Academic Mothers' Use of Social Networking Sites for Support

Dissertation

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By

Rachel Cline Kearney

Graduate Program in Educational Studies

The Ohio State University

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Dissertation Committee

Rick Voithofer, PhD, Advisor

Jackie Blount, PhD

Roselyn Lee-Won, PhD

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Abstract

Women experience an academic career differently than their male counterparts. Women enter academic careers at similar rates as men, but there are fewer women at higher ranks (associate and professor). Women also experience an academic career differently than men as identified in the variance in their time spent on the three pillars of an academic career; teaching, research, and service. Women in academia also experience pay inequities. These disparities create unique challenges for women in academia, and those who are also mothers experience additional challenges. To manage the challenges and stressors of being an academic and a mother, academic mothers seek out social support. Social networking sites (SNS) are one form of support. There is evidence that academics and academic mothers use social networking sites but little has been done to investigate why and how academic mothers use social networking sites for support. This study explored how and why academic mothers use social networking sites for support. Four research questions guided this study: (1) Why do academic mothers seek out support through social networking sites? (2) What type of support do academic mothers receive through social networking sites? (3) How does support through social networking sites differ from in-person or other forms of support? (4) What impact has this type of support had on academic mothers' careers?

This study employed a qualitative method of constructivist grounded theory with ten participants. Semi-structured interviews were conducted with each participant and social network site posts were archived from seven participants. Transcripts and posts were analyzed and coded using the constant comparative method of analysis. Initial codes were moved to secondary codes and then to theory development. Confirmatory analysis, peer debriefing, member checking, and data auditing were done and contributed to the trustworthiness of this study.

This study found that academic mothers have personal and professional support networks and they face challenges of dual roles, time, isolation, financial, travel, and health issues. They employ a variety of strategies to overcome these challenges including using SNS for support. They use SNS to gain advice and information, encouragement, supportive community, break down isolation, perspective, seeing success, and networking. SNS were more accessible, safe, and responsive than their in-person networks and allowed them to exist as an academic and a mother. The use of a SNS for academic mothers was a positive experience for the participants. SNS were able to mediate the personal and professional support needs for academic mothers as well as address the needs of their identities both as a mother and academic.

Dedication

This work is dedicated to all academic mothers who work tirelessly to move knowledge and discovery forward while also providing love and care to their families. You are seen. Additionally, this dissertation is dedicated to all the academic mothers who have paved the way and been role models for other women who wish to have children and an academic career.

Acknowledgements

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I also want to acknowledge the endless opportunities I have had at The Ohio State University. I was an undergraduate student with a Pell Grant when I came to school at the Ohio State University. I did not even dream of the opportunity to become a triple buckeye and achieve tenure and a PhD. An academic career was not something I had thought about until encountering amazing professors whose quest for knowledge, discovery, and preparing the next generation of scholars inspired me. Dean Patrick Lloyd, you made me initiate the pursuit of a PhD and helped support this goal becoming a reality. Dean Carroll Ann Trotman, you have supported and encouraged my development since we met and helped light a fire in my motivations and ability to complete this degree. My path has not been traditional, but along the way the people at Ohio State have encouraged and supported me along that path.

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Vita

2005……B.S. Dental Hygiene, The Ohio State University

2007……M.S. Allied Medical Education, The Ohio State University

Publications

Collins, D.M., Iannucci, J.M., Townsend, J.A., & **Kearney, R.C.** Predictors of empathy among dental hygiene undergraduate students. *Journal of Dental Hygiene*. (In Press)

Messina, D.A., Gross, E.L., Partido, B.B., **Kearney, R.C.** Social media usage by dental hygiene educators. *Journal of Dental Hygiene*. (In Press)

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Staud, S. N., & **Kearney, R. C.** (2019). Social media use behaviors and state dental licensing boards. *Journal of Dental Hygiene*, *93*(3), 37-43.

Daugherty, H. N., & **Kearney, R. C.** (2017). Measuring the impact of cultural competence training for dental hygiene students. *Journal of Dental Hygiene*, *91*(5), 48-54.

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Fields of Study

Major Field: Educational Studies

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Chapter 1. Introduction

This study explores how academic mothers use social networking sites for support. Women enter into academia at similar rates to men, but are less represented at associate and professor positions (National Center for Education Statistics, 2022a). Academic women who are also mothers face additional challenges navigating professional and personal obligations (Ward & Wolf-Wendel, 2012). Social support has been found to assist in buffering stressors for academics and assist in career advancement (Albert, 2018; Bayfield et al., 2020; Klein et al., 2013). Social support can be found in SNS. This study examines how academic mothers use social networking sites for support.

Background of the Problem

In our exceedingly diverse and dynamic world, women currently make up just over half (50.8%) of the US population (U.S. Census Bureau, 2024a). Women play an important role in the workforce and have large roles in the unpaid work that is done in many settings including the household. The following data set the backdrop for this study, as it is important to understand the demographics of women in the United States and how it relates to their representation in the workforce. In the U.S. a majority of women are White (76%), 13.7% are Black, 6.2% are Asian, 0.4% Native Hawaiian/Pacific Islander, 1.2% are American Indian/Alaska Native, and 2.6% are two or more races. In addition, 16.6% are Hispanic (U.S. Census Bureau, 2024b). While 46.2% of the women are married, 23.8% of women are separated, widowed or divorced, 29.9% have never married. Single women are more frequently heads of households with children. Households that

are headed by single women with children are 7.2% and without children are 24%. Comparatively, single men with children head 2.3% of households and without children 18.4%. Just under a fifth of households in the U.S. are married with children (19.2%) and 28.9% do not have children (Hess et al., 2015).

Women make up 46.8% of the entire labor force and are 43% of full-time workers and 63.9% of part-time workers. The female workforce includes 15.9% with advanced degrees in contrast to only 13.7% of men with advanced degrees (United States Department of Labor, n.d.-a). This data is consistent with more women being awarded advanced degrees (National Center for Education Statistics, 2023). On the other spectrum of educational attainment 6% of women and 9.2% of men in the workforce have less than a high school diploma (United States Department of Labor, n.d.-b). In summary, women overall attain a higher level of education than men in the United States. Even though women overall attain a higher level of education than men in the United States, the wage gap between men and women still exists. The wage gap has been studied in many ways over the past 50 years. In general, the cause of wage disparity has been classified as discrimination. When looking at overall data it indicates that women make less than men. In 2022, women's median full-time, year-round earnings were $52,360 compared to men's earnings at $62,350. Of note is the disadvantage of Black and Hispanic women. Data from 2022 outline that Hispanic women earned 57% and Black women 69.1% of White men's median annual earnings (Fontenot et al., 2018; Hegewisch et al., 2023).

The field of academia is not immune to these disparities. Women make up 47.5% of all faculty and are more heavily represented at the assistant professor level (53.3%). As women progress through their careers in academia only 35% of professors are women (National Center for Education Statistics, 2022a). Women often spend more time on teaching and service than their male counterparts (Feldman, 1992, 1993). This can be problematic as scholarly work is often the

gatekeeper for promotion and tenure. Teaching evaluations are also riddled with gender biases, often not favoring female faculty (Khazan et al., 2019). In the area of service there is often an imbalance of service work done by male and female faculty (Gardner et al., 2018), with women doing more service work than men. This heavy service load has been identified as one barrier to being promoted to professor (Misra et al., 2011).

With heavy teaching and service obligations women spend less time on research. Women tend to have fewer publications than men and are less likely to be a senior author (Chatterjee & Werner, 2021). Women have also been shown to be invited to be colloquium speakers less often than men unless the colloquium chair was a woman (Nittrouer et al., 2018). Scholarly work often benefits from a well-established network and women having less of a network has been suggested to be a reason for these disparities (Chatterjee & Werner, 2021).

Women in academia who are mothers face additional challenges to success even early in their careers. PhD students often hesitate to disclose motherhood or pregnancy (Mirick & Wladkowski, 2018). Academic mothers face a constant conflict of their dual roles in academia and at home and each role often demands a high level of attention (Ward & Wolf-Wendel, 2012). Finding success in an academic career can be challenging for women, particularly mothers. Already existing biases and gendered roles exacerbate the conflict of time spent at home to the time spent at work.

Problem Statement

As women face the challenges described in the above introduction, academic mothers continue to face similar challenges within their own institutions. Women enter the academy at similar rates but are underrepresented in associate and professor positions (National Center for Education Statistics, 2022a). It is well documented that women faculty spend more time on service and teaching than male faculty which leaves less time for scholarship. Scholarship is often

the most influential factor in promotion and tenure decisions. Additionally, academic mothers face challenges related to unpaid work and distribution of childcare responsibilities. Academia is not always welcoming to parents, as evidenced by PhD students who report that they are hesitant to disclose that they are a mother or are pregnant (Mirick & Wladkowski, 2018).

One identified strategy for advancing women in academia is having a strong support network (Bassell, 2010). Not every academic mother has support systems as they may have moved away from family or friend networks to pursue an academic position. Creating these networks through non-traditional methods, such as social networking sites, is an unexplored strategy for providing support to academic women. For this study, the term social networking sites (SNS) is used. While the definition of social media and social networking sites vary, boyd and Ellison argue that there is a distinction between social 'network' site and social "networking" site. In this study I have decided on the term social networking site because it emphasizes the relationship initiation between people on these sites. The term network focuses on the ability of the sites to demonstrate the network that one already has and the communication with that network (D. M. boyd & Ellison, 2007). This study recruited participants from a group on Facebook. The people on these sites are not frequently known to each other, and therefore the term social networking site seems to best fit the context of this study. More commonly these sites are known as social media sites. SNS are a subset of social media and the literature lacks a consistent definition for social media (Duong, 2020). The literature has established that academic mothers and faculty women use SNS for professional development and networking (Chugh et al., 2021; Lupton, 2014), but little has been done to study this phenomenon and why this form of support is sought and how it relates to traditional forms of support.

The Study

To study the gaps identified in the literature this qualitative study utilized constructivist grounded theory methods (Charmaz, 2014). I conducted semi-structured interviews with members of two social networking sites for academic mothers to understand the use, motivation, and benefits of engaging in a SNS. The study analyzed social media posts from the participants, with their consent, to triangulate the data from the interviews.

Twelve academic mothers were interviewed for this study. The data collected for this study was transcripts of interviews with academic mothers and posts from social networking sites. Data analysis was done throughout the data collection period. In alignment with the principles of constructivist grounded theory, data was collected and analyzed concurrently. Data was open coded from the interviews and codes were developed and identified as additional interviews were conducted. Initial, focused, theoretical coding, and memo writing were completed as data was continuously collected and analyzed (Charmaz, 2014). The findings of this study allowed us to characterize the current challenges of academic mothers, reasons for utilizing SNS, how SNS support is different from in-person support, and what impact SNS had on their careers.

Purpose of the Study

The purpose of this study is to explore the use of social networking sites as a support system for academic mothers.

Research Questions

This study seeks to examine the use of social networking sites by academic mothers. In order to understand how use of social networking sites for support the following research questions were the focus of this study. These questions helped us to characterize academic mothers' use of social networking sites for support.

1. Why do academic mothers seek out support through social networking sites?
2. What type of support do academic mothers receive through social networking sites?

3. How does support through social networking sites differ from in-person or other forms of support?
4. What impact has this type of support had on academic mothers' careers?

Definition of Terms

Academic Mother: An academic mother is a person who identifies as a woman, works in a faculty role in academia, and has responsibility for children. This may include lecturers, researchers, and faculty at all ranks and types of academic institution.

Social Support: There are many definitions of social support, which makes study the concept even more difficult. For the purposes of this study the author views social support as "an exchange of resources between at least two individuals perceived by the provider or the recipient to be intended to enhance the well-being of the recipient" (Shumaker & Brownell, 1984).

Social Networking Sites (SNS): Online technology that is used to post or share information and share interactions with others (boyd & Ellison, 2007). This term is commonly interchanged with social media. The emphasis in this term is on the networking that can be done on these sites and that is why, for this study, the term social networking sites are used.

Support Systems: Groups of people or resources that provide social support (see definition of social support above).

Summary

This study looks to examine the role SNS play in supporting academic mothers in their careers. Constructivist grounded theory methods were used to answer the research questions. It is well established that academics use social media for professional development and networking (Bassell, 2010; Chung, 2014; Lupton, 2014), but the literature does not examine the benefit that SNS might provide for academic mothers.

In the chapters that follow, the study is described in detail. Chapter two outlines a thorough review of the literature related to the history of women in higher education, disparities for academic women, academic mothers, support systems, and social networking sites. Chapter three describes the methods used to recruit participants, conduct semi-structured interviews, and analyze the data. Chapter four contains the findings that emerged from the data and chapter five the discussion and conclusion.

Chapter 2. Literature Review

In this study which examined the use of social networking sites by academic mothers, it is important to contextualize the history and current state of women in academia and academic motherhood. This review will first review the history of women in higher education, the current state of women in the academy and the disparities that exist, the challenges faced by academic mothers, the background on social support, outcomes of social support, social support through social networking sites, and academics' use of social networking sites. A discussion of the theoretical models that inform the study is also included. Finally, a discussion of the gap in the literature that this study will fill.

History of Women in Higher Education

The history of women in higher education is a varied story with a common thread of being a second-class citizen in every decade. This history helps to set the context of the current state of academic women. This section focuses on women faculty in higher education, their challenges, and their history of creating networks to aid and support their success. The periods are covered chronologically starting with the late 1800's, the turn of the century to 1940, 1940-1960, and 1960- present. Each period includes a discussion of the demographics of women faculty and the conditions in which they existed in the academy. In addition, specific challenges are addressed and a discussion of types of

networks that formed during the period will be covered. The experiences of minority females in the academy are not well documented historically and their challenges and experiences while at sometimes similar; differ from those of their white female colleagues. It should also be noted that from the historical context women in higher education there is minimal literature on the experience of those who are transgender or have other gender expressions. Transgender and faculty with other genders expressions have their own unique events, circumstances, prejudices, and challenges. However, in defining motherhood, this study included anyone who identifies as a woman and has caregiving responsibilities for children. This history is also solely based on the history of women in higher education in the United States. Other countries have unique and varied histories of women in higher education that are not explored within the scope of this study.

Late 1800's

Opportunities for women in higher education were negligible before the mid 1800's. Early opportunities for women to gain admittance to institutions of higher education included Georgia Female College which was chartered in 1836 and at Oberlin College, which began accepting women in 1837 (Carnegie Commission on Higher Education, 1973). While a limited number of institutions were opening their doors to women, over fifty women's colleges were conceived during the period from 1836-1875. Women's colleges were opened in response to an increased demand to educate women. During this time a group of elite women's colleges known as the "Seven Sisters" began. These colleges included Barnard, Smith, Mount Holyoke, Vassar, Bryn Mawr, Wellesley,

and Radcliffe. The colleges in this grouping were considered elite as they were well funded and had the reputation of high-quality academic programs. In addition, a few of these schools made strong commitments to hiring women faculty and administrators (Parker, 2015). This network, the Seven Sisters, of elite schools was formed in order to cope with the challenges and pressures from society that education at women's colleges was inferior to that at co-educational institutions. This era was that of many trailblazers including, the first woman professor, Maria Sandford at Swarthmore College (Bernard, 1966).

The initial impetus of women gaining access to higher education was ideological in nature; women pushing to have the same opportunity as their male counterparts, though this is not what would sustain the shift over the long term (Graham, 1970). Societal changes also helped advance women into higher education. A more industrialized economy made factory work replace the need for children to complete farm chores or domestic crafts. As the United States industrialized and movement westward took hold, the average age of marriage increased. This left more adult, single women available for the workforce. In complement to a more industrialized nation, movement to a public education system, and away from a home-based learning environment created a demand for teachers. Women naturally filled this role and sought out higher education to prepare themselves for the teaching profession (Palmieri, 1995). In the 1869-70 academic year women made up just under 12% of all faculty at degree granting institutions (Snyder, 1993). Most women faculty at this point had limited graduate level education and degrees. In 1877, Helen McGill was the first woman to receive a Ph.D. from an

American university (Clifford, 1989). The late 1800's was the beginning of a time when women began to enter higher education in the United States. The number of women entering higher education in this time period grew exponentially but was only a small fraction of the student body. Women's colleges also began to appear during this time and provided a unique educational environment for female students and female faculty and administrators. This was a period of firsts for women in higher education.

In the mid 1800's up until the turn of the century were characterized as a time of change for women in higher education. During this time institutions began opening access to women and women's colleges opened to meet the demand for educating women in the US. Early college life for women was segregated in co-educational institutions and modeled after seminary type education in many women's colleges. Women were relegated to studying domestic subjects and even adhering to domestic chores during this period. This period was not without its challenges. Many factions of society were against sending women to college, claiming that educating women would erode the fabric of society. Nevertheless, continuing pressure to admit women, industrialization, and the rise of public schooling all helped to move the entering of women into higher education during the late 1800's. Women's colleges were viewed as radical places and earning esteem in the higher education system proved difficult at first. Early successes in women gaining entrance into higher education happened during this period. The turn of the century proved to bring additional progress along with additional challenges.

1900-1940

By the turn of the century, just over 20% of faculty in higher education were women. By 1939 it had increased to 27% (Snyder, 1993). The turn of the century marked an increased growth in women in academia both at co-educational and women's colleges. This rate of growth continued until 1920 when the number of women entering academia still increased but at a slower rate. It is speculated that the glamour of trailblazing this new career for women had worn off and as more and more women entered academia it seemed less and less appealing (Bernard, 1966). In addition, the Great Depression in 1930 decreased the enrollment in higher education in both men and women and had an influence on the growth during this time (Parker, 2015). Women in these two different types of institutions had different experiences. Women faculty and students in co-educational institutions experiences a very segregated and most of the time unequal environment. While women faculty and students in women's colleges enjoyed advocacy, progress and community.

Co-educational institutions continued to hire female faculty during this time period, but the nature of the institution was a sex-segregated environment. It is described not as being a hierarchical issue but more a territorial issue. As if the women and men faculty were running alongside each other but were completely separate, each with their own areas and spaces and not crossing together (Clifford, 1989). At co-educational institutions women were hired to teach but in gender specific fields of home economics, education, and domestic topics.

