely on tuition and state or local funding sources (AACC, 2020). Such funding availability depends on the broader economic realities of the area in which the institution is located. Thus, these additional risk factors align with the GCP, and such institutions may be more likely to hire female presidents.

The GCP was identified by Ryan and Haslam (2005) to mimic the glass ceiling phenomenon. The glass ceiling phenomenon refers to the fact that women can advance within the workplace, but they inevitably hit an invisible glass ceiling that they cannot break through (Hymowitz & Schelhardt, 1986). Hymowitz and Schelhardt (1986) popularized the phrase with an article in the *Wall Street Journal* that ran with that title. The article describes unseen structurally created barriers where women can attain lower-level management roles but are not considered for upper-management positions due to prejudice. Such prejudice included the following: the beliefs that women are always about to take a family leave, men in leadership roles are uncomfortable working with women at the same level as them, women do not fit in with male leaders, and that men are not comfortable being led by a woman (Hymowitz & Schelhardt, 1986). Thus, women can advance into leadership roles, but only to a certain low level. “Even those few women who rose steadily through the ranks eventually crashed into an invisible barrier. The executive suite seemed within their grasp, but they just couldn't break through the glass ceiling” (Hymowitz & Schelhardt, 1986, para. 1).

Ryan and Haslam (2005) identified the GCP retroactively within publicly traded companies by looking at when a female leader was hired and observed the financial metrics of risks of the company when the hire occurred. Then the financial risk metrics of similar companies that hired male leaders are compared. What was found was that when publicly traded companies had higher financial risk factors, a female leader was hired more often than a male

leader (Ryan & Haslam, 2005). This finding that women have leadership opportunities at riskier institutions and have additional career risks once hired has repeatedly observed (Brady et al., 2011; Elsaid & Ursel, 2018; Main & Gregory-Smith, 2018; Morgenroth et al., 2020). The problem is that regardless of the gender of the leader chosen for a risky company, that leader will face additional challenges that leaders of more stable companies do not. Since the company is already struggling, these female leaders face a higher likelihood of being fired for failing to help the company gain financial ground (Main & Gregory-Smith, 2018). Since men are hired more often at stable companies, they have increased odds of longer and more stable careers.

In contrast, women leaders have leadership positions more often in risky companies. It may be those female leaders seek out risky work assignments as a method of advancement. Glass and Cook (2020) interviewed women and minority background male leaders to ascertain their career trajectories. These leaders had a career trajectory full of risk and risk-taking, which was self-reported to lead to the current leadership roles they held. Alternatively, riskier companies may put female leaders in a more dangerous situation where they are more likely to fall off an invisible career cliff. An invisible career cliff is where women are "preferentially placed in leadership roles that are associated with an increased risk of negative consequences" (Ryan & Haslam, 2005, p. 83). Thus, the risk of career failure or hindrance is higher for women than men in leadership positions. This risk is generally unseen as it occurs due to various sexist factors embedded in workplace structures.

Why are female leaders hired more often than males at risky institutions? The same researchers that coined the GCP completed a follow-up study a decade later. By reviewing the related studies during that time, they identified factors that moderate the GCP. The first factor is the nature of the company's crisis, specifically whether that crisis was internally or externally

created (Ryan et al., 2016). The second factor is the continuation of male leadership to maintain a company's status quo, called the think-manager-think-male (TMTM) stereotype, which will be covered later (Ryan et al., 2016). Third, the lack of support for new women leaders impacted women's success in new positions (Ryan et al., 2016). Fourth, selection bias in hiring also played a role (Ryan et al., 2016). Selection bias is where people are selected for a job in a biased manner, compared to random selection, where everyone, regardless of their gender, has an equal opportunity to be hired. Fifth, Haslam et al. (2016) found that women, rather than men, were selected as leaders more often when a company said that they needed a change. TCTM is highly related to the think-crisis-think-female (TCTF) phenomenon. In short, Ryan et al. (2016) identified many factors that contribute to the GCP.

Additionally, several related theories and phenomena drive the GCP. Sexist practices that are often unknowingly employed facilitate the GCP. Gender-role stereotyping, signaling, and the TCTF stereotype are underlying sexist reasons that the GCP could occur (Ryan et al., 2016). A brief overview of each of these topics will be covered here to help ground the study in the related literature.

Gender-based stereotyping is culturally bound perceptions that people hold about each gender (Eagly, 1987). These beliefs have social-psychological roots and real-world impacts on women's ability to work outside the home (Eagly, 1987). Specifically, women's stereotypes are that they have better domestic skills and should not work outside the house. Furthermore, Eagly (1987) identifies that these stereotypes are transmitted generationally, which means that parents pass these ideas down to children. Thus, gender-based stereotypes persist over time.

Additionally, since male workers have had the historical power to shape workplaces, they keep institutional practices that make it harder to be a working female (Eagly, 1987). For

example, workplaces do not generally provide childcare since the historical expectation is that a mother is at home caring for children. Wolf-Wendel et al. (2007) identified this as second shift work. Second shift work is the set of household work that needs to be done even after a workday has finished (Hochschild & Machung, 2012). In Wolf-Wendel et al. (2007), a qualitative study of full-time female faculty members expressed this burden as:

> Oh, yes, I'm the keeper of the house, the keeper of the bills, the keeper of the kids, the keeper… You know, as much as my husband thinks he does, he doesn't do as much as me. Another concurred, My husband will do some of them [tasks for and with children], but usually I have to ask and I do have to say it's almost like asking a favor, which is a little strange. It's wrong, but that's the way it is. It was common for the women in our study to talk about their working a second job when they returned home as they were primarily responsible for household, cooking, and childcare. (p. 270)

Even when a father and a mother work outside the house, the mother still has the most childcare (Ciciolla & Luthar, 2019). Since childcare is not provided at workplaces or by the government, women who work need to make enough money to pay for childcare or choose to work in jobs that allow them to work and concurrently take care of their children. The lack of easy access to affordable childcare is one example of an institutionally created barrier for mothers of minors.

The cumulative effect of many U.S. mothers making these choices results in women choosing to work in part-time capacities and lower-paying fields, which are often more flexible (Leuze & Strauß, 2016). This desire to work in part-time capacities is seen in academia, where women faculty members are most common in part-time positions (Finkelstein et al., 2016). Part-time work in academia has significant pay implications as part-time faculty are paid per course

and often lack benefits. Additionally, community colleges focusing on teaching rather than research are considered an excellent place to be mothers and faculty members (Ward & Wolf-Wendel, 2017). Ward and Wolf-Wendel (2017) used a longitudinal qualitative design to ascertain that mothers in community college faculty positions make deliberate choices to work at community colleges rather than four-year institutions. Working at community colleges allowed mothers the freedom to value work and family life in balance rather than placing work above all other priorities. Women are not choosing lower-paying jobs because they are more attracted to that type of work; instead, that type of work allows women to have lives separate from work. Given that lower-paying jobs have more flexibility, women are seeking those jobs. Thus, gender-based stereotypes that women can be paid less and do not need challenging full-time work are unintentionally reinforced.

Another way that gender-based stereotyping occurs is through the TCTF phenomenon. The TCTF phenomenon occurs when a company has created a crisis due to poor leadership and needs to find a new leader to signal a change to constituents (Ryan et al., 2011). Women are stereotypically considered more relational and can passively be a scapegoat for the problem as a leader (Ryan et al., 2011). Kulich et al. (2015) found women were hired more often into leadership positions when a company is in a company-created crisis. For example, if there was a leadership scandal and the company saw a drop in shareholder value, the replacement hire was more likely to be a woman. When a company had a crisis due to an external factor, such as a recession, there was no gender bias.

This type of hiring is unfair as when companies are stable, they are more likely to hire using a different gender-based stereotype called think-manager-think-male (Ryan et al., 2011). This stereotype is rooted in the belief that if a male has done an excellent job in this role, then a

person with similar traits (i.e., male) should be hired. Ryan et al. (2011) coined the phenomenon think-crisis-think-female as a variation of the think-manager-think-male phenomenon. These two phenomena clearly articulate the sexist stereotypes held about positions of power within companies. Men are entrusted to be managers, whereas women should be called upon only in times of crisis.

An additional explanation of the gender-based stereotypical hiring of leaders is related to signaling. Signaling is how an institution can tell constituents that a problem was due to a controllable factor and that the institution has changed that controllable factor (Kulich et al., 2015). For example, Kaplan and Minton (1994) identified that corporations seek outsiders who are new to the company when they need to signal a significant change in leadership to restore constituents' faith. Similarly, women leaders are hired more often after a male leader has created a crisis, and the company now needs to signal that they are taking control and making a change (Brown et al., 2011; Kulich et al., 2015). Thus, signaling is a reason that TCTF stereotyping occurs. Also, TCTF stereotyping helps enable the GCP to happen by making more opportunities available to women at the precise time that a company is in a riskier position.

A vital aspect of the GCP is that the business or industry is risky to be a leader. Higher education is becoming a more complex industry in which to work. The U.S. higher education system has faced many changes over the years (Bastedo et al., 2016; Goldin & Katz, 1999; Lucas, 2006; Thelin, 2011). However, modern universities face problems that uniquely place them at additional fiscal risk. Over time, a wider variety of students expect higher support-service levels while there is less financial support from public sources (McCafferey, 2019). Over the past decade, colleges have faced the following: increases in the percentage of adjunct instructors teaching, overexpanding the scope of a higher education institutions’ mission,

competing goals of institutional stakeholders, technological advances that fundamentally change the way higher education is conducted, and growing fixed costs conflicting with public pressure to keep student debt low (Brint, 2019). Together, these factors suggest an increased likelihood of the GCP occurring as higher education becomes a riskier place to work and lead.

In summary, women in higher education have made strides towards equity over time. There are more female presidents in higher education than ever before; however, women are at less financially stable institutions, which puts their careers at additional peril compared to male presidents at similar institutions (Johnson, 2017). Furthermore, women experience gender-based stereotyping threats, and institutions have acted consistently with the GCP through signaling and the TCTF phenomenon. Additionally, higher education is becoming a riskier business to work in, thus increasing the likelihood of a glass cliff event.

## Problem Statement

The GCP is problematic as some women are in leadership opportunities that put them out on a metaphorical glass cliff in their careers. In a literature review on all the scholarly studies about the GCP conducted between 2005 and 2015, Ryan et al. (2016) identifies that the GCP is not a theory explaining female hires to leadership positions. GCP is not a theory partly because of studies such as Cook and Glass (2013) that did not replicate the GCP in U.S. companies using similar risk measures to that used in the study of British companies conducted by Ryan and Haslam (2005). This finding contrasts with other studies of North American companies that have found a version of a GCP (Elsaid & Ursel, 2018).

Instead, the glass cliff is a phenomenon that can occur in certain circumstances. "Indeed, the somewhat mixed nature of available evidence suggests that the glass cliff is a nuanced and context-dependent phenomenon. So rather than disproving the glass cliff, disconfirming evidence

serves to raise important questions about when and where the glass cliff is likely to materialize" (Ryan et al., 2016, p. 449). Given that all female leaders are not all on glass cliffs, it is vital to follow these authors' urging and help investigate new environments, such as higher education, to see if the GCP is occurring. This study helps answer the question of when and where the GCP is happening.

Furthermore, this topic warrants additional study as it is an understudied phenomenon, with only 276 scholarly articles mentioning the problem in the Liberty University library databases. Only a handful of these studies investigate the phenomenon directly, with most of the studies merely mentioning the GCP somewhere in the introduction or discussion. Even in a meta-analysis of the GCP, 74 quantitative studies were found, and most were not published in peer-reviewed journals (Morgenroth et al., 2020). Ryan and Haslam (2005) identified the GCP in business, not in higher education. Even fewer of these studies examine the GCP in higher education. The ones that do are qualitative, asking female leaders at colleges and universities to reflect upon their experiences. When female leaders engage in such reflections, GCP themes have emerged from the data analysis (Acker & Millerson, 2018; Morely, 2014; Peterson, 2016). While these studies provide evidence that the GCP may be occurring in select higher education institutions, they do not provide adequate evidence that the practice is widespread within U.S. higher education.

Quantitative methodologies borrowed from those used to assess the GCP in business industries need to be utilized to determine if the GCP occurs broadly in U.S. higher education leadership. In summary, when reviewing the GCP literature, the literature has not adequately addressed if the GCP occurs in higher education institutions.

## Purpose Statement

The purpose of this research is to quantitatively identify if the GCP is occurring in U.S. higher education presidencies. Specifically, an ex post facto, the causal-comparative design will be utilized. This design can help increase the literature on this phenomenon in an impactful manner.

There are two independent variables in this study. The first independent variable is the gender of the president of either for-profit or private non-profit higher education institution, which is operationally defined in the binary form: female or male. While gender research is increasingly recognizing a nonbinary gender (Monro, 2020), not all states in the U.S. do. Therefore, to make equal comparisons across all higher education institutions in all states, binary gender is being examined. The second independent variable is time, which will measure the dependent variable of financial riskiness at three points before the presidential hire and three points after the presidential hire. Multiple measurements of risk typically occur both before and after hiring the leader in ex post facto GCP studies (Brady et al., 2011; Cook & Glass, 2013; Ryan & Haslam, 2005).

The dependent variable is financial riskiness, measured using the financial responsibility composite score (FRCS) for the U.S. Department of Education (2020a). The FRCS is what the U.S. government uses to determine if a private non-profit or a for-profit higher education institution is fiscally responsible enough to receive federal funding. Public institutions do not require this form of financial oversight (Emrey-Arras, 2017). If the private non-profit or a for-profit institution is not sufficiently responsible, the institution will lose federal funding, which is the backbone of many institutions' operating budgets. After this, the institution will likely face significant operational difficulties and close.

The population under review is U.S. higher education institution presidents at degree-granting institutions recognized by the U.S. government that report the FRCS. These institutions are private non-profit, and for-profit institutions. The sample will be all the female presidents of such institutions working in the 2014-2015 academic year and a purposive sample of male presidents at similar institutions.

## Significance of the Study

The significance of the study for women in higher education leadership is immense. Women often take these risky leadership positions because they are the only leadership positions they can access (Darouei & Pluut, 2018). They may be seen as a method of advancing within a workplace (Glass & Cook, 2020). If women can only be leaders of risky institutions, those likely to fail financially, then women are being set up for failure as leaders at a higher rate than men. Investigating this phenomenon could help bring awareness to the issue and identify one reason for gender inequality in higher education leadership.

This study will add to the general body of literature on the GCP, which is small. Researching the GCP is essential to anyone who participates in the process of hiring leaders. By reviewing factors that increase the likelihood of the GCP occurrence, additional information about inclusive hiring practices can be provided to the higher education community to prevent the GCP's existence.

Additionally, this study tests the generalizability of the GCP from the business world to higher education. Many real-world studies using archival data to assess the GCP occur within the business world (Brady et al., 2011; Elsaid & Ursel, 2018; Main & Gregory-Smith, 2018; Ryan et al., 2016). A few GCP studies occurred qualitatively in higher education settings (Acker & Millerson, 2018; Morely, 2014; Peterson, 2016). The lack of quantitative data on the GCP in

higher education leadership is problematic. It is hard to end discriminatory hiring practices if data does not exist to ascertain if such discrimination occurs. If the GCP is occurring within higher education, institutions can reduce or eliminate unfair gender-based hiring practices. Given the importance of hiring leaders of higher education institutions, such as presidents, it is vital to consider hiring practices that give candidates of both genders an equal chance of success.

## Research Question

**RQ1:** Is there a significant difference in the institutional financial responsibility composite scores, over time, among schools that hire a female or male president?

## Definitions

1. *Glass cliff phenomenon* - "refers to the tendency for women to be more likely than men to be appointed to leadership positions that are risky and precarious" (Ryan et al., 2016, p. 446).
2. *Invisible career cliff*- where women are “preferentially placed in leadership roles that are associated with an increased risk of negative consequences” (Ryan & Haslam, 2005, p. 83).
3. *Signaling*- Signaling is a way that an institution can tell constituents that a problem was due to a controllable factor and that the institution has changed that controllable factor (Kulich et al., 2015).
4. *Think-crisis-think-female phenomenon* - A phenomenon that occurs when a company has created a crisis due to poor male leadership and chooses a female leader in part to signal a change (Ryan et al., 2011).

5. *Think-manager-think-male phenomenon*- A phenomenon that occurs when a stable company is looking to replace a male manager with another male manager in part to keep the stability (Ryan et al., 2011)
6. *Gender* – "The meanings that societies and individuals ascribe to female and male categories" (Eagly, 1987, p. 6).
7. *Sex* – Groupings of people based on biological differences; male and female categories (Eagly, 1987).
8. *Gender-based Stereotype* - Culturally bound ideas about how people think about each gender; there are normative beliefs about the role each gender should take (Eagly, 1987).
9. *Second shift work*- Second shift work is the set of household work that needs to be done even after a workday has finished (Hochschild & Machung, 2012).
10. *Financial responsibility composite score*- A score that the U.S. government created to determine if an institution is responsible enough to be given federal funds (U.S. Department of Education, 2020a)
11. *Sexism*- "Individuals' attitudes, beliefs, and behaviors, and organizational, institutional, and cultural practices that either reflect negative evaluations of individuals based on their gender or support unequal status of women and men" (Swim & Hyers, 2009, p. 407)
12. *Glass cushion phenomenon*- The phenomenon that allows men not to take precarious leadership positions (Ryan et al., 2016).
13. *Full faith and credit*- *"*Public schools are not subject to certain financial responsibility standards if the school demonstrates to Education that its debts and liabilities are backed by the full faith and credit of the state or another government entity" (Emrey-Arras, 2017, p. 6).

14. *Publication bias*- is a “failure to publish the results of a study ‘on the basis of the direction or strength of the study findings’” (Devito & Goldacre, 2019, p. 53)
15. *Personal glass ceiling*- an “unwillingness to appear assertive; undervaluation of one’s own abilities” (Diehl & Dzubinski, 2016, p. 192).

# CHAPTER TWO: LITERATURE REVIEW

## Overview

In this literature review, the glass cliff phenomenon (GCP) will be investigated to determine what is known about the topic and identify areas where further investigation is needed. Chapter two will start with a conceptual framework that outlines how social science's analytical levels have enabled the GCP. After that, the related literature on the GCP and higher education will be reviewed. Chapter two will summarize what is known about the GCP and what still should be investigated.

