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Perceptions of NASA as a Gendered Organization

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Sade' Reynolds

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Walden University
2021

Abstract

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by

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MA, Walden University, 2015

BS, Valdosta State University, 2012

Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Philosophy

Public Policy and Administration

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May 2021

Abstract

In the United States government, gender inequality is a major issue. The purpose of this phenomenological study was to explore the phenomenon of a gendered organization by interpreting the experiences of National Aeronautics and Space Administration (NASA) employees. The collected data were used to determine if NASA should be considered a gendered organization. In this study, key characteristics of a gendered organization were identified and explored. The research questions focused on exploring perceived career barriers, gender inequality, and their contributors to better understand the phenomena of gendered organization in the federal government workplace. The theoretical framework for this study was Acker's gender organization theory. A phenomenology study design was used to conduct fifteen open-ended interviews of government employees who were recruited through the social media outlet LinkedIn. The inclusion criteria included NASA employees that had been employed at least ten years or retired no longer than five years. The data analysis yielded four themes: (a) career barriers, (b) traditional hierarchical organization structure, (c) organizational policies/organizational culture, and (d) gender differences/gender roles/gender inequality. The results of this study provided insight to gendered organizations and applying this concept to a federal agency like NASA. The implications for positive social change suggest that by exploring gendered organizations, women will come closer to obtaining gender equality in the workplace and the federal government will function in a manner that benefits both men and women.

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Chapter 1: Introduction to the Study

Introduction

This study examined Acker's gender organization theory to explore specific ways that organizations express gendering in their policies and practices. I selected to explore these concepts within the National Aeronautics and Space Administration (NASA) due to the history of the NASA being a male dominated agency and its struggle towards gender equality (see O'Merry, 2017). Previous research has suggested that gender inequality exists in the government workplace and various gender barriers have been created that hinder women from obtaining supervisory positions (Gupta et al., 2019; Naff & Thomas, 1994; Ridgeway, 2011).

It is imperative that gender inequality and career barriers are eliminated to ensure organizational and societal productivity. The purpose of this study was to explore and analyze the phenomena of a gendered organization. The theoretical framework for this study was Acker's gender organization theory. Research questions focused on Acker's factors that position an organization as gendered (Acker, 1990).

A phenomenology study design was used to conduct interviews of federal employees. The data collected from the interviews was analyzed to categorize common themes. I used the data collected from the participants to explore and analyze contributors to the gendering of an organization. Exploring gendered organizations and the impact that organizational structures have on women could prove beneficial to women and the federal government.

In Chapter 1, I presented background information on women in the workforce, particularly focusing on the federal workplace environment of the NASA. This chapter also included information on career barriers, gender inequality, glass ceiling and gender role effects on female federal employees' ability to climb the ranks within the federal government. The nature of the study included discussing the pros and cons associated with the phenomenology research design. Within this chapter the research questions were also identified. Next, Acker's gender organization theory was explained as the theoretical framework for this study. I also provided operational definitions to explain the terms used throughout this dissertation. The assumption, limitations, and delimitations were also discussed by in this chapter. This chapter closed with a discussion on the significance of the study.

Background

For decades, women have strived to overcome gender inequality in the workplace (Berrey, 2014). Career barriers have also been a topic in the workplace. Over the years, the career barriers faced by women have changed due to a desire to venture outside of the traditional domestic occupations. One of the initial barriers that women have faced is finding employment (King & Kralik, 2018). This barrier has forced women to explore more options geographically as well as pursue higher education to obtain employment. As a result, women have found it necessary to do more than their male counterparts to be successful (Ackerman, 2013).

In today's workplace environment, gender inequality affects women's chances of career advancement to obtain leadership positions and better pay to have financial

stability (Boushey, 2016; Eagly & Carli, 2007; Peterson & Morgan, 1995). In the 1970s and 1980s women rapidly entered the workforce. According to Rosin (2013), since then they have been a dominant force in the workplace when taking increased numbers into consideration. For instance, from 2011-2015, 58.5% of women employed by the federal government, 16 years or older were a part of the civil labor force (U.S. Department of Commerce, 2016). Women have made a point of venturing outside of the norm of gender roles in the workplace. According to U.S. Department of Labor (2014), traditional female jobs can be defined as occupations where women represent 75% or more of the employed. For instance, the number of women in STEM occupations increased from 64,574 in 2008 to 70,047 in 2015 (U.S. OPM, 2016). Also, the number of women in leadership positions within the federal government increased by 5% between 2008 and 2015. While the U.S. federal government has become more prominent as an employer for women, gender inequality, glass ceiling, and career barriers continue to stall women's success (Berrey, 2014).

The research literature to date has focused on exploring and understanding concepts such as gender inequality, glass ceiling, career barriers and gender roles, but minimally addressing the topic of gendered organizations. Beckwith et al. (2016) argued that gender inequality stems from the fact that organizations were created by men for men, while Buchanan (2014) noted that it is directly attributed to the broader influence of gender roles present in society. Buchanan (2014) offered a meaningful solution that entails changing a societal mindset to alleviate the issue of gender inequality.

Gender inequality is still a significant issue in today's workplace environment (U.S. EEOC, 2014). Moyo (2012) proved that gender inequality still exists by giving narrative accounts of how women are mistreated in the workplace. Women account for half of the workforce and two-thirds of the total hours worked, while only earning 10% of the income (Moyo, 2012). Moyo (2012) recognized that change must occur on every spectrum for major strides to be made. Owuamalam and Zagefka (2014) focused on how the employability of disadvantage groups are undermined by meta-stereotypes, which explains how one thinks they are perceived by others. This concept touches on a sort of self-sabotaging in the workplace. Therefore, women may be creating their own environment where gender inequality exists by activating negative metastereotypes. Negative metastereotypes can undermine employability beliefs of women. Also, being aware of negative metastereotypes can be associated with feeling discriminated against based on one's gender group among women (Owuamalam and Zagefka, 2014).

Gender equality helps ensure organizational productivity, which leads to organizational growth (Ruohan & Xueyu, 2016). Ruohan and Xueyu (2016) found that there is a relationship between gender inequality and factors such as employee type and organizational size. Miller and Borgida (2016) used the separate spheres model to address gender inequality in the workplace. The separate sphere ideology scale measures individual attitudes and behavior, which helps to offer a better understanding of gender inequality in the workplace. Miller and Borgida found that traditional gender attitudes are fueling gender inequality. Proving that gender inequality is still prevalent in today's

workplace environment helps support that fact that organizations can be gendered. Equality is needed to overcome barriers that exist in the workplace for women.

Career barriers represent a concept that is linked to the gendering of organizations. Ng and Feldman (2014) defined career barriers as obstacles that individuals face in the attainment of their career goals. Career barriers for women are built in the structure of organizations (Harlan & White-Berheide, 1994). Another form of barrier that exists in organizations is the glass ceiling. The glass ceiling metaphor describes " "artificial barriers" based on attitudinal or organizational bias that prevents qualified individuals from advancing upward in their organization into management-level positions" (U.S. Department of Labor, 2014). The difference between career barriers and the glass ceiling is that the glass ceiling affects women who find themselves unable to attain the next level of management in their career, while career barriers affect women at any level. The glass ceiling has proven to be a difficult barrier to overcome because it is invisible and unintentionally imbedded within work culture and politics. For instance, Browne (2013) found that the glass ceiling can be used to describe how women are underrepresented in management positions. A fact contributing to the lack of women managers is that women are less likely to sacrifice family for their careers. Li (2014) studied the glass ceiling and bamboo ceiling concepts in relation to the discrimination faced by Asian American women. The glass ceiling focuses on gender, while the bamboo ceiling focuses on race and national origin (Li, 2014). Li suggested recognizing these barriers so Asian American women can overcome them and achieve greatness.

Another limiting factor is gender roles. Gender roles are a form of social construct where men greatly benefit at the expense of women (Khuzwayo, 2016). Within the gender roles attitude is the belief that the female performance is inferior; such views can be attributed to both men and women (Buchanan, 2014). This means that the creation of carrier barriers is not gender specific. Similarly, the gender gap could also be a useful concept when trying to understand the gendering of an organization. Bygren and Gahler (2012) conducted a study to determine if there was a change in gender gap in supervisory authority from 1968-2000 that could be attributed to family formation and found that the gap narrowed. Bygren and Gahler (2012) suggested that concepts such as gender roles and career barriers can help determine whether an organization is gendered as well as contribute to identifying root causes of the gendering.

More research is needed on women in the federal service. Women continue to be underrepresented in the federal service accounting for 44% of the total federal workforce (U.S. OPM, 2015). This is even more pronounced within STEM occupations, where the underrepresentation of women has become a worldwide focus over the last few decades (Godbole, 2017). According to Lewis and Frank (2002), women are more likely to hold government jobs than men. According to Mani (2009), workers are attracted to public service because of job security, high income, and the opportunity to be useful to society. Women are essential to the diversity of the workforce. The main problem is that men and women differ when it comes to power and opportunity within the workforce (Waller, 2016). The lack of resources for women in the federal service proves that gender differences exist within the workplace (U.S. OPM, 2014).

Given NASA's historically innovative trajectory with a focus on STEM fields, it was a good candidate in which to study. NASA made it to the mainstream with the book and movie *Hidden Figures*, where there was a discussion on the integration of women mathematicians into the organization (Shetterly, 2017). Both the book and movie *Hidden Figures* were helpful in showing the relationship between women and NASA (Shetterly, 2017). Whether it is improving aspects of flight or studying the Earth from satellites, NASA is helping people all around the world through technological advancements that improve their everyday lives (NASA Spinoff, 2019). The NASA has a tradition of inspiring and engaging the world. If NASA eliminated the issue of gender inequality within its agency, it could use its influence to affect the entire federal government as well as the rest of the world.

In 1958, NASA opened and began accelerating work on human and robotic space flight (Dick, 2011). NASA is responsible for unique scientific and technological achievements in human space flight, aeronautics, space science, and space applications that have had widespread impacts on our nation and the world (Wilson, 2015). NASA was created by the National Advisory Committee for Aeronautics in response to the Soviet Union's space achievements (Tyson, 2013). NASA has completely changed how and why humanity conducts space exploration (Wilson, 2015). Also, NASA has pushed all boundaries with cutting edge aeronautics research.

According to Tyson (2013), NASA is an influential organization that has the power to shape the dreams of a nation. I selected to study women at NASA due to the history of the NASA being a male dominated agency, as well as its slow advancement

towards equality. By studying NASA, I used this organization to make a case that organizations are gendered. Another reason why it is important to study the women at NASA is because it is a part of the STEM industry. According to Saujani (2013), women account for 24% of the STEM workforce. According to O' Merry (2017), women are cultivating ideas in tech and STEM, while also making huge contributions to data advancements at NASA. If there is a such thing as a gendered organization, NASA could be a great example due to the history of the organization's relationship with women who are employed there. I was also aware that due to NASA's history it may have structures in place to ensure that it does not become gendered or have any gendered related issues.

In this study, it is important explore the concept of gendering within the NASA. A gendered organization can be defined as "advantage and disadvantage, exploitation and control, action and emotion, meaning and identity are patterned through and in terms of a distinction between male and female, masculine and feminine" (Acker, 1990, p. 146). It can be argued that the NASA is still gendered due to the usage of gendered terms such as manned and astronaut/astronautte (LaFrance, 2015). Although NASA's style guide for editors states that only nongender specific references to the space program should be used the term *manned* is still widely used (NASA, 2006). One could also argue that NASA is a gendered agency because being an astronaut has always been a male profession. For example, the women who were to be the Mercury 13 or First Lady Astronaut Trainees (FLATs) were denied training mainly due to do the opinion that "female astronauts would hurt the space program" (O' Merry, 2017, p. 1). Another factor that could display gendering at NASA is the study of duration of spaceflight. In recent years, studies have

been conducted to determine if sex needs to be a factor when considering longer duration spaceflight (Mahoney, 2014). The researchers were trying to determine the different ways that spaceflight affects the bodies of men and women according to the following: cardiovascular, immunological, sensorimotor, musculoskeletal, reproductive, and behavioral implications. In this study, it was found that women are more prone to having medical issues if out in space for longer durations.