The position in most co-educational institutions that had the largest influence on women students and faculty was the position of Dean of Women. The first Dean of Women was Alice Palmer at the University of Chicago in 1892 (Schwartz, 1997). This position on most campuses was in charge of women student affairs and had a large influence on women in co-educational institutions (Clifford, 1989). Many women in this role had two roles on the campus, one was teaching and as faculty, the other was to guide the women in the student body and insulate the women on a male-dominated campus (Schwartz, 1997). The women who held these positions formed their own network to best serve in this role. In 1903, the first meeting of deans of women was held. The meeting included seventeen deans of women from Universities of Chicago, Illinois, Wisconsin, Colorado, Kansas, Iowa, Ohio State, Michigan, Indiana, Northwestern, Ripon, Carleton, Lawrence, Barnard, Oberlin, Beloit, and Illinois College. The topics of this meeting were housing, etiquette, student governance, leadership, and athletics for women students (Schwartz, 1997). In 1917 the group formalized as the National Association of Deans of Women (National Association of Deans of Women, 1927). This network of deans of women would work to challenge the position of women in institutions of higher education and advocate for equal rights for women students. This network eventually laid the groundwork for administration and studies in student affairs (Schwartz, 1997).

World War II played a role in the increase of women faculty during this time. As many men who were traditionally in the labor force went to war, women began filling those roles. Higher education was no exception to this increase in women (Schwartz, 1997; Clifford, 1989).

Even with advancements during this time, academic women still report a sense of isolation. Women at coeducational institutions were not invited to engage in discussions on scholarly topics (Bernard, 1966) and they felt a particularly unique sense of isolation compared to women in women's colleges. Marriage rates were also particularly low among women faculty at this time.

After WWII 1940-1960

After World War II there was not a strong focus on education. Political conservatism during this time did not help to progress the position of women in academia (Gordon, 1990). Black women who had been educated in the northern states began to move to the south to take faculty positions in colleges and universities in the south (Perkins, 2018). Women did continue to increase their numbers in higher education but the proportion of women in higher education decreased over the period of 1940-1960. In 1920 47.3% of students were women but by 1950 there were only 31% women and in 1960 37% were women (Eisenmann, 2006). A large percent of women enrolled in education programs were women. Enrollment continued to grow on college campuses with the G.I. Bill giving access to veterans. As enrollment increased, community colleges began to form to further increase the access to education. During this time the needs of students and colleges in addition to needs of curriculum began to change (Eisenmann, 2006).

Women continued to face discrimination based on gender stereotypes. This period when traditional gender roles were predominating, and women were struggling with the choice between marriage and domestic life and pursuing a career. This twenty-year

period was not a time characterized by vocal advocacy as previous time periods had been, and it was a quieter period before the civil rights advocacy of the 1960s and 1970s. This period appeared to be a period where women were not quiet but were preparing for the future. Associations of Women Students formed and advocated for the equality of women on campus, though their advocacy was not characterized in the way previous years advocacy had been (Eisenmann, 2006). The twenty years from 1940-1960 was a post-war America that had a focus on reestablishing democracy and citizenship. Enrollments in higher education continued to increase and the proportion of women decreased. Women continued to face discrimination, but advocacy was quieter than it had been in previous generations as they prepared for the raucous advocacy of the next decade.

1960-Current

This period can be characterized by advocacy, reform and policy, moving women in higher education closer to equality but nonetheless not reaching parity with their male colleagues in all areas of higher education. This period began with the passing of the Equal Pay Act in 1963, which sought to eliminate sex-based wage discrimination. While this policy appeared to move women forward, when women in the workplace challenged this expectation, they most often lost the case. Many decisions hinged on interpretation of the term "equal work." Slowly women began to win cases related to receiving equal pay for their equal work. Just following the Equal Pay Act was the 1964 Civil Rights Act which made it illegal to discriminate against females for employment opportunities (Murphy, 1970).

In 1973, 27% of college faculty were women, though the student body at that time was nearing 46% women (Carnegie Commission on Higher Education, 1973). Since the mid-1980's more females than males have earned associate's, bachelor's and master's degrees and in the 2005-2006 academic year women earned more doctoral degrees. In the 2020-2021 academic year, 58.2% of doctoral degrees were awarded to women (National Center for Education Statistics, 2023). The most recent data show that 48.8% of faculty are women (National Center for Education Statistics, 2022a) while 58.7% of college students in 2021-22 academic year were female (National Center for Education Statistics, 2022b). Women faculty still face a wage gap as the average salary for male faculty was 21% higher than for female faculty. Forty-six percent of men had tenure in 2022 while 34% of women had tenure (National Center for Education Statistics, 2022a). The history of women in higher education started as a gendered intrusion into a predominately male academic world. Through advocacy, time, and enhanced access to education women have risen to a level where more women are receiving advanced degrees than men. Though immense progress has been made as outlined in the history above disparity still exists for academic women.

Evidence of Gender Disparity in Academia and Challenges

Women make up a high percentage of students enrolling in and graduating from higher education institutions. Women are 57% of undergraduate enrollment and 63% of graduate enrollment in colleges and universities in the United States (National Center for Education Statistics, 2022b). In the 2020-2021 academic year women earned 58% of all doctoral degrees (National Center for Education Statistics, 2023). Faculty demographics

in these colleges and universities also show, as of 2022, women make up 48.8% of all faculty and are represented more at the assistant professor level (54.3%). Women hold 47.7% of associate professor positions and only 36.7% of professor positions (National Center for Education Statistics, 2022a). The lack of women at the higher levels of professorship has been attributed to many reasons and has been referred to as a "leaky pipeline" (Gasser & Shaffer, 2014; Pell, 1996).

The following examines gender disparities in the three missions of academia: teaching, service, and scholarly work. Faculty workload has been examined in many ways including through questionnaires, time diaries, and reports from faculty.

Teaching

Teaching is one of the main pillars of an academic career. Time spent teaching varies by gender with women faculty spending more time on teaching than male faculty (Gardner et al., 2018; Guarino & Borden, 2017; Schneider & Radhakrishnan, 2018). In addition, the student evaluations of their teaching are riddled with biases (Adams et al., 2022; Boring, 2017; Feldman, 1993; Khazan et al., 2019; Punyanunt-Carter & Carter, 2015). Students have historically evaluated male faculty more positively than female faculty especially in the categories of being knowledgeable, expertise, and leadership (Boring, 2017). This is impactful as student evaluations are used in the evaluation of faculty and in the promotion and tenure process. Recent studies have shown that the reason for the difference in evaluations is not related to gendered behavior but related to biases that students have towards male and female faculty. Studies have been able to show this through online courses where the names of the instructor or teaching assistants

are modified to be a male or female name even though the courses are taught by the same person (Feldman, 1992, 1993; Khazan et al., 2019). Biases persist in online environments where gender can be more easily masked. Recent research shows that evaluations by students may be more related to the faculty conforming to gender norms (Adams et al., 2022). Since evaluations of teaching by students are often used in annual reviews and promotion and tenure decisions these biases that exist are important to evaluate regarding their value in the promotion of women in academia.

Service

The service mission of a faculty role involves both internal service and external service. Internal service refers to service to the university and external service may be service to a professional organization, journal, or other professional endeavors outside the university (Guarino & Borden, 2017). Service is often reported as undervalued by the institutions, but strongly valued by the faculty who do the service work (Gardner et al., 2018; Green, 2008; Hanasono et al., 2019; Misra et al., 2011; Schneider & Radhakrishnan, 2018). Several scholars have identified an imbalance in service load between men and women faculty (Gardner et al., 2018; Guarino & Borden, 2017; Hanasono et al., 2019; Misra et al., 2011). Misra et al. (2011) found that women at the associate professor level spend 27% of their time on service while men at the same rank spend 20% of their time on service. The disparity was even larger for faculty in the STEM fields. Misra et al. (2011) also suggests that service obligations at the associate professor level contribute to the delay in promoting women to professor level. This is the case because of the value that promotion and tenure decisions place on service. Service is

often the least important factor in promotion and tenure decisions. Scholarship and teaching are identified as the most important areas of focus for promotion and tenure, with scholarship being most important (Green, 2008). Women faculty often carry larger service loads than their counterparts at the same rank which may contribute to the delay in promotion and create a roadblock in moving from associate professor to full professor ranks.

Scholarly Work

While service is the least valued promotion and tenure decisions scholarly work remains strongly as the most valued and impactful component to promotion and tenure. Time studies show that women faculty spend less time on scholarly work than their male counterparts (Bendels et al., 2018; Winslow & Davis, 2016). Women spend more time on teaching and service obligations than men and this may explain the time disparity.

Aside from time spent on scholarly work, women tend to have fewer publications than men and are less likely to be primary or senior authors (Chatterjee & Werner, 2021). Similarly, in an analysis of JSTOR corpus it was found that men are more likely to be the first or last author on manuscripts. Women were also found to be underrepresented in single author papers. Though it was noted that when looking at the data over time women have made some gains in parity for first author positions (West et al., 2013). Women are also underrepresented in prestigious authorship (high impact journals) (Bendels et al., 2018). Some scholars explain the disparity related to women's smaller social networks (Chatterjee & Werner, 2021). Others identify collaborations as a reason for publishing

disparities. Men are more likely to collaborate with other men, while women have a more egalitarian approach to authorship collaborations (Araújo et al., 2017).

In addition to paper authorship, scholarly identity and reputation are established through presentations. Nittrouer et al. (2018) found that men are more likely than women to be colloquium speakers at top institutions. When women were colloquium chairs, there was a higher likelihood that women were featured as colloquium speakers. This suggest that there is a gatekeeper related to who is selected for colloquium talks and appointing more women as colloquium chairs could increase the number of women who are chosen for colloquium talks.

Another method of disseminating scholarly work is through digital channels. Women are found to be less prolific in disseminating their research online, therefore having less visibility of their work (Vásárhelyi et al., 2021). Digital channels for research dissemination are becoming more common and an effective way to disseminate scholarly work for academics.

Scholarly work has been shown to have a strong impact on promotion and tenure decisions. Disparities in time spent on scholarship as well as productivity and exposure may lead to disparities in promotion and tenure. Overall, women take longer to receive tenure than men and are less likely to receive tenure. Women receive tenure more readily in less prestigious institutions (Weisshaar, 2017).

In examining the roles that are played in academia, it is evident that men and women experience these aspects differently. Institutions also value each role in different

ways. The path and experience to promotion and tenure is different for men and women in academic positions.

Challenges of Academic Motherhood

Not only are the experiences of male and female academics different, but academic mothers add another layer to these differences. Literature has more recently covered the challenges for academic mothers specifically. Overall, the literature reveals the story of being pulled in two directions-professionally and personally- and the struggle that exists to meet the expectation and obligation of each world academic mothers occupy.

From the beginning of the academic career, PhD students identify a culture that makes them hesitate to reveal themselves as mothers or disclose when they are pregnant (Mirick & Wladkowski, 2018). This aligns with the fact that very few women have children during graduate school (Kulp et al., 2019). The idea of family planning, timing of childbirth, and watching the tenure and biological clock all extend into the lives of early career academic mothers. Kelly Ward and Lisa Wolf-Wendel (2012) provide the most current and prolific evidence related to academic motherhood. Their book, *Academic Motherhood: How Faculty Manage Work and Family*, delves into the challenges faced by academic mothers on the tenure track at multiple stages in their careers. Early career academic mothers are plagued by the dual roles that they must play at work and home, each role demanding full attention (Ward & Wolf-Wendel, 2012). Wolf-Wendel and Ward (2012) also identify that the type of institution plays a role on the experience of academic mothers. They find that research institutions are rarely supportive

of mothers and early career faculty find very few mentors with children. In contrast, regional comprehensive, liberal arts, and community colleges create a more family-friendly culture for early career faculty (Wolf-Wendel & Ward, 2006).

For mid-career faculty the work-life balance moves to become more of a buffering effect on the stress of dual roles. Work becomes a buffer for the stressors of motherhood and motherhood becomes a buffer for the stressors of work (Ward & Wolf-Wendel, 2012). Home life responsibilities shift to managing busy schedules and being present for older children while work life shifts to allowing academic mothers to be more selective on the work that they agree to engage in (Ward & Wolf-Wendel, 2012) and "leaning back" and focusing less on promotion or advancement and more on the personal fulfillment of the career can bring (Ward & Wolf-Wendel, 2016).

Disparity exists for academic mothers. Men tend to benefit in tenure status by being married or having children while women do not seem to benefit (Perna, 2005). Often promotion and tenure are heavily focused on research productivity. Researchers have found that mothers are generally equally productive as their male and childless counterparts (Sax et al., 2002; Stack, 2004) though women with young children are found to be less productive in their research endeavors (Stack, 2004). Academic mothers experience academic careers in a unique way and face unique challenges that fathers or colleagues without children may not experience. These challenges are characterized by the dual role that academic mothers must play in their careers and at home.

To face the stressors and challenges of an academic career social support has been found to buffer the effects of these stressors and to assist in career advancement (Albert,

2018; Bayfield et al., 2020; Kemelgor & Etzkowitz, 2001; Klein et al., 2013). This next section explores the construct of social support and the evidence related to social support in academic careers.

Social Support

Definitions of social support started to appear in the literature in the 1970's. In his presidential address to the American Public Health Association on March 27, 1975 Dr. Sidney Cobb discussed the importance of preventative care and how social support acts to prevent adverse health events. In his address, he defined social support as "Information leading the subject to believe that he is cared for and loved, esteemed and valued, or that they belong to a network of communication and mutual obligation." In this address Cobb also called for action in using social support in order to prevent crisis in individuals (Cobb, 1976).

Definition

Social support broadly has several definitions, which is one of the challenges in studying the concept. Most simply Heller's early definition of social support is "…all forms of close interpersonal ties…" (Heller, 1979). Most other definitions add additional complexities and requirements to the definition of the term. Moss (1973) describes social support as a therapy:

> Social support provides general social therapy for all types of incongruities one may encounter, soothing and relieving the symptoms of the person encountering the incongruity. The absence of social support seems to be an incongruity of considerable significance for most people.

While other definitions focus on describing relationships and the agents involved in social support, Moss's view of social support emphasizes the role of social support in mediating stress.

Similar to Cobb's definition (Cobb, 1976), Cassel describes social support as an environmental factor that can affect the wellbeing of people. They further go on to say that the presence of other members of the same species and certain aspects of the social environment can moderate disease (Cassel, 1976). Cassel does not define the term social support explicitly but provides empirical support for the fact that social interactions, connections, and communities have an impact on health. Most notably that the absence of social support can have negative health consequences (Cassel, 1976).

Shumaker and Brownell (1984) define social support as "an exchange of resources between at least two individuals perceived by the provider or the recipient to be intended to enhance the well-being of the recipient". Shumaker and Brownell's definition adds an element of an exchange between people and the delineation that the intention of the support by the provider or the recipient is positive. Unlike Cobb's explicit inclusion of being part of a network, Shumaker and Brownell (1984) point out that being part of a network is not required in their definition of social support. Cobb's definition does not require an exchange, though it does assume a positive outcome of the support (Cobb, 1976). Caplan (1974) emphasizes the relationships that allow for social support and discusses the behaviors that are perceived as social support (sharing tasks, guidance, material goods, etc.). Social support has been defined in various ways over the last fifty

years, though the definitions all include elements of interactions or being within a network or between people that provide a sense of wellbeing for the recipients.

Types

With varied holistic definitions of social support, it is important to look at different types of support to fully understand the concept of social support. Lieberman (1986) argues that the term 'social support' is too broad and that further typologies and delineations of the term are warranted to enable further study of the broad range of activities that encompass social support. The first type of support I will discuss comes from the field of psychology; received and perceived support. Received support is the amount of support that they a person perceives they get from a network and perceived support is the amount of support that a person believes is available to them (Vangelisti, 2009). The field of communications focuses on received or enacted support. This focus of support focuses on interactions that occur between provider and recipients of that support (Burleson et al., 2002). Within the category of received and perceived support, Barrera identifies six categories of social support. The first is material aid. Material aid when the provider of social support provides tangible materials such as money or other physical objects (Barrera & Ainlay, 1983). In the context of today's society and the proposed study, this could include digital documents or currency. The next is behavioral assistance, the sharing of tasks through physical labor. In the context of this study, the definition might need to expand beyond physical labor to include other types of labor. Academic labor might include writing, teaching, preparing materials, running a meeting etc. Intimate interaction is the third category of social support. This category encompasses

counseling behaviors such as listening, expressing esteem, caring, and understanding. Guidance is another category of social support. Guidance would include offering advice, information, or instruction. In addition to guidance, providing feedback is the fifth category or social support. Feedback could be based on behaviors, thoughts, or feelings. Finally, positive social interaction is engaging in social interactions for pleasure (Barrera Jr & Ainlay, 1983). These six types of support were the basis of the development of the Inventory of Socially Supportive Behaviors (ISSB) which will be discussed later in the chapter (Barrera et al., 1981).

Another way to classify social support is structural support and functional support. Structural support (also referred to as social integration) relates to the size, frequency, and density of a support network. Theses structural measures may be measured as number of people within a network, strength of ties within that network, and how the network is utilized by frequency (Barrera & Ainlay, 1983; Lieberman, 1986; Wills, 1985). Functional support relates to emotional, appraisal, informational and instrumental support. Functional supports include many of the items described in the discussion of received and perceived support (Barrera, 1986; Cohen & Syme, 1985; Wills, 1985).

Benefits of Social Support

Most definitions of social support rely on the assumption that support is always of benefit to the receiver of support. There is a large body of literature that support the positive outcomes of receiving social support. In a health/disease context social support has been shown to have benefits to both physical and mental health (Cohen & Syme,

1985; DiMatteo, 2004; Uchino, 2009). Social support has been shown to have a positive outcomes on glycemic control in people with diabetes (Gallant, 2003; Garay-Sevilla et al., 1995; Skinner et al., 2000; Van Dam et al., 2005). In addition to diabetes social support has been shown to have a positive relationship to cancer survival rates (Wortman, 1984), particularly that of breast cancer (Ell et al., 1992; Nausheen et al., 2009). Socially isolated women with breast cancer have been found to have an elevated risk of mortality after diagnosis (Kroenke et al., 2006). In cardiovascular disease, the literature shows that those with low social support have an increased prevalence for cardiovascular disease, but it is still unclear if low social supports effect mortality related to cardiovascular disease (Barth et al., 2010; Greenwood et al., 1996; Lett et al., 2005; Orth-Gomér et al., 1993). Social support has also been related to prevention and or improvement in symptoms of depression (Brown et al., 1986; Cairney et al., 2003; George et al., 1989; Holahan & Holahan, 1987; Stice et al., 2004). In the literature on social support and health, definitions of social support are widely varied and an effort should be taken to clearly define what types of social support are being studied and appropriate instruments should be used to measure these varied types of social support.