## Conceptual Framework

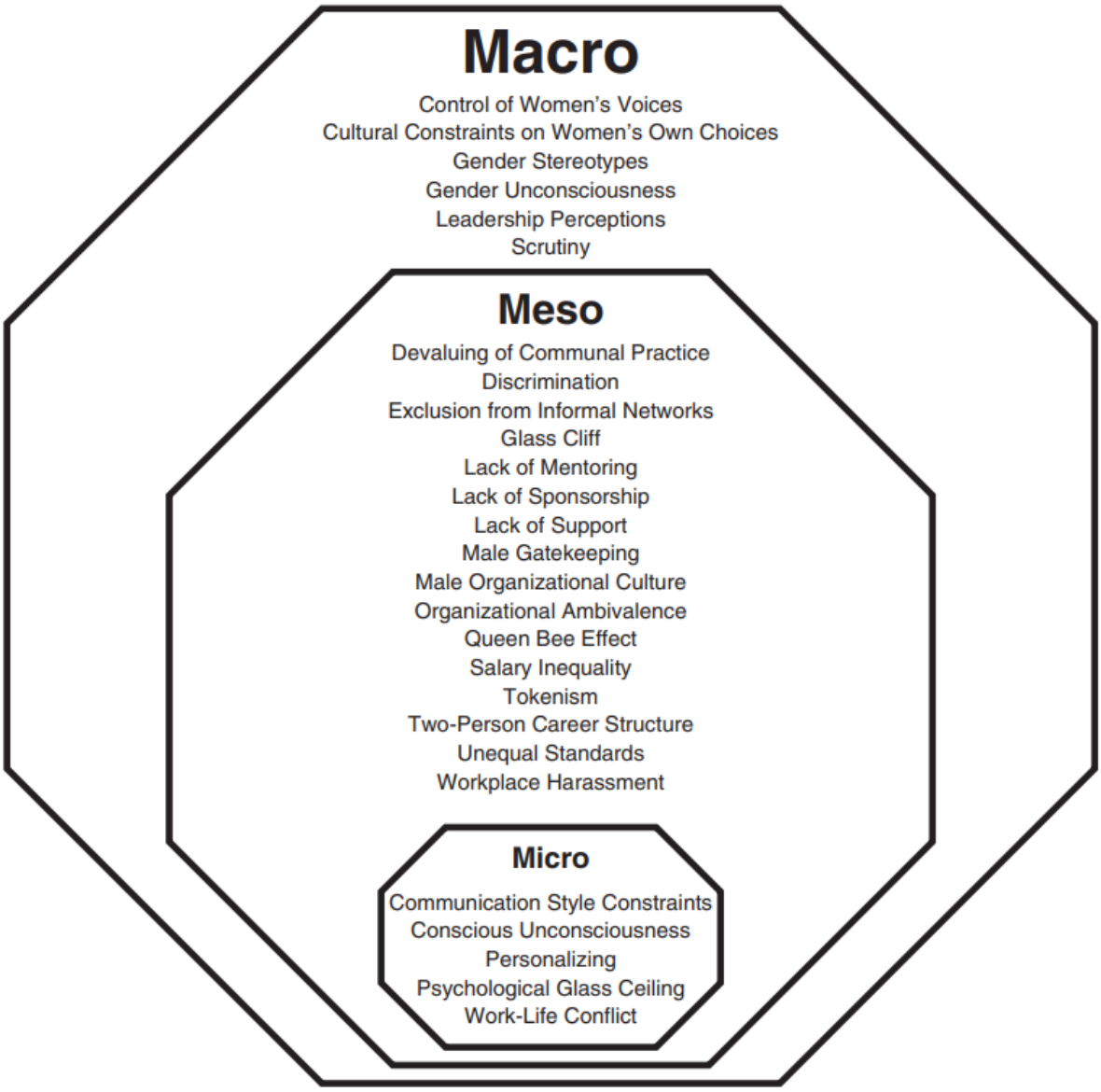
The analytical levels in social science are the macro, meso, and micro-levels (Saylor Academy, 2012; Decarlo, 2018). These three levels are perspectives from which social scientists analyze human behavior. The macro-level is the broadest level of investigation for a social scientist. It examines large groups of people such as cultures, societies, and other large-scale complex organizations like the military and religion (Saylor Academy, 2012; Decarlo, 2018). Major theorists who utilize the macro-level include Durkheim (1895), whose work cemented sociology as a social science. Additionally, other researchers also produced early works at the macro-level (Sorohin, 1937-1941; Tylor, 1881; Weber, 1930). The meso-level, a more modern method, explores medium-sized groups of people (Saylor Academy, 2012; Decarlo, 2018). Major theorists utilize meso-level research institutions such as schools, prisons, and hospitals (Ellickson, 1991; Perrow, 1972). Social scientists researching the micro-level, the smallest level, examine individuals (Saylor Academy, 2012; Decarlo, 2018). Some major theorists utilize the micro-level to investigate individual-level factors' influence on a broader sociological phenomenon (Blumer, 1933; Goffmann, 1959; Mead, 1934). Together, these three levels help

researchers understand the complex combination of factors that enable multifaceted human phenomena such as gender inequality in higher education leadership.

To investigate how these three levels work together to enable gender inequality in leadership, Diehl and Dzubinski (2016) conducted qualitative studies on female leaders to identify all different analytical levels of barriers to leadership. As a result, they identified 27 factors related to women's lack of representation in leadership at the three analytical levels (see Figure 1, for permission see Appendix A).

**Figure 1**

*Gender-based leadership barriers by analytical level* (Diehl & Dzubinski, 2016)




Of these 27 barriers, the GCP is identified as a meso-level occurrence (Diehl & Dzubinski, 2016). Since the GCP is a meso-level occurrence, this suggests that, while institutional-level factors indicate that the GCP is a problem that occurs at a single institution, the GCP is a problem that occurs within a broader cultural system that is the macro system. The macro-level factors, such as gender stereotypes and leadership perceptions, create a context in which the GCP can occur. For example, the GCP identifies that women are hired into precarious

leadership positions more often than men. This gender difference is rooted in gender stereotypes, which articulate expected behaviors of each gender. Specifically, leadership perceptions carry male gender expectations as men were historically working outside of the home (Eagly & Wood, 1985). At the micro-level are the individual-level factors such as communication style constraints and work-life balance, which contribute to this phenomenon. Hence, Diehl and Dzubinski's (2016) conceptual framework highlights the importance of multiple levels of factors that lead to the GCP occurrence.

Factors that likely underscore the GCP include the following: selection bias, the think-crisis-think-female stereotype (TCTF), a need for a company to signal a change in leadership by hiring a female, and women's choices to accept such positions, which addresses all three analytical levels (Darouei & Pluut, 2018; Ryan et al., 2016). Selection bias is a meso-level phenomenon where people are selected for a position in a biased manner. Selection bias is compared to random selection, where everyone, regardless of their sex, has an equal opportunity to be hired based on the individual's experiences. In this instance, selection bias is referring to different hiring practices based on gender. Haslam and Ryan (2008) found that women, rather than men, were selected as leaders more often when a company said they needed a change, which is called the think-crisis-think-female phenomenon (TCTF). TCTF is another meso-level phenomenon that influences the occurrence of the GCP. Another meso-level event is signaling, which refers to a company's desire to show constituents that they are making a needed change. Signaling occurs when companies need to make changes, which is more likely to be a GCP hiring opportunity.

Other meso-level factors identified by Ryan et al. (2016) found moderating factors of the GCP include the nature of the company's crisis, the lack of support for new female leaders, and

the continuation of male leadership to maintain a status quo in a company. The last phenomenon is referred to as think-manager-think-male (TMTM). Micro-level factors are often related to the individual traits and actions of prospective female leaders. In summary, there are many factors, at all three analytical levels, which contribute towards the GCP.

## Related Literature

In this section, literature related to the GCP, and higher education will be reviewed. In particular, the macro, meso, and micro-level factors that contribute to the GCP will be identified. After that, information about the challenges that face leaders of higher education and information about the financial responsibility composite score will be reviewed.

### Glass Cliff Phenomenon

Ryan and Haslam (2005) were the first to name the GCP. GCP is named to mimic the glass ceiling phenomenon, a phenomenon where women cannot advance into leadership positions at the same rate as men do (Hymowitz & Schelhardt, 1986). Women face a metaphorical invisible ceiling in career advancement that they cannot break.

Ryan and Haslam (2005) identified the GCP based on retrospective financial analysis of when companies appointed women leaders compared to similar companies who appointed men as leaders. They found that women were more likely to earn leadership opportunities at companies struggling financially, which was echoed by other studies (Brady et al., 2011; Elsaid & Ursel, 2018; Main & Gregory-Smith, 2018; Morgenroth et al., 2020). Since the company was already struggling, these female leaders faced a higher likelihood of being fired for failing to help the company gain financial ground (Main & Gregory-Smith, 2018). Fewer support resources and the fact that these companies were riskier before and after hiring placed female leaders in a precarious position.  These women were more likely to experience an invisible career

cliff, an unforeseeable career failure, or unexpected career hindrance. Men do not face such a daunting challenge as they are more likely to be hired into stable companies that are well resourced. Morgenroth et al. (2020) conducted a meta-analysis of all quantitative studies of the GCP. They found evidence across all studies that women are more likely hired than men during institutional crises, that experimental studies find between-group support for GCP, and that the GCP also extends to other minority groups.

While the GCP originated from research conducted on publicly traded companies, the phenomenon has also been observed in higher education in a couple of qualitative studies (Acker & Millerson, 2018; Morely, 2014; Peterson, 2016). Again, factors that would indicate that such leadership roles are inherently riskier were echoed in higher education, including factors such as increasing and differential managerial requirements, increased workload for managers, increased role conflict, and loss of research productivity and prestige (Peterson, 2016). Thus, the role of being in leadership in higher education is riskier, making more opportunities available for female leaders. More precarious leadership opportunities are available to women because women are more often considered for risky positions (Haslam & Ryan, 2008), and men do not accept such positions (Ryan et al., 2016). The phenomenon that allows men not to take precarious leadership positions is called the glass cushion phenomenon (Ryan et al., 2016).

### *Risk*

In GCP studies, the critical aspect is that women have positions at riskier companies. There are many ways to measure risk, but the most common method of measuring risk in publicly traded companies is to look at financial indicators of risk (Cook & Glass, 2013; Elsaid & Ursel, 2018; Main & Gregory-Smith, 2018; Ryan & Haslam, 2005). For example, Cook and Glass (2013) reviewed Fortune 500 companies between the years of 1990 to 2011 for gender-

based hiring differences of CEOs. The researchers used shareholder returns, return on equity, and return on assets to assess the risk level of each company.

Elsaid and Ursel (2018) also looked at gender-based hiring of CEOs from 1992 to 2014 in small and mid-size North American public companies. They utilized the standard deviation of the market returns on the firms' stock for the 12 months before the hire and the return on assets for the 12 months before the hire. Whereas Main and Gregory-Smith (2018) conducted a review of British companies' gender-based hiring practices of board members using slightly different variables. Total shareholder return, return on assets, price to book, and average annual price movement to a high and low from a mean price were measured. Ryan and Haslam (2005) also looked at British board members, but of FTSE 100 companies. They utilized stock performance, fluctuation in stock price, and fluctuations in monthly performance. All four of these studies utilized financial factors, which are unique to the nature of the company and where it is located (Cook & Glass, 2013; Elsaid & Ursel, 2018; Main & Gregory-Smith, 2018; Ryan & Haslam, 2005). These financial measures of risk are the most utilized because publicly traded companies are where scholarly research on the GCP started. However, Ryan et al. (2016) called for expanding investigations into the GCP in new and different industries.

In other sectors, there are other forms of risk assessment to determine if the GCP is occurring. For example, Smith (2015) investigated gender-based hiring of the board members of school districts and used the complexity of work to measure risk. The complexity of risk was used in this study as a proxy for the risk of failure. Using the variable of the complexity of risk allowed Smith (2015) to investigate schools with a more extensive array of student needs, which was shown to indicate riskiness in the K-12 setting. When studying regulatory agencies, the risk was assessed via visibility and complexity (Smith & Monoghan, 2013).

Additionally, Brady (2011) investigated gender-based hiring of executives in Fortune 500 companies using financial measures and a non-financial risk factor. The non-financial measure Brady (2011) used was the number of scandals reported in the *New York Times* newspaper. Together these two studies suggested that while the GCP was established using publicly available financial risk factors for businesses, other acceptable methods of calculating risk for an institution exist (Brady, 20111; Smith, 2015). Regardless of which method is used, it needs to relate to the industry being studied.

### *Macro-level factors related to the GCP*

The macro-level factors related to the GCP include gender-based stereotypes and sexism. After reviewing gender-based stereotypes via the social-role theory of sex differences (Eagly, 1987), gender stereotypes of leaders will also be covered. When considering the literature on sexism, the topics of pay and representation will be discussed.

**Gender-based Stereotypes.** The social-role theory of sex differences (Eagly, 1987) proposes that the division of labor between the sexes is a consequence of social expectations perpetuated generationally, both structurally and culturally. Males and females are socialized to act in specific ways (Becker, 1986; Lockheed & Hall, 1976). Gender stereotypes guide each gender into particular social roles with different skills, beliefs, and behavioral expectations. Females are expected to act communally, often in private settings, whereas males are expected to act in agentic ways, often in public settings (Eagly & Wood, 1985; Rudman & Glick, 2002). Thus, labor division between the sexes carries a gender role expectation and sex-typed skills and beliefs, leading to sex differences in social behaviors, such as workplace behaviors.

These workplace behaviors are socialized in female workers to seek more communal positions, which historically have been paid less (Lewis et al., 2008). Additionally, these gender

role expectations have been socialized into hiring managers who often unknowingly perpetuate sexist conceptions of workers' capabilities and roles (Lommerud et al., 2015). Together these studies suggested that social psychological expectations influence and maintain differential behaviors by each sex.

Utilizing a systematic review, gender stereotyping has been shown to affect a woman's likelihood to attain a leadership position (Castano et al., 2019). Women are expected to act in communal ways rather than agentic ways in workplace environments. For example, women are expected to be kind and smiling as leaders, even in serious situations. In addition, women are expected to help as leaders and may be asked to do work below their pay grade. For example, a female president may be asked to get coffee or type minutes more often than a male president. There is a double bind here in that male leaders are allowed to act in communal or agentic ways, but female leaders face a penalty for working in agentic ways. By penalty, women are more often socially excluded or not given the same advancement opportunities (Castano et al., 2019). Thus, women in higher education leadership are expected to bring people together to solve problems and do so in a uniquely stereotypical female way.

Eagly et al. (1992) conducted a meta-analysis of gender and leadership studies from the 1960s to the late 1980s and found male leadership styles were preferred to female leadership styles by a small margin. The gendered leadership styles were defined as such,

> High autocratic, high task, and low interpersonal styles were considered masculine; high interpersonal, low autocratic, and low task styles were considered feminine. Combinations of styles (e.g., high task and low interpersonal) were similarly classified if both components fit the masculine or feminine class. Because authors provided clear labels for the styles that were portrayed (e.g., autocratic style and consideration style),

> classification of styles into masculine and feminine categories was easily accomplished. (Eagly et al., 1992, p. 8)

However, over the years, male leaders were more favorably evaluated in male-dominated industries than in more balanced industries.

Higher education is a historically masculine place, and this legacy is still felt today by current faculty and staff members. Leathwood (2005) conducted case studies of middle and upper managers in further education in Britain who felt frustrated by the managerial expectations for efficiency and yet received gendered expectations to care for and mother the workers they led. While these women were glad to do administrative work, doing so in a gender-biased context was stressful. Leathwood (2005) reported participants feeling the male colleagues did not value their work since how they did their work was feminine and, thus, not valuable or welcomed. Therefore, while these women worked in academic management, they did not feel valued in their positions. In Rindfleish and Sheridan (2003), a study of women on public company boards in Australia found that women felt similarly pressured as the women in Leathwood (2005). Management felt highly agentic to the women in Rindfleish and Sheridan (2003), and they did not think that they could challenge or change these highly masculinized structures.

In Koot (2004), three female academic leaders felt so much sexism in their roles that all three left for institutions with less sexism. Koot (2004) is slight evidence that a lack of satisfaction could result in a higher turnover of female academic leaders. Using two different case studies of female higher education professionals, Burkinshaw and White (2017) identified that senior leaders and younger faculty members felt that the environment was highly masculinized. The highly masculinized environment resulted in the hesitance of younger faculty

members to move into higher education leadership roles. Together these suggest that women in higher education had experienced masculine expectations in their workplace (Burkinshaw & White, 2017; Koot, 2004; Leathwood, 2005; Rennion & Bonomi, 2020; Rindfleish & Sheridan, 2003). Burkinshaw et al. (2018) captured these results well as:

> … the benefit of publicising women's stories lies in their ability to challenge the masculine construction of leadership in HE and to expose the degree to which masculine leadership cultures have resulted in the creation of 'undoable jobs' for women … more recent research has moved away from blaming women for their absence from these undoable jobs towards a recognition that their under-representation stems from their ongoing resistance to how senior roles play out within gendered leadership cultures. (p. 3)

There has been much gender-equity progress since the 1980s. However, there are still barriers for women to work outside of the home and be accepted as a leader. Agars (2004) identified that gender stereotyping still affects women's ability to advance into leadership positions. Badura et al. (2018) reaffirmed that men are still more likely to become leaders than women are. Together, these studies suggested that negative sexist stereotypes about women as leaders are persistent and hard to change due to patterns of thought and institutional support that advantages men in the workplace (Agars, 2004; Badura et al., 2018; Eagly, 1987).

Eagly (1987) identified that these sexist stereotypes are kept in place by structural factors built to support men as workers and leaders outside the home. For example, childcare is not often provided by workplaces since the expectation is that someone is at home caring for children. The person working outside of the house, due to stereotypical beliefs, is usually a man. If the assumption is that women should care for children and workplaces do not support childcare, this

places a tremendous burden on women to work both inside and outside of the home simultaneously. For example, in U.S. where childcare is expensive, and schooldays are shorter, mothers are more likely to work part-time than full-time, suggesting that childcare needs are a significant barrier to full-time maternal employment (Leah et al., 2019). In addition, caring for children is a large portion of the time women report as second shift work. Second shift work is the set of household work that needs to be done even after a workday has finished (Blair-Loy et al., 2015; Hochschild & Machung, 2012; Wolf-Wendel et al., 2007). The lack of childcare is one small example of how society does not support women working outside of the house, but there are other examples such as unequal pay and inflexible work hours.

The main reason for sexist stereotypes is due to unintentional and underrealized stereotyping. While this type of discrimination is often unknowingly applied, it is discrimination nonetheless (Castaño et al., 2019). For example, Quality Assurance, an Australian governmental mandate for higher education, accidentally created additional gender barriers for women in higher education and higher education leadership (Lipton, 2015). Quality Assurance increased the requirements for research quality by incentivizing types of and the amount of research achieved more often by male professors. Additionally, all Quality Assurance data reporting lacked basic demographic measures to directly observe policy effects on women and minority-background faculty members. “Despite universities’ insistence on the centrality of equity and diversity to institutions’ practices, what is forgotten is the extent to which women must negotiate societal discourses and gendered barriers in order to compete on an equal footing with men” (Lipton, 2015, p. 64). By increasing research work requirements without growing support for female faculty members, this policy reduced the number of professional women in higher education (Lipton, 2015). Again, these policies were not aimed at excluding women, but they

were not designed with an awareness of the gender-based outcomes that the policy would have when created.

Policies that require gender equity advancements do work, but the educational piece to reduce gender-based stereotypes is also needed. Gender-equity policies are often meso-level solutions, but micro- and macro-level solutions need to be simultaneously employed. For example, governmental policies required women to be hired to board seats in the U.K., and such board seats have a term limit that can be extended based on company desire (Main & Gregory-Smith, 2018). This policy increased gender equity, but unfortunately, it was short-lived. Once the female board member's term limit expired, the boards did not rehire female board members at the same rate that they rehired male board members. Thus, the boards did not maintain the gender equity they gained (Main & Gregory-Smith, 2018). Failing to continue the tenure of female board members suggests that women were symbolically hired to U.K. boards, but that the stereotypes that have once prevented them from acquiring those seats remained. Thus, women were once again the victims of macro- and meso-level factors.

***Leadership Expectation.*** One explanation for the lack of gender parity in leadership is the role congruity theory developed by Eagly and Karau (2002). Role congruity theory states that stereotypical thinking about gender and work expectations exists. In this theory, women are often not thought of as filling the role of being leaders in a workplace setting. Additionally, when women are leaders, they face more pressure and scrutiny than a similar male leader. For example, in academia, women tend to be tasked with academic housework, such as mentoring. In contrast, men are often tasked with externally facing research with much more visibility and counts more towards promotion (Macfarlane & Burg, 2019; Morley, 2014). Thus, women are not often seen as a fit for being a leader; instead, they are thought of as filling relationally oriented

roles. Assuming tasks such as mentoring is incredibly important. However, mentoring leaves female academics with less time for research, which leads to advancement.