According to Heimann (1993), organizational structure can greatly impact administrative reliability. Then the impact on administrative reliability can dwindle down to employees. It has been proven that structure follows strategy (Chandler, 1962; Heimann, 1993). Therefore, NASA's choice of structure can provide insight on its priorities (Heimann, 1993). The management structure was also studied and analyzed for gendered characteristics to help determine if the NASA is a gendered organization. The management structure offered deeper insight into the organizational structure of the NASA. In 2018, a report from The White House showed that a major management challenge has been to structure a research and development organization that fosters creativity through its human resource base (The White House, 2018). NASA's organizational structure is designed to accomplish its mission through sound business, management, and safety oversight (NASA, 2015). NASA functions on a hierarchical management structure. In this type of management organization, the source of direction comes from management. Due to the NASA operating on the "good ole boys" network, management was heavily male-dominated (Heiney, 2017). This fact coincides with Acker and Van Houten (1992) idea of the differential recruitment of women into dependent and

passive jobs. Acker's gendered organizational theory was used to explain gender inequality in the workplace. Gender inequality is built into work organizations (Williams et al., 2012). Consequently, the de-gendering of an organization must start at the top. The problem with the federal government and even the NASA being gendered is the potential of interfering with societal interpersonal relationships by creating negative experiences between the sexes.

An example of a gendered characteristic within an organization is gender segregation. According to Stainback (2016), gender segregation is a key characteristic of gendered organizations. Gender segregation is widespread in U.S. workplaces (Stainback & Tomaskovic-Devey, 2012). Gender segregation is fueled by hegemonic gender beliefs about the abilities of men and women (Stainback, 2016). According to Stainback (2016), a woman's status can be reduced due to gender segregation. Through various studies, researchers have found various ways to eliminate gender segregation. For example, gender segregation can be combated by women possessing positions of organizational power, which could enhance social networking and mentoring opportunities to further career prospects (Ibarra, 1993; Konrad et al., 2008). According to Stainback, gender segregation can be reduced by bringing women into traditionally male occupations. When women seek traditionally male occupations, this is a step towards organizational change with regards to perceptions about gender. Women's power to effect change is constrained by the strength of existing organizational and institutional norms (Acker, 1990; Berrey, 2014).

Over the last 3 decades, more cases have come to the light that show and prove that careers barriers are a reality for women regardless of experience and educational backing. With this topic active on the public agenda, laws like the Equal Rights Amendment (1972), the Equal Pay Act (1963) and the 2013 Presidential Memorandum have come into play. Through the literature review process, I found articles pertaining to career barriers faced by women in the workplace, but these do not focus on how the career barriers impact women working as federal employees or how the career barriers relate to gendered organizations.

Career barriers affect the professional growth of women thereby affecting the growth and productivity of organizations. Organizations could find themselves suffering greatly from this phenomenon. How employees perceive career barriers is a major component in this study because it helped me explore the relationship between employees and the public organization, NASA, and how understanding career barriers relates to determining the characteristics of a gendered organization. Novakovic and Gnika (2015) examined in their study whether "gender and coping efficacy for career barriers moderated the relationship between both positive and negative dispositional affect and perceptions of career barriers" (p. 363). They found that gender and coping efficacy did not moderate the relationship between negative dispositional affect and perceptions of career barriers (Novakovic & Gnika, 2015). Also, they discovered that coping efficacy for career barriers did moderate the relationship between positive dispositional affect and perceptions of career barriers for women (Novakovic & Gnika, 2015).

The career barriers of women working as federal employees has not been specifically documented in the literature. This phenomenon, career barriers faced by women, is a problem because it affects the stability and productivity of this country. There is a need for an emphasis on human capital regardless of whether it refers to men or women (Economics Online, 2017). If this phenomenon still exists in the highest level of government in this country, it is surely affecting women in other workplace environments. The elimination of career barriers should begin in organizations and then migrate to the rest of society (Buchanan, 2014).

Previous research on public employees has focused on issues such as the gender pay gap and gender inequality. For example, in research conducted by the U.S. Census Bureau (2017), women working full-time, year-round were shown to earn 80% less than their male counterparts. According to Graf et al. (2019), a survey was conducted in which the results showed the 77% of women and 63% of men felt that this country needs to make changes to ensure gender equality in the workplace. Although various studies have been conducted to examine gender inequality in the general workplace environment, there is little literature found that explores the gendering in public organizations and federal organizations specifically. Previous research on public employees has lacked a focus on federal organizations. The research that did focus on gender and the organization theory but did not combine both concepts.

The lack of scholarly research on this topic inspired me to examine perceptions of female federal employees within NASA and compare findings to Acker's description of gendered organizations. I used the information gathered to assist in gaining an

understanding of gendered organizations. The knowledge gained helped me explore how the organizational influences and structure contribute to an organization being considered gendered. This research is necessary because even with societal norms continuously changing, gender inequality remains a relevant topic to discuss.

Problem Statement

The problem I addressed in this study was the existence of gendered organizations and whether Acker's gendered organization theory can be used to conduct a phenomenological study on NASA. In a study, Acker (1990) defined gendered organization as an "advantage and disadvantage, exploitation and control, action and emotion, meaning and identity are patterned through and in terms of a distinction between male and female, masculine and feminine" (p. 146). There is a lack of qualitative research that recognizes and explains the effects of a gendered organization on women working for the federal government. According to Acker, gender is so embedded into the structure of organizations that it is often overlooked on how it shapes experiences, lives, and opportunities. While it cannot be confirmed or denied whether the federal government is gendered, the goal of this study was to bring clarity to determining whether the federal government can be characterized as gendered from the perspectives and experiences of employees.

Acker (1990) argued that organizational structure is not gender neutral; on the contrary, assumptions about gender underlie the documents and contracts used to construct organizations and to provide the commonsense ground for theorizing about them (p.139). Acker constructed the gender organization theory while Burrell (1992)

focused on the process of organizational desexualization, which has taken place over a long historical period and upon the resistance which this process has engendered amongst organizational subordinates (p.71). Burrell (1992) study focused on analyzing organizations with regards to sex. Mills and Dye (2005) explored Acker's system of gendering processes and to assess the potential of this framework to help researchers better identify those activities in and around organizations that maintain, support, or oppose their gendered nature (p. 89). The goal of Mill and Dye (2005) was to effectively promote organizational change.

I explored the gap in literature to determine whether Acker's gender organization theory can be applied to the federal system, in particularly to NASA. I used Acker's gender organization theory to explore NASA in terms of gendering. According to Carlson and Goss (2017), the gendered state is the embodiment of masculine power in the public sphere. Being that gender is a social and cultural construct, it is transversal (Best & Thomas, 2004; Epstein, 2006; Kottak, 2011; Pastor, 1998; Unger & Crawford, 1992). The transversal nature of gender leads to it being present in all areas of society (Batista-Medina, 2015). The goal of this study was to explore the concept of gendered organization within NASA. Then I analyzed whether gendering attributes affect NASA's employees. Understanding the perspective of employees can aide in the comprehension of how public organizations play a role in gender inequality, which could as a result refocus federal government attention on promoting the equality of women.

Purpose of the study

The purpose of the phenomenological design was to explore the phenomenon of gendered organizations by interpreting the experiences of NASA employees. The central phenomenon explored was the potential expression of gender inequality within the organization through the experiences of NASA employees. I aimed to uncover career barriers and experiences with gender inequality faced by employees, to explore the factors that contribute to these career barriers within the organization and the existence of gender inequality, and then to use these findings to explore any evidence of gendering within NASA.

The career barriers faced by employees were generally defined as how it is difficult for employees to obtain success and advance in NASA. Phenomenology was the best approach for this study. A phenomenology study allowed me to gain a better understanding of the lived experiences of the employees within this public institution. This information was then used to explore if the NASA is a gendered organization by exploring specific ways that organizations express gendering in their policies and practices. The phenomenological approach focuses on individual perceptions (Creswell, 2013). The perception of individuals was studied by conducting interviews that would expose themes and trends. Then all collected data from the interviews was analyzed through coding methods such as selective coding, axial coding, and open coding.

Research Questions

The purpose of this study was to analyze the perspectives and experiences of federal employees to explore the factors associated with gender inequality and gendered

organizations. By exploring concepts such as gender inequality and career barriers, I was able to add to the research literature on gendered organizations. The main research question and sub questions identified in this phenomenological study are:

RQ1. What impact do the organizational structures have on federal employees' perception of gender inequality and career barriers?

SQ1. How do federal employees perceive the organizational structures of NASA?

SQ2. How do federal employees define a gendered organization?

SQ3. How do federal employees characterize NASA as an organization?

The objective of this study was to understand the experiences and perceptions of NASA employees. This study had a diverse group of participants to add quality and reliability to the findings. Through conducting interviews, the participants' responses displayed the connection between gender inequality and career barriers to gain a better understanding of gendered organizations. Public awareness and self-awareness could compel NASA to address any issues associated with social change within the workplace such as gender inequality, career barriers and eliminating gendered organizations.

Theoretical Framework

In this section, Acker's gender organization theory is described. A more detailed explanation of the Acker's gender organization theory was provided in Chapter 2. The theory explored was used to assert the philosophy that supports issues of gender inequality. According to Acker (1990), organizational structure is not gender neutral and there is a link between gender and organizations, which should be included in

organizational analysis (Acker & Van Houten, 1992; Burrell, 1992; Martin & Collinson, 2002; Mills, 1992).

Acker's gender organization theory explains how organizations become gendered. It allows for presumptions to be made about gender inequality and its existence in organizations. Within Acker's gender organization theory is the segregation and status differentials that exist in organizations according to the perceptions of men and women; organizational processes and structure must be gendered (Acker, 1990). This idea is supported by arguing that organizational processes and structures create organizational systems where women are suppressed and hindered from achieving career success. According to Acker (1990), "gender is implicated in the fundamental, ongoing processes of creating and conceptualizing social structures" (p. 146-147). Gender is one of the fundamental factors influencing the activities, values, and beliefs of an organization (Acker, 1990; Brush, 1999; Martin & Collinson, 2002; Rao et al., 1999; Rapoport et al., 2002; Williams, 2000).

Acker's (1990) theory explores how career barriers for women are established based on gendered organizational practices. Whitehead (2013) used Acker's gender organization theory to investigate to what extent gender inequality and sexuality are linked within religious congregations. Kanter (1977) stated that gender differences in relation to organizational behavior are due to structure. According to Acker (1990), there is little debate or literature on the link between masculinity and organizational power because it is obvious, and no debate is needed.

The gendering of organizations can be viewed as a locus of social and economic inequality (Acker, 1998). Also, within Acker's gender organization theory is the idea that organizations are masculine and patriarchal in structure. Therefore, organizational structures are designed for men by men and then utilized to enforce power over women. This sets the stage for Acker's concept of a universal worker. The universal worker is an ideal worker. According to Acker (1990), the concept of a universal worker excludes and marginalizes women who cannot, almost by definition, achieve the qualifies of a real worker because to do so is to become like a man. According to Williams et al. (2012), gender inequality is in the framework of an organization and within an organization jobs fall into categories such as standardized career ladders, long-term security, job descriptions and management-controlled evaluations. In the long run, Acker's theory has the potential to be useful at eliminating gender inequality by first successfully identifying causative factors that contribute to the gendering of organizations. Acker argued that abolishing current organizational structures and redefining work relations will create major change.

The theoretical framework provided insight as to how the gendering of organizations plays a part on the perception of gender inequality and career barriers as perceived by women. The U.S. federal workplace environment was an ideal place to explore the topic of gendered organizations. Acker's gender organization theory helped me develop research questions, which is the basis the study was built upon. Acker's gender organization theory helped me focus the study and determine the methodology as well as guide the different stages of inquiry, analysis, and reporting. Acker's gender

organization theory provided the basis for how I would be able to construct and understand the participants' responses to the research questions. The connection between gender inequality and career barriers lead to the organizational construction of gender. This was explained more in-depth in Chapter 2, which contains the literature review.

Nature of the study

The qualitative research approach was chosen because my research needed information regarding personal/lived experience from participants. The theoretical framework has a direct effect on sample size. It is essential that alignment exists between the research questions, research design and methodology (Marshall, 1996). The direction and accuracy of a study is pivotal when seeking alignment. Alignment could have the ability to solidify a study, while also verifying quality.