The reasons for the positive effect of social support can be described by two models: the buffering hypothesis and direct effects hypothesis. The buffering hypothesis states that social support protects people from the negative effects of stressful life events. The buffering effect relies on the stress and coping social support theory. In this theory a potential stressful event is appraised and determined if it is indeed stressful or not. If the event is appraised as stressful then emotional and physiological responses to this stress

occur or behavioral adaptations begin. These emotional, physiological or behavioral responses then lead to illness or behaviors that cause illness (Thoits, 1986, 1995). In the model by Cohen and Wills (1985) social support may intervene with buffering effects at two points within the stress and coping model. The first point is in the appraisal of the potential stressor. At this point, a person is considering an event or circumstance that is potentially stressful and social support may prevent this event from being appraised as stressful. A second point in the stress model where social support can influence stress is after an event has been appraised as stressful and motional, physiological, or behavior changes begin. Social support can result in reappraisal at this point, inhibit harmful behavioral responses or facilitate positive responses. This would then prevent the movement of this stress to causing illness or behaviors that lead to illness.

The direct effects (or main effects) model states that participation in a social network provide direct positive effects to the receiver of social support. It is hypothesized that this effect can be related to regular positive experiences and rewards within a community or network. Integration into a social network may also help a person avoid life stressors and negative events (Cassel, 1976). Other ways social support may have a direct effect on individuals is in a physiological way. Social network support could have positive effects on body systems and physiologic processes (Jemmott & Locke, 1984). The direct effects model does not rely on a stressor to reap the benefit and benefits are there regardless of the presence of stress (Cohen & Wills, 1985).

Negative Outcomes of Social Support

As discussed so far, social support has had a positive context and assumptions that social support is always beneficial. There is, however, evidence that some types of social support can have negative effects. The matching hypothesis indicates that if social support is to be beneficial then the social support desired by the receiver must match the support given by the provider (Cutrona & Russell, 1990). There is evidence that supports that stress may increase if the support given does not match what the recipient wants to receive (Horowitz et al., 2001; Thoits, 1986). An increase in stress may have negative health outcomes and therefore when the type of social support given does not match the type of support received there can be negative outcomes. In addition, not all interactions in a social network may be positive. Negative interactions within a social network can lead to an increase in depression, especially for women (Turner, 1994). When members of a social network are not responsible when needed or cannot provide support during stressful times it can results in a negative response to both the provider and receiver of support (Dunkel-Schetter, 1990). When support is asked for and/or received it is possible that the receiver may feel guilt or indebtedness to the provider, which can also increase stress (Pierce et al., 1990). Predominately the literature supports the positive effect of social support, but in some instances, support can have negative effects.

While women and particularly mothers face unique challenges in an academic career, the use of social networks in academia have been found to be beneficial. From the beginning of the academic career social networks and social support have been found to mediate stressors that are encountered by PhD students. PhD students identify three

sources of social support: academic friends, family, and doctoral advisors. Each of these groups is found to provide positive and negative social supports, but overall social support mediates the stressors for PhD students (Jairam & Kahl, 2012). In the early career of a faculty social support has been identified as one of the most influential factors that affect satisfaction in taking an academic position and anticipating remaining in that position for five years (Harrison & Kelly, 1996). As academic careers progress social support can decrease burnout (Padilla & Thompson, 2016) and increase invitations for conference presentations, editing journals, and writing book chapters (Heffernan, 2021).

Conversely, other literature finds that social support does not decrease burnout or lead to career advancement. Lease (1999) found that social support was only beneficial when the faculty work was not challenging or did not fulfill career needs. High levels of social support have also been found to have no effect on scholarly productivity (Kim et al., 2007). During the COVID-19 pandemic women faculty experienced higher levels of burnout but social support did not decrease the burnout during this time period (Taylor & Frechette, 2022).

The biggest disparities exist when social support, social networks, and social capital are found to be positive for career advancement (Heffernan, 2021) and some groups are left out of these networks. Women faculty (particularly women in the STEM field) (Casad et al., 2021) and black faculty (Gregory, 2001; Griffin et al., 2010) may not have access or the ability to participate in these networks of support because of lack of invitations, obligations at home, or lack of existence of these networks. Lack of ability to

participate in these networks puts women faculty and black faculty at a disadvantage in career development, promotion, and tenure.

Social support can be found through SNS. SNS transcend geographic boundaries allowing for an increased access to a network. The following section will explore SNS and their use by academics.

Social Networking Sites

Definition

The term social networking site (SNS) has been defined in various ways in the literature as the technology evolves. boyd and Ellison provide one of the most cited definitions. Their definition includes the following;

> We define social network sites as web-based services that allow individuals to (1) construct a public or semi-public profile within a bounded system, (2) articulate a list of other users with whom they share a connection, and (3) view and traverse their list of connections and those made by others within the system. The nature and nomenclature of these connections may vary from site to site.
>
> (boyd & Ellison, 2007)

It should be noted that the above definition uses the term 'social network sites' and not 'social networking sites' which is often the terminology used in lay language. boyd and Ellison explain that the reason they choose the term 'network' over 'networking' is because networking would imply that there is relationship initiation between users of the sites, and this is not the primary practice of the sites and that characteristic does not differentiate it from other computer mediated communications (boyd & Ellison, 2007).

This definition has been criticized as being too broad and not differentiating these types of sites more specifically because of the ever –evolving nature of these technologies. The boyd and Ellison definition is also challenged as being only a continued definition of Web 2.0-the second generation of the Web that allows for social connectedness, information sharing, and user created content (Wilson et al., 2011)- and not an additional classification of this specific type of technology (Beer, 2008). While boyd and Ellison debated the use of network vs. networking in their definition, other authors use a different term; online social networks (OSNs) (Heidemann et al., 2012; F. Schneider et al., 2009). The OSN definition proposed by Schneider et al. is similar to boyd and Ellison's definition (boyd & Ellison, 2007), but focuses on the user-centeredness of the technology: "OSNs form online communities among people with common interests, activities, backgrounds, and/or friendships. Most OSNs are Web-based and allow users to upload profiles (text, images, and videos) and interact with others in numerous ways'' (Schneider et al., 2009). The term SNS has also been synonymous with the term social media (Duong, 2020; Obar & Wildman, 2015). Whether the term is SNS, OSN, or social media each definition includes that the site is a web-based technology that is used to post or share information or share interactions with others. For this study the term social networking sites (SNS) will be used to refer to these sites.

History of SNS

The history of SNS in a computer-mediated environment is a recent and contemporary phenomenon. The following is a brief history of the evolution of SNS, this is not a comprehensive coverage of SNS but summarizes the most popular SNS that have

contributed to the development of SNS as we know them today. In using the definition provided above; the first SNS, Six Degrees, created by Andrew Weinreich, appeared in 1997 (boyd & Ellison, 2007). Six Degrees was the first site allowing people to create a profile, friend list and state school affiliations all within one platform (Ngak, 2011). Prior to Six Degrees these elements had only been available in separate platforms; profiles on dating sites (i.e. Match.com), lists of friends on ICQ and AIM messaging services, and school affiliations on classmates.com (boyd & Ellison, 2007). From the period of 1997-2001 SNS that centered on specific communities began to proliferate. Some of these sites included Friends, AsianAvenue, BlackPlanet, and Mi Gente. Outside of the United States sites like Cyworld and LunarStorm adapted their platforms to include features such as friend lists and guest books (boyd & Ellison, 2007).

The year 2001 ushered in a wave of sites that focused on professional or business networks. Ryze.com was one of the first SNS that focused on professional connections. Other sites like Tribe.net and LinkedIn were soon to follow. As a complementary site to Ryze, Friendster was created in 2002. Friendster was created to compete with dating sites like Match.com and sought to connect friends of friends in a goal to find romantic partners (boyd, 2004; boyd & Ellison, 2007). Friendster grew quickly but was faced with technical challenges and a dynamic that interfaced close friends alongside professional colleagues which eventually, along with other challenges, led to it falling out of favor in the United States (boyd, 2006). By 2003, SNS had become mainstream, and a multitude of new sites were created. MySpace, launched in 2003, quietly rose to become one of the most popular SNS at that time. Initially, several Indie rock bands began using MySpace

to create profiles, connect with fans, and share events. Because of this, many teenagers, who were followers of the bands on MySpace, began creating MySpace profiles. Teenagers previously had not been the predominant users of SNS and this gave MySpace a new and unique market of users (boyd & Ellison, 2007). While MySpace carried a large population of teenagers, other sites emerged serving specific groups. Facebook began in 2004 as a SNS that was for students at Harvard and soon after included students from Columbia, Yale, and Stanford and eventually included anyone with an ".edu" email address. By late 2005, the SNS had broadened its audience to include high school students (Greiner et al., 2019). Today, Facebook has over 3 billion users (Meta, 2023). Since the inception of Facebook other social networking sites have become prevalent. As of 2023, YouTube is the most used social networking site with 83% of U.S. adults reporting use. Listed by most to least used; Facebook, Instagram, Pinterest, TikTok, LinkedIn, WhatsApp, Snapchat, and X (formerly Twitter) are the other most commonly used by Americans (Gottfried, 2024).

Prevalence and Use of SNS

The most comprehensive data on national use of social networking sites is from the Pew Research Center. In their publications, they use the term social media sites to encompass the technologies that are discussed above. For accuracy in reported data the following section will use the term 'social media' consistently with the Pew Report. In 2005, only 5% of the population used social media. As the use of this technology has become more mainstream, the most recent data shows that since 2023 over 80% of United States adults are using social media sites. When breaking down use by age the

most use of social media is done by those age 18-29 (84% have at least one social media account). The least use is in the 65 and older age category (45% have a least one social media account). By race, Hispanics have the most use at 80% having a social media account. Seventy-seven percent of Black Americans have an account while sixty-nine percent of White Americans have a social media account. Women use social media slightly more (78%) than men (66%). The percent of social media use generally increases as income increases; 69% of those who make less than $30,000 per year to 78% of those who make greater than $75,000 per year. Those who have graduated from college (77%) have a similar rate of social media use than those who have some college (76%) and greater use than those with a high school diploma (64%). Those who live in urban (76%) and suburban (71%) areas use social media more than those who live in rural communities (66%) (Pew Research Center, 2021).

While a wide variety of people use social media sites there are specific sites that attract a certain demographic more frequently. YouTube is the most used social media site with 81% of Americans reporting using the site, followed closely by Facebook with 68% reporting use. Other sites like Pinterest, Instagram, Snapchat, Twitter, and LinkedIn report usage from 24-35%. Data shows that 70% of 18–29 year-olds use Facebook along with 77% of those 30-49 years of age. The number of 18–29 year-olds that use Facebook has decreased over time. Conversely, in teens age 13-17, only 51% report using Facebook. The younger demographic is making a shift to other sites like YouTube (85%), Instagram (72%), and Snapchat (69%) (Anderson & Jiang, 2018). Trends will continue to

shift in use of social media platforms and as new platforms develop, it is likely that younger adopters will move from one site to another.

Social Support in Personal and Online Contexts

In reviewing the definitions of social support, the extent of social support often involves the presence of or exchange between a provider of support and a receiver of that support (Caplan, 1974; Cassel, 1976; Cobb, 1976; Heller, 1979; Moss, 1973; Shumaker & Brownell, 1984). Traditionally this exchange of support has been between two people in a close personal relationship (Cutrona & Suhr, 1992; Leatham & Duck, 1990), through therapy with a professional (Robinson, 1988; Thoits, 1986), or informal social networks (Taylor et al., 2011; Taylor & Chatters, 1988; Uehara, 1990). Early work on social networks and their definition revolved around the people with which someone would interact regularly (family and coworkers), know the person by name, have close geographic proximity and have contact with ranging from once a year to daily. Social networks can also be defined by not only who is in them but other characteristics. The size or range is the number of individuals in the network (Mitchell & Trickett, 1980). The density of the network is the extent to which members of the network contact each other (Mitchell, 1969). The degree of connection is the average number of relationships that each member has within the network (Mitchell & Trickett, 1980). These characteristics are all related to the concept of social capital, which are factors (resources and relationships) that effect functioning with a social group (Bourdieu, 1977; Putnam, 1995). Within these social networks there are weak-tie and strong-tie relationships. Weak-tie relationships lead to a more diverse network, but also lack strong emotional or

substantive bonding. Strong-tie networks however are built on strong emotional bonding (Williams, 2006). These same types of relationships occur in an online environment. Using social networking sites weak ties can be established very easily and therefore bridging social capital emerges, while bonding social capital, a result of strong ties is harder to achieve in an online environment (Brandtzæg et al., 2010; Burke et al., 2011; Ellison et al., 2007).

There is increasing evidence that people are turning to online mediated social support (Walther & Boyd, 2002; Wright, 1999; Wright et al., 2012). Posting a request for social support on a SNS is different than asking for support from a close friend or family member in an offline environment (Trepte et al., 2015). One reason for this is because the size and accessibility of online and offline networks differ. The number of answers to questions is greater in an online environment. Panovich et al found that a question posted to a wall, on average received 5.5 responses, and in a short period of time (Panovich et al., 2012). The number of answers and information received in a SNS environment is likely greater and faster than what can be received in a face-to-face environment. While there is no evidence that people do not trust their offline networks, there is evidence to support that they do trust their online networks, even if they are a weak-tie contact (Lampe et al., 2012). Emotional support seeking through SNS differs. Emotional support requires intimate and trusting relationships with those within a network (Stokes, 1983). There is evidence that people are less likely to have intimate relationships through SNS (Nissenbaum, 2009), though increasingly there is more evidence that technology mediated relationships can have intimacy and trust (Lambert, 2016). Instrumental

support requires some type of tangible exchange of support, hence the requirement of physical proximity between the provider and receiver of support (Dunkel-Schetter, 1990). Evidence over a two year period shows that only informational support was higher in an online context and emotional and instrumental support were higher in offline environments (Trepte et al., 2015).

Even though emotional support has been shown to require a trusting relationship between two parties (Stokes, 1983) the ability to get support in an online anonymous way can be appealing (Walther & Boyd, 2002). This can be demonstrated in online weight loss support groups. One reason why people use this type of support group is the anonymity of the support (Hwang et al., 2010). This anonymity cannot be achieved in an offline context. In addition to anonymity, the ease of access to social networking sites is also a factor (Walther & Boyd, 2002; White & Dorman, 2001). Those who live alone or who have limited offline social networks may feel a greater effect of access in an online social network.

Academics' Use of Social Media and Social Networks

Academics are familiar with social media and social networking sites. It is estimated that between 80 and 97% of academics use social media for personal and professional reasons (Cain et al., 2013; Lupton, 2014; M. Moran et al., 2011). Faculty in higher education use social media for personal use similarly to the general population. They use social media in professional contexts also, though not at as a high a rate as for personal uses (Chugh et al., 2021). Men and women academics tend to use social media

at the same rate (Roebuck et al., 2013) and age is not a predictor of use (Rowlands et al., 2011).

The literature documents the professional use of social media for research, teaching, professional development, career and image enhancement, and networking. Academics use SNS in their research to disseminate their own research, keep up to date on others' work, and even to recruit participants into studies (Lupton, 2014). Some faculty use these sites to find future collaborators for scholarly work or to gain access to experiences researchers (Chugh et al., 2021). Academics report using social media sites for teaching, but at a much lower rate than for other professional uses (Chugh et al., 2021; Lupton, 2014). Social media sites are used to engage students through video sharing, blogs, and other discourse. Faculty are more hesitant to use SNS in their teaching and those who do use it for teaching use it to engage or communicate with students (Lupton, 2014), disseminate content, and increase student to student and student to faculty interactions. Faculty cite concerns over integrating SNS with students. Some of these concerns are privacy, determining boundaries, lack of credible content, plagiarism, and copyright issues (Lupton, 2014).

The most cited reason that faculty use SNS is to network with colleagues and create a broader professional network. Some also identify it being used in mentoring relationships (Bassell, 2010). Some faculty report using SNS to find early career emotional and academic support and to combat feelings of isolation (Lupton, 2014). SNS also allow faculty to engage in networking that may not be accessible to them outside of a virtual network (Chugh et al., 2021). The literature clearly shows that academics use

social networking sites for professional development and networking, but scholars call for continued research on why and how these networks fostered through SNS and the benefits they may provide.

In summary, to be successful in academia faculty must contribute to the teaching, service, and scholarly missions of the institution of higher education. Advancing in academia can be a challenge and is inherent with stressors that begin as doctoral students. Women, mothers, and minorities face additional challenges because of institutional, societal, conscious, and unconscious biases and policies that exist within higher education. Women, particularly mothers, face an additional workload outside of their professional settings that men do not often face. The literature shows us that success and career satisfaction in academia can be achieved with support systems of personal and professional networks. These networks may not be evident or accessible to academic mothers in a traditional way. SNS offer a way to find support and grow a professional network that may be more accessible to academic mothers. There is a small amount of literature describing the use of SNS as support, but no studies look at academic mothers and the impact SNS may play in supporting their academic careers.

Theoretical Models

In addition to the social support theories presented in the previous section there are other theoretical models that inform this study. The complexity of women, work and motherhood can be explained and related through numerous theories. Traditional theories of gender, work, and family focus on the differences of men and women from the perspectives of psychology, sociology and biology (Barnett & Hyde, 2001). In addition to

these types of differences they also employ a separation between work and family between men and women; men being more suited to work outside the home and women more suited to childcare responsibilities (Fowlkes, 1987). Role conflict theory creates a separation between work and home life, stating that there is a limited amount of time and adding additional roles creates tension and role conflicts. When too many roles are added, it can lead to negative physical and mental consequences (Biddle, 1986; Crosby, 1993; O'Neil, 2008). This has been used to explain the incompatibility of the roles of professor and mother (Marshall & Barnett, 1993; Ward & Wolf-Wendel, 2012).