Having less time, however, does not mean that women leaders do not perform well. Paustian-Underdahl et al. (2014) suggested that there may be a shift in the perceived effectiveness of leaders. Both genders are recognized to be equally effective, with men self-rating as very effective and women being rated as very effective via colleagues. There is a lack of agreement between the genders' efficacy ratings, suggesting that macro-level factors exist. Men and women evaluate female leaders as very effective, yet women generally may not accurately profess their effectiveness, which is a micro-level factor. Such a disconnect is perpetuated over time and situations, which may influence women's likelihood of seeking advancement and may make colleagues reluctant to lose an effective leader via promotion.

Other macro-level stereotyping of leaders prefers female leaders when an institution needs to transform the business practices. Bass and Riggio (2005) have identified a type of leader that can meet these challenges: transformational leaders. Transformational leaders are those who co-lead with workers by inspiring them so that the whole company can advance. A communal leadership style requires the leader to have strong collaborative social skills to work together. There is some evidence that women have transformational leadership styles more often than men (Bass, 1990; Eagly et al., 2003). Hence, a macro-level factor, that is, the belief that women are better transformational leaders, may, in the future, enable more opportunities for hiring personnel to choose a female leader over an equally qualified male leader when a company needs transforming.

**Sexism.** Sexism is "individuals' attitudes, beliefs, and behaviors, and organizational, institutional, and cultural practices that either reflect negative evaluations of individuals based on

their gender or support unequal status of women and men" (Swim & Hyers, 2009, p. 407). While this can cover many aspects of a person's life, this literature review will focus on sexist pay practices and the lack of equal representation within the workforce.

***Pay.*** Women face many forms of sexism within the workplace. For example, women are paid less than men for equal work (Bishu & Alkadry, 2017). Thus, women in leadership positions are at a financial disadvantage compared to the same position held by a male coworker. If the woman chooses to start a family, additional wage penalties often occur. Redmond et al. (2017) studied female leaders in higher education and found that many face gender discrimination, including having children and struggling with work-life balance.

These long-standing sexist beliefs about women in the workplace have created systematic barriers for women. Bishu and Alkadry (2017) used a systematic review to examine gender wage gaps and factors that predict them. These findings confirmed that there is a wage gap for women and that many factors drive this finding. Women are paid more fairly in public sector jobs and less fairly in private sector jobs. Women are more likely to be employed at a business with equal gender representation, which is more common in the public sector. Additional reasons that women are paid less is that they have jobs where there is less authority over their job; they are less likely to be hired generally or promoted once hired.

When leaders become parents, men receive a so-called “breadwinner bonus,” and women receive a “caregiver penalty,” thus increasing the pay gap between leaders who are fathers and leaders who are mothers (Bear & Glick, 2016; Henle et al., 2020). At work, men receive additional financial support, such as bonuses when they become fathers. On the other hand, women receive penalties, such as reduced paid work hours, for becoming a working mother. Women faculty members identify a lack of time to accomplish work and home tasks and feel

guilty about not living up to ideal worker norms or good mother norms (Wolf-Wendel & Ward, 2006). Male faculty members reported no such guilt and readily identified that mothers take on more work at home (Sallee et al., 2016). Thus, two forms of financial sexism that women face include generally lower wages than men and additional financial penalties for starting a family. These financial penalties for women are in addition to the emotional penalties also bestowed at the start of motherhood.

These findings have been analyzed within higher education, as well. Rabovsky and Lee (2017) found that gender-based pay gaps persist in higher education. The gender pay gap is worse in private universities and colleges, which do not publicly report wages. Public colleges and universities had fewer wage gaps, which was associated with having more balanced gender leadership. Thus, when public accountability is in place, more women are hired and paid a fairer rate. Paying women less than men for equal work and engaging in policies favoring only men advancing to higher-level positions violates legal standards and societal expectations.

There is evidence that when women can advance to higher power positions within the university, they are not equally compensated. Female university and college presidents are paid significantly less than their male president counterparts, even after controlling institutional factors that influence executive compensation (Hebner et al., 2018). For example, urban institutions typically pay more than rural ones, and larger institutions pay more than smaller ones. These and many other institutional factors were controlled to determine the sole influence of gender on pay at private higher education institutions. When this and race were controlled, white female presidents earned 6% to 9.8% less than white male leaders at similar institutions. Pay is unequal between the genders of private college and university presidents.

Women are paid less because industries that allow flexibility in hours typically paid less (Leuze & Strauß, 2016). Jobs such as teaching, nursing, pharmacy, or any part-time jobs such as waitressing and house cleaning are female-dominated. Leuze and Strauß (2016) identify that female-dominated industries are typically paid less. Leuze and Strauß (2016) investigated whether less pay for women was due to overt sexism, such as devaluing care-based work because it is seen as feminine in nature, or if it was because these jobs had more flexibility. The analysis found some variability was due to devaluing care-based work. However, there was more variability in that these types of work arrangements are flexible. Leuze and Strauß (2016) suggested that one of the most significant barriers to better-paying jobs for women is a 9-5 job's rigidity with expectations of additional hours beyond this. Women are not choosing lower-paying jobs because they are more attracted to that type of work; instead, it allows women to have lives separate from work. Given that lower-paying jobs have more flexibility, women are seeking those jobs. One woman working at a community college described her reason for working there as such:

> A number of people that I work with, in fact, are women who have kids, and they have doctorates and could work at a number of different places. But, they chose this route just because it is a friendly environment for compromise as far as your hours go. It allows you to have a life outside of work. (Ward, & Wolf-Wendel, 2017, p. 53)

This quote summarizes academics who are also mothers' priorities: work should not consume all of life. Instead, work is only one way of spending one's time, and these mothers are also choosing to spend time with their families and children.

***Representation*.** Pay is an essential factor in the workplace, as is representation. Representation is the idea that the percentage of each gender should be representative of the

broader population. Representation in higher education leadership would indicate that almost half of the leaders identify as female, and nearly half identify as male. However, there are fewer women than men in executive positions at colleges and universities. Manfredi et al. (2019) reviewed the reasons for fewer women in top positions and found that it is often related to biases and sociocultural entrenchments. In other words, when people in a gender-biased culture hire new people, they tend to perpetuate these same biases in their hiring practices. For example, when a college's administration is predominantly composed of white males and is looking for a new hire, they are more likely to hire another white male due to unintentional bias. When colleges and universities seek outside support for executive searches, more women are hired (Manfredi et al., 2019). Executive search firms engage in practices that prevent gender biases during the candidate presentation process.

Another factor influencing women's representation in higher education faculty and staff positions is the lack of mentoring early and appropriately (Longman et al., 2019). In a systematic review of mentorship in academic medicine, mentorship was beneficial for mentees (Farkas et al., 2019). Longman et al. (2019) pointed out that many leadership training opportunities exist for higher education women. Many partake; however, they do not advance into more senior faculty or staff roles. Longman et al. (2019) produced a model that shows successful mentorship is dependent on training in the early years and coaching and sponsorship once the woman is professionally established. Thus, a more holistic and developmental model of mentorship is needed.

Proper support such as those outlined in Longman et al. (2019) helps to combat three other reasons that women in lower levels of academic leadership do not advance into higher levels: lack of mobility and career capital, socializing primarily with other similar women

leaders, and internal cultural biases that lead to reproducing existing white male preferences in new hires (Shepherd, 2017). Women leaders in higher education need the initial training and networking beyond what is typically offered at the beginning of their careers. Then, women leaders need coaching and sponsorships to combat the existing biases in academia's hiring and promotion systems.

Representation is more than merely a balance of genders in these leadership positions; representation also helps all levels of faculty to be treated fairly. Rabovsky and Lee (2017) found that having a higher representation of women in more senior faculty ranks and college administration reduced gender-based pay disparities for women in entry-level faculty positions. When more female leaders are at private universities, the gap between women's and men's pay at the assistant professor level was smaller. When the representation of women leaders was greater in public universities, such gender-based pay disparities were already lower. Thus the presence of more female leaders did not affect assistant professor pay. While women's representation at higher levels did not remove the pay gap between men and women, it did reduce it. Thus, there is a connection between representation and removing sexist remuneration practices.

Gender representation is more out of balance in specific fields. When faculty members from science, technology, engineering, and mathematics fields (STEM) were surveyed from four U.S. colleges, female faculty members perceived more bias towards them in the workplace and less collegiality (Riffle et al., 2013). Riffle et al. (2013) also found that these women felt they had less ability to influence their department and experienced less job satisfaction. These feelings are related to a higher turnover of female faculty members than male faculty members in STEM fields.

### *Meso-level Factors Related to the GCP*

There are several meso-level factors related to the GCP. Meso-level factors include institutional housework, selection bias, and the nature of a company's riskiness. Additionally, the lack of support for new female leaders, the TCTF phenomenon, and signaling will be addressed.

**Institutional housework.** Another structural barrier is that universities often expect women to do most of the university's service work. As a result, female professors in higher education face additional responsibilities to teach or serve rather than conduct research compared to men. Teaching more classes means that faculty members have less time to participate in research, which is often seen as more important for tenure and rank advancement (Cummins, 2017; Simeone, 1987; Whaley & Krane, 2012). While certainly an essential function at a university, teaching is often viewed as less important for career advancement than research work for full-time instructors and professors.

Additionally, teaching classes places faculty members in a position of interacting with students more often. Interacting with students more often means less time socializing with colleagues and developing professional relationships with peers or potential mentors. The lack of time to connect with colleagues affect a faculty member's ability to advance as social connections are often the way people are identified for advancement opportunities. Thus, by expecting women to take on more teaching responsibilities, the universities place women in a position where they have less time to do the university's most desirable work.

Many university leaders do not realize that structural barriers, such as gendered leadership expectations or feminizing teaching, prevent women from advancing through the ranks of professorship and administrative and leadership positions. Making stakeholders at universities aware of such structural impediments may be the first step in reducing them.

Johnson et al. (2015) conducted an audit of gender representation within key stakeholder committees. After performing the audit, the results showed that there was an underrepresentation of women in STEM committees. By bringing awareness of this gender imbalance, the proportion of women on powerful committees changed over time. In short, getting data and awareness of women's lack of representation may be one easy structural change that universities can make to correct gender disparities.

**Selection bias.** Selection bias is the opposite of random selection, in which all options have the same likelihood of occurring. Selection bias is when specific options have a higher probability of occurring. As related to the GCP, selection bias is bi-directional. Institutions make preferential decisions to hire male leaders when companies are in good standing (Ryan et al., 2011). Additionally, institutions make preferred decisions to hire female leaders when companies are not in good standing (Brown et al., 2011; Haslam & Ryan, 2008; Rink et al., 2013; Ryan et al., 2011; Ryan et al., 2016). This enables the selection of female leaders more often when working conditions are less than ideal. Selection bias is a meso-level occurrence as hiring personnel at institutions are collectively, although often unknowingly, making this consistent decision.

**Nature of the company's riskiness.** One of the aspects that enable the GCP is the nature of the institution's riskiness. Kulich et al. (2015) conducted two experimental studies. In the first study, a fake news story was given to participants about a company looking to hire a new executive. The article detailed how the company was performing and what they attributed to that performance. There were two levels for the variable performance: performing well or performing poorly, and two levels for the variable of attribution: past leadership or larger economic realities. Afterward, participants were asked to choose a leader based on their biography to lead the

company. There were three potential hires. Two potential hires, a man and a woman, were highly qualified and matched on all criteria except gender. The third candidate was an unqualified male. Participants chose the qualified female leader more often when the company had performed poorly, and that poor performance was attributed to past leadership. Participants chose the male leader more often when the company performed well or performed poorly due to broader economic problems. Kulich et al. (2015) experimentally replicated the real-world studies of the TCTF and TMTM phenomena. Given that hiring personnel at institutions are thinking in this gender-biased manner, this is a meso-level factor contributing to the GCP.

When questioned about the nature of their choice in the second part of the Kulich et al. (2015) study, the female leader was selected to emotionally withstand the company's poor performance better than the male leader. The results of Kulich et al. (2015) were echoed by other studies that suggest that groups of people believe women are more empathetic and more emotionally able to be a scapegoat for poor company performance (Ryan et al., 2011; Ryan et al., 2016; Vongas, 2015). While the nature of these poor performances is unique to each institution, the reaction to hire preferentially for women in times of internally created poor performance has macro-level roots. The same stereotypes that influence people generally about their beliefs about women and leadership carry through and manifest themselves at this meso-level.

**Lack of support for women.** In qualitative studies of women leaders, many detail a theme related to the lack of initial support when they became leaders (Acker & Millerson, 2018; Redmond et al., 2017). These findings have been experimentally replicated in Rink et al. (2013). In this study, participants were given a case study of a company that was not performing well as it had a financial decline for five years. This company sought a new leader, and participants were asked to select a leader after reviewing profiles. In one condition, participants saw that the

incoming leader chosen would not have support from constituents. In contrast, the other condition participants saw that the incoming leader chosen would have support from constituents. The leadership profiles were for equally qualified men and women leaders. Participants chose the female leader more often when the case study specified that the new leader would not have social support. At the same time, male leaders were chosen more often when the case study identified that the new leader would have social support (Rink et al., 2013). This disparity in gender hiring reasoning supports female leaders' experiences in the field (Acker & Millerson, 2018; Redmond et al., 2017); they are more likely to be selected when there is less emotional support available.

**Think Crisis, Think Female.** Given the challenges that universities face and the effects of the internet's efficiencies, some universities are in danger of closing. Some predict that as many as half of all universities may close in the coming two decades (Lederman, 2017). One meso-level phenomenon related to the GCP occurs when institutions are not performing as desired, called the think-crisis-think-female phenomenon (TCTF). TCTF reflects that when a company is performing poorly and has had a history of male leadership, one solution the company seeks is to hire a female leader. Research has shown that female leaders increase financial measures for companies that hire them (Hoobler et al., 2018). Possibly, if a company is performing poorly, it may be more likely to hire a female leader.

The phenomenon "think-crisis-think-female" was coined as a variation of the "think-manager-think-male" (TMTM) phenomenon (Ryan et al., 2011). These two phenomena clearly articulate the sexist stereotypes held about positions of power within companies. Men are entrusted to be managers, whereas women should be entrusted only when past company performance is poor. One female board member who participated in a research study about

impediments to female leader advancement identified a TMTM phenomenon by saying, “many decision-makers are still 50+ men who are more comfortable with appointing their mirror images” (Rindfleish & Sheridan, 2003, p. 305). In summary, women earned leadership positions when institutions have faced challenging situations more often and need to correct those challenges visibly.

TCTF was identified by Ryan et al. (2011) in a study that found that women are hired more often into leadership positions when a company was performing poorly. For example, if a company recently faced a drop in shareholder value due to a leadership scandal that was highly publicized, the hire made to replace the outgoing leader was more likely to be a woman. While Ryan et al. (2011) used publicly traded companies for the data analysis, this phenomenon may be happening in higher education.

***Signaling.*** Institutions may seek to hire a leader who is a female because she is not a male. Hiring female leaders in times of poor performance is one way a company can signal that they are trying to change (Brown et al., 2011; Kaplan & Minton, 1994; Kulich et al., 2015). Thus, if an institution performs poorly, then the hiring managers may be more apt to hire a woman as a leader since it may produce more revenue for the institution (Hoobler et al., 2018). Additionally, it provides a signal to stakeholders that the institution is serious about making a change. It is not that the institution is purposefully seeking to hire a woman; instead, it signals that the institution seeks a change. Hiring a woman rather than a man is a way of making this change visible (Ryan & Haslam, 2007). Signaling helps enable the GCP to occur by creating more opportunities available to women when a university is financially unstable and thus already more likely to fail as an institution.

### *Micro-level Factors Related to the GCP*

Micro-level factors displayed by individuals also influence the GCP. Two such factors that will be discussed include personal traits and the desire to take a risk tax within their careers.

**Personal traits.** Women face unique barriers to advance into leadership positions within higher education that men do not. O'Connor (2018) studied women in higher education leadership positions and found four common themes: internal drivers, collaborative process, language barrier, and institutional mission alignment. Women were expected to have a very high drive for advancement and success, and women needed to work with others to achieve their goals. Second, female leaders found that they needed to learn institutional practices and that the lack of knowledge about these policies was problematic. Lastly, all the women said that their sacrifices were significant because they helped uphold the university's mission. These four barriers were unique to female leaders (O'Connor, 2018).

Most new academic leaders do not feel adequately prepared for their job (Gonaim, 2016). In a deans study at a state university, female deans showed higher resilience levels than similar male counterparts (Isaacs, 2014). These unique personal traits are observed in individual female leaders. These micro-level traits make them extraordinary and unique when compared to male leaders. However, additional research needs to be conducted on female non-leaders to ascertain if such characteristics are present in them as well.

**Risk Tax.** Women make less money than men for the same work (Bishu & Alkadry, 2017). When women are in a more vulnerable financial position, they look for ways to compensate for this financial loss. Many women and underrepresented people of color use the GCP to advance their careers, as riskier positions are often the only positions to which they have access to apply (Glass & Cook, 2020). Taking career risks such as less desirable leadership

positions is often the only way women and people of color can signal to a company they want to advance. Thus, the GCP is often viewed as the only option that women leaders can take to rebuff sexist practices that they have experienced within the workplace.

### *Higher Education*

U.S. women have been graduating with bachelor's degrees at a higher rate than men since the 1980s. Women are predicted to make up more than half of the workforce in 2020 (Matias, 2019). However, women continue to face barriers to advancement into leadership positions within the workplace (Pew Research Center, 2015). The gender disparity is prevalent in most fields, including higher education (Johnson, 2017). There are now more female leaders in higher education than in previous decades (Johnson, 2017). Women in higher education leadership comprise a more substantial proportion of college and university presidencies than ever before. Yet, most of these female presidents are at two-year institutions rather than four-year institutions (Johnson, 2017).

Many universities are in a position of change. "The increasing revenue needs will in most years outpace…the likely trajectory of available revenues… shifting more of the burden of support onto parents and students" (Bastedo et al., 2016, p. 311-312). For example, U.S. colleges and universities face a decline in the number of traditionally aged students as there has been a downward trend in the number of births since 2005 (Hamilton et al., 2018). Financial hardships are at the heart of many of higher education's challenges. Additionally, shortages of traditionally aged students, less funding from governments, and resistance to increasing tuition have placed many universities in a position of needing to change their current practices (Bastedo et al., 2016). While the U.S. higher education system has faced many historical shifts (Goldin & Katz, 1999), modern universities face problems that uniquely place them at additional fiscal risk. Over time,

universities had to provide services to a wider variety of students with less financial support from public sources (McCafferey, 2019). Over the past decade, colleges have faced: increasing the scope of the mission, increasing the proportion of adjuncts teaching, disruptive technologies, competing goals of institutional stakeholders, and growing fixed costs conflicting with public pressure to keep student debt low (Brint, 2019).

This increase in the proportion of adjuncts, which is sometimes called adjunctification, suggests that being a professor is increasingly not a full-time profession but rather a part-time job. Adjunct professors teach part-time and are part of a growing profession that receives welfare benefits (Patton, 2012). The lack of a living wage is vital when considering who can afford to be a professor. If someone needs a full-time job, but such full-time professor positions are becoming increasingly rare, then there is less prestige with such positions. If this is a less prestigious job, then the pay will generally be lower and will likely employ more women as it becomes a riskier position to hold. While it may sound like a good thing to have more women in academia, it is crucial that women achieve gender equity in professor positions that are full-time, benefited, and have opportunities for career advancement. Full-time faculty positions are essential to the GCP as academic leaders often start as full-time faculty members.

These challenges have placed many colleges and universities at significant risk. From 2008 to 2017, over 300 U.S. colleges and universities closed, and in the last five years, a half-million students were affected by college closures (Colston et al., 2020). This same study predicted that many more closures would happen as pressures and recent unemployment trends related to the COVID-19 pandemic will continue to affect higher education. The challenges that these higher education institutions are increasingly visible to constituents and place

unprecedented burdens on academic leaders. According to the GCP, when leaders are chosen in times of poor performance, there is an increasing likelihood she will be female.