The goal for this study was to determine if Acker's notion of gendering exist in a historically male dominated organization such as NASA. If it is found that Acker's notion of gendering does exist within NASA, I would then explore the impact of a gendered organization on its employees. When career barriers are identified, then a constructive plan can be developed to make a difference in this area. The barriers that women face extend further than the workplace environment, but also to various social avenues. The goal of this study from a societal standpoint was to explore the concept of a gendered organization and the impact it has on women.

The issues faced by women that work for the federal government are the same ones faced by women throughout the workforce (National Research Council, 1994). The hope for this study was that it will build upon previous research and then contribute to the

research literature by exploring how gender inequality may be institutionalized within one federal agency. Women are making major strides to improve their work experiences, but improvement is still needed.

In this study, the participants were employees at NASA. Both men and women were participants in this study so that I could analyze if factors are gendered or organizationally related. I found participants for the study through LinkedIn. The participants were interviewed either by phone or via Skype. The participants were interviewed to explore common themes for analysis. The themes were analyzed and then coded by utilizing NVivo 12 qualitative software. I hoped that the participants would be comfortable enough to provide honest responses. An issue that could arise in any study is not having a larger enough participant pool. Informed consent forms helped me avoid ethical issues.

Operational Definitions

Career barriers: What an individual believes exist or will exist in the future and are not necessarily grounded or based on factual information (Albert & Luzzo, 1999). Ng and Feldman (2014) defined career barriers as obstacles that individuals face in the attainment of their career goals. In this study, career barriers are limitations that are placed on women in the workplace based on the perceptions of both men and women.

Gender: "The state of being male or female" (Hyde, 2007). This definition is a binary approach to gender. A binary approach to gender is appropriate for this study because the federal government reporting requirements are built on traditional gender models (see Patton, 2019). Gender can be described in terms of achieved status (Terry,

2016). Gender describes the cultural and social differences and/or distinctions that exist between men and women.

Gender inequality: A broad, abstract, and often vague idea, but it can be attributed to masculine desires to dominate women, to control or exploit women's sexuality (Jackson, 2017). According to Ruohan and Xueyu (2016), equality can be defined as equal treatment in the workplace with regards to the terms of rights, benefits, obligations, and opportunities. Gender inequality stems from the fact that organizations were created by men for men (Beckwith et al., 2016). Gender inequality can be defined as a situation where individuals who are treated and perceived differently in various aspects due to their gender.

Glass Ceiling: Describes "artificial barriers" based on attitudinal or organizational bias that prevent qualified individuals from advancing upward in their organization into management-level positions" (Boyd, 2008). Another definition given to the glass ceiling is the under-representation of women at the highest level (Li, 2014). According to Sabatier (2010), the glass ceiling concept is a result of gender discrimination.

Assumptions

In this study, 15 participants were interviewed. It was expected for participants to be honest and truthful to the best of their ability. It was assumed that the interviews would aide in helping the participants communicate their understanding of a gendered organization. The participants were able to discuss their perception of a gendered organization and as it may relate to NASA. The participants were asked if they believe that gendered organizations exist. Then they were free to discuss any potential perceived

connections between the concept of a gendered organization and NASA, their

experiences were used for the basis of this study. I expected that the participants had a

general understanding of the existence of gender inequality and career barriers in the

workplace. I realized that the participants may define gender inequality and career

barriers differently but hoped that their definitions somewhat related to the binary

definitions available. I also assumed that the participants may have encountered gender

inequality and career barriers at some point in their careers and had insight into these

concepts.

Scope and Delimitations

This phenomenology study was limited to conducting interviews with NASA

employees. Individuals were not to be excluded from the study based on their experiences

and perspectives. The experiences and perspectives of NASA employees was measured

to explore common themes pertaining to concepts such as gender inequality and career

barriers in a gendered organization. Also, to protect the identity of the participants, none

of their names or identifiable characteristics provided will be released.

Limitations

In a qualitative study, limitations to trustworthiness can arise from the execution

of the study (Sandelowski, 1993). Trustworthiness supports the idea that the results of a

study are important and relevant (Sandelowski, 1993). In the qualitative research process,

trustworthiness refers to the way in which qualitative researchers make sure that

transferability, credibility, dependability, and confirmability are visible in their study

(Sandelowski, 1993). Transferability (external validity) could arise as a limitation of

trustworthiness in this study because the results could prove to be difficult to generalize. This creates restrictions for the researcher and limits the usefulness of the results. Credibility was a limitation of trustworthiness because I was not able to follow-up with the participants if needed. The participants were not able to review the collected data or my interpretation of the data prior to publication. This arose as a limitation because credibility (member checks) could bring clarity to understanding participants' responses if needed.

The findings of this study would be limited due to the phenomenological design because of the perspectives of the participants. The limitations of the phenomenology research design would hinder the results from being generalized because they pertain to NASA employees and whether the participants believe NASA to be gendered. The phenomenology research design would also cause generalization to be unreasonable due to a larger or different population. The study was restricted to conducting interviews with NASA employees to better understand possible career barriers in connection to whether the organization is gendered. This fact made generalization an unlikely option.

Significance of Study

The purpose of this qualitative study was to explore the phenomenon of a gendered organization. I analyzed concepts such as gender inequality, gender roles, career barriers, and glass ceiling then used the gathered information to better understand the gendering of organizations. This research topic was constructed based on fact that across departments and government organizations women face career barriers that hinder their professional growth. At this point, it was unclear whether women are plagued with

these limitations within the federal government. I was focused on providing informative insight on the topic.

This study consisted of participants who are current and retired federal government employees. The personal experiences of participants were essential in exploring the notion of a gendered organization. I explored the organizational limitations that exist that relate to gender by engaging with employees on the topic. When organizational limitations exist, they are often found to be present every aspect of an organization.

Current literature acknowledges the existence of career barriers for women in the workplace (see Novakovic & Gnika, 2015). Previous researchers have displayed how men are continuously climbing the professional ladder, while women are facing career barriers and are unable to break through the glass ceiling (see Sharma & Kaur, 2014). A gap exists in the literature is regarding whether Acker's gender organization theory can be applied to the federal government. The results of this study were used to bridge the gap related to whether the federal government should be considered a gendered organization by identifying characteristics of gendered organizations and how women's perceptions are affected by gendered organizations.

The findings of the research study may have implications for social change. Although the experiences of a population being studied are small, the study could still provide some insight into the experiences of larger population that are experiencing the same phenomenon. The full magnitude of the phenomenon can be better understood by gathering data directly from the employees in the workplace.

The data gathered from the employees may generate a better understanding of how organizations can be gendered and perhaps make recommendations for the future. The information from this study could aide NASA administrators in developing suggestions or standards that address gendering within the organization. Also, the research findings may prove to be applicable to employees not only within NASA, but other federal agencies. It is essential that NASA implement new agency standards to ensure equality in the workplace. Lastly, a major outcome for this study could be an increased society awareness of the phenomenon of gendered organizations. There is a need to ensure gender equality by first acknowledging the existence of gendered organizations.

Summary

According to Catalyst (2015), most of industries and occupations are male dominated. This fact has created career barriers for women on every level of the United States' federal government. Career barriers can be described as permanent obstacles (Albert & Luzzo, 1999). The effect of career barriers on women has been documented to show how they limit women both financially and professionally. Research has shown that women make worthy contributions to the workplace by providing meaningful insight.

An increase in the number of women who are federal employees has proven that some change has occurred in society (U. S. Office of Personnel Management, 2014). I sought to understand the phenomenon of a gendered organization through the perceptive of federal employees. In this chapter, background information on this phenomenon was provided to gain a better understanding of its history and why change needs to occur. To

explain how gender inequality is a direct effect on career barriers in relation to the

perceptions of employees working in gendered organizations, Acker' s gender

organization theory was used and explained. Chapter 1 is followed by a literature review

in Chapter 2. Chapter 3 includes the research design, information regarding participants

of the study, procedures, data collection and analysis. Chapter 4 includes the results from

the study by addressing how interviews would be used to gather data to support the

research, how the findings would relate to the research problem, how the research design

would address the research questions, why it was important to recognize patterns and

themes from the findings, and how reliability and validity were ensured by the following

procedures. Chapter 5 includes an interpretation of the findings, draw a conclusion and

then explains suggested recommendations.

Chapter 2: Literature Review

Introduction

Gender inequality is a reality in the workplace that has helped create career

barriers (Watts et al., 2015). These career barriers stunt women's potential in the

workplace. Due to career barriers women have been limited on their opportunities to

advance into supervisory positions. Since the 1970s, there has been an increase in the

number of women in the workplace (Toossi and Morisi, 2017). Many studies have been

conducted that document the effects of career barriers. To date, there has been limited

research conducted to understand the experiences of women who work for the United

States government who face career barriers.

I begin Chapter 2 with discussing the literature review strategy. A step-by-step

account of the research strategies used is presented to explain how reference articles were

located. Then I provide a detailed analysis of Acker's gender organization theory. A

review of Acker's gender organization theory provided the necessary insight into the

phenomena of a gendered organization. A review of the literature yielded several themes

when trying to gain insight to the concept of a gendered organization such as glass

ceiling, career barriers, gender inequality, and gender roles. The contents of the literature

review highlighted prior research that shines some light on the specific ways that

gendering is expressed in organizations. The reference articles explored how employees

characterize gendered organizations. This literature review gave more insight into the

phenomena of a gendered organization and how it could potentially relate to the United

States government and the federal agency, NASA. Finally, I end this chapter with a

conclusion that displays the main points associated with the theory and the literature review.

Literature Search Strategies

Literature research was conducted using ProQuest and Academic Search Complete. ProQuest and Academic Search Complete were accessed using terms such as "gendered organizations", "gender inequality" and "career barriers." Then the search was narrowed down by using the search term "workplace". The above research strategy allowed for significant articles to be located. During the search process, no articles pertaining directly to gendered organizations and the United States federal government were found. Therefore, the contents of the literature review were limited to exploring gendered organizations.

Theoretical Foundation

The theory I used in this study was Acker's gender organization theory. Acker (1990) developed the gendered organization theory to dispute the notion of gender-neutral organizations. With the gender organization theory, Acker argued that all organizations are gendered and organized in a way that favors men and excludes women. According to Acker, the combination of gender expectations and masculinity in organizational processes tends to lead to the marginalization of women. The marginalization of women facilitates gender inequality and career barriers within organizations (Alfawzan, 2014).

Acker's gender organization theory was applied to critique the gendered nature of the federal government and the potential effects such structuring has on employees. There

is extensive literature on employees and the government workplace, but these studies do not provide adequate research on the federal government being a gendered organization. According to Acker (1990), gendered organizations can be described in four sets of processes which are: division of labor, symbolism, interaction, and identity. The division of labor displays how the actual duties expected of women versus men differ (Acker, 1990). The creation of images and symbols reinforce the divisions on gender lines. This symbolism is often depicted in the press, social ideology, social media, and pop culture. According to Acker (1990), gendered interaction is evident through the modes of communication that permeate the organization. For example, concepts such as gender inequality are created through normal interactions. Organizational processes contribute to the creation of gendered identity, which influences how an individual presents themselves and work choices. These divisions could be viewed as fueling gendering within an organization.

Recent research has paved the way for a new way to study the field of gendered organization. In previous literature, the Acker's gendered organization theory was applied to examine the general area of women in the workplace. Mills and Dye (2005) explored Acker's system of gendering processes to identify activities in and around organizations that maintain, support, or oppose their gendered nature. Alvesson and Billing (2009) focused on considering diversity in certain patterns and tendencies when studying gender and organizations. Ackerman (2013) focused on gender by comparing the number of hours worked by men and women. While Lewis and Frank (2002) examined three public-private differences that might produce different levels of employee work effort in the two

sectors. These studies have been conducted from a gender perspective where the focus was more on the individual than the organization. These studies did not offer a detailed analysis of how the gendering of organization creates situations where career barriers and gender inequality fester.

It was necessary to find studies that were like my study with combining the focus of studying the individual perspective and the organization. I found the research study by Martin (2010) that was informative for understanding combining gender and organization research. Martin compared "the percentage of women and men working in the federal government agencies, and uncovered public policies designed to encourage or improve bureaucratic representation of women" (p. 4). As more relevant social science studies are conducted, there is an increase in the number of studies over local, state, and federal government levels.

Acker's gendered organization theory was the most rationale choice because it prioritized the gender-organization relationship in relation to the manifestation of gender inequality and career barriers. In this study, the gender organization theory was used to help determine if the federal government can be considered a gendered organization. The research questions helped build upon Acker's gender organization theory by offering a complex and comprehensive understanding of how gendering affects the federal government.