Traditional sex role theory is a social construction theory which claims that gender behavior is mostly related to social constructions. Early gender socialization in children is learned from their parents and their environments. These environments promote specific male and female behaviors (Deaux, 1984). The traditional sex role theory also is supported by gender differences in behavior and personality. Men and women are viewed in differentiated roles and labor obligations as shaped by men being observed being more task oriented and women being observed to be more social. This theory also assumes that gender roles reflect societal view of women as a homemaker and men as the breadwinner (Eagly et al., 2000). There is evidence that people believe in differences in the genders, and this is one of the strongest biases within our culture. Men are viewed as domineering and have an excess of agency while women are viewed as passive and subordinate (Helgeson, 1994). The traditional sex role theory explains the bias and discrimination that women face in the workplace as these traditional roles create a hierarchical view of gender.

Hochschild (1975) points out that the challenge of being a mother and having an academic career is that academia is based on a male model. Academia is built on the normative path for men and does not allow for competing responsibilities like childbirth, family, or domestic work. Women who exist in this model must adjust timing and pace of their career pursuits and oftentimes this ultimately hurts them in the careers. The academic model which requires work to be exclusive of all other things creates stress for women faculty (Grant et al., 2000; Williams, 2000).

Barnett and Hyde (2001) argue that outdated theories related to women and work have not changed as women have entered the workforce at exponential rates. They present the expansionist theory as a more contemporary theory to explain gender, work and family. The expansionist theory encourages a broadening of roles for men and women and benefits that come along with the expanded roles. The first principle of the expansionist theory is that multiple roles are beneficial for women and men. As women taken on working roles, and men take on family roles there will be benefits to both. These benefits include mental and physical health, relationship health, success, and family commitment. Both men and women can occupy both roles as they are not mutually exclusive. Many processes contribute to this benefit of multiple roles. These processes include buffering, additional income, social support, opportunity for success, expanded frame, increased self-complexity, similarity of experiences, and gender-role ideology. Thirdly, they define certain conditions under which multiple roles are beneficial. These conditions include the number or roles, and the time demands of each. In an overload of roles and demands, benefits will not exist. Finally, they address the psychological gender

differences and that these differences should not require them into highly differentiated roles (Barnett & Hyde, 2001). Gerson (2016) adds to the expansionist theory from a sociological perspective. They argue that there is a need to address social arrangements to make the principles of the expansionist theory more of a reality. The expansionist theory explains the changing dynamic of women in the workforce and creates an aspirational model for the expansion of gendered roles.

While the expansionist theory addresses a change and blending in role status, status characteristic theory describes how status is applied to various characteristic. Status characteristics are any characteristic of a person in which evaluations and beliefs are organized. Examples of status characteristics are age, gender, race, ethnicity, education, occupation. There are numerous status characteristics that can be formed. Specific status characteristics involve two or more states that are evaluated, and each state has a specific expectation. A status characteristic that is diffuse also involves two or more states that are evaluated and each state has a specific expectation that is evaluated and associated with each state is a general expectation state (Berger et al., 1980). Status characteristics can account for gender inequality. The status characteristics are responsible for the barriers to women advancing in the workplace, not due to something inherent or unequal about women (Ridgeway & Bourg, 2004). This theory supports that the existence of gender inequality.

Varied theories help explain the status of women, work and motherhood roles that are conflicting with cultural norms make up a large explanation of the conflict. Changing norms, though be it slow, can be explained by theories such as the expansionist theories

and as the change in cultural norms related to women, work and motherhood begin to change our theories will need to adapt and be reexamined for relevance.

The above review introduces theories of support and theories on gender and gender roles. This study looks to explore academic mothers' use of SNS as a support system. The academic environment was founded on traditional gender roles. As women have populated academia it could be argued that the traditional sex role theory is detrimental to moving the academy forward and reaching gender equity. The expansionist theory of gender gives a modern context to a continually changing landscape of gender equity (Barnett & Hyde, 2001). Women are well represented in academia, both at the faculty and student levels, but there is a disparity in how women advance through the academic ranks with only 36.7% of those at the professor rank being women (National Center for Education Statistics, 2022a). Moving towards an expansionist theory of gender in academia would allow a more equitable and modern structure for women faculty to succeed. While many may argue that gender equity has made strides there are identified challenges and disparities for academic women and particularly academic mothers. One strategy for overcoming challenges is to engage in networking.

SNS may serve as a tool to move academia more toward an expansionist view of gender roles. Academic women may use SNS to expand their reach and influence beyond their immediate or local networks and communities. Social networks have been shown to provide positive outcomes and benefit an academic career, though some social networks are not accessible because of lack of invitation or access to join the social network or time to interact with the social network. Online SNS break down some of those barriers

and allow academic mothers access to a support system that transcends space and time. Previous literature documents that academics use SNS and social media for networking and professional development (Cain et al., 2013; Chugh et al., 2021; Lupton, 2014). The direct and buffering hypothesis of social support theories suggest that social networks and support can provide individuals with emotional, informational, and practical support and mitigate the negative effects of stressors (Cohen & Wills, 1985; Thoits, 1995). SNS may provide academic mothers with the support they may need to overcome the challenges of academic motherhood. The current literature lacks a deeper explanation of how and why SNS are used by academic mothers and what benefits they may receive by engaging in this way. While the challenges of academic motherhood are well documented, particularly by Ward and Wolf -Wendel (2012) the strategies used by academic mothers to reach goals and success in academia is unexplored. The purpose of this study is to explore the use of SNS as a support system for academic mothers.

Context of the COVID-19 Pandemic

In the early part of 2020, the COVID-19 pandemic took hold of the world. Because of the pandemic many states implemented orders which required the citizens of that state to stay at home except for essential needs (Mervosh et al., 2020). This led to many K-12 schools moving to virtual learning formats. Many colleges and universities moved to virtual learning also (Masonbrink & Hurley, 2020). We have learned in this short time since the pandemic that lock downs and school closings put pressure on many, but particularly parents. Mothers were more likely to quit or have lost their job during the pandemic and those who did keep their jobs were doing more unpaid work at home with

increased interruptions of paid work. Fathers did increase their time in providing childcare, but the impact on mothers was markedly more negative (Andrew et al., 2020). The COVID-19 pandemic made the intersection of work and professional lives more visible (Miller, 2021), though this intersection was a more hidden challenge particularly for mothers prior to the pandemic.

During this time period universities put intense pressure on faculty to shift their teaching to a virtual format and to do so rapidly. In addition to modifying teaching modalities, an increased sense of isolation effected academics (Bowyer et al., 2022). These changes challenged faculty in new ways and often increased their workload as well as their childcare load. Evidence also shows that research publication submissions by women were down during the period of the pandemic (Gayet-Ageron et al., 2021; Muric et al., 2021). This unique event shaped how academic mothers continued to work and their perspective on their role as academics but also as mothers. This study is set three years after the inception of this pandemic. It is important to situate this study in the context of the aftermath of the COVID-19 pandemic.

Chapter 3. Methodology

Women in academia historically have been marginalized and to this day disparities exist for women in academia (Boring, 2017; Gasser & Shaffer, 2014; Khazan et al., 2019). More women graduate from doctoral programs (National Center for Education Statistics, 2023) and enter assistant professor roles at similar rates (National Center for Education Statistics, 2022a). But women are underrepresented at higher ranks and in academic leadership (Gasser & Shaffer, 2014; National Center for Education Statistics, 2022a). Women who are mothers in academia face an additional layer of challenges. Mothers often find challenges in playing a dual role as an academic and a mother (Ward & Wolf-Wendel, 2012). Academic mothers also find challenges of managing their time in these dual roles. Academic mothers find few mentors who are mothers or parents and often academic institutions do not have parent friendly environments or policies (Corona-Sobrino et al., 2020; Hirakata & Daniluk, 2009; Kulp et al., 2019; Wolf-Wendel & Ward, 2006) .

To combat these challenges some scholars have suggested that social support can mediate or buffer the effects of these stressors (S. Cohen & McKay, 1984; S. Cohen & Wills, 1985). Social support can be delivered in many contexts including online. SNS offer a place for academic mothers to receive social support from other academic mothers. The literature has established that academics (Cain et al., 2013; Lupton, 2014)

and academic mothers use SNS (Hanasono, 2023; Lally et al., 2023). There are still unexplored areas on the use of SNS as support for academic mothers. There is little known about why and how academic mothers use SNS as support and how those support systems are different from traditional support systems. It is also not clear on how the SNS impact the careers of academic mothers. The purpose of this study was to explore the use of SNS as a support system for academic mothers. The research questions are:

1. Why do academic mothers seek out support through social networking sites?
2. What type of support do academic mothers receive through social networking sites?
3. How does support through social networking sites differ from in-person or other forms of support?
4. What impact has this type of support had on academic mothers' careers?

These research questions sought to frame this study and to look at how and why academic mothers use SNS for support and how that support differs from in-person or other forms of support. Understanding how and why academic mothers use SNS will help us to better understand the deficiencies of current support systems and allow us to explore SNS as an intervention to buffer the stressors of an academic career. Additionally, I explored the impact the use of the SNS had on academic mothers' careers.

This study was a qualitative analysis of SNS for mothers in academia and interviews with members of the SNS. In order to answer the research questions grounded

theory methodology was used (Charmaz, 2014; B. Glaser et al., 1967; Strauss & Corbin, 1990). The use of grounded theory enables the development of a theory related to academic mothers' use of SNS as a support system.

Grounded Theory

Glaser and Strauss introduced grounded theory in 1967 through their work on death and dying in a hospital setting. The goal of the grounded theory method is to "construct abstract theoretical explanations of social processes" (Glaser & Strauss, 1967). This foundational work outlined systematic strategies for qualitative research. Glaser notes that the first question in grounded theory is "what is happening here?" (Glaser, 1978). This study sought to understand what is happening on SNS for academic mothers. Additionally, Glaser and Strauss outlined several basic principles for conducting grounded theory work to better allow researchers to control their research and increase the analytical power of their work (Charmaz, 2014; Glaser & Strauss, 1967; Strauss & Corbin, 1990). The first principle is simultaneous involvement in data collection and analysis. This simultaneous collection allows the researcher to build on and revisit codes and categories that arise through data collection. Next is constructing analytic codes and categories from the data. The constructing of codes and categories should not be from pre-conceived hypotheses but were constructed based on the data collected. Using a constant comparative method at each stage of the analysis was done to compare the data to previous data. The goal of grounded theory is to advance theory development at each stage of the analysis (Glaser & Strauss, 1967). Grounded theory also allows for flexibility so theories can fit the data that is collected (Charmaz, 2014). Using grounded theory to

study academic mothers' use of SNS as a support system allowed me to answer the research questions in a way that is not prescribed by prior hypotheses and develop a theory to fill the gap in the literature in this area.

For this study, I chose to use the constructivist grounded theory approach as described by Charmaz (Charmaz, 2014). Constructivist grounded theory was built on the principles of classical grounded theory, but Charmaz argues that research findings are constructed rather than discovered. In constructivist grounded theory the researcher is an active agent in the construction of the research and therefore cannot be a neutral and passive observer as is predicated in classic grounded theory epistemology (Charmaz, 2014; Glaser & Strauss, 1967). By using constructivist grounded theory to explore academic mothers' use of SNS I sought to develop theory that will inform not only academic mothers on the practice but also may benefit mentors and those who work to develop faculty within higher education. Constructivist grounded theory approach fits the research questions and my positionality related to the research questions.

Author Positionality

My position in this study is as an insider. I am an academic mother; I am an associate professor and I have one daughter. I also am a member of several SNS that look to support academic mothers or those going through a PhD program. I distinctly remember one moment in my first year on the faculty before I was pregnant with my daughter where I was at a college social event with several of my colleagues. I was talking with several other women who were around my same age, some had young children already and some did not. We were discussing child related topics and my chair

interjected into the conversation that the four of us had to coordinate our timelines for having children, so the division did not end up too understaffed at any one point. There were some uncomfortable laughs and uncertainty of the seriousness of the comment. I continued to think about that interaction as I considered parenthood and my career track. I had my daughter during my second year on the tenure track and have lived experience navigating the academic structures while also being a parent. I have felt challenged by my role as an academic and my role as a mother and often struggle with the ability to be both. It seems, at times, that these roles cannot exist together as if I am devoting more effort to parenting, I am neglecting my faculty role and vice versa. Additionally, as a division chair my role is to support faculty within our division. Many of our faculty are parents and most of them are women. Throughout the study my positionality played a significant role in my data collection and interviews. I did disclose to the participants that I am an academic mother. I feel this created a level of trust and comfort with the participants. Though because I am an insider, the participants may have given less description to their situations assuming that I understood what they were describing. During data analysis I noted that there were moments where I could easily describe and elaborate on the data because of my own experiences as an academic mother. There were also areas where I had less experience and even felt as if I was an outsider. In those moments I would ask additional questions of the participants for clarification and further description. The participants in the study used SNS in different ways than I do and I had to be open to the ways in which they described their use of SNS. Conversely, I sometimes felt my position as a division chair being in conflict with the participants or my own

position as an academic mother. For example, when the participants discussed needing to be out because of childcare needs, at first I empathized, being a mother myself. But secondarily, I know when people are out in our department it shifts the burden to others, particularly because I lead a clinical program which requires intense supervision and in-person engagement. I reconciled this conflict through journaling and an inquiry audit with a professor not engaged in the research study. My position surely influences my interpretation of the data but allows also for a deep understanding of the research questions, which aligns with the principles of constructivist grounded theory (Charmaz, 2014).

Data Collection Procedures

The Institutional Review Board at The Ohio State University (#2023E0772) determined this study exempt. The study conducted semi-structured interviews with members of the SNS for academic mothers. The focus of the interviews was on use, motivation, and benefits of engaging in a SNS for academic mothers. The study also retrospectively examined SNS posts from the participants, with their consent, in order to triangulate the data from the interviews.

A post was made on two Facebook groups "Academic Research Moms" and "PhD Mamas" asking for participation in the study. An additional post was made three weeks after the initial post (Appendix A). The post linked a survey for those interested in participation. The survey included basic inclusion questions and a place to leave an email address or phone number (Appendix B). Participants were then sent information about

the study via email and an appointment request for a time to schedule the interview (Appendix C).

Interviews were conducted on Zoom and audio and video were recorded by the investigator. The semi-structured interviews started with a list of questions (Appendix D) but allowed for additional questioning based on the responses of the participants. Transcripts of the interview were made at the conclusion of the interview via Zoom and the investigator further transcribed the interview to create a final transcription. Participants were asked if their posts on the social media sites could be reviewed to triangulate the conclusions from the interviews. Site and name used on the site was verified with participant if consent was gained. Posts were then archived by searching the site and taking screen shots of posts made by the participants.

Sample Selection

The sample for this study was academic mothers who were recruited from the Facebook pages "Academic Research Moms" and "PhD Mamas". "Academic Research Moms" is a Facebook page for "women balancing research, participating in academia, and running a family." The group was created in 2015 and their mission is to provide support, camaraderie and advice. There are over 3,000 members in the group as of February 22, 2024, and there were 154 new posts made from January 22 to February 22, 2024. According to a poll on the Academic Research Moms Facebook page, most members are full time faculty at large academic institutions. A fair number are physicians and at the assistant professor level (*Academic Research Moms Facebook Group*, n.d.). The "PhD Mamas" Facebook page was created to:

> …provide support to those who identify as mothers navigating academia. We strive to facilitate, promote, and advocate for structural change that creates a more equitable and inclusive space in higher education for mothers. This group was born out of necessity and with the goal of support for Mothers in academia. The idea came out of a session at the North Central Sociological Association meetings in April 2015.

There are over 19,000 members of this group as of February 22, 2024, and there were 342 new posts from January 22, 2024 to February 22, 2024. (*Ph.D. Mamas Facebook Page*, n.d.). Recruitment of this sample was done by posting a request for participants on these SNS. Snowball sampling was also conducted. Participants met the criteria of identifying as a mother and holding an academic appointment. Participants also participated and/or belonged to the "Academic Research Moms" or "Ph.D. Mamas" SNS. One study participant belonged to both groups, the other participants belonged to one group or the other. Information about the study participants are in Table 1.

Table 1

Demographics of Study Participants

Name	Rank	No. of Children	Partnered Status	Discipline
Ella	Assistant professor	3	Married	Medicine
Evelyn	Associate professor	2	Married	Physiology
Imogen	Instructor	1	Married	Immunology

Jennifer	Assistant professor	1	Single	Marketing
Joyce	Assistant professor	1	Married	Education
Katherine	Associate Professor	1	Married	Medicine
Liz	Assistant Professor	2	Married	Sociology
Mae	Assistant Professor	2	Married	English
Sally	Associate Professor	1 and pregnant with 2nd	Married	Communications
Sarah	Assistant Professor	3	Married	Neuroscience

Each participant was asked to complete two interviews via Zoom. The initial interview was structured on the questions listed in Appendix A and lasted approximately one hour. At the initial interview, verbal consent was gained to participate in the interview and to review the posts they have made to the SNS. If consent was gained to review the posts, posts made within the last year were archived and analyzed (Fig.1).

Figure 1

Sample of Archived Post

Triangulation of information gained during the interview was through the posts. Additional themes that emerge through this content analysis were addressed at subsequent interviews. Five subsequent interviews were conducted. Three participants were randomly selected to participate in a second interview to complete member checking of the initial transcript and analysis and ask additional questions about the posts that were made to SNS.

Data Analysis

The data collected for this study was transcripts of interviews with academic mothers. Data analysis was done throughout the data collection period. Participants were given pseudonyms to allow for confidentiality. In alignment with the principles of constructivist grounded theory, data was collected and analyzed concurrently (Charmaz, 2014). An initial coding of data was conducted where all parts of the transcript were coded. In this phase it was important to have codes stick closely to the data, which means using action words to describe what is unfolding and not jumping to themes in the initial coding. Charmaz emphasizes the importance of attempting to code with words that reflect action and the researcher must be open to all possible theories and codes (Charmaz, 2014). The second phase of coding was focused coding. In this phase, the most useful initial codes were used, and they were tested and moved into broader terms. Constant comparative analysis continued through both phases of coding. Next, I moved to theoretical coding. Theoretical coding occurs after focused coding and identifies how the codes relate to each other to form a theory (Charmaz, 2014). Throughout the data collection and analysis process, memo writing was also conducted. Memos are research

thoughts and ideas captured throughout the study process. Memos are written in a free and flowing manner and can assist in identifying gaps, develop new ideas, make comparisons and assist in raising a code to a category (Charmaz, 2014).