Shifting to the micro-level, women's experiences working in higher education settings show that women faculty members earn pay that is 81% of male colleagues' (Curtis, 2010). Curtis (2010) highlighted that women face structural issues such as occupying more adjunct roles, being in fields that pay less, and being hindered by caretaker responsibilities. Again, in administration, structural problems, not a lack of aspirations, hinder women's opportunities to achieve equal access to educational leadership roles (Shepherd, 2017). Understanding women's trajectory within higher education can give insights into the future direction of female leadership in higher education.

Other research suggests that there is a loss of prestige for leaders in higher education. In a review of Swedish female leaders in higher education, they reported a general loss of professional prestige in higher education leadership positions (Peterson, 2016). In this study, legislative changes to higher education in Sweden required more women to become higher education leaders. Doing so made Sweden the country with the highest percentage of women as Vice-Chancellors in Europe (Peterson, 2016). Peterson (2016) interviewed 22 female leaders in Swedish higher education leadership. While several themes emerged from the qualitative study, one key theme was that the women who took those jobs described a loss of status professionally. Participants identified shifts to managerialism and corporatize higher education in Sweden in the preceding decades. This shift in business practices turned once academic leadership positions into more corporate-type positions. Doing so meant that these once professors had very little time for research work. Since many academic leadership positions in Sweden are either part-time or on a contractually limited time frame, they needed to keep up their research work to return to

their primary professorship. Much of the increased workload was administrative rather than leadership, which created a conflict between the leadership role and the professor role. Since there is no scholarly status associated with such managerial-based work, women felt their status as researchers slip.

Similarly, such leadership work did not pay well, contributing to a sense of loss of status (Peterson, 2016). When there is a loss of prestige, women are more likely to be hired into positions of power in that industry. One reason for this could be a male privilege to turn down undesirable leadership roles. Peterson's (2016) study identified that "some of the men that would be next in line for a management position might not be interested in it anymore. Because it's too much hard work" (p. 122). One female leader interviewed for this study explained this as "A management role is easily transformed into a servant role. Especially if many women hold the position…The academic management positions will follow the same pattern as we see everywhere. When women reach over 50 percent the positions will lose all prestige. And then even more women will be allowed to enter" (Peterson, 2016, p. 122). Again, increasing the number of female leaders is essential, but making a numerical target is not the only goal. Instead, it is crucial to achieving workplace parity where men and women have equal working conditions, rights, and prestige.

In another study, Morris and Laipple (2015), U.S. administrators at colleges were surveyed about their preparedness to take over academic leadership roles, reported feeling overwhelmed and underprepared for their new roles. When women and men were compared in this survey, women reported feeling more overwhelmed and acknowledged that they were not adequately compensated.

Research indicates that increasing the percentage of women in the industry suggests a feminization of the industry, which is associated with less prestige (England & Boyer, 2009; Leathwood, 2005). For example, clerical work is a category of work that has been feminized in the 1900s, and when it was feminized, it shifted to be part-time and paid at a lower rate (England & Boyer, 2009). Part-time and lower pay are both markers of lower prestige work. Ward and Wolf-Wendel (2017) articulate that community colleges are feminized places for academics to work. The Chronicle of Higher Education (2015) identified that two-year institutions and private for-profit four-year institutions had more than 50% of faculty members identifying as women.

**Risk via Financial Responsibility Composite Score**

In GCP studies, there are many ways to measure risk. The most common method of measuring risk in publicly traded companies is to look at financial indicators of risk (Cook & Glass, 2013; Elsaid & Ursel, 2018; Main & Gregory-Smith, 2018; Ryan & Haslam, 2005). However, other GCP studies utilize other forms of risk assessment that are related to the industry. For example, Smith (2015) used the complexity of work to measure risk for school district boards. Alternatively, Brady (2011) measured news scandals in addition to financial measures. Therefore, it is crucial to examine how risk is operationalized within the industry.

In higher education, one way of measuring the institution's financial riskiness is via the financial responsibility composite score (FRCS). There are other methods of measuring financial risks, such as credit ratings and the Council of Independent Colleges financial indicator (Kolbe & Kelchen, 2018); however, these measures do not measure as many higher education institutions in the U.S. as the FRCS does. The FRCS is calculated by the U.S. Department of Education and is used to assess if a private non-profit or a for-profit higher education institution is financially responsible enough to receive federal funds in the form of Title IV programming.

This score is not calculated typically for public universities as public universities are financial backed by and monitored by the state in which they operate (M. St. Pierre, personal communication, February 9, 2021). This concept is called “full faith and credit: Public schools are not subject to certain financial responsibility standards if the school demonstrates to Education that its debts and liabilities are backed by the full faith and credit of the state or another government entity” (Emrey-Arras, 2017, p.6). While it would have been preferable to utilize a measure of the financial risk factor for all U.S. higher educational institutions, no such measure exists.

The FRCS is determined by “a composite of three ratios derived from an institution's audited financial statements. The three ratios are a primary reserve ratio, an equity ratio, and a net income ratio. These ratios gauge the fundamental elements of the financial health of an institution, not the educational quality of an institution” (U.S. Department of Education, 2020a, para. 1). Scores can vary from -1 to 3, with a score of 1.5 or higher expected of financially responsible institutions (U.S. Department of Education, 2020a).

> Schools with scores of less than 1.5 but greater than or equal to 1.0 are considered financially responsible but require additional oversight. These schools are subject to cash monitoring and other participation requirements. A school with a score less than 1.0 is considered not financially responsible. However, a school with a score less than 1.0 may continue to participate in the Title IV programs under provisional certification. In addition, this lower score typically requires that the school be subject to cash monitoring requirements and post a letter of credit (equal to a minimum of 10 percent of the Title IV aid it received in the institution's most recent fiscal year). (U.S. Department of Education, 2020, para. 3-4)

Measuring a higher education institution's underlying financial stability is important as poor financial performance is related to campus closures or mergers (Bates & Santerre, 2000; Rocha et al., 2019; Tarrant et al., 2018). For example, Bates and Santerre (2000) analyzed private colleges from 1960 to 1994 for risk factors of closure or mergers. Closures and mergers were more likely to occur when expenses, namely salaries, rose and tuition income dropped (Bates & Santerre, 2000). Furthermore, financial factors were also a vital driver of some mergers of higher education institutes in Europe between 2000 and 2012 (Rocha et al., 2019). Together, these two studies suggest that financial factors were related to campus status changes when persisting as an individual institution was not possible (Bates & Santerre, 2000; Rocha et al., 2019).

Similarly, Tarrant et al. (2018) reviewed a group of colleges and universities considered at-risk in the 1970s to see what factors contributed to these institutions closing, merging, or persisting. In 1972 Astin and Lee created a report of institutions deemed at risk (as cited in Tarrant et al., 2018). Named invisible colleges, they were institutions with small enrollments and nonselective admissions. Tarrant et al. (2018) revisited these 491 invisible colleges from the 1970s to see why they closed, merged, or persisted forty years later. Of the 491 colleges initially identified in the Astin and Lee (1972) study (as cited in Tarrant et al., 2018), 354 persisted, 35 merged, and 80 closed. Factors that indicated persistence included increasing full-time enrolled students above 1,000 students and increasing selectivity standards for admission. Thus, having more income from both a more significant number of and more accomplished students resulted in an ability to persist over the four decades.

In summary, the FRCS is how the U.S. government feels an appropriate way of measuring a higher education institution's safety and risk. Additionally, it measures financial

factors related to campus closures and mergers in past years (Bates & Santerre, 2000; Rocha et al., 2019; Tarrant et al., 2018). Thus, FRCS is how this study will operationalize risk for U.S. colleges and universities.

## Summary

The GCP is where female leaders need to assume riskier leadership positions than men to advance their careers (Ryan & Haslam, 2005). These women face additional leadership risks since they are hired at inherently riskier institutions. Higher education institutions that hire them are less financially secure and can provide fewer support resources for new hires. Fewer support resources make it so that the newly hired leader is less likely to succeed in the new position.

Many factors enable the GCP. Some such macro-level factors include gender-based stereotypes and sexism. Eagly (1987) found that sexist stereotypes provided a theoretical framework for why sex differences develop over time and manifest in adult working lives. It also clearly identified that these factors are socialized and then perpetuated generationally. Gender-based stereotypes also influence leadership expectations by inadvertently preferring job candidates that match the role expectations that are held about each gender.

Meso-level factors that contribute to the GCP include institutional housework, selection bias, the nature of its performance record, lack of company support for female leaders, TCTF phenomenon, and signaling. At the same time, micro-level factors include the personal traits of female leaders and risk tax. Combined, these macro, meso, and micro-level factors increase the chance that the GCP will occur. Additionally, institutions of higher education are undergoing additional stress. A lack of public support, coupled with rising expectations from a more extensive array of constituents, places individual institutions at elevated risk of failure. Together

these factors increase the chances of women's advancement within riskier higher educational institutions.

Further investigating this phenomenon in higher education leadership positions is vital as little research has happened in the area. This quantitative study aims to study this gap in the literature numerically and provide generalizable results. Doing so will help administrators in higher education better understand the macro, meso, and micro-level barriers women in leadership positions face and help create opportunities and policies to improve gender parity in higher education leadership.

# CHAPTER THREE: METHODS

## Overview

This chapter will cover the methods used to conduct the study on the glass cliff phenomenon (GCP). It will start with the design of the experiment and then identify the research questions and hypotheses. After this, the participants and the setting will be described. Instrumentation and the procedures will be reviewed. This chapter concludes with statistical analyses.

## Design

This is a nonexperimental study using an ex post facto, causal-comparative design. Ex post facto, causal-comparative designs are nonexperimental designs as they do not actively manipulate participants into experimental conditions. Instead, they use existing historical data to create independent variable groupings based on categories (Gall et al., 2007). It is impossible to manipulate hiring based on gender in higher education institutions experimentally; therefore, this design is the best choice. It allows analysis by observing naturally occurring historical instances of this phenomenon over time (Gall et al., 2007). Additionally, using an ex post facto, the causal-comparative design allows for examining real-world occurrences of the GCP rather than a lab simulation of a hiring process.

Moreover, this design was utilized in other GCP studies (Brady et al., 2011; Cook & Glass, 2013; Main & Gregory-Smith, 2018; Ryan & Haslam, 2005). There were two factors, one between-subjects, and one within-subjects. The between-subjects factor was gender, consisting of two categorical levels, where participants were either female or male. The within-subjects factor was time, which included seven points measured to the presidential hire at the institution of higher education: three years before, two years before, one year before, year of hire, one year

after, two years after, and three years after. The dependent variable was the financial responsibility composite score (FRCS), which the U.S. Department of Education (2020a) creates and utilizes to determine if an institution is financially responsible enough to receive federal funds. The GCP predicts that women are hired into riskier institutions and that action puts women's careers into a more dangerous place if the institution financially fails. To measure the GCP there need to be measurement points of financial riskiness before and after the hire (Ryan & Haslam, 2005).

## Research Question

**RQ1:** Is there a significant difference in the institutional financial responsibility composite scores, over time, among schools that hire a male or female president?

## Hypotheses

The null hypotheses for this study are:

**$H_0$1:** There is no statistically significant difference in the institutional financial responsibility composite scores over time: three years before hiring, two years before hiring, one year before hiring, one-year post-hire, two years post-hire, or three years post-hire, when hiring a new president.

**$H_0$2:** There is no statistically significant difference in the institutional financial responsibility composite scores of higher education institutions that hire male versus female presidents.

## Participants and Setting

The population of interest was presidents of higher education institutions hired in the 2014-2015 academic year. This academic year was selected as it yields the most recent data possible within the years that the FRCS scores are available (U.S. Department of Education,

2020a). The most current FRCS that were available during data collection was the 2018-2019 academic year. Therefore, to have three years' worth of data post-hire, the most recent year of presidential hire would be the 2014-2015 academic year; as a hire during the 2015 calendar year could be related to the 2017-2018 or the 2018-2019 academic year.

Female presidents at higher education institutions in the 2014-2015 academic year were identified to draw the female sample. The identification process was to download the name of the chief administrator data from the Integrated Postsecondary Education Data System (IPEDS) (U.S. Department of Education, 2020b). Gender data was purchased for 949 presidents from HEP Inc, a private business that collects leadership and accreditation data in higher education. Please see more information in the procedures section about the use of HEP Inc data and Appendix A for the permission letter. Fiverr data services were utilized to determine the remaining genders of each president; please see more information in the procedures section to see how Fiverr data services were utilized. If either of these sources could not determine the gender, the researcher tried additional public records sources such as business licenses, accreditation agencies, and school-linked social media sites such as Facebook or LinkedIn. Once the gender of all presidents was determined, the researcher obtained the year the president was hired from public records. The female presidents became the female portion of the study's sample.

Then purposive sampling for similar male presidential hires occurred. This created a matched pairs design to allow comparisons between presidential hires of similar institutions. Matching was important in this study as it reduces the chance that confounding variables, such as institution type or time of hire, affect the results (Gall et al., 2007). The criteria for the purposive sampling were the year of hire and Carnegie classification (2010) of the institution. Carnegie

classification has been updated since 2014; however, 2014 data was measured using the 2010 Carnegie classification methods. These criteria are based on the sampling method that was used in the original study on the GCP (Ryan & Haslam, 2005). Ryan and Haslam (2005) studied female board members' appointments to the companies with the highest market capitalization in Britain, the FTSE 100. They identified all female board hires made in 2003 for these companies ($n$=19) and then selected a matched comparison male in a similar time of appointment and business sector. Therefore, similar criteria of the year of hire and Carnegie classification was chosen for the current study.

Based on these sampling criteria, 166 female presidents and 166 male presidents were identified. This amount is higher than the minimum sample size of 100 for an independent sample t-test, the parametric version of the Mann-Whitney U test, with a medium effect size with a statistical power of .7 at the .05 alpha level (Gall et al., 2007). All institutional characteristics and demographics are presented in Table 1.

**Table 1**

*Participant Demographics and Institutional Characteristics*

| Gender | *n* | Mode Carnegie Classification | Mode Sector of Institution | Mode Year of Hire | Mode FRCS for Year of Hire |
|---|---|---|---|---|---|
| Female | 166 | Special Focus Institution | Private not-for-profit, 4-year or above | 2014 | 2.51 |
| Male | 166 | Special Focus Institution | Private not-for-profit, 4-year or above | 2014 | 2.43 |

As Table 1 indicates, there is the same number of female and male presidential hires, and the most frequently occurring institutional type, according to Carnegie classification, is Special Focus Institution. The special focus is “Institutions where a high concentration of degrees is in a single field or set of related fields” (The Carnegie Classifications of Higher Education, 2021, para. 8). As Mode of Sector indicates, these are Private not-for-profit, 4-year or above institutions. This demonstrates that matching was successful as Carnegie Classification, year of hire, and institution sector are consistent for both levels of the between-subjects variable.

## Instrumentation

There are no instruments that determine if GCP occurs; therefore, there are no formal reliability or validity measures. However, Ryan and Haslam (2005) identified the GCP by looking at two company performance measures related to financial riskiness. Ryan and Haslam (2005) utilized stock performance the 12 months before the end of the fiscal year and a measure of stock fluctuation six months before and after the board member was hired. Financial risk measures have been utilized by other researchers in the business sector (Brady et al., 2011; Cook & Glass, 2013; Main & Gregory-Smith, 2018). Additionally, other researchers have looked at other risk factors specific to other industries, such as complexity in public K-12 education (Smith, 2015) and visibility and complexity in regulatory agencies (Smith & Monoghan, 2013).

When examining risk factors, it is also essential to consider how that risk changes over time. For example, in the study that established the GCP, Ryan and Haslam (2005) reviewed British companies' financial performance in two ways: annual performance and monthly share price. Annual performance for the year before the analysis and the monthly trading performance via the monthly share price for six months before and after the board member's hiring. Cook and Glass (2013) reviewed CEO tenure and financial performance one year before the hire and two

and three years after the hire. Brady et al. (2011) studied both financial factors and news scandals as measures of GCP risk. For both factors, they were measured for five years, covering 2001 to 2005 (Brady et al., 2011). Given the prevalence of this technique, which uses financial risk factors over time, this study uses financial responsibility composite scores.

### *Financial Responsibility Composite Score*

The purpose of the financial responsibility composite score (FRCS) in this study is to measure financial riskiness for a nonprofit private or a for-profit higher education institution. The U.S. Department of Education (2020a) has created the FRCS for the years 2006-2007 to 2018-2019 to have a basis for determining if a non-public institution is responsible enough to be given federal funds. "Section 498(c) of the Higher Education Act of 1965, as amended, requires for-profit and non-profit institutions to annually submit audited financial statements to the Department to demonstrate they are maintaining the standards of financial responsibility necessary to participate in the Title IV programs" (U. S. Department of Education, 2020a, para. 1). Title IV programming includes many things, but the FRCS is aligned to the ability for institutions to receive funding related to loans, grants, and work-study (U.S. Department of Education, 2020c). This score is created by reviewing higher education institutions' financial statements using a ratio of primary reserve ratio, an equity ratio, and a net income ratio. The scores range from -1 to 3, and higher education institutions need a score of 1.5 or greater to be considered financially responsible, according to the U.S. government. Higher education institutions with scores of less than 1.0 are considered not financially responsible and require additional oversight to receive Title IV funding from the government. The FRCS is measured on an interval scale as scores can vary in equally size intervals between -1 and 3, but it lacks a meaningful zero point (Gall et al., 2007). Other researchers have used the FRCS in peer-

reviewed work (Fletcher, 2015; Kelchen, 2018; Lenard et al., 2019). Public institutions generally do not receive an FRCS as they have the full faith and credit protections of the state or government in which the institution is located (Emrey-Arras, 2017).

### *Other Variables*

In addition to the variables identified, Carnegie classification and enrollment size will help categorize and describe institutions during the year of the presidential hire. Carnegie classification is a method of placing U.S. higher education institutions into categories and is maintained by the Indiana University Center on Postsecondary Research (Carnegie Classifications, 2017a). Carnegie Classifications (2017b) outlines 33 categories: R1: Doctoral Universities – Very high research activity, R2: Doctoral Universities – High research activity, D/PU: Doctoral/Professional Universities, M1: Master's Colleges and Universities – Larger programs, M2: Master's Colleges and Universities – Medium programs, M3: Master's Colleges and Universities – Smaller programs, Arts & Sciences Focus, Diverse Fields, Mixed Baccalaureate/Associate's Colleges, Associate's Dominant, High Transfer-High Traditional, High Transfer-Mixed Traditional/Nontraditional, High Transfer-High Nontraditional, Mixed Transfer/Career & Technical-High Traditional, Mixed Transfer/Career & Technical-Mixed Traditional/Nontraditional, Mixed Transfer/Career & Technical-High Nontraditional, High Career & Technical-High Traditional, High Career & Technical-Mixed Traditional/Nontraditional, High Career & Technical-High Nontraditional, Health Professions, Technical Professions, Arts & Design, Other Fields, Faith-Related Institutions, Medical Schools & Centers, Other Health Professions Schools, Engineering Schools, Other Technology-Related Schools, Business & Management Schools, Arts, Music & Design Schools, Law Schools, Other Special Focus Institutions and Tribal Colleges. Carnegie classification is used in many types of

scholarly studies (Littman et al., 2017; Lyons et al., 2018; Williams et al., 2019).

The presidential hiring date was determined by the academic year in which the president was hired. Academic years run from July 1st of one year and end on June 30th of the following year. This practice is common in higher education and is used in governmental studies (Emrey-Arras, 2017).