Literature Review

The purpose of conducting this literature review was to explored key concepts associated with gendered organizations. This section provides a comprehensive review of

literature pertaining to glass ceiling, career barriers, gender inequality and gender roles. The studies cited in the subsections that follow aided in gaining a better understanding of the phenomenon of a gendered organization.

Glass Ceiling

In 1986, the concept of glass ceiling by the *Wall Street Journal* describes "artificial barriers" based on attitudinal or organizational bias that prevent qualified individuals from advancing upward in their organization into management-level positions" (Boyd, 2008). Another definition given to the glass ceiling is the under-representation of women at the highest level (Li, 2014). Many may find it exceedingly difficult to overcome the glass ceiling because it is a transparent barrier. According to Sabatier (2010), glass ceiling is a result of gender discrimination. The glass ceiling hinders many women from making it to top positions within organizations. According to Martin (2010), it is important for women to be a part of every level of government to help ensure representation of all people. Before the *Wall Street Journal* article shed light on the continuing issue of the glass ceiling it had already been illegal to discriminate based on gender for many years (Waller, 2016).

The U.S. federal government put the Federal Glass Ceiling Commission in place to oversee issues with glass ceiling in the workplace (Federal Glass Ceiling Commission, 1995). According to the Federal Glass Ceiling Commission (1995), the Federal Glass Ceiling Commission was created to study the "barriers to the advancement of minorities and women within corporate hierarchies" (p. 13). This commission consisted of 21 members. Once the study was completed the findings would be analyzed to construct

recommendations for eliminating the glass ceiling. Even though the study was intended

for the private sector it has proven to transcend into the public sector. Eventually the

recommendations lead to the Glass Ceiling Act, under the Civil Rights Act of 1991

(Federal Glass Ceiling Commission, 1995). Even with the passing of this act the glass

ceiling is very visible in the workplace. According to Beckwith et al. (2016), societal

norms have enforced workplace practices that have contributed to the glass ceiling. To

shatter the glass ceiling, it is important for organizational cultures to change in ways that

support women who are pursuing a work-family balance.

Career Barriers

In the federal government, the concept of career barriers is still a major topic.

Social norms, gender bias, and business practices play a major role in the creation of

career barriers. Career barriers can be defined based on what an individual believes exist

or will exist in the future (Albert & Luzzo, 1999). Career barriers are not necessarily

grounded in reality or based on factual information (Albert & Luzzo, 1999). Ng and

Feldman (2014) defined career barriers as obstacles that individuals face in the attainment

of their career goals. Women tend to have a higher perception of career barriers than men

(Novakovic & Gnika, 2015). According to Gnika and Novakovic (2017), perceptions of

career barriers describe how an individual believes environmental or intrapersonal

conditions can inhibit career development.

The 70 item Career Barriers Inventory-Revised (CBI-R) asks individuals to self-

report on a scale from 1 to 7, with a higher score representing greater barriers

perceptions, the extent to which they expect barriers to interfere with their career plans

(Watts et al., 2015). According to Sharma and Kaur (2014), this can partially be attributed to the fact that women tend to face more career barriers because human capital variables are better rewarded for men. At the same time women's perception of career barriers differs based on their individual experiences with workplace discrimination (Novakovic & Gnika, 2015). According to Albert and Luzzo (1999), career barriers can cause individuals to experience self-doubt, which stunts professional growth. The first step to overcoming career barriers is to identify them.

According to Harlan and White-Berheide (1994), to understand career barriers, it is important to recognize that barriers exist within organizational structure, the structure of educational and economic systems as well as in social order. In the past, the career barriers that women faced included limited education, lack of seniority, mobility, having a mentor and children (Martin, 2010). Now, career barriers include experience, education, relocation, time devoted to being successful at work and having children (Martin, 2010). The elimination of career barriers will occur when social norms change. This study could help organizations understand their structures, so that they can make improvements for all employees.

Career barriers can stem from individual to interpersonal, organizational, and societal factors (Napasri &Yukongdi, 2015). The first factor is individual which refers to the sources of power the individual brings to a position in an organization (Napasri & Yukongdi, 2015). An example of the individual factor is personality traits, such as work-family balance, emotional and a lack of career aspiration. The second factor is interpersonal which relates to the relationship amongst individuals within the context of

their positions in the organization (Napasri & Yukongdi, 2015). Some examples of the interpersonal factors are difficult relationships at work and the "old boys" system. The third factor is organization which refers to discriminatory organizational culture (Napasri & Yukongdi, 2015). Some examples of the organization factor are policies, practices, structure, and culture that influence individual behavior. The organization factor is the area being explored in this study. I combined data collected from interviews with Acker's gender organization theory to discover common themes that can be used to gain a better understanding of the gendering organization phenomena. The fourth factor is societal which focuses on society, the roles and expectations that develop within it (Napasri & Yukongdi, 2015). An example of the societal factors are gender roles stereotypes. Together these factors frame a better understanding of career barriers and how they limit women's chances of career advancement. According to Choi and Park (2014), an increase in gender equity is essential to achieve social equity and justice.

First, analyzing career barriers from an individual level could be effective. When trying to overcome career barriers it is important for women to network and build upon relationships that could prove to be helpful during the career advancement process (Napasri & Yukongdi, 2015). For networking to be a potential option, effective communication skills are necessary. Women must also increase their individual value to organizations by perusing higher education, gaining work experience, leadership skills, being determined and working hard (NapasrI & Yukongdi, 2015). In organizations where women are required to work harder than men just to be considered equal it clearly shows the sign of gender inequality. In many cases a lack of family support can block career

advancement (Napasri & Yukongdi, 2015). A lack of family support could be a result of a family wanting a woman to take on a more traditional role. According to Napasri & Yukongdi (2015), social class can help alleviate many factors that contribute to career barriers. If a woman comes from a higher social class, this could allow them the flexibility to focus more on her career because she has access to resources such as nannies and housemaids. Therefore, factors from an individual level can be considered career barriers.

Second, analyzing career barriers from an interpersonal level could be effective. It is proven that interpersonal skills are a key criterion for the success of women in the workplace that seek to overcome career barriers (Napasri &Yukongdi, 2015). The most notable interpersonal skill is networking (Napasri & Yukongdi, 2015). It is important for women to develop work-relationships with not only their colleagues, but also with supervisors. Some of the benefits of networking are gaining knowledge, information, new leads, being active, skills, contacts, openness, support, improving your reputation and self-esteem (Chaneski, 2018). The problem with networking is that women are often forced to deal with the old boy's network which reinforces career barriers. According to Old Boy Network (2017), the Old Boy Network can be defined as an informal system in which wealthy men with the same social and educational background help each other. This network is ultimately a major blockade for women. Women must channel various interpersonal skills to be successful in this situation.

Third, analyzing career barriers from an organizational level could be effective. Organizational culture is often an impediment to career advancement for women (Napasri

& Yukongdi, 2015). The masculine organizational culture refers to how women are excluded from power, resources, and opportunities in an organization through tactics such as organizational culture norms and attitudes (Napasri & Yukongdi, 2015). Organizational culture can be perceived to create invisible barriers for women. It can be difficult to be aware and understand the existence of invisible barriers. Within the male-dominated workplace, gender inequality has been widely accepted (Napasri & Yukongdi, 2015). An attributing factor is that the organizational structure caters to men and their career success. In turn, women are forced to be stagnate in supporting roles within organizations. According to Choi and Park (2014), sex roles are defined as women's reproductive roles and household responsibilities that have the potential to hamper women from concentrating on their career success. Due to the perceptions created by sex roles, strong barriers are created for women that affect their chances of advancement. According to Napasri and Gnika (2015), the biggest career barriers are a lack of equity in promotion and a lack of mentoring.

Lastly, analyzing career barriers from a societal level could be effective. At a societal level, invisible barriers are often created. According to Napasri and Gnika (2015), societal factors can be viewed as being core barriers. For example, social attitudes towards women such as gender role stereotyping automatically place women at a disadvantage. From a societal standpoint, a woman's success is based on that of her husband and/or family. For example, if a woman has more success than her husband, her success is often disregarded. Societal factors that are perceived to be impediments to career progress are those relating to traditional values, religious beliefs and social

attitudes toward women, including gender role stereotyping (Napasri & Yukongdi, 2015; Yukongdi, 2009). From a societal standpoint, it is imperative for attitudes to change so that barriers can be tackled.

According to Naff (1994), career barriers can be categorized into three models: (a) human capital model refers to individual differences with regards to education, work experiences, and seniority; (b) sociopsychological model points out that sociopsychological factors such as sex roles and sex stereotypes that may pose barriers for women in the workplace; and (c) systemic model focuses on the systematic barriers that are embedded in the framework of organizational policies and practices. Over the last few decades, the human capital model has become less reliable due to more women seeking higher education than men (Naff, 1994). Also, the social construct of gender has proven to limit women's desire and resources that are necessary to obtain and maintain while working in top positions. The sociopsychological model and systemic model show that a lack of advancement opportunities for women can be attributed to gender discrimination in the workplace. The three career barrier models provide evidence that there is a glass ceiling in the federal government (Naff, 1994).

Some researchers believe that career barriers come internally. According to Sandberg (2013), women face internal barriers that hinder them in the workplace. Fear is the root of many of the barriers that women face. The elimination of fear will open the doors to professional success and personal fulfillment. The elimination of internal barriers will aid women in gaining power. Mentorship is a reciprocal relationship that should be utilized by women to grow professionally.

Gender Inequality

The underline issue that has a direct effect on career barriers is gender inequality. In general gender inequality is a broad, abstract, and often vague idea, but it can be attributed to masculine desires to dominate women, to control or exploit women's sexuality (Jackson, 2017). According to Ruohan and Xueyu (2016), equality can be defined as equal treatment in the workplace regarding the terms of rights, benefits, obligations, and opportunities. Gender can be described in terms of achieved status (Terry, 2016). Gender inequality stems from the fact that organizations were created by men for men (Beckwith et al., 2016).

Women experience career barriers because of the male-dominated work environment. Therefore, gender inequality is embedded in the organizational framework of organizations because of societal norms. An example of gender inequality is the fact that women account for half of the workforce and two-thirds of total hours worked, while only earning 10% of the income (Moyo, 2012). Another explanation for the existence of gender inequality is factors such as gender role attitudes and their influence (Buchanan, 2014). Miller and Borgida (2016) stated that the Separate Spheres Ideology Scale can be utilized to measure individual attitudes and behavior. The measurements can help assist in gaining a better understanding of gender inequality in the workplace.

Within the gender roles attitudes is the belief that the female performance is inferior. This view can be attributed to both men and women. This means that the creation of career barriers is not gender specific. Yamagata et al. (1997) examined mechanisms of gender inequality through concepts such as gender distribution (skew),

gender segregation (composition), occupational captivity, hierarchical ceilings, glass ceilings and internal labor market (ILM) structure/network linkages.

According to the U.S. EEOC (2014), gender inequality is still an issue in today's workplace based on the number of claims filed since 2013. Employers must admit that there are issues with gender inequality and career barriers within organizations for the problem to be eradicated. According to Cunningham Parmeter (2015), the key to ending gender inequality is to implement policies that support women's public participation. The Supreme Court has been giving the public mixed signals regarding sex discrimination. For example, in the twentieth century the Supreme Court has invalidated several sex-based laws while at the same time sanctioning sex-specific classifications. These actions put the principle of formal equality into question Cunningham-Parmeter (2015) offers a solution to assist in promoting gender inequality as fatherhood bonuses. Fatherhood bonuses would encourage men to take on more categorizing roles which would potentially result in women receiving higher pay and career advancement. Cunningham-Parmeter (2015) is trying to determine whether the sameness approach or gender-specific policies would be the best way to achieve gender equality.

Promoting gender equality is one of the greatest challenges in the world. It is essential to the productivity of this country that the voices of women are heard. According to Cunningham-Parmeter (2015), a new vision of equality is needed to overcome barriers. With this new vision, gender equality should be measured by women's success in the workplace. Change must occur on every spectrum for major strides to be made (Moyo, 2012).