The following is an example of how one piece of data went through all phases of data analysis. The following quote from Katherine provides this example:

> I think it's a wider network. So you don't need to necessarily know someone….. What I think social media offers and the site offers is that ability to kind of connect with people more anonymously, but also people from all over the country whom I might not intersect with in any other way.

This quote was coded initially as: gaining access to a wider network. In the focused coding phase this piece of data was compared with similar codes on networks and access and focused and moved to the code "accessibility increases with SNS" along with thirteen other pieces of evidence that had similar initial coding. This focused coding was then compared to other focused codes and relationships between the codes was evaluated. A theoretical code was developed called "increasing accessibility" which melded this focused code along with four other focused codes. The relationship with this code along with other codes related to the responsiveness and physical ease of access were used to develop the theoretical model.

Trustworthiness

It is important to establish trustworthiness to qualitative study methods. Trustworthiness describes the rigor of a study that ensures the quality of the work While

quantitative studies rely on reliability and validity measures qualitative work relies on credibility, transferability, dependability, and confirmability (Guba & Lincoln, 1981).

Credibility

Credibility is the confidence in the truth of the study and the findings (Lincoln & Guba, 1985). Credibility was established through member checking and the triangulation of the interview with posts made on the SNS. Member checking is when a provisional report is taken back to the participant and scrutinized by the person who provided the information. This allows the participant to validate that the researcher has accurately represented their story (Guba & Lincoln, 1981; Koelsch, 2013). A random selection three of participants received a copy of their transcription and the themes and theory that were developed based on my analysis. They were asked to provide feedback related to the extent to which the results accurately described their experiences and reasons for using SNS for support in their academic careers. The feedback received was almost all confirmatory. These participants reported that the themes and theory established resonated with their own experiences. The areas that were especially meaningful for these participants were the safety of the environment and the access. This confirmation helped influence the development of the theory in this study. There was also strong consensus that the SNS was used for both personal and professional reasons. In contrast, there were some themes that did not resonate among all participants. There seemed to be differing sentiments over the concern for privacy in the SNS. Two participants confirmed they had very minimal concerns about privacy and that they would use the anonymous posting feature if they had strong concerns about keeping an inquiry private. While one

participant indicated that they frequently thought about the privacy of their data on the SNS, and this limited what they posted or responded at times. Even though the anonymous feature is available in both groups this participant felt that the platform may not be as secure as others had indicated. This process was also used to triangulate the data found in the posts with participants. The posts revealed additional types of advice and information that was not indicated in the interviews and these posts were triangulated with the participants for confirmation. Two topics (medical advice and teaching methods) were identified in the posts and later confirmed through member checking. This feedback was used to further refine the analysis.

Transferability

Transferability is the how useful the findings may be to persons in other settings. Transferability can be established by providing thick description (Lincoln & Guba, 1985). Detailed descriptions of processes and procedures can be done through memo writing and journaling. Memo writing and journaling during this study assisted in creating this thick description required to establish transferability. For this study memo writing and journaling were done after each interview and during analysis. One example of journaling from this study was after the first interview I noted that the questions about current support networks were not fully clear to the participant, so that question was modified to ask more specifically about each type of support networks. From this study, researchers could apply these data collection methods to other SNS or other populations.

Dependability

Dependability is the stability of the data over time. Dependability was established by conducting an inquiry audit. The inquiry audit involves examination of the research process and product by a researcher who was not involved in the data collection or analysis (Lincoln & Guba, 1985). The purpose of this audit is to evaluate the accuracy and evaluate if the findings are supported by the data. The data for this study (transcripts, recordings of interviews, and archived posts) were stored electronically in folders on a secured network. The participants were given pseudonyms, and all primary data was filed and organized by pseudonyms. Access to the recording, transcripts, and posts were given to a professor who is familiar with the network but did not participate in the study or the data collection process. Additionally, I sent the initial codes as a PDF, secondary coding, and a draft of the theory development figure to the professor. We met to discuss the findings. The feedback from her review included that some of the quotes could be coded in additional areas. For example, she suggested that data about the logistics of using the SNS may play a part in the access of the network as well as how it is used. Based on this feedback additional codes were added to some of the data.

Confirmability

Confirmability is the degree to which the data reflects the participants actual experience and is not influenced too heavily by the researcher's own biases (Guba & Lincoln, 1981; Lincoln & Guba, 1985). To establish confirmability Lincoln & Guba (1981) suggest an audit trail and triangulation. The data required of an audit trail include; contextual documentation (field notes), methodological documentation, analytic documentation (researcher's analysis and thought process), and personal response

documentation (Rodgers & Cowles, 1993). This data was audited by a professor who was not part of the data collection or analysis to confirm the interpretation of the interviews was in alignment with the data. Additionally, three participants were asked to review their transcripts and were provided the focused codes and they provided feedback confirming this was consistent with their intentions. Triangulation occurred with these participants by reviewing the archived posts from the participants and confirming whether these additional findings were consistent with their experiences. Posts revealed inquiries about teaching resources and medical advice, which were not discussed by participants in the initial interviews. Reviewing these additional findings allowed me to confirm these were common reasons for using the SNS.

Conclusion

The purpose of this study was to explore the use of SNS as a support system for academic mothers. Constructivist grounded theory, a qualitative research method, was employed to explore why academic mothers use SNS for support, what benefits they perceive from this type of support, how this type of network is different than traditional networks, and what impact this type of support has had on their careers.

Chapter 4. Findings

This qualitative constructivist grounded theory study explored why academic mothers utilize SNS for support and what type of support they receive from these sites. It also sought to explore how the support received through a SNS was different than traditional or in-person support networks. The previous literature indicated that academic mothers faced unique challenges in their careers (Ward & Wolf-Wendel, 2012) and sometimes lacked access to support networks (Bassell, 2010; Casad et al., 2021; Howe-Walsh & Turnbull, 2016). This chapter outlines the findings of this study and is divided into four sections: the research questions, a description of the participants, a description of themes, and the theory that was developed as it related to the research questions.

Research Questions

This study explored how academic mothers use social networking sites for support. The research questions answered in this study are:

1. Why do academic mothers seek out support through social networking sites?
2. What type of support do academic mothers receive through social networking sites?

3. How does support through social networking sites differ from in-person or other forms of support?
4. What impact has this type of support had on academic mothers' careers?

The results of this study are presented first with the characteristics of the participants in the study and the current support networks that they utilize. Next, I explore the challenges of the academic mothers in this study. These challenges are dual role, time, isolation, financial, travel, health issues, and this section concludes with challenges that were specific to the COVID-19 pandemic. Next, strategies for overcoming the challenges are presented. Strategies that the participants use are organization, setting boundaries, and lowering expectations. The next section delves into the reasons the participants use SNS for support. These reasons are both personal and professional. Advice and information were main reasons academic mothers use the SNS. Encouragement, engaging in a supportive community, breaking down isolation, job search, perspective, and seeing success are other reasons that are explored. The logistics of how the SNS is used are covered next. This section describes how, when, and frequency of access to the SNS. The following section identifies the differences between the in-person networks and the SNS. The impact that the SNS has had on the participants is reported along with their reluctance and concerns about SNS use. Finally, the theory developed from the analysis is presented.

Participants

Recruitment for this study was done via posts to two SNS groups. There were 121 responses to the initial posts. I responded to the interest as I received responses. The ten participants were chosen based on the order they responded and the ability to schedule a time to conduct the interview. Ten academic mothers were interviewed for this study. Three participants were randomly selected for member checking and to triangulate the findings. Six of the participants were assistant professors, three were associate professors, and one was an instructor. They all had between one and three children living at home and used she/her pronouns. Two participants did their undergraduate education outside of the United States. All held positions in academia in the U.S. (Table 1).

It is important to contextualize the participants' situations and challenges so their reasons for using SNS as support can be better understood. This section will outline the current support networks, the challenges academic mothers face, and the strategies they use for overcoming these challenges.

Current Support Networks

The study participants have both personal and professional support networks in their lives. Support systems for both personal and professional needs were varied and highly important to academic mothers. Personal support networks included family, friends, schools, and caregivers. Overwhelmingly participants found their spouse to be a strong member of their support system. Most of the mothers in the study were married and had a spouse, though one did not. Other family members were also viewed as important members of the support network. Some family members provided support

through offering childcare services (particularly mothers of the participant or mother in-laws). At other times family members provided support through listening and offering encouragement or being a resource for parenting advice and information. The participants also described friends as a support system. Friends were often connected to their children in some way (other parents in the classroom or daycare). It was also noted that sometimes seeking out friends took some effort and even a long time to find friends, particularly for those who moved to new locations for their positions. Schools and caregivers were also part of the support system. The main way support was provided was through childcare. Schools provided care for children during the day and then paid caregivers (babysitters, nannies, after school programs, etc.) provided care before and after school and at other times.

Professional support networks were also important to academic mothers but provided different types of support. Coworkers and mentors were part of the professional support systems. Mentors were described as helping navigate the world of academia, helping the participants prioritize since their time was limited, and encouraging them along the way. There was also an acknowledgement that mentors had made a space for academic mothers to succeed through either paving the way themselves or creating an environment where mothers could succeed. Coworkers were also generally described as extremely supportive particularly other women and other parents (including fathers).

While the participants could describe personal and professional support networks, there was some overlap in them. Colleagues provided a place to discuss ideas and offer encouragement both personally and professionally, but mostly professionally. SNS were

also identified as places where both personal and professional support are sought and received.

Challenges

It is worth exploring the challenges that academic mothers identified in this study to understand the context of the use of SNS for support. The themes that emerged in this area were dual roles, childcare, isolation, travel, time, finance, and health.

Dual Roles

One challenge that many participants talked about was the challenge of dual roles. The role of a mother and the role of an academic. Overwhelmingly these identities were linked and not separate for the participants. Ella described this dual role from the time she was a graduate student and how it has continued:

> I mean every part of it all of it overlaps. I mean, most of us in academics work a lot both number of hours and unusual hours. And that started from the very beginning. I had my first child when I was in graduate school, so that involved you know go to her daycare near school, then I would start an experiment like start a PCR gel, and then I would run over her to her daycare to feed her because she refused to drink bottles. At the end of the day, we often weren't finished with experiments, so I would bring her from the daycare, and she would hang out outside of our labs while we were finishing experiments. That has just carried on throughout. You know it all intermixes together.

Some characterizations of this dual role were positive and helpful. Regarding teaching, some felt that their role as a mother allowed them to better connect with their students.

Some commented it made them better able to connect with undergraduate students and their lives because their children were nearing the same age and facing the same challenges. Conversely, some felt it made them better able to connect with their own teenage children because their academic role required them to encounter young adults and work with them in a teaching capacity. Jennifer stated, “since I have a teenager, there is a lot of overlap, because I can relate my experience in the classroom to my experience at home now.” Another positive characterization of the dual role was that in general most of the women felt that sharing their identity as a mother was comfortable and not problematic. They felt confident in talking about themselves as a mother and disclosing that identity. Katherine described this as a change from previous generations of academics:

> I think in previous generations a lot of women academics wouldn't share if their kid was sick and they were home with them, they wouldn't feel comfortable sharing. In my generation, I feel that the workplace is perfectly comfortable hearing that. And so, I'm very open with my lab group and with my peers about the times that I'm not able to work.

However, the dual role was most often characterized negatively or as a challenge related to switching back and forth between the roles. Even though most mothers felt that these identities overlapped they described challenges of switching from parenting duties to academic duties. Switching back and forth also felt less efficient. Liz characterized the challenge of inhabiting both roles at once:

> It often feels like my brain is kind of breaking in half honestly, psychologically I find it just really hard to be both. And it's especially when my kids were toddlers like I could feel the part of my mind that was very focused on being a parent, and knew how to be a totally loving, present, attentive parent. And the part of my brain that knew how to be in my professional role, and I find it super hard to inhabit those at the exact same moment.

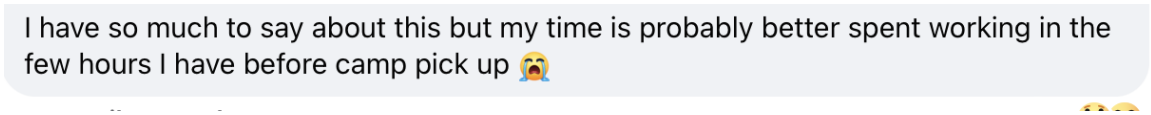
The challenge was also characterized more specifically as feeling that they were unable to put in enough time and effort into each role as they would want to.

Time

Another similar challenge discussed was balancing time at home versus time at work and protecting that time or blending it. Time in each role was a challenge, but time in general also emerged as a challenge directly. Overwhelmingly academic mothers felt there was not enough time for them to devote what they wanted to academic careers and to parenting, both roles feeling like full-time jobs. While devoting time and energy to work, mothers described the demand of devoting time and energy to parenting when coming home. Time was also discussed as a challenge for outside of normal work hours. Many mothers talked about the need to be working in the evenings or on weekends and how this took time away from their children or their parenting roles. Some participants had very strict rules about working outside of hours and some did not, expressing the ebb and flow of an academic career and trying to meet the needs as they came. A post from Ella demonstrated this balance (Fig.2).

Figure 2

Post From Ella



Note. This post is demonstrating managing time working and taking care of children.

Isolation

Another challenge that emerged was that of isolation. Isolation took on two forms in this study; geographic and professional. Geographic isolation was described as moving away from family and support networks in pursuit of academic positions. In some fields there are limited positions available and moving to a new location would be required to find a position, particularly immediately out of grad school. Mae describes a common challenge of moving away from family "Our closest family is about three hours away, and most are more like six to seven hours away." This geographic isolation decreased the support mothers felt and their ability to utilize support networks of family and friends.

Professional isolation was that of feeling as if no one understands the role of an academic mother and the challenges they face. Many participants said they knew very few other academic mothers in their professional or personal networks. This professional isolation led to feeling as if no one understands, or solutions that are given by those in their in-person networks are not suitable in an academic environment. Jennifer articulated this as "Sometimes people just don't understand that we are in a different situation. We

have different challenges." They felt alone and that no one they knew had similar challenges or could understand the challenges of academic mothers.

Financial and Travel

Academic mothers not only felt isolation, but traveling out of town for conference presentations was a challenge. The challenge of coordinating childcare during the time being away or being able to bring children with them was financially out of reach. One mothers was single and had to bring family in from out of town to take care of children during their travel. Some mothers who were married or who had partners could delegate caretaking to them, but with some additional coordination or back up plans. Some mothers limited their travel because of these reasons, and they felt that this had a negative impact on their career and their ability to network. Those who did travel to conferences felt as if it was a lot of work prior to leaving to plan for their absences but felt like these conferences were beneficial to their careers. Sarah described the impact not attending conferences had on her career:

> And so I did not do a lot of conferences, as you know, as a trainee that just affects your whole career forever and ever. And now since my kids are older and we have more money, we can pay for people to do stuff. So I am much more able to have all those opportunities. And it is a striking difference. The networking that you do in person. Conferences makes an enormous difference to your career, that's a big one.

Some academic mothers did less work travel because of financial constraints. Financial difficulties were described in two different contexts in this group of academic

mothers. Financial difficulties were often characterized in early career stages and later career stages. Participants noted things got better as they had more employment that was full-time and rose in rank. The first challenge was having the financial means to pay for childcare. This was childcare for out-of-town travel (conferences), when kids were sick, for summers, and more than part-time childcare. Childcare was a financial strain for many. Secondly, there were additional challenges in having finances to pay for childcare for self-care time. One participant in particular, Jennifer, described limiting the childcare hours so she could meet her work obligations, but she did not have enough time (in early career) to have childcare to go out for a run, have time with friends, or attend evening events:

> We wanted to take a break, and I wanted to go out. And I couldn't bring my child, for example, to a 9 pm. event, and I couldn't attend myself because I didn't have anyone to take care of my son. We didn't have resources, for example, to hire a babysitter.

Health Issues

While financial difficulties often dealt with the cost of childcare, concern over health issues were mainly related to health issues of children. The medical needs of children were time consuming and a focus of parenting for many mothers who had children with special needs. Managing the needs of the child (appointments, special diets, behaviors) was stressful and a focus of the mothers who spoke about this. Additionally, mothers had a challenge of finding childcare when children fell acutely ill unexpectedly.

They identified limited options for back-up childcare. This became particularly stressful when mothers had an important work obligation.

While academic mothers did not focus on their own health issues when describing challenges, they did describe signs and symptoms of exhaustion that affected their health. Both physical and mental concerns emerged in the interviews. Striving for perfectionism or "overdoing it" were common reflections of academic mothers. Realizing that they set unrealistic standards for themselves with work and parenting. Sometimes this led to trouble focusing on any type of work (parenting or academic). However, in doing this they experienced burnout and realized it was not sustainable over a long period of time. Putting in full efforts at work and then coming home to put in full efforts as a parent exhausted the participants. In addition, when children were infants the lack of sleep made completing required work and home tasks difficult and led to exhaustion. Katherine described a period of time when she felt exhausted:

> We didn't have extended day, so I would pick my kid up at three o'clock, and you know, for some people the split shift works. They might wake up early in the morning, work until 2:45 be with their kid and then get back to it. But I could never do that at nine o'clock at night. So I basically felt for a long time like I was burning the candle on both ends.

Additionally sleep deprivation led to exhaustion for Liz:

> I was so sleep deprived for five years, most of that time. In a way that really affected my academic work that I did. But I have since really gone on to realize as a non-sleep deprived person in academia, how much it was affecting me.

Health concerns of children and mothers themselves were a prominent challenge that academic mothers identified in this study. Some of these health concerns were exacerbated by the COVID-19 pandemic.

Pandemic Related Challenges

Because this data was collected post-pandemic in 2023, many participants reflected on the role the COVID-19 had on their challenges. Overall, most of the challenges listed above became heightened challenges during the pandemic, particularly childcare, dual roles, and health issues. The pandemic led to unique challenges brought about by modified school schedules or difficulty working while children were home for school. Childcare options during the height of the pandemic were almost non-existent. Liz described the challenges of being an academic mother during the pandemic:

> And then, during COVID, like early COVID, I had a two-and-a-half-year-old and a five-and-a-half-year-old, and it was just ridiculous, and I was doing presentations at virtual conferences. My two-year-old came in in the middle, asking me for crackers. And now it feels like a bit logistically more divided again in ways that I really appreciate and are so much easier.

Additionally, the pandemic seemed to further limit in-person support systems because of hesitation to socialize or spend time outside of one's own family structure or "pods". The pandemic brought on new challenges and heightened current challenges for academic mothers.