## Procedures

A pilot study for data gathering procedures was conducted in the summer of 2020 to investigate how IPEDS data from the 2017-2018 academic year, FRCS, Carnegie classification, FTE enrollment, and gender could be collected. This pilot allowed the researcher, Michelle Samuel, to determine that the Fiverr services would likely be needed as over 4,000 institutions in the U.S. are listed on IPEDS in the 2017-2018 year as being degree-granting.

In the spring of 2021, Human Subject Board approval was sought. See Appendix B for IRB approval. Data was downloaded from IPEDS on the Carnegie classification, name of chief administrator, and location for all higher education institutions in the U.S. for the academic year, 2014-2015 academic year (*n*=7688). The FRCS was obtained by downloading the publicly available data from the U.S. Department of Education (2020a) website for the years 2006-2007 to 2017-2018. After this, the data were cleaned to remove all institutions without FRCS (*n*=3236). First, gender data was sought via HEP Inc. data services. Partial data was bought (n=949) (See Appendix C for permission letter). Using Fiverr data services, all the presidents of degree-granting institutions were reviewed on the respective institutional website or via other reputable sources (news outlets, school-related social media sites, accreditation websites, or business license sites) to determine the gender of the president as well as the year of hire. The websites with the gender and the year of hire were confirmed by the primary investigator.

Gender was determined by reviewing the pronouns that the institution uses to describe the president. He, his, and him denoted male while she, her, hers denoted female. No presidents identified gender in a nonbinary manner. When gender pronouns were not available, photos and titles were used instead. Photos were reviewed to determine outward sex characteristics. Titles, such as Ms., Mrs., Mr., Sr., and Fr. were used in the indicated gendered manner. Orthodox rabbis of male-only rabbinical schools were identified as male as well.

There were 266 female presidents and 739 male presidents found with gender and year of hire and partial data for FRCS 2006-2018. The final sample had 166 male presidents and 166 female presidents that had complete FRCS data for all FRCS years prior and after hire and could be matched. After combining the datasheets and aligning the data, the data was ready for data cleaning and analysis.

## Data Analysis

First, basic descriptive statistics about the participant and the institution were analyzed. Using the explore function in SPSS, the sample size, mean of tenure, mean and range of FTE students, frequency and mode of Carnegie classification, and mean, median, mode, and frequency of financial responsibility composite scores were obtained. These descriptive statistics were chosen to summarize sample characteristics (Warner, 2013).

The inferential analysis that was desired to be conducted was a 2 x 6 mixed ANOVA. The 2x6 mixed ANOVA was selected as this is the most appropriate analysis to conduct because there are two factors, one of which is a between-subjects factor. The other is a within-subjects factor, with an interval scale dependent variable (Murrar & Brauer, 2018). The between-subject factor, gender, has two categorical levels, where participants are either male or female. Gender is a categorical variable as it represents a naturally occurring group (Warner, 2013). The within-

subjects factor is time, which encompasses six points measured in relation to the presidential hire at the institution of higher education: three years before, two years before, one year before, one year after, two years after, and three years after. The dependent variable is the FRCS, which is a continuous variable ranging in values from -1.0 – 3.0. Since the glass cliff phenomenon predicts that women are hired into riskier institutions and that it puts their careers into a riskier place if the institution financially fails, there need to be points of measurement of financial riskiness before and after the hire (Ryan & Haslam, 2005).

Before starting with the 2 x 6 mixed ANOVA, data screening needed to occur. The mixed ANOVA analysis assumptions needed to be tested. There are five assumptions that need to be met before moving on to the mixed ANOVA: outliers, normality, homogeneity of variance, sphericity, and homogeneity of variance-covariance matrices (Murrar & Brauer, 2018). First, outliers need to be checked using a box and whisker plot for each variable and looking for extreme outliers. All data should fall within the whiskers of the box and whisker plot.

The Kolmogorov-Smirnov test assesses the assumption of normality with $p = .05$ since the sample size will be larger than 50; a nonsignificant result is desired (Ghasemi & Zahediasl, 2012). If the distribution is not normal, then non-parametric tests will be conducted. Homogeneity of variance can be reviewed by conducting Levene's Test of Equality of Error Variance with $p = .05$. A nonsignificant Levene's test is desirable; if it is significant, then data transformations may correct it (Murrar & Brauer, 2018). Sphericity can be checked with Mauchly's test of sphericity with $p = .05$; it should be nonsignificant; however, if it is not, the Greenhouse-Geisser or the Huynh-Feldt corrections can be used (Murrar & Brauer, 2018). Lastly, the homogeneity of variance-covariance matrices needs to be reviewed with Box's M statistic. "If Box's M returns a *p*-value that is less than .001, then the variance-covariance

assumption is violated. Violations of this assumption can be corrected for with data transformations" (Murrar & Brauer, 2018, p. 6).

After reviewing the data related to the assumptions and making any needed corrections, a 2 x 6 mixed ANOVA can be conducted. The 2x6 mixed ANOVA will test the main effect of gender at $p = .05$, the main effect of time at $p = .05$, and the interaction of gender and time at $p = .05$. For post hoc tests of any significant main effects, the Tukey honest significant difference test, which is reasonably conservative, can be conducted (Warner, 2013). The effect size will be computed with Partial Eta Squared for each main effect and the interaction (Warner, 2013). To interpret partial eta squared, the value will be compared to the following cut points: 0.01 for small, 0.06 for medium, and 0.15 for large (Abbott, 2016). Additionally, confidence intervals will be computed as part of the mixed ANOVA. Methods of investigating power will be reviewed and decided upon in the future.

# CHAPTER FOUR: FINDINGS

## Overview

This chapter will start with the research questions and hypotheses. After that, the descriptive statistics will be reviewed. Finally, this chapter concludes with the results section with the inferential statistics.

## Research Question

**RQ1:** Is there a significant difference in the institutional financial responsibility composite scores, over time, among schools that hire a female or male president?

## Null Hypotheses

**$H_0$1:** There is no statistically significant difference in the institutional financial responsibility composite scores of higher education institutions that hire male versus female presidents.

**$H_0$2:** There is no statistically significant difference in the institutional financial responsibility composite scores over time: three years before hiring, two years before hiring, one year before hiring, one-year post-hire, two years post-hire, or three years post-hire, when hiring a new president.

## Descriptive Statistics

First, basic descriptive statistics about the participants and the institutions were analyzed. Then, using the explore function in SPSS, the sample size, and mode of Carnegie classification. These descriptive statistics were chosen to summarize sample characteristics (Warner, 2013).

Next, the Kolmogorov-Smirnov test tested the assumption of normality with $p = .05$ since the sample size is greater than 50; a nonsignificant result is desired (Ghasemi & Zahediasl, 2012). The Kolmogorov-Smirnov tests of normality were conducted and found to be significant.

The ceiling effect prevented any data transformations, such as square root, log 10, or inverse, from reshaping the data into a normal distribution (see Table 2 for normality tests).

**Table 2**

*Kolmogorov-Smirnov Tests of Normality with Inverse Transformation*

| Year | Gender of President | *K-S* | *n* | *p* |
|---|---|---|---|---|
| 3 years prior | Female | 0.21 | 166 | 0.00 |
| 3 years prior | Male | 0.23 | 166 | 0.00 |
| 2 years prior | Female | 0.26 | 166 | 0.00 |
| 2 years prior | Male | 0.19 | 166 | 0.00 |
| 1 year prior | Female | 0.23 | 166 | 0.00 |
| 1 year prior | Male | 0.25 | 166 | 0.00 |
| Year of hire | Female | 0.23 | 166 | 0.00 |
| Year of hire | Male | 0.20 | 166 | 0.00 |
| 1 year after | Female | 0.26 | 166 | 0.00 |
| 1 year after | Male | 0.16 | 166 | 0.00 |
| 2 years after | Female | 0.23 | 166 | 0.00 |
| 2 years after | Male | 0.20 | 166 | 0.00 |
| 3 years after | Female | 0.24 | 166 | 0.00 |
| 3 years after | Male | 0.22 | 166 | 0.00 |

Since the distributions were not normal even after the inverse transformation, the planned analysis of a 2 x 6 mixed ANOVA was not possible. So instead, non-parametric tests were investigated (Warner, 2013).

Using the original, untransformed data, descriptive statistics were conducted. See Table 3 for descriptive statistics appropriate to non-parametric tests of each sample (Gibbons, 1993). Based on these analyses, non-parametric statistics were conducted to test the hypotheses. The measure of central tendency appropriate for non-parametric tests on a continuous scale is the median (Warner, 2013). The interquartile range gives a sense of variability. When reviewing the medians, they appear similar across genders and within the interquartile range of one another.

**Table 3**

*Descriptive Statistics*

| Year | Gender of President | Median FRCS | *n* | Interquartile Range |
|---|---|---|---|---|
| 3 years prior | Female | 2.50 | 166 | 0.80 |
| 3 years prior | Male | 2.50 | 166 | 0.80 |
| 2 years prior | Female | 2.70 | 166 | 0.80 |
| 2 years prior | Male | 2.60 | 166 | 0.80 |
| 1 year prior | Female | 2.70 | 166 | 0.80 |
| 1 year prior | Male | 2.70 | 166 | 0.80 |
| Year of hire | Female | 2.60 | 166 | 0.80 |
| Year of hire | Male | 2.60 | 166 | 0.80 |
| 1 year after | Female | 2.70 | 166 | 0.80 |
| 1 year after | Male | 2.55 | 166 | 0.80 |
| 2 years after | Female | 2.65 | 166 | 0.80 |
| 2 years after | Male | 2.60 | 166 | 0.80 |
| 3 years after | Female | 2.70 | 166 | 0.80 |
| 3 years after | Male | 2.70 | 166 | 0.80 |

## Results

With the descriptive statistical analyses completed, two non-parametric inferential analyses were conducted on the original untransformed data: first a Mann-Whitney U test to test hypothesis one and then a Friedman test to test hypothesis two.

***Hypothesis One***

The Mann-Whitney U test was utilized to review gender differences in FRCS before, during, and after hiring. The Mann-Whitney U test, the non-parametric version of the independent samples t-test, was selected because one independent variable was measured between subjects for two groups. In addition, the dependent variable was on a continuous scale (Warner, 2013). The between-subject factor, gender, has two categorical levels, where participants were either male or female. Gender is a categorical variable as it represents a naturally occurring group (Warner, 2013).

All four assumptions were reviewed. First, the dependent variable needs to be measured at the continuous or ordinal level (Gibbons, 1993). FRCS is continuous as they have equal spacing. Second, the independent variable needs to be from two independent groups (Nachar, 2008). The independent variable, gender, has two independent groups as participants are either male or female presidents. Third, observations are independent (Gibbons, 1993). The observations are independent because FRCS scores in schools headed by female presidents are not related to the FRCS scores in schools led by male presidents. Fourth, to compare medians, the distributions need to have similar shapes (Nachar, 2008). Histograms were visually assessed for each dependent variable, and the shapes were highly similar, enabling the medians of the groups to be compared.

With the assumptions met, the Mann-Whitney U test was conducted separately for each dependent variable. A Mann-Whitney U test showed no significant difference ($U$ =13,769.00, $p$ = 0.99) in FRCS score three years before hiring between institutions headed by a female or a male president. In addition, the median FRCS score was 2.50 for the female group, which was

the same for the male group (median = 2.50). These identical median values indicate that FRCS scores did not vary across genders three years before hiring.

This pattern of non-significance is the same across all dependent variables. See Table 4 for all Mann-Whitney U test results. The lack of significance suggests that FRCS scores did not vary across genders before, during the year of, or after hiring. Effect size uses Cohen's D conventions (Warner, 2013).

**Table 4**

*Mann Whitney U Test Results*

| Dependent Variable | *U* | *p* | *D* | Effect size label | *n* |
|---|---|---|---|---|---|
| FRCS 3 years prior | 13769.00 | .99 | 0.00 | No effect | 166 |
| FRCS 2 years prior | 12761.50 | .23 | 0.09 | No effect | 166 |
| FRCS 1 year prior | 13362.50 | .62 | 0.04 | No effect | 166 |
| FRCS hired year | 13209.50 | .51 | 0.05 | No effect | 166 |
| FRCS 1 year after | 12339.00 | .09 | 0.13 | Small effect | 166 |
| FRCS 2 years after | 13098.00 | .43 | 0.06 | No effect | 166 |
| FRCS 3 years after | 12760.00 | .23 | 0.09 | No effect | 166 |

***Hypothesis Two***

The first hypothesis tested comparisons between the genders at each point in time, whereas the second hypothesis compares within the gender for differences over time. Two Friedman tests reviewed differences in FRCS across years within each gender.

FRCS is a within-subjects factor, with an interval scale dependent variable (Murrar & Brauer, 2018). The within-subjects factor is time, which encompasses seven points measured to the presidential hire at the institution of higher education: three years before, two years before,

one year earlier, year of hire, one year after, two years after, and three years after. The dependent variable is the FRCS, a continuous variable ranging in values from -1.0 to 3.0. Since the GCP predicts that women are hired into riskier institutions and puts their careers into a more dangerous place if the institution financially fails, there need to be points of measurement of financial riskiness before and after the hire (Ryan & Haslam, 2005). Therefore, the financial riskiness of institutions was checked for women and men.

The Friedman test, the non-parametric version of the repeated subject ANOVA (Corder & Foreman, 2014), evaluated the median across three or more related observations (Kraska-Miller, 2013). Before running the analysis, assumptions were checked. There are three assumptions. The first is that data is ordinal or continuous, the second is that data is from the same sample, and third the distributions are similarly shaped (Kraska-Miller, 2013). The data is continuous, the data is from the same institution over time, so it is from the same sample, and distributions were already assessed as part of the Mann-Whitney U test. With all assumptions met, the Friedman test was conducted.

Using the Friedman test for the female presidents, seven conditions were compared ($n$=166). The Friedman test was non-significant (Chi-square (6) = 7.966, $p$ = .241). This suggests that FRCS scores did not vary significantly before, during, or after a female president was hired. Since there were no significant differences between these seven groups, no post hoc tests were run to determine where pair-wise differences existed. See Table 5 for descriptive statistics for women.

**Table 5**

*Descriptive Statistics for Female Presidents*

| Variable name | 25th | Median | 75th | *n* per group |
|---|---|---|---|---|
| FRCS 3 years prior | 2.20 | 2.50 | 3 | 166 |
| FRCS 2 years prior | 2.20 | 2.70 | 3 | 166 |
| FRCS 1 year prior | 2.20 | 2.70 | 3 | 166 |
| FRCS hired year | 2.20 | 2.60 | 3 | 166 |
| FRCS 1 year after | 2.20 | 2.70 | 3 | 166 |
| FRCS 2 years after | 2.30 | 2.65 | 3 | 166 |
| FRCS 3 years after | 2.30 | 2.70 | 3 | 166 |

For male presidents, seven conditions were compared ($n$=166). The Friedman test was non-significant (Chi-square (6)= 7.82, $p$ = .25). This suggests that FRCS scores did not vary significantly before, during, or after a male president was hired. Since there were no significant differences between these seven groups, no post hoc tests were run to determine where pair-wise differences existed. See Table 6 for descriptive statistics.

**Table 6**

*Descriptive statistics male presidents*

| DV Name | 25th | Median | 75th | *n* |
|---|---|---|---|---|
| FRCS 3 years prior | 2.20 | 2.50 | 3 | 166 |
| FRCS 2 years prior | 2.20 | 2.60 | 3 | 166 |
| FRCS 1 year prior | 2.20 | 2.70 | 3 | 166 |
| FRCS hired year | 2.20 | 2.60 | 3 | 166 |
| FRCS 1 year after | 2.20 | 2.55 | 3 | 166 |
| FRCS 2 years after | 2.20 | 2.60 | 3 | 166 |
| FRCS 3 years after | 2.20 | 2.70 | 3 | 166 |

# CHAPTER FIVE: CONCLUSIONS

## Overview

This chapter will conclude the dissertation about the glass cliff phenomenon (GCP). It starts with a discussion of the results of the analysis of the financial responsibility composite scores (FRCS) in the context of the existing literature and theory. After this will follow a section about implications of these results and a section on limitations will follow. This chapter will conclude with recommendations for future research.

## Discussion

The purpose of this study was to quantitatively identify if the GCP is occurring in U.S. higher education presidencies using FRCS. The GCP "refers to the tendency for women to be more likely than men to be appointed to leadership positions that are risky and precarious" (Ryan et al., 2016, p. 446). According to Diehl and Dzubinski (2016), the GCP is a meso-level factor of gender discrimination for female leaders. The GCP is part of a more extensive system of macro, other meso, and micro-level factors that all exist as barriers to female leadership advancement (Diehl & Dzubinski, 2016).

The analytical levels in social science are the macro, meso, and micro-levels (Saylor Academy, 2012; Decarlo, 2018). The macro-level is the broadest, looking at whole societies. The meso-level is medium focusing on companies or other medium-sized groupings of people, and micro is the smallest level focusing on individuals (Saylor Academy, 2012; Decarlo, 2018). Diehl and Dzubinski (2016) identify GCP as meso-level, meaning that it can occur at a particular institution but is rooted in a broader cultural system, which is the macro system. Macro-level factors include gender and leadership stereotypes. Meso-level factors included the GCP, TCTF and TMTM, lack of mentoring, lack of social support, discrimination, salary inequity, and

unequal gender standards. Micro-level factors include the psychological glass ceiling and work-life conflict.

In the current study, the GCP predicted that the FRCS would have been worse for female presidents before, during, and after hiring than male presidents. However, results did not indicate that the GCP occurred in U.S. higher education presidencies when measured via the FRCS. Consequently, the literature and theory related to the first hypothesis, which focused on gender differences between presidents, will be examined to review this inconsistency. After the between-group comparison, the literature and theory related to the second hypothesis, which focused on FRCS score differences within each gender, will be discussed.

### *Hypothesis One*

The first hypothesis looked for gender differences in FRCS before, during, and after hiring. Johnson (2017) previously established that over 7 out of 10 presidents in higher education are male. In addition, there are many structural barriers for women seeking leadership positions, including women being hired more often as adjuncts, teaching or researching in lower-paying fields, and external caretaker roles (Curtis, 2010; Johnson, 2017; Pew Research Center, 2015; Shepherd, 2017). These factors make it harder for women to advance in higher education.

Furthermore, female presidents head colleges and universities more often at two-year institutions than four-year or doctoral-granting institutions. Such institutions are less financially secure as they often lack sufficient endowments (Finkel, 2019), making them more reliant on less stable forms of money such as tuition or local funding (AACC, 2020). Thus, these positions are riskier places to lead. Additionally, higher education has been facing new and ongoing challenges for academic leaders (Bastedo et al., 2016; Brint, 2019; Goldin & Katz, 1999;

Hamilton et al., 2018; McCafferey, 2019), which would suggest that this industry would be vulnerable to the GCP.

If higher education is vulnerable to GCP, it was expected that FRCS would have generally been lower for institutions with female presidents than male presidents across all years. The FRCS measures if a private non-profit or a for-profit higher education institution is financially responsible enough to receive federal funds. However, there was no difference in FRCS between the genders. This is the opposite of what has been found by other quantitative GCP studies (Brady et al., 2011; Elsaid & Ursel, 2018; Main & Gregory-Smith, 2018; Ryan & Haslam, 2005). However, it is in line with other GCP studies that did not show a consistent difference between the gender of leaders (Cook & Glass, 2013; Kulich et al., 2015). Cook and Glass (2013) is one such example. Cook and Glass (2013) used similar measures of risk as Ryan and Haslam (2005) to assess U.S. companies but failed to find a GCP. This finding is opposite of Elsaid and Ursel (2018) that did find a GCP in North American companies using a similar measure of risk to the original study by Ryan and Haslam (2005). Kulich et al. (2015) is an example that shows a glass cliff phenomenon for women leaders, but only under specific conditions.