The issue of resolving gender inequality will require the efforts of both men and women (Khuzwayo, 2016). The empowerment of women is one step to eliminating gender equality (Khuzwayo, 2016). Also, it is important to judge men and women by the same standards. Gender empowerment should occur on multiple social spheres such as at home and in the workplace. Gender inequality persists everywhere and stagnated social progress. It is important to invest in gender equality and empowerment because women make up one-half of the economy, which could maximize human potential. Gender equality results in overall prosperity. The major issue is that the awareness and research on gender inequality in the federal workplace environment is in its infancy. Gender inequality can lead to low job satisfaction and overall low productivity. As a result, work culture will be viewed negatively.

Second, gender inequality can be eliminated by raising awareness of gender inequality in the workplace. Gender equality programs should be implemented and required employees should attend seminars on annual basis. These programs should focus on a basic understanding of gender equality and provide employees with the skills to ensure it. One benefit of raising the awareness of gender inequality is making major strides towards social stability. Awareness is the first step to ensure that change occurs over time.

Third, social change is necessary in the journey to bring about gender equality (Stewart, 2016). Gender equality must start at the highest level such as the federal government and then dwindled down to the rest of society. It must be reinforced that the equality is a right and not a privilege. Essentially the recognition and understanding of

this fact is the key to change. The United States federal government will truly reach its height when equality is the norm.

Since gender equality is multidimensional it will take a combination of several aspects to ensure it is upheld (Elwer et al., 2013). According to Blair-Loy and Herron (2013), the existence of barriers in the workplace and home are hindering equality for women, while social pressures are making it a reality. Considering that gender inequality is remade and re-inscribed on a regular basis it is imperative to construct multiple ways to combat it that are effective with the times.

In many cases gender quality can manifest itself as workplace bullying. According to Leigh et al. (2014), workplace bullying can be defined as a type of aggressive behavior that can exist between two individuals or an individual and a group that manifests in interpersonal relationships. The concept of workplace bullying is important to this study because shone light on more gender issues that are prevalent in the workplace. Gender perspectives display the reality of experiences for women in the workplace and other spheres. According to Leigh et al. (2014), the workplace can be viewed as a fertile ground for democracy.

Gender Roles

According to Khuzwayo (2016), gender roles are a form of social construct when men greatly benefit at the expense of women. Gender roles cause women to pay greater social costs than their male counterparts. According to Gunduz (2016), gender roles that are imposed by society prevent women's self-realization as well as social relations negatively. The sex role theory consists of five points which are the distinction between

the person and position, an action or role behavior is assigned, role expectations or norms are defined by a position, there are people holding counter positions, and sex roles are forced by means of sanctions (Terry, 2016). Societal standpoint requires individuals to act according to stereotyped gender roles. When individuals act in ways that contradict stereotyped gender roles the issue of gender inequality surfaces.

Gender roles are created by societal expectations which are based on history, time, and social context (Terry, 2016). A change in time demands that stereotyped gender roles be broken-down for gender inequality to decrease. For example, in many organizations stereotyped gender roles play an active role in the positions that women possess as well as their opportunity for advancement.

Conclusion

The review of the literature has provided evidence for the different types of challenges women face in the workplace. The literature review allowed me to explore the challenges associated with gendered organizations that women face in the workplace. For example, the literature review explored the concept that glass ceiling is an "artificial barrier" that prevents women for reaching their full potential in an organization. The literature review also explored the concept of career barriers, which are obstacles to the attainment of career goals. Gender inequality and gender roles are explored in relation to women working in a male dominated organization such as the federal government.

The main concepts focused on in the literature review were gender inequality and career barriers. These concepts relate to the phenomenon of gendered organizations and its effects on women. I believed that discussing gender inequality and career barriers

would build on gaining a better understanding of gendered organizations. The literature review contained substantive findings that could contribute to understanding the gendering of organizations.

Even with more women entering the workplace, gender inequality and career barriers are still major issues for them (Berrey, 2014). This study contributes to further understanding gendered organization and their effects on women. Also, the current literature written on gendered organizations was amended in this study by adding in the factor of studying the federal government. It is important to understand gendered organizations to make major strides to eliminate this phenomenon. A gender-neutral workplace environment will maximize productivity in the long-run.

This study contributed to the currently available literature on gendered organizations and takes research further by exploring this phenomenon in the federal workplace. In Chapter 3, the researcher describes the methodology, provides a description of the participants, interviewing protocol, data collection procedures and data analysis plan employed in the present study.

Chapter 3: Research Method

Introduction

The purpose of this qualitative research was to explore the phenomenon of gendered organizations by interpreting the lived experiences of NASA employees. I used a phenomenological design to explore lived experiences. This chapter explains the rationale of how the research design was chosen. I discuss factors of the how the research methodology was chosen such as participant selection, instrumentation, recruitment, data collection, and data analysis strategy. The qualitative research methodology is then thoroughly explained and justified. The data collection process was described and the data collection technique defended. I explain how the research questions were created to align with the study. This chapter concludes with discussions of the study's trustworthiness and ethical procedures. In addition, the credibility, transferability, dependability, and confirmability of the study are discussed. Any ethical issues that could have potentially arisen are also addressed.

Research Design and Rationale

Participants that contribute lived experience make memorable contributions to studies (Patton, 2015). Some challenges to making observations are being in the role of observer regardless of whether they are participants or nonparticipants. Some of the examples of mechanics of observing are taking accurate field notes, accurately recording quotes, and knowing how to properly analyze observations (Patton, 2015). Constructing a plan is necessary to ensure that as a researcher one will be capable of overcoming any obstacles.

In this study, I built a rapport with employees by having complete transparency. If it were feasible, being a complete participant within the study could help with building rapport. A complete participant means being fully engaged in the study's observation process (Patton, 2015). Being a complete participant can become bothersome especially when it comes to interacting with many participants. The sampling strategy and sample size that were chosen are the best fit for this study because they effectively represent the population that is to be studied. The sampling strategy and sample size allowed me to gather the most information to have an in-depth study that I hope will create social change in the future by addressing issues with inequality.

It is not uncommon for ethical issues to arise in a study. One way a researcher can avoid ethical issues is by having participants sign an informed consent (Patton, 2015). An informed consent includes elements such as identifying the researcher, the purpose of the study and risks of participation, and the benefits of participation (Patton, 2015).

The qualitative research method was used in this study. My research question and sub questions were as follows:

RQ1. What impact do the organizational structures have on federal employees' perception of gender inequality and career barriers?

SQ1. How do federal employees perceive the organizational structures of NASA?

SQ2. How do federal employees define a gendered organization?

SQ3. How do federal employees characterize NASA as an organization?

For any form of change to be successful it must occur on a social level to be retained within organizations (Napasri & Gnika, 2015). The career barriers are not only

crippling women in the workplace, but in society by limiting the positive contributions women can make in organizations. Through this study, attention was placed on the inequality that exist in the workplace. Societal change will truly occur once the issues that exist with regards to gender inequality are addressed. At that point women will have a chance to obtain success in the workplace. In relation to their male counterparts, women have less of a chance to secure advancement opportunities. Even with years of experience and educational qualifications these characteristics are often not enough for women to be placed in supervisory positions. This study helped make the distinct correlation between topics such as equal rights, pay and opportunities among the sexes.

Qualitative research is often questioned because of its small sample sizes (Patton, 2015). In-depth research will allow for any discrepancies to be uncovered to have an innovative project. The goal is for society to benefit from this research. The first step in this research process was to identify and analyze the factors that contribute to the phenomenon in this study. According to Gutjahr (2016), the phenomenology approach focuses on lived experience. This gave way for a better understanding of the phenomenon. The phenomenology approach aligned with the problem statement because it highlighted the phenomenon of gendered organizations. It also allowed for the most accurate information to be gathered because it comes directly from employees who are a part of the environment and group being studied.

Role of the Researcher

I was the data collection instrument in this study. Interviews were used to collect the necessary data for this study. I simply had an interest and desire to learn more about

how Acker's gender organization theory is characterized in a historically male dominated organization like NASA as an organization and its effects on women. I avoided the intrusion of bias by going into the research process with no preconceived notions.

My role as the researcher included conducting a literature review, which is relevant to gaining an understanding of gendered organizations. Research questions and interview questions were developed to inquire further into the research topic of gendered organizations. The data from interviews was collected and analyzed to answer the research questions. I analyzed previous literature and build upon it once the data analysis was complete for this study.

I conducted interviews with participants via phone. I received informed consent from the participants via email prior to the start of the interview process. During the interview process, open-ended questions were asked to obtain the most useful information. Administering the interviews via phone allowed the participants ample time to answer the interview questions thoroughly and give meaningful thought to their answers.

Methodology

The sample sizes of qualitative research can create questioning of the method. Any discrepancies that could arise with qualitative research can be avoided by performing in-depth research. According to Patton (2015), the sample size for study is based on factors such as maintaining credibility, allotted time, the number of resources, the purpose of the study, and what a researcher wants to know. Extensive documentation and a true understanding of phenomenon will help determine an appropriate sample size.

The sample size for this study depended on when saturation was reached. Remaining open-minded with regards to the sample size was effective when overcoming any obstacles that could arise. Once I received approval from the IRB to conduct my study # 04-14-20-0371969 the data collection process began.

Participants Selection Logic

The participants for this study were United States federal employees working at NASA. I was open to the participants coming from any NASA department, such as the Langley Research Center. NASA has a total of 20 centers and facilities (NASA, 2021). NASA's workforce consists of over 60,000 contractor employees and almost 20,000 civil service employees (NASA, 2019). The targeted participant population was individuals that have been employed with NASA for at least 10 years or had been retired no more than 5 years. I categorized the participants into two categories: men and women.

I posted communication on LinkedIn requesting participants for the study. Any interested volunteers were instructed to send a message through LinkedIn or email to participate in the study. Once notice of interest was received from potential candidates, I sent the prescreening questions to make sure they meet the minimum participation requirements such as being a NASA employee and having been employed at least 10 years or had been retired no longer than 5 years. I added all potential candidates that met the participation requirements to the study's population. The sufficient sample size for this study was determined by using data saturation as the standard. The participant pool consisted of men and women. Ten participants may be a large enough sample size to gain insight on NASA and then determine if it is a gendered organization (see Bertaux, 1981).

The criteria for participant selection were for each participant to be either current employees that have at least 10 years of service with NASA or retired for no longer than 5years. After 6 years an employee is considered vested with the federal government (IRS, 2020). This length of employment placed each employee in the position to offer some meaningful insight to the study. The participants were recruited based on length of employment and their availability to be interviewed. All participants were asked to return the informed consent prior to their scheduled interview date. This qualitative phenomenological study had a sample size of 15 participants.

Once the sample population was identified, the letter to participant and informed consent were sent out to the selected participants. The letter to participants (see Appendix A) included possible interview dates and times. The participants returned the signed informed consent form with a preferred interview date and time with the preference on how they would like the interviews conducted, either via phone or Skype.

Instrumentation

For this qualitative study, the data collection was conducted through one-on-one interviews. The source of data was collected according to the guidelines set out in the interview protocol. The interview protocol began with my opening statement, which gave the participants some general information about the study. Then the I went into the interview questions and made sure to probe when asking the key questions to receive the most meaningful and helpful information from the participants to determine underlying factors. This process went according to the guidelines outlined in the interview protocol (see Appendix B). I analyzed data to determine common themes among the responses

given by the study participants. Each interview was evaluated and then grouped according to common themes presented during interviews. Once responses were grouped according to themes then a further analysis was conducted to gather a more in depth meaning to the responses. Interviewing is the best option for data collection in this study because it allowed the researcher to be flexible during the interviewing process with the participants to maintain clarification while receiving in-depth responses.

Procedure for Recruitment, Participation, and Data Collection

The initial step was for the researcher to setup a social media account with LinkedIn to find participants for the research. NASA came across as a great agency for my research because there is a limited number of women in supervisory positions and it is historically a male dominated organization (Lim, 2015). The National Aeronautics and Space Administration (NASA) has almost 20 thousand civil service employees (NASA, 2019). After the initial contact was made with the participants the letter to participate, interview protocol and consent form were sent via social media with the LinkedIn messaging by the researcher. Due to the location of all parties involved, the interviews were conducted via phone or Skype. An appropriate sample size would be at least 10 participants. My goal was to be effective and efficient when conducting interviews via phone or through Skype because there would be one chance to interview each participant.