Strategies for Overcoming Challenges

As academic mothers faced the challenges described in the prior section, they had developed strategies for overcoming these challenges. These strategies included organization, self-care, prioritizing motherhood, setting boundaries, and lowering expectations.

Organization

As highlighted in the previous findings, having enough time to accomplish work tasks and motherhood tasks was a challenge. To overcome this challenge academic mothers spoke about a very rigorous organization of their lives. Mae states that "I'm very careful with how I build my schedule." Overwhelmingly participants discussed detailed strategies in organization and time management. They described highly disciplined schedules and complex calendars that allowed them to meet the needs of their children and their work. For example, Imogen described what it takes to manage being an academic mother:

> I think one of the things is that I have to be extremely disciplined and organized. That really changed after becoming a mother, because before that I would be very happy to accommodate a lot of people's projects when it comes to discussion, giving feedback, and I still do that. But I do that knowing that I can only do it within a certain time. I don't go beyond, or I don't try to fit it into my day. My day's very heavy. I realize I need to prioritize myself or my lab.

Part of the organization of their lives included making time for self-care. Many academic mothers identified that exercise, therapy, religious practice, and meditation were all necessary forms of self-care. Mae described the effort to prioritize self-care:

> I really prioritize doing stuff for myself. I recognize that I'm a better mom when I went today, I drop them off, and then I go for a run. So, finding that time to do the things that I enjoy helps me, because sometimes it's like crap. I got a lot of grading to do, and I probably shouldn't have just spent the last hour running. But it's like I need that, because now I have, I've done that thing that is satisfying to me. And now I can take care of the work thing all day, and then tonight I'll have the kid thing and finding that just finding time for myself is a big part of how I do it.

Setting Boundaries

Setting boundaries was another strategy many participants spoke about. Boundaries were set to allow for professional and personal needs. Examples of this were turning off email notifications on their phone, setting aside family time- where they did not attend to any work, and saying no to things. Many of these boundaries were created to allow more time for mothering activities, but it was also discussed that utilizing childcare (even during summers, breaks) was a way they created boundaries to allow for work to be done. In creating these boundaries some mothers spoke of choosing positions that aligned with their parenting values and declining positions that did not. Others decided to make their motherhood roles a priority, noting that the work will always be there- while also acknowledging that there was a certain level of work that had to be done. Another way

participants prioritized motherhood was by talking about their role as a mother and letting others know they were unavailable due to mothering obligations. Creating boundaries allowed academic mothers to manage the demands of parenting and an academic career.

Lowering Expectations

Many mothers described the need to lower their expectations both professionally and personally. Professionally lowering their expectations on how many publications they could have each year or revamping a course they were teaching. Mae describes how she manages expectations:

> I just temper my expectations. I think that's a big part of it, as I just realized, hey I'd love to redesign this whole unit. But it's not going to happen this time, and so maybe it's not as good as I would love it to be. But whatever.

At home, mothers lowered their expectations of attending every school event, providing perfect meals, house cleaning, etc.

Characterizing this study's setting helps to better understand the context of the emerging themes and theory that emerges from the data. In summary, academic mothers have personal and professional networks made up of family, friends, caregivers, colleagues, and mentors. Despite strong networks academic mothers face a myriad of challenges from isolation, dual roles, time, financial, childcare, and health. The strategies they employ to overcome these challenges range from organization, self-care, setting boundaries, and lowering expectations. Each of these strategies works in different ways and in both personal and professional contexts. This section has set the stage for examining our main research questions surrounding the use of SNS for support.

Reasons for Using SNS for Support

One of the main objectives of this study was to learn why academic mothers use SNS for support. The participants in this study most often decided to use the site initially because another academic mother suggested it to them. A few came across the academic mothers' site while using the SNS. The participants in this study were not seeking out a SNS for support, the opportunity presented itself to them. The themes that emerged related to this research question were advice and information, encouragement, supportive community, break down isolation, perspective, seeing success, and networking. The reasons fell both within the personal and professional realms of their lives. Some themes that emerged were exclusively related to professional endeavors while others exclusively personal and a third set crossed both personal and professional contexts of support. These main themes were the reasons academic mothers used SNS for support. Each area is elaborated on below.

Advice and Information

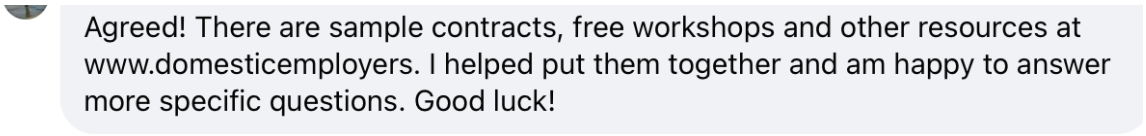
Academic mothers reported that they use the site for getting and giving advice and information. The advice they give and receive is both personal and professional. The advice and information given and received included parenting, health and wellness, team management, research/grant writing, and teaching. The posts archived provided concrete examples of the variety of advice that was asked for and given on the site. The following outlines the different types of advice and information that are shared on the SNS.

Personal Advice and Information. Some advice and information fell exclusively in the personal realm. Parenting and health and wellness advice was almost exclusively personal. The only exceptions were posts about how to manage childcare while traveling to conferences or during evening or weekend activities.

Parenting advice was a common occurrence among participants. Some parenting advice related to how to manage situations with children while others were related to child development. Most common though was breastfeeding advice. Parenting advice also was demonstrated in posts about hiring a nanny or other childcare. One post asked about formal contracts for a nanny and Liz responded with information (Fig 3).

Figure 3

Response Post From Liz



Participants also use the site for health and wellness advice. Some examples include how to treat a flu and using acupuncture for pain. While no participants during the interviews discussed this as a reason there were several archived posts that included giving or receiving medical advice. When follow-up questions were asked about this, the participants confirmed they see these types of questions and some have asked them themselves, particularly around COVID information. The medical advice was specific

and often included resources from journals or professional organizations to back up their advice.

Professional Advice and Information. In addition to personal advice academic mothers use the site for professional advice and information. Interpersonal or management skills, research and grant writing, job search, and teaching were all areas discussed or posted about that related strongly to the academic's role. All the interpersonal and management advice was related to the workplace. Some posts were about how to manage lab members or how to discuss sensitive topics with other colleagues. For example, how to ask a chair for a raise or additional release time. Or how to manage research assistants who were not performing up to expectations.

Because the participants were academic mothers it was common to see advice or information given about research or grant writing. Research advice was varied but included asking for advice on methods or appropriate analyses- oftentimes asking for resources for qualitative coding, survey creation, scheduling study participants, organizing papers and citations, and writing advice. Liz provided advice on managing research participants schedules "Calendly has an option for synching multiple calendars—at least they did in 2020. You have to pay more though." The most advice was asked about securing grant funding, particularly federal grant funding. Questions were specific and targeted, but participants seemed to find the advice they received helpful. Ella talked about how she has learned about grant writing from the site:

> None of my grants have gotten funded, but I still feel like I learned a lot about grant writing and like various random grant facts through the site. I mean, for

example, like the LRP. I don't even think I knew that existed. So I did get an LRP. And I probably learned about it through the site because no one in my field has one.

One particularly urgent question about a grant submission had four responses about connecting in a short time. Grant writing and funding information was a common reason and benefit of using the SNS.

Not only did participants get grant writing information, but they discussed using the site when they were searching for positions either inside or outside of academia. They asked questions about how to improve their application materials, weighing out offers, negotiating, salary advice, norms at different types of institutions, and interviewing skills. One example that was given from Sarah was that she gave advice on when to mention a spousal or partner hire during the interview process, "the understanding is that you shouldn't mention any spousal/partner hire until you have an offer."

Additionally, more specifically in the professional realm, questions about how to teach courses or how to structure course sessions or assessments were frequently asked by academic mothers. Responses were very specific and offered many options. Sally described how she used the site to get ideas for a course she was teaching:

> I decided to do a new assignment for my grad students this semester having them write an op-ed. And it's something that's really, a lot of my colleagues do, and I wanted to get some good examples of an op-ed to give my students that were written by academics. So I posted 'hey, anybody have something that you would be willing to share with me?' And so I got some good responses from mostly

people I knew but a few people I didn't know on the site. And I was able to use those as examples in my course.

This topic again was mostly discovered through posts, but confirmed with secondary interviews with participants that teaching advice and information is of interest on the SNS.

Some advice related to the intersection of personal and professional lives. Often breastfeeding questions were about how to travel to a conference and still breastfeed/pump. Parenting advice was sometimes related to how to both work and parent. There were also some examples of asking about norms. One example is a participant asking about the dress code for a conference, another about cultural norms from an academic mother who grew up outside the US. Advice and information emerged as a large reason why academic mothers use SNS.

While getting advice was something the participants did through all their networks, the SNS allowed them a place to get advice from those in a similar situation and for those topics that they felt embarrassed to ask their traditional support networks. Ella comments that, “It feels very safe. The one group in particular, I don’t feel dumb asking questions.” The safety of the SNS allowed the participants to gain information and advice that they may have hesitated to ask colleagues or mentors in their traditional networks.

Encouragement

Another theme that emerged was that academic mothers used the SNS for encouragement. Encouragement took many forms on the site, but participants agreed that this is one reason they sought out the SNS. Encouragement looked like:

- Demonstrating agreement
- Calling out inequities
- Being empathetic
- Showing appreciation of responses

Encouragement by demonstrating agreement often appeared as a "like" on a post or a response to a post that encourages the author in their challenge (Fig 4). Memes were also used to show agreement on others' posts.

Figure 4

Response Post by Joyce

Note. Post demonstrating encouragement.

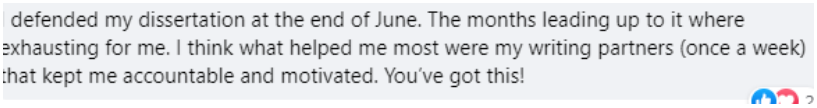
Another way encouragement was demonstrated was by calling out inequities. One example was a photo of a panel at a conference in which the post identified that of

the eight panelists none were women. Other members of the community commented on this example and how they see similar inequities at conferences they attend. Additionally, articles about gender inequity were shared on the SNS.

Encouragement was also shown by being empathetic. In response to a post about someone being stressed about writing and defending their dissertation Joyce posted an empathetic response about her own experiences during that time and offered advice and encouragement (Fig. 5)

Figure 5

Empathetic Post by Joyce



Note. Post being empathetic of another member's stressful situation

These types of posts and responses often garnered appreciation from the members of the site. Mae responded to a post about someone completing their dissertation that outlined the struggles they had in the process, "This is painful and beautiful and real. Thank you so much for sharing it." Other members of the site also commented on how they appreciated the vulnerabilities the member had shared.

Encouragement on the site took on many forms and the participants in this study overwhelmingly noted that the encouragement they saw and received from others had a positive impact on their own experiences.

Engage in Supportive Communities

Not only seeking encouragement, but overwhelmingly the participants described the SNS as a safe environment and that was the reason that they participated in the group. Mae notes this:

> And I think it is interesting that this would be a safe space, especially because we talk about how academia can be toxic sometimes. And a lot of that toxic culture is around this ... the academic mom's space would be a space where people would feel safer asking those questions when in some in other way. But maybe that's part of how we find community. Academia isn't always super mother friendly, you know, supportive, conducive to mothering.

Additionally, Sarah describes the positive environment on the SNS:

> And I also feel like I kind of mentioned before that it's a very constructive and non-judgmental space. I feel like everybody gives feedback in a really hopeful way. Even if it might be counter to what somebody else is describing or what you're thinking. Everybody approaches it in a collegial way, I would say.

They characterize the SNS as a supportive community where they can express concerns or questions that may be uncomfortable to discuss in other settings. Several instances the participants said that they received messages from other members of the site encouraging them or saying that they are here for them or sending a hug. Jennifer describes the type of support she has given:

> It did help me with my psychological well-being. Besides solving some particular problems, it does help because you know that there is a community that can

> support you. Whatever happens, even, for example, you are all in this situation they will still give you good advice, and they will support you, even if they don't have any advice, and it also helps me to be more supportive.... what can I tell this person. I just can give them a big (virtual) hug and tell them that I'm with them, and I think it helps in both ways. Like getting help and being a better person yourself.

The overall sentiment from academic mothers was that the site was a welcoming and supportive environment and that was the reason they engaged and continue to engage on the site.

Breaking Down Isolation

The SNS site gave the participants the feeling that they are not alone. Many discussed their feelings of professional and geographic isolation as a challenge, and they discussed that being part of the site made them feel less alone in their struggles and allowed them to find people like them with similar situations and challenges. Imogen described how the site helped her break down feelings of isolation:

> I think the main impact it has had is knowing that you're not in isolation, because for the first time I realized that my struggles were not unique to me. It was not something that I was doing, getting grants was really so hard. People were posting, how many times they had to work, how many reiterations they had to go through! And all of a sudden, being part of that group made me realize that my struggles were real. But you know it was not something that was being defined by

> me. It was more like the system, you know. So that was for me the most important thing that has happened to me through the site.

Jennifer provided an example of how the site gives her a place to share her challenges, "I just want to have someone I can share this with, because for people outside of academia, sometimes they don't understand why it is important for you. Why it triggers you so much, and what kind of emotions it causes." The SNS was one way in which academic mothers could break down the feelings of isolation that were described in the section outlining challenges in this chapter.

Job Search

Academic mothers also described using the SNS for their job searches. This included asking about leads on open positions, posting open positions within their institutions, asking questions about negotiations or weighing out job options. Also, opportunities about teaching positions or guest lectures were also cited. Academic mothers indicated that they mostly promote their work on X (formerly Twitter) and they felt that was a way to get increased exposure of their publications or work. Sarah said "I used it (X) to promote papers that I had done, or any achievements that I had gotten." But the asking of questions about positions, negotiations, etc. happened on the Facebook groups. Sarah described her experience in gaining teaching experience:

> And there's been times where I don't have very much teaching experience. I was trying to gather a little bit of that as I was applying for academic jobs. And I did get some like teaching gigs through those types of posts which has been nice, and then I hope to pay it forward at some point, to give, especially in the academic

mom group. Give other mothers a chance to build their CV. And keep moving forward as much as they want to.

Perspective

In addition to job prospects, academic mothers described that the use of the site gave them perspective. Sometimes it was just insight into other academic mothers' lives, other times it made them put their own situations in perspective. Often commenting that "I thought I had it rough until I read the post from....". They did not have to interact with other academic mothers to gain the perspective- just reading posts from other academic mothers gave them the perspective they were looking for. Jennifer discussed how seeing others' challenges has helped put her own challenges into perspective:

> Sometimes I think I struggle because I'm a single parent, and I have one child, and then I read about people who have 3 children, and they are single parents or people who have 5 children, or people who have children with special needs, and understand that my struggles are not [as challenging]. And then you understand how many people are seeking help they don't get. And then you think about how you can be helpful.

Mae described that it made her more appreciative of her own situation, "I think it's probably mostly helped me appreciate my situation more than anything... it's just helped me gain a little bit of that perspective that has helped me appreciate opportunities more."

Seeing Success

Not only was gaining perspective a reason academic mothers used the SNS but seeing other academic mothers in similar situations succeed was helpful to the participants. They thought if they saw others succeed that they could too. Additionally, a few participants talked about how they saw senior level people posting about challenges they had and felt like they too could accomplish goals with these similar challenges because others had been successful. Liz shared that:

> Seeing people who I know who they are in their professional [life], including some like pretty high up people at my institution or in that group posting in there being like, I'm trying to figure out my sandwich generation issues or whatever that's been really a... moving kind of mentorship.

Academic mothers described seeing other academic mothers' success as "inspiring" and that it had a positive impact on them.

The reasons for using SNS for support were varied and vast. Some reasons related only to personal realms of their lives and some exclusively to the professional realms and other advice was related on how to manage the dual role required of academic mothers.

Logistics

In addition to the reasons academic mothers' use SNS this study explored how academic mothers use SNS for support. The logistics of using SNS sites is an important part of contextualizing this question. Academic mothers reported mainly using Facebook, Instagram, TikTok, and X (formerly Twitter). Generally, they used Facebook and Instagram for personal use and X most often for professional use.

While academic mothers used multiple social networking platforms the focus of this study was on their use of sites created for academic mothers. In the exploration of answering the research questions academic mothers identified that not only are they in sites for academic mothers but many were also in sites related to their other identities and interests. Some were in sites specifically related to their discipline (not mother specific), others related to a specific identity they had (being a person of color, from a certain country), others were in very specific groups around age of children, comfort with COVID, neighborhoods, etc. So, while this study focuses on the use of sites specifically for academic mothers it should be acknowledged that academic mothers use many SNS for various aspects of their lives and identities.

Most participants learned about the site from a colleague or friend. A few could not remember how they first happened upon the site, though one thought that it was linked from another group they were in of academic physicians. Almost everyone views the academic mothers' site every day and even multiple times a day. Many mentioned that they do not always go directly to that site, but it shows up in their feed on Facebook and they read the posts in that manner. Most view the site on their phone- some on their computers. Viewing the site and posting on the site are utilized differently. While most view it every day about half of the participants rarely post. Other frequency of postings was as frequent as two to three times per week to monthly. There seems to be value in reading the posts even if they do not engage with a response or their own posts.

While engagement on the SNS was high generally, during the COVID-19 pandemic a large part of life moved to a more virtual environment. Jobs and classrooms

moved exclusively online. Most of the participants were on the academic mothers' site before the pandemic. The pandemic did not drive academic mothers to the SNS. But many do acknowledge that their use of the SNS increased during the pandemic. The pandemic was not the reason they sought out the SNS. They had sought out the SNS long before the pandemic. The logistics of using the SNS have implications for the access of the SNS which will be discussed later in the findings and discussion.

In-Person v. Online Networks

Participants were asked to discuss how the SNS was different than more traditional or in-person networks that they have. The main differences they identified are discussed below.

Accessible

Overwhelmingly participants felt the SNS was much more accessible than traditional networks and even broke down barriers to networks. The SNS broke down geographic barriers, along with access to a network of people that otherwise participants felt like they would never have access to. Imogen described the geographic restriction differences:

> That is, you're so geographically restricted. I think the site takes off that layer, removes geographical restriction. You can ask somebody on the coast, anywhere, and you have even people from the UK I think, who are on the site now. So, I think that luxury you don't get when you're part of a department or a division.