On balance, more studies were found supporting the GCP (Acker & Millerson, 2018; Brady et al., 2011; Elsaid & Ursel, 2018; Main & Gregory-Smith, 2018; Morely, 2014; Peterson, 2016; Ryan & Haslam, 2005) than those that did not find a GCP (Cook & Glass, 2013). One explanation that was reviewed for this discrepancy was publication bias. Publication bias is a "failure to publish the results of a study 'on the basis of the direction or strength of the study findings'" (Devito & Goldacre, 2019, p. 53). Perhaps the literature shows a GCP because mainly studies that found significant results were produced all the way to the publication stage. Studies

that did not find significant results possibly had researchers who decided not to continue the process of publication.

Morgenroth et al. (2020) made extraordinary research efforts to locate unpublished works for the meta-analysis of the GCP. These researchers did so in three ways: first, they searched for dissertations and conference papers in addition to regular peer-review journal articles. Second, they asked listservs of major academic journals and groups for unpublished studies, and third, they asked authors of published studies if they had any unpublished studies. Eleven out of 11 unpublished archival studies showed evidence for the GCP, and 31 out of 38 unpublished experimental studies found evidence supporting the GCP (Morgenroth et al., 2020). This indicates that publication bias is not a likely factor.

The current study also contrasts results to qualitative studies on GCP (Acker & Millerson, 2018; Morely, 2014; Peterson, 2016). Female leaders in higher education are identifying that they feel like it is occurring. Perhaps the GCP is happening at select institutions, but it is not occurring at a level where it is impacting FRCS on a national level. The lack of difference in the FRCS in this study indicates that the institutions that are part of this sample had highly similar FRCS between institutions headed by female leaders and those led by male leaders.

The findings of the current study are in line with Abdulfattah (2017), which suggests that it is a multitude of factors that enable the glass cliff. By interviewing female leaders in the UAE researchers found that other forms of injustice that have macro-level or micro-level roots. The researchers argue that by looking at gender solely is to reduce the scope of the problem too narrowly. Literature related to this null result will be discussed according to the three levels of social analytic levels: macro-level, meso-level, and micro-level.

**Macro level.** One macro-level factor that could cause the lack of gender differences in the current study is leadership stereotyping. Leadership perceptions could help explain the lack of differences in the FRCS between presidential genders. The way these female presidents act may be more consistent with macro-level gender-based stereotyping than women who have not been hired as presidents. Eagly (1987) identifies that gender-based stereotyping is culturally bound with social-psychological roots. Women's stereotypes shape women's environment as they believe that they have better domestic skills such as communication and organization. While male stereotypes allow men to seek leadership positions freely, female leaders must conform to culturally bound stereotypes held within the workplace. Many studies report that gender bias prevents females from ascending into high level leadership roles (Manfredi et al., 2019; Riffle et al., 2013; Shepherd, 2017).

Historically male leaders have created institutional practices that make it harder to be a working female (Eagly, 1987). The female presidents in this sample have likely risen through the academic ranks while holding a majority of second-shift work at home (Hochschild & Machung, 2012; Wolf-Wendel et al., 2007). If any of the female presidents are mothers, they also likely held most childcare responsibilities (Ciciolla & Luthar, 2019). These barriers make it so that many females choose more flexible workplaces, including part-time work (Leuze & Strauß, 2016). Indeed, the area of the academy with the most women is part-time faculty ranks (Finkelstein et al., 2016). However, by being a president, these female leaders have not chosen part-time or flexible roles. In short, the women in this sample may be different, on a micro-level, than other women. They may conform to acceptable leadership stereotypes more than other women do.

The lack of gender-based differences in the FRCS is in line with Paustian-Underdahl et al. (2014). Paustian-Underdahl et al. (2014) found no statistically significant gender-based differences in leader effectiveness. However, when self-assessments and colleague assessments measured leadership effectiveness, male leaders self-rated highly, whereas women were rated highly by colleagues. This suggests a gender effect between self and colleagues' appraisals of leadership that is dependent on gender. There is a micro-level factor of men rating selves highly and women rating themselves not as highly. This micro-level difference in the genders may negatively affect women's likelihood of pursuing advancement while positively affecting men's likelihood of seeking promotion. If female presidents' and male presidents' leadership abilities are perceived to be the same, then there would be no difference in the FRCS of institutions led by women versus men. This is what the current study found: a lack of differences between the genders.

The current leadership literature reflects a movement to engage in a more stereotypically feminine style. For example, Bass and Riggio (2005) identified transformational leaders who co-lead with workers by motivating workers to work collaboratively to strengthen the institution. While women are more often ascribed to this type of leadership style, men also identify with transformational leadership (Bass, 1990; Eagly et al., 2003). It is possible that macro-level leadership stereotypes are shifting to be more female.

**Meso-level factors.** The GCP typically shows a meso-level occurrence of selection bias when people at institutions are making hiring decisions. Hiring professionals engage in selection bias in favor of male leaders when institutions are doing well and favor female leaders when institutions are not stable (Brown et al., 2011; Haslam & Ryan, 2008; Rink et al., 2013; Ryan et al., 2011; Ryan et al., 2016). Selection bias is a meso-level factor, as it is determined by hiring

personnel at institutions. Again, the results of this current study do not support the selection bias when looking at FRCS. Selection bias would have been observed if the FRCS differed between the genders before hiring; however, this was not observed in the current study.

**Micro-level factors.** A second idea found in the literature about why there were no significant FRCS differences between female and male presidential institutions may be due to micro-level factors such as the personality traits or personal beliefs. Some evidence exists that women in leadership roles have a career trajectory of seeking out risky assignments (Glass & Cook, 2020). Selecting all the current female presidents in higher education in 2014 resulted in a specific type of sample. By proxy of being hired, female leaders of these institutions could be conforming to society's leadership expectations via having a non-existent or easily breakable personal glass ceiling. These women are special because they might have personal qualities that make them more in line with society's expectations for a leader. The psychological glass ceiling is related to the glass ceiling phenomenon. The glass ceiling phenomenon predicts that women can advance within the workplace, but only up to a certain level (Bertrand, 2018; Carvalho et al., 2019; Finseraas et al., 2016; Hymowitz & Schelhardt, 1986; Manzi & Heilman, 2021). Women hit a metaphorical invisible glass ceiling that they cannot break. Hymowitz and Schelhardt (1986) believed that the glass ceiling exists due to invisible structural barriers that allow women only lower-level leadership roles. Structural barriers include the following: beliefs that women are always about to take a family leave, men in leadership roles are uncomfortable working with women at the same level as them, women do not fit in with male leaders, and that men are not comfortable being led by a woman (Hymowitz & Schelhardt, 1986).

A psychological glass ceiling is an "unwillingness to appear assertive; undervaluation

of one's own abilities" (Diehl & Dzubinski, 2016, p. 192). For example, when a board initially asked a woman to lead as president, she said she was not prepared to do so and was completely caught off guard (Diehl & Dzubinski, 2016). This response is not unusual as many female leaders' report feelings of a lack of preparedness (Morris & Laipple, 2015). This lack of self-awareness is partly due to a sense that women know that glass ceilings exist and do not consider themselves to be prepared for top leadership roles. However, it is possible that female presidents of higher education institutions may have different feelings about their personal glass ceilings than non-presidential women. Perhaps that is why they earned their presidential role.

Possibly the difference lies within the male leaders not measured in this sample. While all-female presidents with complete information for gender, year of hire, and the seven relevant FRCS years were included, hundreds of men were not included. By matching men to where women already exist as leaders, conceivably the expected variation was leveled out.

Alternatively, maybe public institutions or institutions that women do not often lead have more risk. Higher education is a historically male environment, and agentic management expectations still exist (Burkinshaw & White, 2017; Koot, 2004; Leathwood, 2005; Rennion & Bonomi, 2020; Rindfleish & Sheridan, 2003). Such expectations could prevent some women from rising through the academic ranks, leaving women who can conform and thrive within male-centric and agentic environments. Indeed, some literature suggests that female leaders have unique personality traits that make them especially suited to being leaders (Isaacs, 2014; O'Connor, 2018). These micro-level factors might be causing the female leaders in this study to be more like the male leaders. Thus, there is a lack of gender representation in the top academic leadership ranks. Those women who make it to the top are themselves not fully representative of their gender.

Literature suggests the lack of representation may have led to a failure to detect the GCP via the FRCS due to sampling bias that arose from the matching technique. Many studies identify reasons for lack of gender representation ranging from lack of mentorship (Farkas et al., 2019; Longman et al., 2019), and lack of social support of new female leaders (Acker & Millerson, 2018; Redmond et al., 2017; Rink et al., 2013). In addition, Lommerud et al. (2015) found that hiring managers often unknowingly hire using gender stereotyping, which perpetuates gender stereotypes within the workplace. This stereotypical hiring can affect women's chances of being hired into a leadership position (Agars, 2004; Badura et al., 2018; Castano et al., 2019). This would suggest that when making new hires, institutions perpetuate the existing biases in their hiring practices.

Perhaps institutions with riskier FRCS do not hire female presidents, as it is not part of their sociocultural practices. Manfredi et al. (2019) also found that using executive search firms increases the chances of being hired. However, this sample represents mainly special focus institutions that are private not-for-profit, four years or above. These are institutions that are typically one of the following focuses: faith-related, medical, health professions, engineering, technology-related, business schools, art, music, and design schools, law schools, or other special focus institutions (Carnegie Classifications, 2017b). The use of search firms has come under some scrutiny in recent years (Seltzer, 2016). However, 67% of not-for-profit universities use them in their presidential search, and higher-level research institutions use them more often than this (Johnson & Ferrare, 2018). Search firms are less used in small denominational institutions requiring particular religions or when there is internal succession planning in place (Johnson & Ferrare, 2018). While there is no way to determine if search firms were used to hire the presidents in this sample, future use of search firms could be instrumental in increasing gender

representation in presidential roles. In summary the first hypothesis contrasted with the results of the existing literature on gender differences in leadership.

***Hypothesis Two***

The second hypothesis was related to the pattern of FRCS over time within each gender. The FRCS is a U.S. government-created measure to assess a higher education institution's financial risk. The ratio used to determine the FRCS uses financial factors related to past campus closures and mergers (Bates & Santerre, 2000; Rocha et al., 2019; Tarrant et al., 2018). Women were predicted to have low FRCS before hiring, which worsened over time. The GCP proposes that women are hired into riskier institutions and are thus at greater risk of institutions' financial failure; there must be a measurement of financial riskiness before and after the hire (Ryan & Haslam, 2005).

However, results did not show any decrease in FRCS over time for women. Instead, it showed a consistent pattern of stability in both genders. Female presidents headed institutions with stable FRCS, and male presidents ran institutions with stable FRCS. This stability in scores contradicts what many GCP studies found (Brady et al., 2011; Elsaid & Ursel, 2018; Main & Gregory-Smith, 2018; Ryan & Haslam, 2005). However, it is in line with the studies that did not find a GCP (Cook & Glass, 2013).

Risk in the GCP can be measured in many ways, but publicly traded companies often evaluate financial indicators of risk (Cook & Glass, 2013; Elsaid & Ursel, 2018; Main & Gregory-Smith, 2018; Ryan & Haslam, 2005). In higher education, no one such measure exists. The FRCS is the most comprehensive measure. There are other methods of measuring financial risk, including credit ratings such as Moody’s (2021) and the Council of Independent Colleges financial indicator (Kolbe & Kelchen, 2018); however, neither of these risk assessments measure

as many U.S. institutions as the FRCS. While not as comprehensive, these measures may be more sensitive in detecting the GCP; future studies should review such data.

In fields related to higher education, other forms of risk assessment have found GCP occurrences. For example, Smith (2015) used the complexity of work, defined as a wider variety of needs of students, to measure risk in K-12 school boards. The complexity of risk is related to the risk of failure. In the non-profit field, Smith and Monoghan (2013) used visibility and complexity as risk factors that identified GCP. Identifying the GCP via complexity has precedent in these two studies (Smith, 2015; Smith & Monoghan, 2013) and can be reviewed in future GCP studies in higher education.

Even when looking at publicly traded companies, non-financial measures of risk have identified GCP. For example, Brady (2011) reviewed executive hiring for GCP in Fortune 500 companies using financial and non-financial risk factors. The non-financial measure Brady (2011) used was the number of scandals reported in the *New York Times* newspaper. Perhaps a different measure of risk is needed to evaluate higher education's riskiness. A similar method to Brady (2011) could be to review the number of scandals in the *Chronicle of Higher Education*.

The results of the current study are also not in line with the studies related to the think-crisis-think-female phenomenon (TCTF). Recall that the TCTF is another meso-level phenomenon contributing to gender disparities in leadership (Diehl & Dzubinski, 2016). TCTF predicts that institutions are more likely to hire a female leader when an institution is underperforming and there is a history of male leadership (Ryan et al., 2011). Kulich et al. (2015) found experimental results that participants selected male leaders when institutions performed poorly due to uncontrollable factors or when the institutions performed well.

TCTF is compared to the "think-manager-think-male" (TMTM) phenomenon, which helps keep males in leadership positions during times of institutional stability (Ryan et al., 2011). Since men are more likely to be leaders of stable companies, they have better odds of more stable and longer careers (Main & Gregory-Smith, 2018). The instinct to hire in line with TMTM and TCTF is rooted in macro-level forces, including stereotyping that similarly influences hiring professionals across institutions. However, this was not observed in the current study.

Female leaders were chosen when the institutions poorly performed, as they are perceived to be more emotionally adept at bearing the institutional pressure of poor performance (Kulich et al., 2015). Other studies have echoed the finding that female leaders are thought to have more empathy and emotional ability to be a scapegoat for poor institutional performance (Ryan et al., 2011; Ryan et al., 2016; Vongas, 2015).

One reason identified in the literature that female leaders are hired is that it is a visible signal of change for the institution called signaling (Kulich et al., 2015). Signaling is a meso-level factor that allows institutions to tell the world that the problem was due to a controllable factor and that it has since changed that controllable factor (Brown et al., 2011; Kaplan & Minton, 1994; Kulich et al., 2015). Signaling puts a female leader out front of an institution. It projects a sense that the company values women and equity.

Such signaling follows the social-role theory of sex differences. The social-role theory of sex differences explains workplace behaviors differentially between the genders due to generational social expectations (Becker, 1986; Eagly, 1987; Lockheed & Hall, 1976). Women are expected to act communally, and men are expected to work in an agentic manner (Eagly & Wood, 1985; Rudman & Glick, 2002). Such stereotyping is often inadvertent as it is culturally and socially bound but is still gender-based discrimination (Castaño et al., 2019). Again, the

current study's results are in opposition to many of the studies on gender-based stereotypes (Castaño et al., 2019; Eagly & Wood, 1985; Main & Gregory-Smith, 2018; Rudman & Glick, 2002), as there is no evidence that female presidents were hired based on gender stereotypes.

Women leaders hired as signals are visible reminders that women stereotypically clean up the problem and improve communication within the institution. Female leaders are expected to facilitate group behaviors in a feminine way to undo what the previous male leader did. If a female leader act against stereotyping, that is, they act in an agentic way, the female leader is at greater risk of being socially excluded or denied advancement opportunities (Castano et al., 2019). If women in this sample were hired as signals, it does not show in the FRCS. If there had been a low FRCS before hiring, that would have indicated signally, which is not the case in this study.

Policies based on gender equity theories do work, but these are often meso-level solutions. They need the support of both micro-and macro-level solutions to work in the long term. For example, U.K. governmental policies required women to be hired to board seats, which increased the number of women on boards (Main & Gregory-Smith, 2018). However, boards did not rehire these female board members as often as they rehired male board members. Thus, gender equity was not maintained in the long run (Main & Gregory-Smith, 2018). This indicates that women were hired to U.K. boards as tokens, but that macro-level gender stereotyping remained.

One macro-level stereotyping that occurs was proposed by Eagly and Karau (2002) called role congruity theory, which states that stereotypical thinking about gender and work expectations exists. Women are not thought of as filling leadership roles, and when women are leaders, they experience higher pressure and scrutiny than respective male leaders. One academic

example of this is that female scholars are expected to do more academic housework, such as mentoring or large teaching loads, while male scholars are expected to do research that counts more towards promotion (Cummins, 2017; Macfarlane & Burg, 2019; Morley, 2014; Simeone, 1987; Whaley & Krane, 2012). This differential gender expectation may affect female academics because academic leadership roles are often filled by people with academic experience (Johnson, 2017). The academic housework needs to get done, but when the institutions expect women to take on such a role that does not count for advancement, there is a structural barrier for these female academics that does not affect male academics.

Looking at outcomes for institutional practices is a method of checking for gender-based stereotypes. For example, when the Australian government enacted a mandate to increase research productivity in higher education via a program called Quality Assurance, the outcome of the policy was poor for female academics. It reduced the size of the female academic workforce. However, by adding structural barriers that benefited men, male academics performed better (Lipton, 2015). Thus, improving the lives of male academics was not the policy's goal; however, it was the outcome. This suggests that the female academics who persist may have circumstances or traits that enable them to stay in a stereotypical male-favored environment. The current study shows no such signs of institutional barriers that would impede female presidents of colleges or universities.

## Implications

This study adds to the body of literature by answering the call Ryan et al. (2016) made to have other researchers test the GCP in different contexts and variables.

Indeed, the somewhat mixed nature of available evidence suggests that the glass cliff is a nuanced and context-dependent phenomenon. So rather than disproving the glass cliff,

> disconfirming evidence serves to raise important questions about when and where the glass cliff is likely to materialize. (Ryan et al., 2016, p. 449)

Thus, identifying that the measure of FRCS failed to detect the GCP in higher education is valuable as it helps answer when and where evidence of the GCP is not. Furthermore, it allows future researchers to investigate the likelihood of the GCP in higher education to do so with variables other than the FRCS.

The GCP is a highly understudied phenomenon, with only 276 scholarly articles mentioning the term in the Liberty University library databases. Many of these articles are not about the GCP, but rather use the term GCP somewhere in the document. The primary authors of the GCP conducted a meta-analysis and only found 74 unique quantitative studies on the GCP (Morgenroth et al., 2020). Of these 74 studies, there were two studies in the k-12 public education sector; no studies were conducted in higher education (Morgenroth et al., 2020). Additionally, many of these studies were not published in peer-reviewed journals ($n$=58) but instead were dissertations, conference presentations, or not disseminated (Morgenroth et al., 2020). The lack of understanding about where, when, and how the GCP occurs suggests that all studies on the GCP are essential to disseminate; presentations and publications encourage thoughtful analysis of the phenomenon.

The difference in the results of this current study and those that show a GCP also brings to light questions about the qualitative studies in higher education administration that indicate GCP themes (Acker & Millerson, 2018; Morely, 2014; Peterson, 2016). These two findings can contradict one another as they show two conflicting ideas: the GCP is present in higher education administration in qualitative studies and not in the current quantitative study of the GCP in higher education. Alternatively, the difference could be more subtle. For example, in Acker and

Millerson (2018) and Peterson (2016), women in administrative positions were from various levels, whereas the current quantitative study investigated only college presidents. Perhaps different sampling methodology resulted in a lack of similarity.

This study adds to the literature on the GCP by creating a methodology for testing GCP in higher education. Many real-world studies used archival data within the business world to test the GCP (Brady et al., 2011; Elsaid & Ursel, 2018; Main & Gregory-Smith, 2018; Ryan et al., 2016). In addition, a few of the GCP studies occurred qualitatively in higher education settings (Acker & Millerson, 2018; Morely, 2014; Peterson, 2016). However, the lack of quantitative data on the GCP in higher education leadership is still problematic. This study sets up a procedure that mimics the original study (Ryan & Haslam, 2005) methodology but does so within the context of higher education. By identifying all the female leaders in higher education in a year, male leaders at matching institutions can be randomly identified to create matched pairs. Using matched pairs, other variables could be tested across years, before and after hiring, to see if the GCP exists. This methodology could be used in future studies to investigate other theoretically based risk factors in higher education.