Debriefing was an essential part of a study. The debriefing allowed the researcher to provide the participants with background information on the study. This process also allowed the researcher to give participants her contact information for follow-up questions, explanation of the hypothesis being tested, rationale for the design of the study

and methods used. An email was sent to all participants to ensure that they receive a debriefing form.

Data Analysis Plan

The purpose of the phenomenological study was to explore the phenomenon of gendered organizations by interpreting the experiences of NASA employees. In this study, I explored the organizational limitations that exist that relate to gender. The data collection method consisted of interviewing NASA employees. Each research question was geared towards the focus of the study to gain the most insightful information. The data gathered from the research questions aided the researcher with the flow of an open-ended interview process and then analysis of the data.

The data analysis plan was essential in the development of the study. The data analysis plan allowed the researcher to find meaning in the data collected from interviews and then connect that information to themes. The initial step in this process was for the researcher to obtain a sample population and begin conducting interviews. Employees from NASA were interviewed via phone or through Skype, which limited the researcher from experiencing nonverbal gestures. The interview questions consisted of 11 questions found in Appendix B. During the interviews, I made note of the most significant statements and information provided by the participants. The data for this study was collected through interviews that were analyzed by utilizing a systematic coding system, NVivo 12 qualitative software. The NVivo 12 qualitative software aided with analyzing by identifying similarities, extract themes, identifying relationships, highlighting differences, and creating generalizations. Once the interviews are completed, then the

data was analyzed to undercover common themes. Data was analyzed according to

content gathered from responses. Then those patterns were coded and grouped into

categories. The themes helped the researcher gain a better understanding of individuals'

perspectives and how this may relate to understanding the gendering of organizations.

The plan for this study was to develop the research questions around the

theoretical framework. The research question and sub questions for this study were:

RQ1. What impact do the organizational structures have on federal employees'

perception of gender inequality and career barriers?

SQ1. How do federal employees perceive the organizational structures of NASA?

SQ2. How do federal employees define a gendered organization?

SQ3. How do federal employees characterize NASA as an organization?

These research questions connected the research design and research strategy to the

findings. The scope of this phenomenological study was legitimized through the research

design and research strategy.

Issues of Trustworthiness

In a qualitative study, researchers found the concept of trustworthiness more

useful than reliability and validity. Trustworthiness consists of components such as

credibility, transferability, dependability, and confirmability (Creswell, 2009). The

limitations to trustworthiness that could arise from the execution of this study related to

the following components of trustworthiness: credibility (member checks) and

transferability. In the member checks process, I allowed the participants to review the

data collected and the researchers' interpretation of the data. Credibility could prove to be

a limitation in this study due to the researcher's inability to have further interaction with the participants of this study after interviews are conducted. Another limitation that could arise in the study pertains to transferability. Transferability refers to whether the findings in a study can be generalized to apply to other situations and contexts (Creswell, 2009). The data for this study was collected from government employees, therefore the data and the interpretation of this data may be difficult to generalize which could create limitations within the study. Dependability was established by providing and executing a detailed methodology. If a detailed methodology is provided other researchers should be able to replicate the study and receive similar results. Confirmability details whether the results of a study can be confirmed or validated by other researchers (Creswell, 2009). In this study, the researcher established confirmability by continuously rechecking the collected data.

Previously in Chapter 1, I believed that the limitations for this study would be interpretations, individual perceptions, and phenomenological design. Interpretations and individual perceptions correspond to the trustworthy component of member checks. If member checks were a feasible option for this study, it would allow for gaps to be filled from the initial interview. The phenomenological design corresponded to the component of transferability in that generalization may prove to be difficult for this study. These limitations could cause generalization to be unreasonable due to the size and category of the population being studied. The study was restricted to conducting interview with NASA employees to better understand possible career barriers in connection to whether the organization is gendered. This fact makes generalization an unlikely option.

Ethical Procedures

The IRB's goal was to help the student get ethical/site documentation challenges worked out in advance to minimize the amount of correspondence and revisions needed during the IRB's official review (Walden University, 2018). In order to ensure ethical protection for the participants of this study an informed consent form was signed by all participants. An informed consent includes elements such as identifying the researcher, the purpose of the study, risk of participants, and the benefits of participation. The IRB process required me to complete a Form A to beginning the IRB guidance process. I contacted the participants via phone or Skype to conduct the interviews. Therefore, the treatment of the human participants required me to be courteous and respectful during any communication. I ensured the participants are respected and treated well during the study. I checked the well-being of participants during the study, made sure participants were aware of any risk or harm associated with the study and know they can quit at any time, ensure the information about the participants was kept confidential and share results of the study with the participants.

Some ethical concerns related to the recruitment processes were obtaining full consent and ensuring anonymity of participants. These issues were avoided by providing enough information about the study prior to it beginning. One main ethical concern that could arise is the participants fear of retaliation due to their responses. To avoid these issues, all participants were reassured that their responses would remain anonymous. I provided the participants with information regarding who will have access to data and how the data will be utilized. If participants decided to withdraw from the study early or

refuse to participate after reading the Letter to Participants and the Consent Form, it was

necessary for the researcher to present them with a withdrawal form. This form included

any exit information to ensure that the research study was not jeopardized. The data will

be kept confidential for this study. The data collected for this study was saved on my

personal laptop that requires a pin to access. I also used my personal computer to store

files pertaining to the research study and interview questions.

Summary

The data for this study was collected through interviews. Through interviews I

was able to gather the necessary information to construct an informed understanding of

gendered organizations and the affect they have on women. Interviews helped display the

true feelings and behaviors of participants without the possibility of interruptions that

could result in skewed responses. The data collected from the interviews helped identify

some traits of gendered organizations and provided the researcher with the necessary

information needed to determine if the federal workplace environment can be considered

gendered. For this study, government employees could participate regardless of position.

The goal was for this study to be able to accurately determine if gendered

organizations exist and if the federal government is a gendered organization. If it can be

determined that the federal government is a gendered organization maybe, then

improvements can be made to increase women's chances of excelling in the workplace by

being able to recognize and address any career barriers that exist. When career barriers

are identified then a constructive plan can be developed to make a difference in this area.

The barriers that women face extend further then the workplace environment to various

societal avenues. The goal of this study from a societal standpoint was to recognize that women are devalued both professionally and from a societal standpoint. Steps need to be taken to make social change a reality for women.

  The issues faced by women that work for the government are the same ones faced by women through the workforce. This study built upon previous research on gendered organizations. Then I utilized previous literature and combined it with the data collected from interviews to come to a well-researched conclusion on employment practices within the federal government. As long as women are making major strides to improve their work experiences, change is inevitable.

Chapter 4: Results

Introduction

In Chapter 3, I addressed how interviews would be used to gather data to support

the research, how the findings would relate to the research problem, how the research

design would address the research questions, why it was important to recognize patterns

and themes from the findings, and how reliability and validity were ensured by the

following procedures. The goal of this study was to uncover career barriers and

experiences with gender inequality faced by women, explore the factors that contribute to

these career barriers and the existence of gender inequality and then use these findings to

explore any evidence of gendering within NASA. The purpose of this study was to

analyze the perspectives and experience of federal employees to explore the factors

associated with gendering within an organization. The research question and sub

questions for this study were as follows:

RQ1. What impact do the organizational structures have on federal employees'

perception of gender inequality and career barriers?

SQ1. How do federal employees perceive the organizational structures of NASA?

SQ2. How do federal employees define a gendered organization?

SQ3. How do federal employees characterize NASA as an organization?

This chapter describes the research methodology and research strategy that was

undertaken in this study. In this chapter, there is an analysis of the sample and the data

collected. I collected data by conducting open-ended interviews by following a

qualitative research design. Once the data was collected it was analyzed to undercover

themes by utilizing qualitative coding. The sample consisted of 15 interviews with both men and women who are employed with NASA at least 10 years or that have not been retired more than 5 years.

Setting

I conducted a qualitative research study that focused on using an open-ended interview format, which reflected a phenomenological approach for the data collection process. I constructed open-ended interview questions that aligned with the purpose of the study. The initial data collection plan of finding the participants through LinkedIn remained effective throughout the study. Therefore, the initial data collection plan was not altered to gain participants. All the participants were given the option to be interviewed either via phone or Skype, but all participants chose to be interviewed via phone. I conducted the interviews from my home. Some participants were interviewed via phone from their private offices, while others were interviewed via phone from their homes. The interviews were allotted 30-45 minutes. The open-ended interview format allowed various themes and/or concepts that were identified in the literature review to thoroughly be discussed. In this study, the research question and the sub questions were some of the interview questions. I was flexible so that participants felt free to discuss any themes and/or concepts that had not been previously identified. I found that regardless of the participants' locations, they were open to discussing their perspectives on gendered organizations and how they perceive NASA regarding this phenomenon.

Demographics

The participants for this study are men and women employed with NASA or who have retired within the last 5 years. All participants have been employed with NASA for at least 10 years. To protect the privacy and confidentiality of the interviews, all participants will remain nameless. Each participant was assigned a participant letter ranging from Participant A to Participant O. Table 1: Participants' Demographic Overview contains composition of the 15 participants.

Table 1

Participants Demographic Overview

Participant Labels	Gender	Years Employed	Job Title
Participant A	M	11	Deputy Chief
Participant B	M	26	Deputy Chief
Participant C	M	10	Program Manager
Participant D	M	18	Lead
Participant E	F	23	Manager
Participant F	F	11	Manager
Participant G	M	21	Scientist
Participant H	M	17	Officer
Participant I	F	13	Manager
Participant J	M	12	Specialist
Participant K	F	13	Administrator
Participant L	M	10	Strategist
Participant M	F	33	Manager
Participant N	F	10	Pilot
Participant O	F	12	Program Manager

Data Collection

As stated in Chapter 3, it was important for the study to reach saturation. I was able to reach saturation after the third wave of the social media post. It was previously determined that at least 10 participants would be needed for data saturation to be reached, but I found that 15 participants were needed to reach saturation. In this qualitative study, I was the primary instrument for data collection. The primary data collection technique was open-ended interviews.

The participants were recruited through LinkedIn. A total of 121 messages were sent from my personal LinkedIn account to potential participants. I decided that only three waves of social media posts would be sent out to potential participants. The wave of social media posts were sent out every 2-4 weeks. The frequency of data collection consisted of the recruitment of participants, the interview and then follow-up summary and exit interview. Each participant that met the research study requirements was sent an invitation (see Appendix A) via the messaging feature on LinkedIn. The participants consisted of seven women and eight men. During the third social media post I received more female participants, which helped to determine whether the themes that were uncovered were gender or organizational related.

Each interview started with demographic questions that would help with the flow of the interview process. The interviews were recorded using a Sound Recorder app on my cellphone. This allowed me to critically listen throughout the interview process and analyze the interview later to code responses the participants. Each interview was allotted 30-45 minutes to complete. A 30-45-minute interview timeframe was sufficient to meet

the goals of the study. The data collection process took place in the privacy on my own

home. The participants were given the option to complete their interview via phone or

Skype. All 15 participants decided to complete their interview via phone. Prior to starting

the interview each participant gave verbal permission to record the audio for the

interview. I did also take notes during each interview. These notes were locked away in a

safe after each interview and the audio recording was stored on my personal cellphone,

which requires a four-digit code to be unlocked. I completed transcription once all 15

interviews had been completed. I used NVivo 12 Transcription software to transcribe all

the collected data. Upon completion of the transcription, each participant was emailed a

copy of the transcript for their review and approval. All 15 participants approved their

responses with no changes required.

Data Analysis

The purpose of the phenomenological design was to explore the phenomenon of

gendered organizations by interpreting the experiences of NASA employees. The data

was collected through one-on-one open-ended interviews. The data analysis plan was

essential in developing the study because it allowed the researcher to uncover meaning

through themes. This data analysis plan was developed around the research questions and

theoretical framework. The interview transcripts were analyzed to uncover common

categories and themes. I read each transcript numerous times to ensure I had a clear

understanding of the message that the participant wanted to convene. I coded the

transcripts with NVivo 12 software by analyzing the participants' experiences into

categories. This was done by isolating common words or phrases from the transcript. The

categories that were uncovered were organizational factors, job segregation, barriers, male hierarchy, lack of opportunity, gender segregation, and career/job demands. Organizational factors refer to policies and structure. Job segregation refers to the distribution of employees across and/or within a job, which is usually based on a demographic characteristic such as gender. Gender segregation refers to the unequal distribution of men and women in the occupational structure (Scott & Marshall, 2009). Career/job demands are all physical, psychological, social, or organizational aspects of a job that require continuous physical and/or psychological (i.e., cognitive, or emotional) effort (Schaufeli & Bakker, 2004). Eventually, I was able to develop a theme from the categories. The analysis resulted in identifying common themes such as: career barriers, traditional hierarchical organization structure, organizational policies, and gender differences/gender roles.