Access was also described as the resource being on their phone at any time of day or night. So not only did it give the participants access to people in the network, but the SNS platform is easily accessible at any time and any place.

Safe

Participants characterized the SNS as a “safe space”, “safe haven”, “inclusive community”, and indicated that this was one way in which the SNS was different than their traditional support networks. Some traditional networks they felt that they were not understood in or did not have access to. But the SNS felt like a safe space for them to ask questions- even “dumb questions.”

Responsive

In addition to being accessible, the network was also characterized as being more responsive than in-person networks. Participants felt that their questions were answered and answered quickly. Answers were posted within hours or even minutes. They felt that this was a characteristic of the SNS site that was different than traditional networks. Imogen describes the access as, “Access to help so close to your fingertips is what really attracts me, because I know if I post something, by morning, and if it's important, the mothers would have responded by within 3 or 4 hours.”

The participants describe the SNS as different from their traditional support networks because it is accessible, safe, and responsive. Not all traditional networks have these characteristics.

Impact

This section explores what kind of impact the participants felt that being part of the SNS had on them and their careers, some themes overlap with other areas. One participant felt that the SNS had not made much of an impact on their career yet. They also acknowledged that it had seemed to make an impact on others on the site. All other participants spoke about how the SNS made a positive impact on their careers. These impacts were specific to their careers, relationship development, and being seen.

Specific Career Impacts

Some specific career-related impacts were invitations to give talks in their area of expertise. Sarah described how she has benefited this way, "I've gotten opportunities to give talks that way… and invited to give different seminars." One participant spoke of an accountability writing group that they set up through the SNS. While most participants felt the SNS had a positive impact on their careers, one participant noted that it had not had a big impact yet because they had not received a grant yet.

In-Person Relationship Development

Another impact the SNS had was that it helped participants develop in-person relationships. It was common that relationships that began through the SNS turned into in-person connections or other types of connections outside of the SNS. Some spoke about finding research collaborations that were still ongoing today, others found mentors, others found friendship and personal connections with people they interacted with on the SNS. In the archived posts there was also evidence of participants posting that they would direct message (DM) another member of the group.

Meet Needs-They Get Me

The biggest impact participants spoke about was feeling like they had a place where someone "got them". The SNS was a place where they were seen as both academics and mothers. They felt like the impact was they had a place where they could go to vent, ask questions, and have a safe environment for their continued development. Joyce describes the SNS as "It was a place that I could just be without having to do that [explain yourself]. It was just like a home. Like okay they get me here." Almost everyone said they would recommend the sites to other academic mothers or those academics considering motherhood. There was some caution with the recommendation that a SNS had to be a good fit for the ways someone would want to interact and receive information and support.

Reluctance and Concerns

While participants overwhelmingly described the SNS as a positive place where they gained many benefits, some expressed reluctance or concerns about participating in the SNS. Or others who recognized that there were some drawbacks to participation in the SNS.

Privacy Concerns

Participants did describe some concerns over privacy and the protection of their personal information while using the Facebook site. Some even only use Facebook for this particular group and do not utilize Facebook in ways they had in the past (posting pictures of their children, etc.).

Being Found Out

Other participants hesitate to post on the site because they know people who also participate in the site. Sometimes they use the anonymous posting feature and sometimes they do not comment at all because they know people on the site who are at their institution. Ella described this hesitancy as "I really don't know anybody in those groups and so part of that is since I've come back to my current job I now recognize a lot of the names and I am more reluctant to post because I know those people."

Irrelevant Content

Sometimes the content of posts seemed irrelevant to the participants, but they note it is easy to scroll past things that are not relevant to them or their situations. And there was enough relevant content that the use of the site was viewed as beneficial.

Participants raised some concerns about using a SNS for support related to privacy concerns, being identified by someone they know, and irrelevant content. However, these concerns did not deter the academic mothers interviewed from using the SNS. The participants described being aware of these concerns, but they were not a deterrent from using the site. Participants described that they had seen conflict in other groups, but they had not seen conflict within the academic mothers group. Archived posts did not reveal any conflict or discord.

Theory Development

Based on the themes and analysis the emerging theory offers a description of how SNS break down the barriers of traditional networks. The themes that emerged from data

contributed to the development of the theory through the constant comparative analysis (Charmaz, 2014).

While the academic mother participants had personal and professional support networks, SNS support networks mediate access, safety, and responsiveness of traditional support networks. The data in this study indicated that there is very little overlap between personal and professional in-person networks. Katherine described how these networks are separate in her life:

> These people (colleagues) became really good friends over the course of the pandemic. We would meet periodically for Zoom, coffee, or lunch, or whatever and so I sort of like from soup to nuts built a support network at work. But I would also say that that those weren't necessarily always the people that I felt the safest with in talking about like intimate work or parenting dynamics. Some of them are, but not all of them.

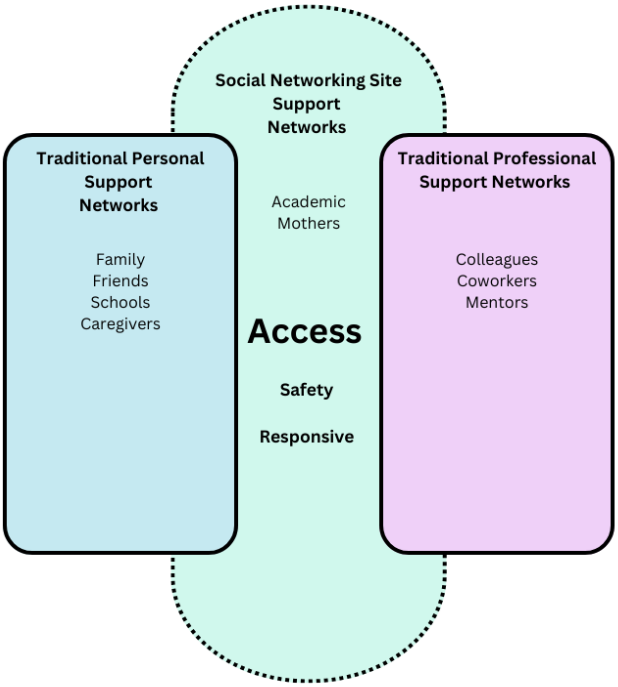
The overlap of professional and personal networks was described by others as difficult because they did not know many other academic mothers in their traditional professional networks or did not know how their professional networks would react to questions about motherhood. The SNS was a place where the intersectionality of being a mother and an academic was addressed. This allowed the participants to have their support needs met in both personal and professional ways.

As the theory developed it was presented and discussed with three participants. The participants provided feedback on the theory and its relevance to their understanding of why and how academic mothers use SNS for support. There was overwhelming

support for the role of increasing access to a network. Other additions to the theory development were that the space felt safer than traditional networks and allowed them to be their authentic selves. The increased access of SNS is the main mediator of traditional support networks. SNS increase access to support networks for academic mothers. Support networks have been shown to be beneficial in career advancement (Ives et al., 2023; Lin et al., 2019; Niehaus & O'Meara, 2015). Yet, these networks are often inaccessible and exclusive (Chauhan and Misra, 2021). Academic mothers often feel isolated from their support networks either because of geographic barriers or because there are not many other academic mothers in their local networks. SNS break down these barriers to accessing a support network. The SNS is all-encompassing as it is used for both personal and professional support. As a subset of access, SNS are available on academic mothers' phones making them easily accessible—and more accessible than traditional support networks. Additionally, SNS provide access to a responsive and supportive community. Not all traditional support networks are as responsive as the SNS. Participants spoke about how they could get an answer to their questions within minutes or hours while in traditional networks sometimes emails or phone calls do not get responded to for weeks. The safety of the SNS is also a mediator of traditional networks. Not all traditional networks feel safe to academic mothers, while the SNS was described as a "safe haven" for academic mothers. SNS break down the sometimes-limited access to professional and personal support networks for academic mothers.

Figure 6

SNS Mediation of Traditional Networks



This study sought to answer four research questions. The themes that emerged from the data allowed these research questions to be answered. Below is a summary of the findings related to the research questions.

Research question one: Why do academic mothers seek out support through social networking sites? This research question was answered through the discussion of challenges and reasons for SNS use. The challenges described by academic mothers were dual roles, childcare, isolation, travel, time, finances, and health. Traditional support networks as well as SNS use were identified as a strategy to overcome these challenges. SNS were used because the participants did not always have access to other academic

mothers or others who were able to assist them. Additionally, SNS were more accessible than traditional networks. Academic mothers sought out support through SNS for advice and information, encouragement, a supportive community, to break down isolation, perspective, and seeing success.

Research question two: What type of support do academic mothers receive through social networking sites? Academic mothers gave and received various types of support that related to both personal and professional areas of their lives. The type of support received were advice and information, encouragement, a supportive community, lessening feelings of isolation, perspective, and seeing success. Each of these types of support were identified through interviews and posts made on the SNS.

Research question three: How does support through social networking sites differ from in-person or other forms of support? Support through SNS were identified as more accessible, safe, and responsive than traditional support networks. Accessibility was the main difference in the SNS support system compared to in-personal traditional support networks. The SNS broke down geographic barriers to networks as well as ease of access through their phone or computer. The SNS was also identified as a safe network where academic mothers were understood. Finally, the SNS was noted as being more responsive than in-person networks. Academic mothers reported getting answers to their questions within minutes of posting on the SNS.

Research question four: What impact has this type of support had on academic mothers' careers? The SNS has been shown to have specific career impacts for academic

mothers. Invitations to give talks or teach courses were gained by some academic mothers through the SNS. Others have developed in-person relationships and collaborations through their connection on the SNS. The biggest impact was that academic mothers found a space where "they get me." It was a place they could discuss their challenges with a group of other academic mothers who had first-hand understanding of these challenges.

In answering these research questions, various themes and theory developed from the data. The role of SNS on the access to support networks was the main theory development from the study. SNS increased access to support networks for academic mothers. Additionally, the SNS provided a safe and responsive network for academic mothers. Academic mothers in this study use SNS for support to network with other academic mothers for personal and professional support in an accessible, safe, and responsive environment.

Chapter 5. Discussion

Women enter academia at similar rates as men, but that proportion does not continue through the academic ranks (National Center for Education Statistics, 2022a). Additionally, women in academic positions face a wage gap compared to their male peers, especially women who are Black or Hispanic (National Center for Education Statistics, 2022b). Motherhood adds an additional complexity to the academic role of women who face an array of personal and professional challenges (Ward & Wolf-Wendel, 2012). Academics and academic mothers have turned to SNS for a variety of reasons and for support to address these challenges. This qualitative, grounded theory research study examined how academic mothers use SNS for support. Specifically, this study sought to answer the following research questions:

1. Why do academic mothers seek out support through social networking sites?
2. What type of support do academic mothers receive through social networking sites?

3. How does support through social networking sites differ from in-person or other forms of support?
4. What impact has this type of support had on academic mothers' careers?

In this chapter I outline how the findings of this study relate to previous literature, the limitations of this study, and suggestions for future research.

Challenges

The participants in this study were academic mothers. Academic mothers face unique challenges that have been outlined previously in the literature (Kulp et al., 2019; Stack, 2004; Ward & Wolf-Wendel, 2012). This study found similar challenges: dual roles, childcare, isolation, travel, time, finance, and health. The dual role as a mother and an academic was characterized as a primary challenge in this study. Academic mothers described switching between roles to be inefficient and exhausting by not having enough time and energy to spend in either role. This dual role challenge is similar to how other scholars have characterized this challenge (Comer & Stites-Doe, 2006; Guy & Arthur, 2020; Ward & Wolf-Wendel, 2012). The dual role was also characterized in a positive light from some participants by describing how their role as a mother made it easier to connect with their students or their experiences with students made it easier to connect with their teenage and young-adult children. This positive effect of the dual role has not been outlined in previous literature and points to the need for additional research to investigate the positive effects of the dual role of a mother and an academic.

Finding and paying for childcare was also an identified challenge in this study. In the United States, yearly childcare costs for one child can range from $5,357 to $17,171 depending on location and age of the child (Landivar, 2023). The rising cost of childcare is a problem that has been highlighted by other authors. High costs of childcare have been shown to correlate with mothers leaving the workforce or being less likely to begin a new job (Glynn et al., 2013; Landivar et al., 2021). Before 2020, affordable, quality childcare was reported as difficult to find and resulted in limiting mothers' involvement in the workforce (Childcare Aware of America, 2021). The COVID-19 pandemic exacerbated issues of the availability and cost of childcare phenomena. The availability of childcare and childcare workers has not recovered since the pandemic (Goldstein, 2022; Obeng et al., 2022). The challenges academic mothers report related to childcare in this study are consistent with the national childcare crisis in the U.S.

This outlines an opportunity for universities to provide support for childcare to their faculty and staff who are parents. While this area has not been explored, there are scholars who have explored the childcare challenges for undergraduate and graduate students who are parents. Wladis et al. (2018) found that childcare is the most significant factor in the amount of time student parents had to spend on their studies. The access to and affordability of childcare has been shown to be a barrier to student parents (Dayne et al., 2023; Navarro-Cruz et al., 2023; Roy et al., 2018). Even when childcare services are offered on campuses they do not meet the needs of student parents often because there are long waitlists or the childcare services are not affordable (Dayne et al., 2023). These similar challenges occurred in this study of academic mothers. Further research should be

done to understand successful or innovative models of childcare support at higher education institutions. Advocacy for financial support for these programs should be discussed with policy makers at institutional and governmental levels.

Challenges with childcare were often financial, but other financial challenges arose in this study. In the early career stage the participant academic mothers found financial barriers to traveling to attend conferences. This can put academic mothers at a disadvantage because conference attendance has been shown to be beneficial in creating research agendas, professional networking, and overall academic career development (Henderson, 2015; Rowe, 2018; Wang et al., 2017). Some participants found that they did not have the funds to travel to a conference, but more often they did not have the funds to pay for additional childcare during their travel or the expense of bringing their child and a caregiver with them to a conference. Other scholars have highlighted mobility inequality for academics with caregiving responsibilities (Henderson & Moreau, 2020) and gender inequality in conference attendance and presentations (Corona-Sobrino et al., 2020). The findings in this study are consistent with previous literature on the challenges of travel for academic mothers.

Another challenge identified by participants in this study was that of feelings of geographic and professional isolation. Geographic isolation occured because of the need to move away from family and friends for an academic position. Professional isolation occurred because the participants did not have any or many academics in their networks who are mothers. Isolation for women in academia has been well established in the literature and previous work supports these findings (Isgro & Castañeda, 2015; Kemelgor

& Etzkowitz, 2001). Additionally, previous research has found that isolation may be greater for minority women who are underrepresented in academia (Albert, 2018). Academic mothers with young children also have a high propensity to experience isolation (Hirakata & Daniluk, 2009). Lally et al.(2023) studied academic mothers who were geographically isolated from their families and how they used an online social support group. Participants in this study experienced both geographic isolation and isolation because they had limited other academic mothers in their network, which is consistent with other literature.

Reasons for SNS Use

In answering the main research question of this study, I found that academic mothers use SNS for both personal and professional reasons. The reasons for using SNS included advice and information, encouragement, supportive community, breaking down isolation, job searching, perspective, and seeing success. Advice and information that was shared on SNS was personal and professional. Personal advice included parenting advice, breastfeeding information, and health and wellness topics. It is no surprise that breastfeeding information was a popular topic on the academic mothers' SNS. It has been well established that women use SNS for breastfeeding support (Black et al., 2020; Morse & Brown, 2022; Orchard & Nicholls, 2022; Sanchez & Thomson, 1997; Wilson, 2020). Mothers using a SNS for breastfeeding support was found to increase mothers' self-efficacy and agency in breastfeeding (Black et al., 2020; Sanchez & Thomson, 1997), increase in positive attitude toward breastfeeding (Sanchez & Thomson, 1997; Wilson, 2020), and increase the likelihood of breastfeeding for six months (Wilson,

2020). Breastfeeding mothers also reported that SNS provided a supportive community to discuss questions and concerns related to breastfeeding (Morse & Brown, 2022; Orchard & Nicholls, 2022; Sanchez & Thomson, 1997). The use of SNS for health and wellness support is also well established in the literature. Several studies over several decades have determined that the use of SNS can have a positive effect on health behaviors and health outcomes (Ell et al., 1992; Garay-Sevilla et al., 1995; Merolli et al., 2013; Petkovic et al., 2021). Several authors surprisingly note that there have been no adverse effects of the use of SNS on health related outcomes (Merolli et al., 2013; Petkovic et al., 2021). Nguyen also found that immigrant mothers used a SNS to gain supplemental information for health decision making (Nguyen, 2023). The personal reasons for using an SNS for academic mothers are consistent with previous literature on SNS use for support.

This study also found that academic mothers used SNS for professional support. The information and advice they sought out in professional contexts were management, research and grant writing, job search, teaching, and balancing personal and professional obligations. Previous research has shown how academics use SNS to create their academic identity and disseminate their research and grow their research networks (Jordan, 2020, 2023). Uniquely, this study found that academic mothers used SNS to get information on how to conduct research and grant writing, not just disseminate the work that they have done. Academic mothers also used the site to gain information about teaching methods. We know that higher education faculty use social media in their teaching, to disseminate their scholarly work, and to network (Cain et al., 2013; Jordan, 2023; M. D. Moran, 2003). This study identified an additional way that academic

mothers use SNS; as a place for professional development in research and teaching. This was evidenced by interviews and numerous posts that asked for advice on teaching, course assessments, and grant writing tips. SNS sites may be a valuable place to seek out professional development. One previous study outlines a faculty development group on Facebook. At the conclusion of the study 76% of the participants said they would recommend using Facebook groups as a faculty development tool (Klein et al., 2013). SNS have the potential to be spaces for faculty development.

Another reason academic mothers use SNS for support is for encouragement and because the SNS is a supportive community. Academic institutions have sometimes been characterized as toxic or non-supportive, particularly to women (Cardel et al., 2020; Gardner et al., 2018; National Academies of Sciences, Engineering, and Medicine, 2018; Pelletier et al., 2019). Academic women have also been excluded or unable to participate in traditional academic networks (Casad et al., 2021; Greguletz et al., 2019; van den Brink & Benschop, 2014). Contrary to this characterization, participants found the SNS a supportive and welcoming community. The SNS were described as places where academic mothers encouraged each other and were safe places to be vulnerable and reveal their questions and concerns. The safe dynamic of the SNS should be further explored, as SNS and academic networks are not always viewed as safe spaces. Future research should exam the specific characteristics of the SNS that make it a safe space as well as how this safety is established and maintained within the SNS.