This study adds to the theory of analytical levels in social science by showing that the GCP is indeed one meso-level phenomenon that occurs within a more extensive system of macro and micro-level factors. This current study suggests that if the GCP occurs within higher education institutions, it cannot be measured via the FRCS. The FRCS is not sufficiently sensitive enough to display the interplay of the macro, meso, and micro-level factors of gender discrimination that female leaders in higher education report to exist (Acker & Millerson, 2018; Morely, 2014; Peterson, 2016).

This helps female academics who desire to work in administration by empowering them to look for other signs of sexism than the GCP. Take, for example, measures of gender-based discrimination. For instance, the U.S. Women, Peace and Security Index ranks U.S. states on gender equity measures (Georgetown University's Institute for Women, Peace, and Security, 2020). It could be more helpful for determining the gender climate of the state in which an institution is located rather than the FRCS.

This helps improve the lives of female college and university presidents by giving female presidential applicants the perspective that the FRCS of the institution they are applying to is not an indicator of the GCP. While such a tool, if identified, would have been a warning for potential applicants, it also gives hope to women who are applying for positions at institutions with low FRCS.

This study also indicates that a stable FRCS is not a sign of GCP. It is also not necessarily a sign of gender equity at an institution. The GCP may still exist but need to be measured using other quantitative methods. Darouei and Pluut (2018) indicate that women are still taking leadership opportunities at risky institutions as they are the only positions they can access. Thus, the GCP may still be out there in higher education, unidentified.

## Limitations

Ex post facto, causal-comparative design studies, such as the current one, have limitations as they explore real-world phenomenon after it has occurred. Such real-world occurrences are not controlled for confounding variables, and the findings should be approached cautiously (Gall et al., 2007). This could impact the study by not revealing the GCP as intended. For example, if some third unmeasured variable affects FRCS by keeping them stable, there would be no way to know the impact. Steps taken to limit this threat include choosing similar

variables that were grounded in the existing literature and reducing the effects of school type and year of hire via the sampling matching procedure.

Internal validity is a concern in true experiments where an extraneous variable could be either systematically or non-systematically affecting the results (Gall et al., 2007). However, the internal validity can still be affected in an ex post facto causal-comparative design. One way that internal validity can be affected in this study is missing data.

> Further, the most recent composite scores publicly released by Education left out 17 percent of schools, whose students received over $8 billion in federal student aid. As a result, students do not have access to available information on whether their schools are financially sound so they may confidently invest their time and money. (Emrey-Arras, 2017, p. 1)

Using all available data was the best way of countering this threat to internal validity. Ex post facto causal-comparative design with multiple measurements could risk experiencing history effects, which may affect the internal validity (Gall et al., 2007). For example, the FRCS was measured over several years. If a significant difference in FRCS were observed at a time unrelated to time of hire, it would be hard to decern what would have caused the change. However, no such differences were observed in this study as FRCS remained almost identical across the years.

The major threat to external validity for an ex post facto design is population validity. This could impact the study by not being generalizable to the larger U.S. higher education presidencies. To increase the generalizability, great care was taken to ensure that the target population of all female presidents in higher education could be generalized by collecting all the female presidents with complete information. Unfortunately, there are some limits of the ability

of the male presidents collected in this sample to be able to generalize to all-male presidents of higher education institutions. Steps taken to limit this threat include selecting matching male presidents at random using a random digit's generator.

## Recommendations for Future Research

Given that this study provides conflicting evidence to most of the existing literature on the GCP, it opens many possibilities for future research. Four primary considerations will be reviewed within this section, including changing the measure of risk, checking for a pattern of gender leadership, checking for change over time, and checking colleges where more female faculty members exist.

First, consider changing the measure of risk from FRCS to another measure. Several other measures of risk could be investigated that show initial promise. The first could consider broader inequity measures such as the U.S. Women, Peace and Security Index that ranks states on gender equity measures (Georgetown University's Institute for Women, Peace, and Security, 2020). Presidents in states with high gender inequity versus low gender inequity could be compared for gender differences in hiring. Alternatively, risk could be measured by accreditation status. Studies other than the GCP have investigated the effects of accreditation status in higher education (Banuelos, 2021; Burnett, 2020; Wilczynski et al., 2017).

Other variables to consider include those like Smith (2015), which used the complexity of institution in K-12 educational settings and found indications of the GCP. Perhaps reviewing higher education institutions for complexity could be beneficial. In addition, Moody's (2021) examines select institutions for risk, so that could be investigated as well. Lastly, borrowing methodology from Brady (2011), the number of times an institution is mentioned negatively in the *Chronicle of Higher Education* could be used to measure risk. Investigating alternative

measures of risk would increase knowledge of GCP by helping to identify where, when, and how the GCP is happening in higher education.

Lastly, there is a company, Edmit, that has created models that predict institutional failure (Fain, 2019). The data from this company could be a possible way of measuring the GCP as well as other factors related to TCTF. However, legal action from the private schools that it measures have prevented the data from becoming public (Fain, 2019).

Second, companies hire female leaders more often if there is an internally created crisis than a crisis due to external factors such as recessions (Kulich et al., 2015; Ryan et al., 2016). Often this is because women are stereotyped as relational and have the character to be a scapegoat for the institutional problem (Ryan et al., 2011). Therefore, a future study can further investigate the pattern of gender leadership within institutions to see if a GCP exists when male institutional leadership creates a crisis. Identifying colleges in crisis via the *Chronicle of Higher Education* and then reviewing the pattern of gender for the outgoing and incoming presidents could be a way of investigating the GCP. Identifying internal crises versus external crises would increase the level of knowledge about the GCP by testing to see how institutions react to different genders of leaders during crisis situations.

Third, higher education systems may be slowly changing towards an environment that supports the GCP. Colleges and universities in America have faced many historical changes (Bastedo et al., 2016; Goldin & Katz, 1999; Lucas, 2006; Thelin, 2011). Academic leaders meet more varied managerial requirements, longer hours, more role conflict, and less time to work in research, thus losing academic prestige (Peterson, 2016). These increasing demands on educational leaders may make more leadership positions available for female leaders. Such opportunities are more common for men to turn down (Ryan et al., 2016), creating more jobs

available for women to take. When men do not take precarious leadership positions, it is called the glass cushion phenomenon (Ryan et al., 2016). Current pressures may make higher education riskier to work in and thus might welcome more women. Therefore, perhaps one of the best future studies is to collect data in 2034 and make a 10-year comparison. Perhaps evidence of the GCP was sought too early to be detected. There are recent papers that suggest that COVID-19 will have long-ranging effects on female academics (Mavin & Yusupova, 2020). Making a 10-year comparison will increase the level of knowledge about the GCP by seeing if higher education is becoming a riskier place to work and, thus, perhaps a place more open to female leadership.

Lastly, change the focus of the study to be on two-year institutions. In future studies, it would be beneficial to measure the risk of public colleges. Women make up more than half of the faculty members in two-year and private for-profit institutions (The Chronicle of Higher Education, 2015). However, the sample in this study was mainly four-year special interest institutions. This is likely because this study is measuring college and university presidents rather than faculty members. However, researching the GCP in the areas that most women work would be beneficial. This would increase the level of knowledge about the GCP by looking at how faculty and leadership gender equity are related.

## REFERENCES

AACC. (2020). *Fast facts 2020*. https://www.aacc.nche.edu/wp-content/uploads/2020/03/AACC_Fast_Facts_2020_Final.pdf

Abbott, M. L. (2016). *Using statistics in the social and health sciences with SPSS and Excel*. John Wiley & Sons, Incorporated. https://ebookcentral-proquest-com.ezproxy.liberty.edu

Abdulfattah, Y. (2017). Glass cliff or glass prison: Think evil-think men in organizational leadership. *International Journal of Public Administration, 41*, 998-1008. http://dx.doi.org/10.1080/01900692.2017.1317800

Acker, S., & Millerson, D. (2018). Leading the academic department: A mother–daughter story. *Education Sciences, 8*(2), 1-24.

Agars, M. D. (2004). Reconsidering the impact of gender stereotypes on the advancement of women in organizations. *Psychology of Women Quarterly, 28*, 103-111. https://doi.org/10.1111%2Fj.1471-6402.2004.00127.x

American Council on Education. (2014). Understanding college and university endowments [White paper]. https://www.acenet.edu/Documents/Understanding-Endowments-White-Paper.pdf

Badura, K. L., Grijalva, E., Newman, D. A., Yan, T. T., & Jeon, G. (2018). Gender and leadership emergence: A meta-analysis and explanatory model. *Personnel Psychology, 71*, 335–367. https://doi.org/10.1111/peps.12266

Bañuelos, N. (2021). Quality and innovation in American higher education accreditation: The case of the University of Phoenix. *History of Education*. https://doi.org/10.1080/0046760X.2020.1858190

Bass, B. M. (1990). From transactional to transformational leadership: Learning to share the vision. *Organizational Dynamics, 18*(3), 19–31. https://doi.org/10.1016/0090-2616(90)90061-S

Bass, B. M., & Riggio, R. E. (2005). *Transformational leadership*. Lawrence Erlbaum Associates, Publishers.

Bastedo, M. N., Altbach, P. G., & Gumport, P. J. (2016). *American higher education in the twenty-first centur*y. John Hopkins University Press.

Bates, L. J., & Santerre, R. E. (2000). A time series analysis of private college closures and mergers. *Review of Industrial Organization, 17*, 267-276. https://doi.org/10.1023/A:1007898402967

Bear, J. B., & Glick, P. (2016). Breadwinner bonus and caregiver penalty in workplace rewards for men and women. *Social Psychological and Personality Science*, *8*(7), 780–788. https://doi.org/10.1177/1948550616683016

Becker, B. J. (1986). Influence again: Another look at studies of gender differences in social influence. In J. S. Hyde & M. C. Linn (Eds.), *The psychology of gender: Advances through meta-analysis* (pp. 178-209). Johns Hopkins University Press.

Bertrand, M. (2018). Coase lecture – The glass ceiling. *Economica*, *85*, 205–231. https://doi.org/10.1111/ecca.12264

Bishu, S., & Alkadry, M. (2017). A systematic review of the gender pay gap and factors that predict it. *Administration and Society*, *49*(1), 65-104. https://doi.org/10.1177%2F0095399716636928

Blair-Loy, M., Hochschild, A., Pugh, A. J., Williams, J.C. & Hartmann, H. (2015). Stability and transformation in gender, work, and family: Insights from the second shift for the next

quarter century. *Community, Work & Family, 18*(4), 435-454, https://doi.org/10.1080/13668803.2015.1080664

Blumer, H. (1933). *Movies and Conduct*. Macmillan and Company.

Bok, D. (2013). *Higher Education in America*. Princeton University Press.

Brady, D., Isaacs, K., Reeves, M., Burroway, R., & Reyonolds, M. (2011). Sector, size, stability, and scandal. Explaining the presence of female executives in Fortune 500 firms. *Gender in Management: An International Journal, 26*(1), 84-104. https://www.emerald.com/insight/content/doi/10.1108/1754241111110932

Brint, S. (2019). *Two cheers for higher education: Why American universities are stronger than ever--and how to meet the challenges they face.* Princeton University Press.

Brown, E. R., Diekman, A. B., & Schneider, M. C. (2011). A change will do us good: Threats diminish typical preferences for male leaders. *Personality and Social Psychology Bulletin, 37,* 930–941. https://doi.org/10.1177/0146167211403322.

Burkinshaw, P., Cahill, J., & Ford, J. (2018). Empirical evidence illuminating gendered regimes in UK higher education: Developing a new conceptual framework. *Education Science, 8*(2), 1-19. https://doi.org/10.3390/educsci8020081

Burkinshaw, P., & White, K. (2017). Fixing the women or fixing universities: Women in HE leadership. *Administrative Sciences, 7*(30), 1-14. https://doi.org/10.3390/admsci7030030

Burnett, C. A. (2020). Diversity under review: HBCUs and regional accreditation actions. *Innovative Higher Education, 45*(1), 3-15. http://dx.doi.org.ezproxy.liberty.edu/10.1007/s10755-019-09482-w

Carnegie Classifications. (2017a). Home page. https://carnegieclassifications.iu.edu/index.php

Carnegie Classifications. (2017b). Basic classification description. https://carnegieclassifications.iu.edu/classification_descriptions/basic.php

Carvalho, I., Costa, C., Lykke, N., & Torres, A. (2019). Beyond the glass ceiling: Gendering tourism management. *Annals of Tourism Research, 75*, 79-91. https://doi.org/10.1016/j.annals.2018.12.022

Castaño, A. M., Fontanil, Y., & García-Izquierdo, A. L. (2019). "Why can't I become a manager?" A systematic review of gender stereotypes and organizational discrimination. *International Journal of Environmental Research and Public Health, 16*(10), 1-29. https://doi.org/10.3390/ijerph16101813

Ciciolla, L. & Luthar, S. S. (2019). Invisible household labor and ramifications for adjustment: Mothers as captains of households. *Sex Roles, 81*, 467-486. https://doi.org/10.1007/s11199-018-1001-x

Colston, J. Fowler, G., Laitinen, A., McCann, C., Studley, J., Tandberg, D., & Weeden, D. (2020). Anticipating and managing precipitous college closures. *New America*. https://www.newamerica.org/education-policy/reports/anticipating-and-managing-precipitous-college-closures/#authors

Cook, A., & Glass, C. (2013). Above the glass ceiling: When are women and racial/ethnic minorities promoted to CEO? *Strategic Management Journal, 35*(7), 1080-1089. https://doi.org/10.1002/smj.2161

Corder, G. W., & Foreman, D. I. (2014). *Nonparametric statistics : A step-by-step approach* (2nd ed.). Wiley.

Cummins, H. (2017). Literature review of the university teaching trap of academic women, *Advancing Women in Leadership, 37*, 13–19. https://doi.org/10.18738/awl.v37i0.9

Curtis, J. W. (2010). Faculty salary equity: Still a gender gap? *On Campus with Women, 39*. http://archive.aacu.org/ocww/volume39_1/feature.cfm?section=2

Darouei, M., & Pluut, H. (2018). The paradox of being on the glass cliff: Why do women accept risky leadership positions? *Career Development International, 23*(4), 397-426. https://doi.org/10.1108/CDI-01-2018-0024

Decarlo, M. (2018). *Scientific Inquiry in Social Work*. Open Social Work Education. https://scientificinquiryinsocialwork.pressbooks.com/

DeVito, N. J., & Goldacre, B. (2019). Catalogue of bias: publication bias. *BMJ Evidence - Based Medicine, 24*(2), 53. http://dx.doi.org/10.1136/bmjebm-2018-111107

Diehl, A. B., & Dzubinski, L. M. (2016). Making the invisible visible: A cross-sector analysis of gender-based leadership barriers. *Human Resource Development Quarterly, 27*(2), 181-206. https://doi.org/10.1002/hrdq

Durkheim, E. (1895). *The Rules of Sociological Method*. The Free Press.

Eagly, A. H. (1987). *Sex differences in social behavior: A social-role interpretation*. Lawrence Erlbaum Associates, Inc.

Eagly, A. H., Johnannesen-Schmidt, M. C., van Engen, M. L. (2003). Transformational, transactional, and laissez-faire leadership styles: A meta-analysis comparing women and men. *Psychological Bulletin, 129*(4), 569-591. https://doi.org/10.1037/0033-2909.129.4.569

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

Eagly, A. H., Makhiani, M. G. Klonsky, B. G. (1992). Gender and the evaluation of leaders: A meta-analysis. *Psychological Bulletin, 11*(1), 3-22. https://doi.org/10.1037/0033-

2909.111.1.3

Eagly, A. H., & Wood, W. (1985). Gender and influenceability: Stereotype versus behavior. In V. E. O'Leary, R. K. Unger, & B. S. Wallston (Eds.), *Women, gender, and social psychology* (pp. 225-256). Lawrence Erlbaum Associates.

Ellickson, R. C. (1991). *Order without law: How neighbors settle disputes*. Harvard University Press.

Elsaid, E., & Ursel, N. D. (2018). Re-examining the glass cliff hypothesis using survival analysis: The case of female CEO tenure. *British Journal of Management, 29*(1), 156–170. https://doi.org/10.1111/1467-8551.12241

Emrey-Arras, M. (2017). Education should address oversight and communication gaps in its monitoring of the financial condition of schools. *U.S. Government Accountability Office*. (Report number GAO-17-555).

England, K., & Boyer, K. (2009). Women's work: The feminization and shifting meanings of clerical work. *Journal of Social History, 43*(2), 307-340. https://doi.org/10.1353/jsh.0.0284

Fain, P. (2019, November 19). Private conversations about private college closures. *Inside Higher Education.* https://www.insidehighered.com/news/2019/11/19/private-colleges-convinced-company-scuttle-release-list-projected-college-closures

Farkas, A. H., Bonifacino, E., Turner, R. , Tilstra, S. A., & Corbelli, J. A. (2019). Mentorship of women in academic medicine: A systematic review. *Journal of General Internal Medicine, 34*(7),1322–1329. https://doi.org/10.1007/s11606-019-04955-2

Finkel, E. (2019, November 11). Endowments: They're not just for elite universities anymore. *Community College Daily*. https://www.ccdaily.com/2019/11/endowments-theyre-not-just-for-elite-universities-anymore/

Finkelstein, M. J., Conley, V. M., & Schuster, J. H. (2016*). Taking the measure of faculty diversity*. TIAA Institute. https://www.tiaainstitute.org/publication/taking-measure-faculty-diversity

Finseraas, H., Johnsen, A. A., Kotsadam, A., & Torsvik, G. (2016). Exposure to female colleagues breaks the glass ceiling— Evidence from a combined vignette and field experiment. *European Economic Review, 90,* 363-374. http://dx.doi.org/10.1016/j.euroecorev.2015.11.010

Fletcher, W. L. (2015). Expense management strategies within financially successful Christian universities. *Christian Higher Education, 14*(4), 212-228. https://doi.org/10.1080/15363759.2015.1049754

Gall, M. D., Gall, J. P., & Borg, W. R. (2007). *Educational Research* [8th ed.]. Pearson.

Georgetown University Institute for Women, Peace, and Security. (2020). Women, Peace, and Security Index. https://giwps.georgetown.edu/the-index/

Ghasemi, A. & Zahediasl, S. (2012). Normality tests for statistical analysis: A guide for non-statisticians. *International Journal of Endocrinology & Metabolism, 10*(2), 486-489. https://doi.org/10.5812/ijem.3505

Gibbons, J. D. (1993). Location tests and confidence intervals for two independent samples (mann-whitney-wilcoxon test). In *Nonparametric statistics* (pp. 31-42). SAGE Publications, Inc.

Glass, C., & Cook, A. (2020). Pathways to the Glass Cliff: A risk tax for women and minority leaders? *Social Problems, 0,* 1–17. https://doi.org/10.1093/socpro/spz045

Goffman, E. (1959). *The Presentation of Self in Everyday Life*. Doubleday.