Evidence of Trustworthiness

In a qualitative study, the concept of trustworthiness is especially useful. Trustworthiness consists of components such as credibility, transferability, dependability, and confirmability (Creswell, 2009). Credibility is one of the most important components of trustworthiness in a qualitative study (Creswell, 2009). I was able to establish credibility by reaching saturation. I reached saturation after interviewing 15 participants. Credibility allowed me to bring clarity to the research study by allowing the participants to review the researcher's interpretation of the data collected. Through the credibility process, I was able to thoroughly document the phenomenon from the perspective of the participants. I found that making final contact with participants to verify the data

collected was made simple by messaging through LinkedIn. The member checking

process took place within 72 hours of the completion of the interview.

Secondly, a component of trustworthiness in a qualitative study is transferability.

Transferability refers to whether the findings in a study can be generalized to apply to

other situations and contexts (Creswell, 2009). Transferability suggested that the results

of a study can be transferred outside of the study and be applicable. Typically, qualitative

studies are not generalized because of their small sample sizes. There are limitations in

this study because it is difficult to generalize the research results.

Each participant was sent the Letter to Participant (Appendix A) via messaging

through LinkedIn. Once a participant agreed to participate in the research study, they

were sent a consent form. The consent form contained background information on the

study, procedures, voluntary nature of the study, risk, and benefits of being in the study,

compensation, confidentiality, contact and questions and statement of consent. The

consent form helped participants understand their role and gave participants detailed

information about the research study. The participants' responses displayed

commonalities of the phenomenon being studied.

Thirdly, a component of trustworthiness in a qualitative study is dependability. In

a qualitative study, dependability refers to the consistency of a study's results when

replicated. In the process of establishing dependability, I made sure to have detailed

documentation of every step that was taken to show how the results were reached.

Detailed documentation during the research process and data collection ensured

dependability in this study. I kept record of the participant's name, job title, email

address, years of employment/retirement, interview date and time in an Excel

spreadsheet. I was able to confirm dependability of the participant's experiences and

perspective by using member checking.

Lastly, a component of trustworthiness in a qualitative study is confirmability. I

established confirmability by eliminating personal bias and focusing on the participants'

views and perspectives. During the interview, I also used open-ended questions to

achieve confirmability. I was also able to ensure confirmability by checking and linking

together information from the data collection, data analysis and research conclusions.

Results

This section addresses the research question and each sub question. This section

also contains an in-depth analysis of participants' responses. The participants' responses

were analyzed and transcribed to identify themes. There were no discrepant cases or non-

confirming data was reported in the results of this study. The themes were developed

from interviewing 15 individuals, both men and women that are either currently

employed by NASA or that have been retired no longer than 5 years. Each theme was

developed from data collected from research participants. The identified themes were

career barriers, traditional hierarchical organization structure, organizational

policies/organizational culture, and gender differences/gender roles/gender inequality,

which was presented in Table 2. The research question and sub questions for this study

was:

RQ1. What impact do the organizational structures have on federal employees'

perception of gender inequality and career barriers?

SQ1. How do federal employees perceive the organizational structures of NASA?

SQ2. How do federal employees define a gendered organization?

SQ3. How do federal employees characterize NASA as an organization?

In this study, the research question and the sub-questions were included in the interview questions that each participant was asked. Therefore, these themes surfaced as general findings from the interviews as well as correspond to the research question and sub-questions.

Responses to Research Question 1

The participants were asked the research question, "What impact do the organizational structures have on federal employees' perception of gender inequality and career barriers?" The themes that emerged from this research question were organizational policies/organizational culture, gender inequality, career barriers, and hierarchical organization structure. Six participants mentioned that in previous years it was an organizational policy requirement for employees to perform a work rotation to be considered for a position in the Executive ranks. According to Participant B, this means that "if an employee wanted to be considered for any Executive rank position, they were required to do a geographic move". Participant B also stated that "this policy created more incidence of gender inequality because there were several highly qualified women who could not move due to trying to joggle the work-life balance and personal responsibilities". Gender roles and gender responsibilities were major factors in determining geographical moves for women. Participant B stated that "this policy had an unintended consequence of preventing some women from entering Executive roles".

Employees now have the option of leading significant projects or solving Agency problems that do not require a geographic move. Participant H stated that amending organizational policies has not eliminated gender inequality. Participant D stated that with regards to gender inequality the agency is evolving by creating opportunity, but not as fast as some would like. Participant N explained that on the surface it seems that major changes towards gender equality have occurred, but in actuality it is very difficult for women to not only advance, but to succeed in this organization. According to Acker (1990), gendered inequalities, gendered images, and gendered interactions arise in the course of the ongoing flow of activities that constitute 'an organization'. Eight participants articulated that the presents of gender inequality and career barriers seem to be normalized within this organization.

The participants of this study shared their experiences with career barriers. All participants (100%), which consisted of both men and women, stated that they had either experienced or witnessed career barriers. Participants described their experiences with career barriers and how they relate to a gendered organization. The career barriers that were mentioned are being unable to relocate, having children and a lack of seniority. Martin (2010) also identified these as some of the most common career barriers faced by women. Participant B defined career barriers as anything that preludes someone from advancing. This participant quoted Thomas, Jr. (1992) to describe the three dimensions of merit promotions which are task, cultural and political. Thomas, Jr. (1992) described the three dimensions as follows:

1. Task merit demonstrates the capability to perform a task effectively.

2. Cultural merit demonstrates the capability to conform to the major requirements of the corporation's basic assumptions or roots.

3. Political merit demonstrates the capability to attract the endorsement of someone with sufficient clout to minimize doubt about an individual's qualifications.

Participant B stated that "A gendered organization could impact an individual's cultural merit or understand how to get things done in an organization. It could also impact an individual's political merit. Much has been written about the importance of sponsorship to an individual's career. Of course, it is easier for sponsors to endorse people like them. So, it takes intentional efforts to ensure there is a level playing field across all 3 elements of merit". Participant B felt the utilizing Thomas, Jr. (1992) three dimensions of merit promotions could be a useful tool in determining whether individuals should be advanced.

According to the National Science Foundation (2015), it has become a national initiative to increase the number of women majoring in the STEM field. Participant D stated that a lack of opportunity is a career barrier that is being faced personally and by witnessing experiences other NASA employees. Women can enter the STEM fields but are more likely to be in entry level positions (Zhao, 2018). According to Novakovic and Gnika (2015), some avoid certain careers out of the fear of not being able to overcome barriers that may exist. Participant F stated that women have been underrepresented throughout the organization and especially in leadership positions. Participant F also stated that management had been instructed to ensure that there is a mix of men and women across the organization, but even with this instruction she feels that women are

still at a disadvantage. Studies have shown that women perceive more career barriers

exist than men (Luzzo & McWhirter, 2001).

The research results indicated that employees recognize the significance that

NASA's organization structure plays on their perception of gender inequality and career

barriers. I found that NASA's organizational structure promotes gender inequality and

career barriers. All 15 participants recognized the existence of career barriers and the role

that gender inequality has played within the organization. I found that employees have a

negative perception of NASA's organization structure because it creates a disadvantage

between the distinction between men and women within the organization. Their

perceptions suggested that despite more women joining this organization, there is a lack

of opportunity for women to succeed.

Responses to Sub Question 1

The participants were asked the research sub question, "How do federal

employees perceive the organizational structures of NASA?' The themes that emerged

from research sub question were traditional hierarchical structure and organizational

culture. Traditional hierarchical organization structures are usually characterized by

centralized authority and top-down chain of command (Giri & Ramakrishnan, 2019). All

participants recognized that NASA is a traditional hierarchical organization structure.

Participant B quoted Proudman (2011), "*White men in the United States work in*

organizational cultures that have been created by other white men. Therefore, the

prevailing business culture looks "normal" – it's the way business has always been

done". According to Giri and Ramakrishnan (2019), some of the disadvantages of a

traditional hierarchical organization structure are that it poses a learning barrier and leads

to a lack of adaptability. Participant N stated that on the surface it seems that major

changes towards gender equality have occurred, but in actuality it is very difficult for

women to not only advance, but to succeed in this organization. Participant F explained

that women have been underrepresented throughout the organization and especially in

leadership positions. From the interviews, participants articulated that NASA's

organizational structure hinders women. According to Acker (1990), processes that

produce gendered social structures including organizations are patterns of interaction that

enact dominance and submission.

The research results indicated that NASA has a traditional hierarchical

organization structure. All 15 participants identified NASA as having a traditional

hierarchical organization structure. I found that the traditional hierarchical organization

structure places women at a disadvantage within NASA. Participants were able to

acknowledge the negative impact of the organizational structure. The top-down chain of

command of the organizational structure places men in positions of authority and control.

Responses to Sub Question 2

The participants were asked the research sub question, "How do federal

employees define a gendered organization?" According to Acker (1990), a gendered

organization is defined as "advantage and disadvantage, exploitation and control, action

and emotion, meaning and identity are patterned through and in terms of a distinction

between male and female, masculine and feminine (p.146)". All 15 participants had a

clear understanding of what concepts contribute to a gendered organization. The themes

that emerged from this research question were organizational culture and gender roles/gender differences/gender inequality.

Participant B stated that based on the Acker (1990), definition of a gendered organization, he believed that a gendered organization could be defined as an organization where you see differences based on gender—with one gender having an advantage over another. Participant B explained his understanding of gender inequality as being one of those disadvantages. According to Participant O gender is embedded in every facet of the organization. Participant O stated that even though she is a Program Manager, she often feels like her position and title are just for show. According to Gunduz (2016), gender roles imposed by society of women and men often prevent women's self-realization and affects social relations negatively.

Khuzwayo (2016) stated that to eradicate gender inequality in society, a consciousness of gender mainstreaming needs to be created when discussing this issue. Khuzwayo (2016) stated that it is important for both men and women to be educate on the occurrence of gender oppression on all levels of society. Therefore, it is important for gender inequality to be eliminated within the federal government, then dwindle down throughout the public and private sector. Participant D explained that the environment is getting better but still under construction. He articulated that the current organizational culture at NASA still needs some work to get to the point of being productive and beneficial to all employees. From the participants' responses I was confident that they would be able to identify a gendered organization.

The research results indicated that all fifteen participants had a clear understanding of a gendered organization and the concepts that contribute to this phenomenon. I found that participants' definition of a gendered organization aligns with Acker (1990). The results clearly indicate that participants perceive NASA to be a gendered organization. From the results, I concluded that NASA could be defined as a gendered organization.

Responses to Sub Question 3

The participants were asked the research sub question, "How do federal employees characterize NASA as an organization?" The themes that emerged from this research sub question were hierarchical organization structure and organizational culture. According to Acker (1990), hierarchy is based on abstract differentiations. Participant B explained that NASA uses a blend of a hierarchical organization structure along with a matrixed organization structure. This structure is based on the foundation of a strong core value of teamwork, so relationships are highly valued across the organizational structure, impacting results and the way work gets done. Organizational structure implements organizational culture. According to Acker (1990), "organizations are one arena in which widely disseminated cultural images of gender are invented and reproduced" (p.140). An example of organizational culture is experience. Participant D explained that NASA is evolving as the culture struggles to provide more opportunity while increasing the pace for accomplishments.

The research results indicated that NASA displayed characteristics of a gendered organization. Each participant engaged in an in-depth discussion of how they

characterized this organization. The research results were found to be congruent with the cited information from the literature review.

Summary

This chapter provided a detailed review of the data collection process and the data analysis process that was completed for 15 participants in which open-ended interviews were conducted. Approval to record was obtained from each participant prior to their phone interview. The participants were recruited through LinkedIn with a social media post. In order to transcribe and analyze data, the researcher utilized NVivo 12 qualitative research software. A total of four themes emerged as a result of data coding. These themes were career barriers, traditional hierarchical organization structure, organizational policies/organizational culture, and gender differences/gender roles/gender inequality. Each of these four themes supports the research question and sub questions:

RQ1. What impact do the organizational structures have on federal employees'
    perception of gender inequality and career barriers?