The challenge of isolation was discussed earlier in this chapter and the findings of this study show that academic mothers use SNS to break down that isolation. Previous

research has suggested that networking, collaborative research endeavors, and mentors can combat isolation for academic women (Kemelgor & Etzkowitz, 2001; Smith, 2014; Wildermuth et al., 2023). These suggested efforts are not always feasible for academic mothers who have limited time for networking events, experience gatekeeping, and often find that there are very few academic mothers in their accessible network. Other scholars have highlighted the opportunity for SNS in combating isolation. Bayfield et al. (2020) discussed the positive benefits of a private online support group for women faculty in geography. Additionally, Reeve suggested using SNS to combat isolation for researchers (Reeve & Partridge, 2017). In a similar study to this work, Lally et al. (2023) found that academic mothers received emotional, informational, and tangible support from participating in a SNS. Those participants who were geographically isolated from family also found an increased benefit to using SNS The results of this study indicate and further support that SNS can be used to combat the very common challenge of isolation for academic mothers.

The final point of discussion in identifying reasons why academic mothers use SNS for support is related to perspective and seeing success. Several participants in this study indicated that they use the SNS to gain perspective-either for their own situation or how their situation compared to others. Additionally, they reported that seeing the successes of other academic mothers made them feel empowered and more confident in their ability to also succeed. This reason for SNS use has not appeared in other literature related to online support networks, though there is a body of work related to the positive influence of role models for academic women and students. Levinson et al. (1991) found

that there is often a lack of available senior women to be role models and therefore women in academic medicine often find male role models. These male role models do often have a positive impact on female junior faculty but lack the ability to provide more personal advice. Additionally, some senior female role models are unmarried or do not have children and also lack the ability to help junior faculty navigate this intersection of personal and professional challenges. Other scholars suggest that when there is a lack of senior women mentors in a field, women faculty should create a network of peers to provide support (Levinson et al., 1991; Shen et al., 2022). Other studies have looked at the effect of female role models on graduate students. Having an online female mentoring program was found to increase grades and retention for female students in STEM courses (Herrmann et al., 2016). For female PhD students having more female role models correlates with greater academic success (Gillooly et al., 2021). SNS allow greater access to mentors or role models who may otherwise be inaccessible to academic mothers. Having role models and seeing the success of others has a positive impact on academic mothers' self-efficacy.

While the reasons for using a SNS for support were varied, one interesting finding in this study was that academic mothers who had done their undergraduate or graduate education outside of the United States expressed that they used the SNS to learn or ask about norms within higher education in the United States. We do know that there are different cultural norms on SNS use and behaviors (Gupta et al., 2018) as well the fact that SNS have an influence on norms among their users (Brady & Crockett, 2024; Kashima et al., 2013; Masur et al., 2023; Uski & Lampinen, 2016). One study identified

that a SNS helped Vietnamese immigrant mothers overcome acculturative stress (Nguyen, 2023). Acculturative stress has been documented in graduate students and scholars when moving to the United States (Matusitz, 2015; Su-Russell & James, 2021). Future research should explore how immigrant academic mothers in the U.S. utilize SNS for support, as their reasons for using SNS may differ from academic mothers who are not immigrants.

In answering the third research question, how does support through social networking sites differ from in-person or other forms of support? this study found that SNS were more accessible, safe, and responsive than traditional support networks. The participants in this study indicated that the SNS gave them access to other academic mothers who they would not have otherwise been able to interact with. Additionally, they noted that the access to the SNS was as easy as logging into an app on their phone, which made the network available at any time or place. Other studies have shown the benefit of SNS in increasing access. People with HIV who used a SNS specifically for those with this disease reported an increased access to resources, healthcare professionals, and others with HIV (Taggart et al., 2015). SNS also allowed migrant workers to gain access to 'insider knowledge' and a network to facilitate migration (Dekker & Engbersen, 2014). For academics specifically, other research has shown that SNS were helpful in establishing networks with other academics and to get in touch with other scholars (Lupton, 2014; Nández & Borrego, 2013). Academic women in Pakistan found that using a SNS allowed them to overcome the geographic and professional boundaries of their network and aid them in building important work-related relationships (Sarwar et al.,

2022). For academic mothers in this study, the SNS allowed them increased access to other academic mothers who they may have otherwise not been able to access. SNS may break down the identified challenges of access to networks and isolation.

In addition to finding that SNS were more accessible than traditional support networks, this study found that the SNS were also safer. The participants in this study called the SNS they participate in a "safe haven" and spoke about how they felt a sense of community in their participation. This is similar to Bayfield et al. (2020) who found that private online support groups created a safe space for peer mentoring. In contrast, Lupton et al. (2014) found that academics were concerned about the credibility, privacy, and quality of content in SNS. Other scholars have found that negative interactions occur on SNS for mothers (Hanasono, 2023; Sarwar et al., 2022; Taylor, 2023). Overwhelmingly academic mothers found the SNS a safe and supportive space which was in contrast with their more traditional networks. The factors that make these SNS safe should be further explored as not all SNS have been found to be safe spaces for academic mothers.

The participants described the SNS as safe places, but also had concerns for their privacy while participating on these sites. Some participants indicated that they made posts anonymously when they posted questions or information that they did not want to associate with their names. The Facebook groups that were used in this study did offer an anonymous posting feature (Facebook, n.d.). While participants posted anonymously on the Facebook page, none of the participants reported using anonymous SNS like Reddit. Reddit is a SNS founded in 2005, and as of December 31, 2023 had more than 73 million daily users. Reddit is a site with networked communities and user generated content.

Reddit users can post comments and up or down vote others' comments. Subreddits are user created groups with focused topics. In a search of the Reddit site there are many subreddits related to academic mothers on r/Ask Academia, r/PhD, r/academia (Reddit, 2023). The fully anonymous features of Reddit may offer additional areas of research related to academic mothers. Other research has conflicting results on whether anonymous sites increase negative behaviors (Correa et al., 2015; Davidson et al., 2020; Kasakowskij et al., 2018). Future research should consider exploring how anonymous SNS are used by academic mothers.

Not only are anonymous SNS an area for future study, but self-presentation on SNS for academic mothers is another area to be further explored. Participants in this study indicated that they had concerns about the privacy of the site and if their in-person network may be part of the site. This concern can lead to a change in how the site is used. Self-presentation is how one presents themselves to a particular audience (Schlenker, 1985). SNS afford a multitude of features that allow the user to control their self-presentation, including the ability to be anonymous (AliAlassiri et al., 2014). Research has shown that the more anonymous a perceived site is the less constraints people have in their self-presentation (DeVito et al., 2017). Being a member of the Facebook groups used in this study allows users to passively browse the site or actively engage in the content posted to the site. Users may also post anonymously on the sites. Being anonymous online can inhibit creating more meaningful social connections (Hollenbaugh, 2021; A. Lieberman & Schroeder, 2020). Further research should look at

the difference in the benefits of anonymous passive viewing and anonymous posting versus non-anonymous interactions.

In order to control self-presentation there are three main strategies that can be used. Impression management, visual and aesthetic, and verbal strategies. Impression management can include self-enhancement or self-deprecation. It may also include selective self-presentation where only certain things are shared about their identity based on the context of the audience (Bareket-Bojmel et al., 2016). Visual and aesthetic strategies relate to the choosing of pictures or avatars, curation of content, and dress or fashion choices that are shared within the context of their profile (Diefenbach & Christoforakos, 2017). Verbal strategies are how vocabulary, tone, personal information, and humor are used to create one's presentation online (Cusinato, 2012). In professional contexts, professionals are found to present themselves authentically (Sievers et al., 2015). Men and women also engage in self-presentation differently (Haferkamp et al., 2012; Kondakciu et al., 2021; Manago et al., 2008).

The responsiveness of the SNS was also described in contrast to traditional networks which can often be cumbersome to contact and connections may never receive a response. Academic mothers in this study often received a response within minutes of posting a question or request. In a similar study of academic mothers participants noted that their posts received "rapid responses" and this made the SNS more useful to them (Lally et al., 2023). Another study had contrasting findings that it took days or sometimes posts did not get answered in a SNS for academic mothers of color (Hanasono, 2023).

Other studies on use of SNS for support for academics or academic women have not highlighted this difference.

When answering the final research question related to the impact participation the SNS has had on academic mothers, participants in this study had varied answers. Some felt that it had a positive impact on their career because they had received opportunities to give talks or guest lectures, meet new people, and overall, they felt that they had found a place where "they get me". Many participants found that online relationships that started on the SNS developed in to in-person relationships over time. Some relationships were professional relationships such as research collaborations and guest lecturing. Some relationships were characterized as more personal (a friend). This move to an in-person relationship seemed a common occurrence amongst the participants as they spoke about meeting someone for coffee at a conference they both were attending, or having phone calls, or online meetings. Lally et al. (2023) also found that online relationships that developed in SNS moved to in-person connections.

Theory Development

Academic mothers have personal and professional support networks. This study found that for academic mothers traditional in-person networks are often inaccessible, unresponsive, unsafe, or unsupportive. SNS allow greater access to a network of other academic mothers. Academic women who are not mothers or supportive academic mentors who are men are accessible at institutions or within a discipline, but when the challenges of academics collides with the challenges of motherhood these networks may

not be able to meet the needs of academic mothers. The SNS may be a place where the intersectionality of being a mother and an academic can co-exist.

SNS mediate the inaccessibility of these networks and allow academic mothers a greater network to seek support. Traditional networks also are not always a safe environment for academic mothers to be vulnerable and reveal that they have questions, concerns, or may be struggling. SNS allow for the anonymous seeking of support and, in this study, a supportive community to reveal the challenges and look for advice and information. Traditional networks are also not available to academic mothers at any time and any location making them less responsive. SNS provide rapid responses to the needs of academic mothers as our findings indicate that the SNS is quick to respond. SNS mediate some of the challenge traditional personal and professional support networks have and can therefore increase the benefits of having a support network.

Because of the increased access to other academic mothers, the SNS also appeared to be a place where the intersectionality of the identity of being a mother and an academic could exist. While in traditional networks, the participants identified as one or the other. SNS may offer a place to address the intersectional needs of support. Other scholars have examined the role of intersectionality in work settings (Atewologun et al., 2016; Gottardello, 2023; Sawyer, 2007) but there is little to address how this effects professional development and support.

The findings of this study support the buffering and direct effects theories of social support (Cassel, 1976; Cohen & McKay, 1984; Cohen & Wills, 1985). It does so by indicating that participation in a SNS for academic mothers and the support they

receive by participating in the SNS directly benefits the participant, regardless of the stressors they face. The act of participating in a supportive network through a SNS buffers the effect of negative stressors. The SNS creates a greater level of social support than if the academic mother did not participate in the SNS which allows for less negative impacts.

Limitations and Future Research

This study is not without its limitations. A main limitation of this study is related to the sample of this study. A small group of academic mothers were interviewed for this study. These academic mothers were recruited from SNS and therefore were all using SNS for support. This study did not look at academic mothers who do not use SNS. Identifying reasons why academic mothers do not use SNS or other forms of support would add an additional layer to exploring this topic. This study did also not look at perspectives of academic fathers or their use or non-use of SNS for support. Even though it is well established that there are many disparities for women in academia, Gould and Lovato (2019) point at that there are negative implications for academic fathers who place a priority on parenting. Furthermore, there is evidence that fathers use SNS to support their role as parents (Ammari & Schoenebeck, 2015; Das & Hodkinson, 2019). Additional exploration of SNS use by academic fathers could explore the differences in uses of SNS by academic parents, both mothers and fathers.

Most of the participants in this study were married and the role of spouses was not thoroughly explored. The participants who were married all listed their spouse as part of their personal support system, it was unclear how much their partners contributed to

parenting or how household work was distributed. This factor was not considered or explored in this study but should be considered for future investigation.

This study recruited participants from two Facebook groups for academic mothers. Other SNS platforms were not explored. The groups studied were sites specifically for academic mothers, but there are other academic social networking sites (ASNS) that are focused on academics. Sites such as Academia.edu and ResearchGate provide a focused online site for academics (Jordan, 2019). Previous research has shown that academics use ASNS for open access publishing, metrics, and to gain information in an academic context. Very few academics use ASNS for social support or in personal contexts and very few interact with other scholars on these types of sites (Jordan, 2019; Meishar-Tal & Pieterse, 2017). Further exploration of other online platforms and anonymous SNSmay offer additional insight into how academics and academic mothers use SNS for support.

Significance and Conclusion

The findings of this study have implications at an institutional and individual level. Colleges and universities should consider the access, safety, and responsiveness of current support systems within the institution. While some institutions have faculty networks for women faculty, often the connections and events are done in-person and not at times convenient for mothers. Events may also be only held once a semester which does not allow for the speed and responsiveness highlighted by this study. SNS also allow academic mothers to self-select into a network to which they identify. Participants

in this study indicated that they not only selected to participate in sites related to academic mothers, but also related to their discipline or other identities they held. The findings of this study also indicate that academic mothers are looking for places to get advice, information, encouragement, and role models. This may indicate that there are not sufficient resources for academic mothers on their campuses. This study also has implications for mentoring practices for academic mothers. Those who mentor academic mothers should acknowledge that there may be limitations to access of traditional support systems. Traditional support systems may only address professional needs and may not address the intersection between being a mother and an academic. This may be due to geographic or demographic differences, or because of time constraints and the ability to participate in traditional support networks. Mentors should consider online SNS for mentees who are academic mothers or who are considering academic motherhood, particularly if there are few accessible role models within the institution.

This study sought to answer four research questions related to academic mothers' use of SNS for support. Academic mothers use SNS for advice and information, encouragement, supportive community, breaking down isolation, perspective, and seeing success. These reasons are both personal and professional in nature. SNS help academic mothers find a network that may otherwise be inaccessible to them due to geographic or discipline differences. SNS are used as support daily and are accessible and safe for academic mothers. SNS are often more accessible, responsive, and safe than traditional in-person networks of academic mothers. Participation in these networks has had a positive impact on academic mothers in both emotional and tangible support for personal

and professional challenges by addressing the intersectionality of being a mother and an academic.

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Appendix A. Post Made to Recruit Participants

Hi everyone! My name is Rachel, and I am a PhD student in the College of Education at the Ohio State University. As part of my dissertation, I am studying how academic mothers use social networking sites as support systems. I am looking for participants who identify as mothers and are employed in a position in teaching and/or research in higher education. My study is qualitative in nature and consists of semi-structured one-on-one interviews. If you are interested in participating, you can follow this link to submit your preferred contact information [LINK] or email me directly at kearney.19@osu.edu. Please feel free to share this with others who you think may be interested. Thank you for considering.

Appendix B. Questionnaire for Interested Participants

Academic Mothers Interest Survey

Start of Block: Default Question Block

Q1 Thank you for your interest in participating in the study "Academic Mothers' Use of Social Networking Sites as a Support System". This is a qualitative study in which I am conducting one-on-one semi-structured interviews with mothers who work in teaching and research roles in higher education. The first interview will last around one hour and I may request one additional interview to review the analysis of the first interview and follow up questions. I am flexible on days and times to conduct these interviews. If you have an interest in being contacted about this study please fill out the questions below and I will be in touch with you with more specifics and options for scheduling an interview time.
Thank you again for considering!

Q2 Preferred name

_____

Page Break

Q3 Preferred pronouns

_____

Q4 Preferred method of contact

- email (1)
- phone call (2)

Display This Question:

If Preferred method of contact = email

Q5 Preferred email address

_____

Display This Question:

If Preferred method of contact = phone call

Q6 Preferred phone number

_____

Q7 Thank you for your interest in participating in this study. I will be contacting you within the next few days with additional information on this study and scheduling for an interview.

End of Block: Default Question Block

Appendix C. Email to Interested Participants

Dear [Name],
Thank you for your interest in the study "Academic Mothers' Use of Social Networking Sites as a Support System". This study has been determined exempt by The Ohio State University Institutional Review Board (Protocol #2023E0772). The purpose of this study is to explore the use of social network sites as a support system for academic mothers. Information about this study is listed below.
This study is a qualitative study consisting of two one-hour one-on-one interviews. Interviews will be conducted via Zoom and recorded so transcriptions can be made. At the first interview consent will be requested and questions related to your experiences as a mother and an academic will be asked. A second interview may be requested to follow up on additional questions and to verify the analysis of the first interview.
Please feel free to ask any questions you may have. **If you are interested in participating, please respond to this email and let me know what days or times may work best for your schedule**. I am flexible in the day and time for scheduling interviews.
Contacts and Questions:
For questions, concerns, or complaints about the study you may contact:
Rachel Kearney BSDH, MS- Associate Professor, College of Dentistry; PhD candidate, College of Education, kearney.19@osu.edu
Rick Voithofer PhD- Associate Professor, College of Education, voithofer.2@osu.edu.
For questions about your rights as a participant in this study or to discuss other study-related concerns or complaints with someone who is not part of the research team, you may contact the Office of Responsible Research Practices at 1-800-678-6251 or hsconcerns@osu.edu.
Thank you for your interest in this study.
Sincerely,
Rachel Kearney

Appendix D. List of Questions for Initial Interview

What is your academic discipline and rank?

How would you describe your gender identity?

Explain how you identify as a mother.

Can you describe your support system?

Explain how you identify as an academic.

Do your roles as a mother and an academic overlap?

What challenges do you face being an academic mother? How did you manage these challenges?

How did you learn about social network sites for academic mothers?

What social network sites do you use to support your academic career?

Why do you use social network sites for academic mothers?

How often do you view the social network site for academic mothers?

How often do you post on the social network site for academic mothers?

Can you share with me an example of something you have posted on the social network site?

Can you describe the support you seek on social network sites for academic mothers?

Can you describe the support you receive on social network sites for academic mothers?

Do you find this support helpful and if so, how do you find this support helpful?

Describe how using a social network site for support is different than face to face support?

Do your relationships and support gained from online social networks move to face to face networks? Are all interactions on the social network site or do interactions move to other communication methods?

What impact has your participation in this social networking site had on your career?

Did the COVID-19 pandemic change the way you sought out professional support networks if so how?

Is there anything else you would want us to know about social networking sites for academic mothers?