Goldin, C., & Katz, L. F. (1999). The shaping of higher education: The formative years in the United States, 1890 to 1940. *Journal of Economic Perspectives, 13*(1), 37–62. https://doi.org/10.1257/jep.13.1.37

Gonaim, F. (2016). A department chair: A life guard without a life jacket. *Higher Education Policy, 29*, 272–286. https://doi.org/10.1057/hep.2015.26

Hamilton, B. E., Martin, J. A., Osterman, M. J. K., Driscoll, A. K., & Rossen, L. M. (2018). Births: Provisional data for 2017. *Vital Statistics Rapid Release, 4,* 1-23. https://www.cdc.gov/nchs/data/vsrr/report004.pdf

Haslam, S. A., & Ryan, M. K. (2008). The road to the glass cliff: Differences in the perceived suitability of men and women for leadership positions in succeeding and failing organizations. *The Leadership Quarterly, 19*(5), 530–546. https://doi.org/10.1016/j.leaqua.2008.07.011

Hebner, O. B., Collins, C. A., & Mixon, F. G. (2018). Do gender and race play a role in the compensation of university presidents? Evidence from institution-level panel data. *Australian Journal of Labour Economics, 21*(1), 1–21. https://doi.org/2245672258

Henle, C.A., Fisher, G.G., McCarthy, J., Prince, M. A., Mattingly, V. P., Clancy, R. L. (2020). Eldercare and childcare: How does caregiving responsibility affect job discrimination? *Journal of Business and Psychology, 35,* 59–83. https://doi.org/10.1007/s10869-019-09618-x

Hoobler, J. M., Masterson, C. R., Nkomo, S. M., & Michel, E. J. (2018). The business case for women leaders: Meta-analysis, research critique, and path forward. *Journal of Management, 44*(6), 2473–2499. https://doi.org/10.1177/0149206316628643

Hochschild, A. R. & Machung, A. (2012). *The second shift*. Penguin Books.

Hymowitz, C. & Schelhardt, T.D. (1986). The glass-ceiling: Why women can't seem to break the invisible barrier that blocks them from top jobs. *The Wall Street Journal*, 57, D1, D4-D5.

Isaacs, A. J. (2014). Gender differences in resilience of academic deans. *Journal of Research in Education, 24*(1), 112-119. https://files.eric.ed.gov/fulltext/EJ1098305.pdf

Johnson, H. L. (2017). *Pipelines, pathways, and institutional leadership: An update on the status of women in higher education*. American Council on Education. https://www.acenet.edu/Documents/HES-Pipelines-Pathways-and-Institutional-Leadership-2017.pdf

Johnson, J. S. Jr., & Ferrare, J. P. (2018). *A Complete Guide to Presidential Search for Universities and Colleges* (2nd ed.). AGB Press.

Johnson, K. A., Warr, D. J., Hegarty, K., & Guillemin, M. (2015). Small wins: An initiative to promote gender equity in higher education. *Journal of Higher Education Policy and Management*, *37*(6), 689–701. https://doi.org/10.1080/1360080X.2015.1102820

Kaplan, S. N., & Minton, B. A. (1994). Appointment of outsiders to Japanese boards: Determinants and implications for managers. *Journal of Financial Economics*, *36*, 225–258. https://doi.org/10.1016/0304-405X(94)90025-6

Kelchen, R. (2018). Do financial responsibility scores affect institutional behaviors? *Journal of Education Finance, 43*(4), 417-439. https://muse.jhu.edu/article/707922

Kolbe, T., & Kelchen, R. (2018). Identifying New Metrics Using IPEDS Finance Data. *National Postsecondary Education Cooperative.* https://nces.ed.gov/ipeds/pdf/npec/data/NPEC_Paper_New_IPEDS_Finance_Metrics_2017.pdf

Koot, L. (2004). Women and leadership in universities: A case study of women academic managers. *The International Journal of Public Sector Management, 17*(6) 470-485. https://doi.org/10.1108/09513550410554760

Kraska-Miller, M. (2013). *Nonparametric Statistics for Social and Behavioral Sciences*. Chapman and Hall/CRC.

Kulich, C., Lorenzi-Cioldi, F., Iacoviello, V., Faniko, K., & Ryan, M. K. (2015). Signaling change during a crisis: Refining conditions for the glass cliff. *Journal of Experimental Social Psychology, 61*, 96–103. https://doi.org/10.1016/j.jesp.2015.07.002

Leah, R., Moller, S., & Liana, S. (2019). Expensive childcare and short school days = Lower maternal employment and more time in childcare? Evidence from the American time use survey. *Socius: Sociological Research for a Dynamic World, 5,* https://doi.org/10.1177%2F2378023119860277

Leathwood, C. (2005). 'Treat me as a human being—don't look at me as a woman': Femininities and professional identities in further education. *Gender and Education, 17*(4), 387-409. https://doi.org/10.1080/09540250500145221

Lederman, D. (2017, April 28). Clay Christensen, doubling down. *Inside Higher Education*. https://www.insidehighered.com/digital-learning/article/2017/04/28/clay-christensen-sticks-predictions-massive-college-closures

Lenard, M. J., York, E. A., & Yu, B. (2019). Female trustees and university financial performance. *International Journal of Economics and Financial Issues, 9*(6), 60-66. https://ideas.repec.org/a/eco/journ1/2019-06-7.html

Leuze, K., & Strauß, S. (2016). Why do occupations dominated by women pay less? How 'female-typical' work tasks and working-time arrangements affect the gender wage gap among higher education graduates. *Work, Employment and Society, 30*(5), 802–820. https://doi.org/10.1177/0950017015624402

Lewis, J., Campbell, M., & Huerta, C. (2008). Patterns of paid and unpaid work in Western Europe: Gender, commodification, preferences and the implications for policy. *Journal of European Social Policy, 18*(1), 21–37. https://doi.org/10.1177/0958928707084450

Lipton, B. (2015). A new 'ERA' of women and leadership: the gendered impact of quality assurance in Australian Higher Education. *Australian Universities' Review, 57*(2), 60-70. https://eric.ed.gov/?id=EJ1073610

Littman, M. A., Sonne, J. W., & Smith, G. V. (2017). Research productivity of doctor of physical therapy faculty promoted in the southeastern United States. *Medical Education Online, 22*(1), 1-7. https://doi.org/10.1080/10872981.2017.1368849

Lockheed, M. E., & Hall, K. P. (1976). Conceptualizing sex as a status characteristic: Applications to leadership training strategies. *Journal of Social Issues, 32*, 111-124. https://psycnet.apa.org/doi/10.1111/j.1540-4560.1976.tb02600.x

Lommerud, K. E., Straume, O. R., & Vagstad, S. (2015). Mommy tracks and public policy: On self-fulfilling prophecies and gender gaps in hiring and promotion. *Journal of Economic Behavior & Organization, 116*, 540-554. https://doi.org/10.1016/j.jebo.2015.05.010

Longman, K. A., Drennan, A., Beam, J., Marble, A. F. (2019). The secret sauce: How

developmental relationships shape the leadership journeys of women leaders in Christian higher education. *Christian Higher Education, 18*(1–2), 54–77. https://doi.org/10.1080/15363759.2018.1547031

Lucas, C. J. (2006). *American higher education*. Palgrave Macmillan.

Lyons, K., Taylor, D. A., Minshew, L. M., & McLaughlin, J. E. (2018). Student and school-level predictors of pharmacy residency attainment. *American Journal of Pharmaceutical Education, 82*(8), 177-184. https://dx.doi.org/10.5688%2Fajpe7142

Macfarlane, B., & Burg, D. (2019). Women professors and the academic housework trap. *Journal of Higher Education Policy and Management, 41*(3), 262–274. https://doi.org/10.1080/1360080X.2019.1589682

Main, B. G. M., & Gregory-Smith, I. (2018). Symbolic management and the glass cliff: Evidence from the boardroom careers of female and male directors. *British Journal of Management, 29,* 136-155. https://doi.org/10.1111/1467-8551.12208

Manfredi, S., Clayton-hathway, K., & Cousens, E. (2019). Increasing gender diversity in higher education leadership: The role of executive search firms. *Social Sciences, 8*(6), 168. https://doi.org/10.3390/socsci8060168

Manzi, F., & Heilman, M. E. (2021). Breaking the glass ceiling: for one and all? *Journal of Personality and Social Psychology: Attitudes and Social Cognition, 120*(2), 257-277. http://dx.doi.org/10.1037/pspa0000260

Matias, D. (2019, June 20). New report says women will soon be majority of college-educated U.S. workers. *NPR*. https://www.npr.org/2019/06/20/734408574/new-report-says-college-educated-women-will-soon-make-up-majority-of-u-s-labor-f

Mavin, S. & Yusupova, M. (2020). Gendered experiences of leading and managing through COVID-19: Patriarchy and precarity. *Gender in Management: An International Journal, 35*(7/8), 737-744. http://dx.doi.org/10.1108/GM-09-2020-0274

McCafferey, P. (2019). *The higher education manager's handbook: Effective leadership and management in universities and colleges*. Routledge.

Mead, G. H. (1934). *Mind, Self, and Society*. The University of Chicago Press.

Monro, S. (2020). Sexual and gender diversities: Implications for LGBTQ studies. *Journal of Homosexuality, 67*(3), 315-324. https://doi.org/10.1080/00918369.2018.1528079

Moody's. (2021). Higher education & not-for-profit organizations - United States. https://www.moodys.com/researchandratings/market-segment/u-s-public-finance/higher-education-not-for-profit-organizations/005003002/0420B6

Morely, L. (2014). Lost leaders: Women in the global academy. *Higher Education Research and Development, 33*(1), 114-128.

Morgenroth, T., Kirby, T. A., Ryan, M. K., & Sudkämper, A. (2020). The who, when, and why of the glass cliff phenomenon: A meta-analysis of appointments to precarious leadership positions. *Psychological Bulletin, 146*(9), 797–829. https://doi.org/10.1037/bul0000234

Morris, T. L., & Laipple, J. S. (2015). How prepared are academic administrators? Leadership and job satisfaction within US research universities. *Journal of Higher Education Policy and Management*, 37(2), 241–251. http://dx.doi.org/10.1080/1360080X.2015.1019125

Murrar, S. & Brauer, M. (2018). Mixed model analysis of variance. *The SAGE Encyclopedia of Educational Research, Measurement, and Evaluation* (pp. 1075-1078). SAGE Publications, Inc.

Nachar, N. (2008). The Mann-Whitney U: A test for assessing whether two independent samples come from the same distribution. *Tutorials in Quantitative Methods for Psychology, 4*(1), 13-20. https://doi.org/10.20982/tqmp.04.1.p013

O'Connor, C. M. (2018). Women of vision: Understanding the ways women lead change. *Christian Higher Education, 17*(4), 198–214. https://doi.org/10.1080/15363759.2018.1462741

Patton, S. (2012, May 6). The Ph.D. now comes with food stamps. *The Chronicle of Higher Education*. https://www.chronicle.com/article/From-Graduate-School-to/131795

Paustian-Underdahl, S.C., Walker, L.S., and Woehr, D.J. (2014). Gender and perceptions of leadership effectiveness: A meta-analysis of contextual moderators. *The Journal of Applied Psychology, 99*(6), 1129-1145. https://doi.org/10.1037/a0036751

Perrow, C. (1972). *Complex organizations: A critical essay*. Echo Point Books & Media.

Peterson, H. (2016). Is managing academics "women's work"? Exploring the glass cliff in higher education management. *Educational Management Administration and Leadership, 44*(1), 112–127. https://doi.org/10.1177/1741143214563897

Pew Research Center. (2015). *Women and Leadership.* https://www.pewsocialtrends.org/2015/01/14/women-and-leadership/

Rabovsky, T., & Lee, H. (2017). Exploring the antecedents of the gender pay gap in U.S. higher education. *Public Administration Review, 78*(3), 375–385. https://doi.org/10.1111/puar.12827

Redmond, P., Gutke, H., Galligan, L., Howard, A., & Newman, T. (2017). Becoming a female leader in higher education: Investigations from a regional university. *Gender and Education, 29*(3), 332–351. https://doi.org/10.1080/09540253.2016.1156063

Rennison, C. & Bonomi, A. (2020) *Women leading change in academia: Breaking the glass ceiling, cliff, and slipper*. Cognella.

Riffle, R., Schnieder, T., Hillard, A., Polander, E., Jackson, S., DesAutels, P., and Wheatly, M. (2013). A mixed methods study of gender, STEM department climate, and workplace outcomes. *Journal of Women and Minorities in Science and Engineering, 19*(3), 227–243. https://doi.org/10.1615/JWomenMinorScienEng.2013005743

Rindfleish, J., & Sheridan, A. (2003). No change from within: Senior women managers' response to gendered organizational structures. *Women in Management Review, 18*(6), 299-310. https://doi.org/10.1108/09649420310491477

Rink, F., Ryan, M. K., & Stocker, J. I. (2013). Social resources at a time of crisis: How gender stereotypes inform gendered leader evaluations. *European Journal of Social Psychology, 43*, 381-392. https://doi.org/10.1002/ejsp.1954

Rocha, V., Teixeira, P. N., Biscaia, R. (2019). Mergers in European higher education: Financial issues and multiple rationales. *Higher Education Policy, 32*, 185–202. https://doi.org/10.1057/s41307-017-0076-2

Rudman, L. A., & Glick, P. (2002). Prescriptive gender stereotypes and backlash toward agentic women. *Journal of Social Issues, 57*(4), 743-762. https://doi.org/10.1111/0022-4537.00239

Ryan, M. K. & Haslam, S. A. (2005). The glass cliff: Evidence that women are over-represented in precarious leadership positions. *British Journal of Management, 16*(2), 81-90. https://doi.org/10.1111/j.1467-8551.2005.00433.x

Ryan, M. K. & Haslam, S. A. (2007). The glass cliff: Exploring the dynamics surrounding the appointment of women to precarious leadership positions. *Academy of Management*

*Review, 32*(2), 549–572. https://doi.org/10.2307/20159315

Ryan, M. K., Haslam, S. A., Hersby, M. D., & Bongiorno, R. (2011). Think crisis–think female: The glass cliff and contextual variation in the think manager–think male stereotype. *Journal of Applied Psychology, 96*(3), 470–484. https://psycnet.apa.org/doi/10.1037/a0022133

Ryan, M. K., Haslam, S. A., Morgenroth, T., Rink, F., Stoker, J., & Peters, K. (2016). Getting on top of the glass cliff: Reviewing a decade of evidence, explanations, and impact. *Leadership Quarterly, 27*(3), 446-455. https://doi.org/10.1016/j.leaqua.2015.10.008

Sallee, M., Ward, K., & Wolf-Wendel, L. (2016). Can anyone have it all? Gendered views on parenting and academic careers. *Innovations in Higher Education, 41*, 187-202. https://doi.org/ 10.1007/s10755-015-9345-4

Saylor Academy. (2012). *Principles of Sociological Inquiry: Qualitative and Quantitative Methods*. Saylor Academy. https://saylordotorg.github.io/text_principles-of-sociological-inquiry-qualitative-and-quantitative-methods/s00-license.html

Seltzer, R. (2016, June 17). Search firm contracts aren't what some think, researchers find. *Inside Higher Ed*. https://www.insidehighered.com/quicktakes/2016/06/17/search-firm-contracts-arent-what-some-think-researchers-find

Shepherd, S. (2017). Why are there so few female leaders in higher education: A case of structure or agency? *Management in Education, 31*(2), 82–87. https://doi.org/10.1177/0892020617696631

Simeone, A. (1987). *Academic women: Working towards equality*. Bergin & Garvey.

Smith, A. E. (2015). On the edge of a glass cliff: Women in leadership in public organizations. *Public Administration Quarterly, 39*(3), 484-517. https://www.jstor.org/stable/24773425

Smith, A. E., & Monaghan, K. R. (2013). Some ceilings have more cracks: Representative bureaucracy in federal regulatory agencies. *The American Review of Public Administration, 43*(1), 50–71. https://doi.org/10.1177%2F0275074011420997

Sorohin. P. (1937-1941). *Social and Cultural Dynamics* (Vols. 1-4). American Book Company.

Swim, J. K., & Hyers, L. L. (2009). *Sexism*. In T. D. Nelson (Ed.), *Handbook of prejudice, stereotyping, and discrimination* (p. 407–430). Psychology Press.

Tarrant, M., Bray, N., & Katsinas, S. (2018). The invisible colleges revisited: An empirical review. *The Journal of Higher Education, 89*(3), 341-367. https://doi.org/10.1080/00221546.2017.1390971

The Carnegie Classifications of Higher Education. (2021). Basic classification description. https://carnegieclassifications.iu.edu/classification_descriptions/basic.php

The Chronicle of Higher Education. (2015). Almanac of higher education. *The Chronicle of Higher Education, LXI* (43), 1-100. https://www.chronicle.com/package/the-almanac-of-higher-education-2015-16/

Thelin, J. R. (2011). *A history of American higher education*. The John Hopkins University Press.

Tylor, E.B. (1881). *Anthropology: An introduction to the study of man and civilization*. Macmillan and Co.

U.S. Department of Education. (2020a). *Financial responsibility composite scores* [Data set]. https://studentaid.gov/data-center/school/composite-scores

U.S. Department of Education (2020b). *Database of accredited postsecondary institutions and programs* [Data set]. https://ope.ed.gov/dapip/#/home

U.S. Department of Education (2020c). *Title IV program volume reports*. https://studentaid.gov/data-center/student/title-iv

Vongas, J. G., & Al Hajj, R. (2015). The evolution of empathy and women's precarious leadership appointments. *Frontiers in Psychology, 6*, 1-14. https://doi.org/10.3389/psyg.2015.01751

Ward, K. and Wolf-Wendel, L. (2017). "Good" places to work: Women faculty, community colleges, academic work, and family integration. *New Directions for Community Colleges, 179*, 47-58. https://doi.org/10.1002/cc.20261

Warner, R. M. (2013). *Applied statistics: From bivariate through multivariate techniques* (2nd ed.). Sage Publications.

Weber, M. (1930). *The Protestant Ethic and the Spirit of Capitalism*. Unwin Hyman.

Whaley, D.E., & Krane, V. (2012). Resilient excellence: Challenges faced by trailblazing women in U.S. sport psychology. *Research Quarterly for Exercise and Sport, 83*(1), 65-76. https://doi.org/10.1080/02701367.2012.10599826

Wilczynski, V., Wigner, A., Lande, M., & Jordan, S. (2017). The value of higher education academic makerspaces for accreditation and beyond. *Planning for Higher Education, 46*(1), 32-40. https://www.scup.org/resource/the-value-of-higher-education-academic-makerspaces-for-accreditation-and-beyond/

Williams, J. J., Drew, J. C., Galindo-Gonzalez, S., Robic, S., Dinsdale, E., Morgan, W. R., Triplett, E. W., Burnette, J. M. III, Donovan, S. S., Fowls, E. R., Goodman, A. L., Grandgenett, N. F., Goller, C. C., Hauser, C., Jungck, J. R., Newman, J. D., Pearson, W. R., Ryder, E. F., Sierk, M., … Pauley, M. A. (2019). Barriers to integration of bioinformatics into undergraduate life sciences education: A national study of U.S. life

sciences faculty uncover significant barriers to integrating bioinformatics into undergraduate instruction. *PloS One*, *14*(11), e0224288. https://doi.org/10.1371/journal.pone.0224288

Wolf-Wendel, L., & Ward, K. (2006). Academic life and motherhood: Variations by institutional type. *Higher Education*, *52*(3), 487-521. http://www.jstor.org/stable/29735024

Wolf-Wendel, L., Ward, K., & Twombly, S. B. (2007). Faculty life at community colleges: The perspective of women with children. *Community College Review*, *34*(4), 255-281. https://doi.org/10.1177%2F0091552107300282

# APPENDICES

## Appendix A

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# Appendix B

Date: 3-24-2021

IRB #: IRB-FY20-21-365
Title: An Ex Post Facto Study of The Glass Cliff Phenomenon In Higher Education Presidencies
Creation Date: 11-16-2020
End Date:
Status: Approved
Principal Investigator: Michelle Samuel
Review Board: Research Ethics Office
Sponsor:

## Study History

| | | |
|---|---|---|
| Submission Type Initial | Review Type Exempt | Decision No Human Subjects Research |

## Key Study Contacts

| | |
|---|---|
| Member Michelle Samuel | Role Principal Investigator |
| Member Michelle Samuel | Role Primary Contact |
| Member Jillian Wendt | Role Co-Principal Investigator |

# Appendix C

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December 4, 2020

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[redacted]

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