SQ1. How do federal employees perceive the organizational structures of NASA?

 SQ2. How do federal employees define a gendered organization?

 SQ3. How do federal employees characterize NASA as an organization?

The results from this research study provided information that can be utilized to determine whether an organization can be considered a gendered organization. All participants explained their understanding and experiences of being employed in a gendered organization. Even though they recognized that major changes had occurred within the organizations, they also admitted that gender still played a major part in every

aspect of the organization. Chapter 5 includes an introduction of the chapter,

interpretation of the findings, limitations of the study, recommendations, implications of

the study and the conclusion.

Chapter 5: Discussion, Conclusions, and Recommendations

Introduction

In Chapter 5, I interpret the findings and explain suggested recommendations. The purpose of the phenomenological design was to explore the phenomenon of gendered organizations by interpreting the experiences of NASA employees. The goal for this study was to determine if Acker's notion of gendering exist in a historically male dominated organization such as NASA. I demonstrated how this study provided a basis for any future studies on the phenomenon of a gendered organizations, even if using different methods and designs. This study was conducted because there is little literature found that explores the gendering in public organizations and federal organizations specifically. I provided recommendations for action and reflection.

The data for this study was collected through open-ended interviews with NASA employees. NVivo 12 software was utilized to organize and process the data from this study. The following are the four major themes that emerged from analysis and coding:

- Career barriers

- Traditional hierarchical organization structure

- Organizational policies/Organizational culture

- Gender differences/Gender roles/Gender Inequality

This chapter provides a detailed analysis of the interpretation of the findings, limitations of the study, recommendations, implications, and final conclusions.

Interpretation of the Findings

This section discussed the study's theoretical framework considering the research question and sub questions that addressed the four themes that were found. The purpose of this phenomenological study was to explore the phenomenon of gendered organizations by interpreting the experiences of NASA employees. Four major themes were generated from the findings of the study were related to the research question and sub questions. The research question and sub questions were as follows:

RQ1. What impact do the organizational structures have on federal employees'

 perception of gender inequality and career barriers?

SQ1. How do federal employees perceive the organizational structures of NASA?

 SQ2. How do federal employees define a gendered organization?

 SQ3. How do federal employees characterize NASA as an organization?

The interpretation of the findings was organized around the four themes that emerged from the research question and data collected from the lived experiences of 15 participants. Throughout the interviews, the participants described their understanding of gendered organizations and concepts they feel contribute to this phenomenon. The participants' responses were compared to Acker's (1990) definition of gendered organization to determine if NASA could be considered a gendered organization. According to Acker, a gendered organization can be defined as "advantage and disadvantage, exploitation and control, action and emotion, meaning and identity are patterned through and in terms of a distinction between male and female, masculine and feminine" (p. 146). From the literature review, I found that the following themes

attributed to the existence to the phenomenon of a gendered organization: gender

inequality, glass ceiling, career barriers, and gender roles. From the interviews conducted

in the research study, the following themes were found to attribute to a gendered

organization: career barriers, traditional hierarchical organization structure,

organizational policies/organizational culture, and gender differences/gender roles/gender

inequality.

The research findings aligned with the material presented in the literature review.

According to Novakovic and Gnika (2015), women tend to have a higher perception of

career barriers than men. All seven of the women that participated in the study

recognized the existence of career barriers, while only one man in the study did. Naff and

Thomas (1994) displayed in the systematic model that career barriers are embedded in

organizational policies and practices. According to Acker (1990), hierarchies are

gendered. Participant B stated that NASA has a traditional hierarchical organization

structure. This type of organizational structure tends to cater and be more beneficial to

men.

According to Napasri and Yukongdi (2015), organizational factors such as

policies, practices, structure, and culture attribute to career barriers and influence

individual behavior. It is through these organizational factors that gender superiority is

reenforced. Organizational factors that impede or block women's career progress are

tokenism (Napasri & Yukongdi, 2015). Thus, it is important for NASA to consider

restructuring the organization. The restructuring process will require the involvement of

major decision makers within the organization and possibly legislators. Participant N

stated that on the surface it seems that major changes towards gender equality have occurred, but it is very difficult for women to not only advance, but to succeed in this organization.

Gendered inequalities, gendered images, and gendered interactions arise during the ongoing flow of activities that constitute an organization (Acker, 1998). As Participant O stated, gender is embedded in every facet of the organization. Participant H stated that amending organizational policies has not eliminated gender inequality. Gender inequality is remade and reinscribed daily, even on new forms of social organization, through ordinary social interaction between people (Blair-Loy & Herron, 2013). Therefore, as organizations evolve, so is gender inequality. According to Elwer et al. (2013), the direction of gender equality might be of importance for why women were more affected by gender inequality at the workplace. There is still a lot of work to be done to reach the road to gender equality in organizations like NASA. According to Elwer et al. (2013), patterns of gender equality at workplaces do not follow a simple scale from inequality to equality.

Participant B stated that a gendered organization is one where you see differences based on gender—with one gender having an advantage over another. The research study results showed that gendering has an active role in NASA. The research study's findings laid out information confirming the existing literature on gendered organizations and confirming NASA as being a gendered organization. The findings extend on the existing knowledge by providing new insight on the phenomenon of a gendered organization by applying this knowledge to focus on the federal government.

Limitations of the Study

In this study, issues with trustworthiness were limitations of the study. While conducting this research study it was imperative that the participants replied to my questions honestly. In a qualitative study, limitations to trustworthiness can arise from the execution of the study (Creswell, 2009). Trustworthiness supports the idea that the results of a study are important and relevant. In the qualitative research process, trustworthiness refers to the way in which qualitative researchers make sure that transferability, credibility, dependability, and confirmability are visible in their study (Sandelowski, 1993). Transferability (external validity) could arise as a limitation of trustworthiness in this study because the results could prove to be difficult to generalize (Creswell, 2009). This creates restrictions for the researcher and limits the usefulness of the results. Credibility was a limitation of trustworthiness because I was only able to follow-up with the participants once after the interview, if needed. The participants would not be able to review the collected or the researcher's interpretation of the data prior to publication. This arises as a limitation because credibility (member checks) could bring clarity to understanding participants' responses, if needed.

The findings of this study may be limited due to the phenomenological design because of the perspectives of the participants. The limitations of the phenomenology research design could hinder the results from being generalized because they pertain to NASA employees and whether the participants believe NASA to be gendered. The phenomenology research design could also cause generalization to be unreasonable due to a larger or different population.

The study was restricted to conducting interviews with NASA employees to better understand possible career barriers in connection to whether the organization is gendered. This fact makes generalization an unlikely option. I hoped that the unit of analysis in this study will help explore whether the exists of barriers are from a gendered or organizational standpoint. Another limitation was that the study was limited gaining participants through LinkedIn. Therefore, all of NASA's employees did not have the option to participate in the study if they were not on LinkedIn.

Recommendations

The topic explored in this study was if the federal government can be considered a gendered organization focusing particularly on the agency NASA. In this study the following recommendations may be considered: it is clear that gender and organization research studies on the phenomena of gendered organizations and its effects on women have been accurate and adequate. We have seen Acker's gender organization theory applied to public sector, but I decided to test this theory on the federal government. Being unable to identify the federal government as gendered or not could contributed to the concepts of career barriers and gender inequality still existing within the workplace. Therefore, it was necessary to dissect Acker's gender organization theory further to gain a better understanding of gendered organization and the situation of women in such an organizational workplace.

This research brought value to studying the topic of gendered organizations and provided a basis for conducting research of the phenomenon utilizing different methods and designs. The phenomenological research method offered insight into the lived

experiences of women employed with NASA. Future researchers could expand on studying gendered organizations and the federal government through a quantitative method lens. This expansion would be greatly beneficial to the topic of gendered organizations. The results of this study could help create a stronger awareness of gendered organizations and concepts such as gender inequality, career barriers, and glass ceiling that contribute to them.

Implications

The primary implication for this study was helping to bring awareness to the phenomenon and generating positive social change. Positive social change could initially come in the form of more policy changes that create gender equality and eliminate factors that promote gendering of organizations. The results from this study may assist future studies that have a desire to conduct research pertaining to gendered organizations and related that phenomenon to the federal government. According to Acker (1998), failing to recognize the gendering of organization as a major locus of social and economic inequality diminishes the adequacy of arguments about how societies function.

There is a limited amount of research on the phenomenon of gendered organizations. A 'gender and organization' perspective might contribute to research on such processes by illuminating further the concrete practices that maintain oppressive gender relations (Acker, 1998). This study will add valuable research to the literature that already exist. It is important that employees band together to eliminate gendering in the organization. Organizations can promote positive social change in the workplace environment by establishing standards and policies that maintain equality.

The theoretical framework for this study was Acker's gender organization theory (Acker, 1990). The theoretical framework guided the study and the researcher to uncover common themes associated with the phenomenon of a gendered organization from the perspective of employees. From this framework, the researcher was able to gain an understanding a gendered organization. This allowed the researcher to recognized common themes and then later make practical recommendations that federal organizations could use to improve organizational policies, organizational culture, organizational structure and promote gender equality.

Conclusion

This qualitative phenomenological study focused exploring the phenomenon of gendered organizations by interpreting the experiences of NASA employees. The central phenomenon explored was the potential expression of gender inequality within the organization through the experiences of NASA employees. The study aimed to uncover career barriers and experiences with gender inequality faced by employees, explore the factors that contribute to these career barriers within the organization and the existence of gender inequality, and then use these findings to explore any evidence of gendering within NASA. The findings fulfilled the purpose of the study by uncovering common themes that could be utilized in determining whether the organization is a gendered organization.

As the results confirmed after analyzing all the data gathered from the fifteen participants, it was clear that NASA can be considered a gendered organization. From the data, I was able to uncover four major themes which were career barriers, traditional

hierarchical organization structure, organizational policies/organizational culture, and gender differences/gender roles/gender inequality. These concepts contribute to the gendering of an organization and how employees perceive a gendered organization.

Finally, the phenomenon of a gendered organization is still a real issue in today's workplace environment. As stated before, it will take cooperation to eliminate the phenomenon of a gendered organization. This issue is not just gender specific and has negative effects on an organization. Bringing awareness to the phenomenon of a gendered organization has helped organizations make significant changes, but more change is needed. In addition, these findings and their implications will assist in facilitating further research on gendered organizations while focusing on the federal government. As Acker (1990) stated organizations are deeply embedded in gendered processes and only a radical transformation of organizations can create an equal space for women.

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Appendix A: Letter to Participant (Social Media Post)

Dear (Name)

My name is Sade' Reynolds and I am currently a doctoral candidate at Walden University. I am conducting my dissertation research on the phenomenon of a gendered organization. Even though there are studies that deal with exploring the phenomenon of a gendered organization, it is my belief that studying the federal government will provide new insight into this phenomenon.

I am looking for a range of people who are willing to share their potential experiences and opinions on the phenomenon of a gendered organization. The study will require 30-45 minutes of your time and will be conducted from May 1-31, remotely via phone or video conference (Skype). Your individual responses will not be divulged to anyone.

There is no form of compensation for participation in this study.

I understand that your time is very valuable, and it would be greatly appreciated if you would consider participating in this study. If you are willing and able to participate in this study, please message me at you earliest convenience. I can also be contacted by email at waldenu.edu.

Sade' Reynolds

Doctoral Candidate   Walden University

Appendix B: Interview Protocol

Date:

Location:

Name of Interviewer:

Name of Interviewee:

1. What is your job title?

2. How long have you been employed with or retired from NASA?

3. How do you characterize a gendered organization?

4. What organizational structures do you believe contribute to gendered organizations?

5. How would you describe your organization's structure?

6. What role, if any, does the gendering of an organization play in the experiences of NASA's employees?

7. How do you identify the existence of gender inequality?

8. How do you identify the existence of career barriers?

9. How would you characterize gender inequality in the workplace?

10. How would you characterize career barriers?

11. What factors contribute to gender inequality within the workplace?

12. Do you believe that gender inequality exists within the National Aeronautics and Space Administration?

13. Have you experienced gender inequality in the workplace? If so, how have you

dealt with it?

14. What factors contribute to gender inequality within the workplace?

15. Have you experienced any career barriers? If so, what were the career barriers

and how have you dealt with them?