How Do Women Know What They Know: 
An Interpretive Phenomenological Analysis Research Study on How Women Experience Their 
Career Development Journey

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Abstract

The purpose of this study is to understand how women perceived their knowledge acquisition experiences in their professional journey in a federal agency. This study was focused on the lived experiences and meaning-making of eight women in GS 14 and GS 15 positions in one federal agency. It explored the participants’ lived experiences, and meanings ascribed to these experiences to make sense of them. Formal class room settings may not address immediate knowledge or information needs of women in the federal government. Understanding how women increase knowledge is an important aspect of the career development journey. The main objective of this study was to help identify how women gain knowledge from the personal experiences of others through caring, empathy, and relationships and through the impersonal experience of critical thinking and inquisition. This study found that women gained knowledge through (a) essential relationships (b) critical thinking and inquiry (c) professional inclusion and, (d) learning through professional experiences. The study also found that women experienced barriers to participation in learning.

*Keywords:* women, learning, knowledge, professional development, interpretive phenomenological analysis, women’s ways of knowing
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Chapter 1: Introduction to the Study

The purpose of this interpretative phenomenological analysis study was to discover the ways mid-career women at a federal government agency experienced procedural knowing (connected and separate) learning that have assisted their pursuit of career advancement. Procedural knowing will be generally defined by two interrelated parts, connected and separate knowing. Connected knowers use relationships, empathy, and intimacy to understand others and acquire knowledge. Separate knowers use an impersonal procedure of critical thinking and inquisition to gain knowledge (Belenky, Clinchy, Goldberger, & Tarule, 1997). Separate knowers “rigorously exclude their own feelings and beliefs when evaluating a proposal or idea” (Belenky et al., 1997, p. 109). Knowledge generated from this research is expected to inform how women acquire the knowledge they need to assist in their career advancement.

Statement of the Problem

Gaining additional knowledge is important for people who want to advance in their careers. Investing in one’s own knowledge in order to improve skills is an important component of that process. Training and career development programs are common ways individuals gain knowledge. However, training and career development programs typically are set up in a way that align more closely with how men learn. This may not be optimal for women, because they also learn in more informal ways (Bierma, 2001). Women can participate in activities outside of organization-sponsored activities that enable them to gain knowledge. Networking (Bevelander & Page, 2011; Durbin, 2011), mentoring (Sanfey, Hollands, & Gantt, 2013), and political skills (Watkins & Smith, 2012) assist in developing relationships that foster knowledge gains.

Researchers have cited various methods or approaches that can help individuals gain knowledge. Formal development programs are often used by private and public organizations as
a component of that process (Arms, 2012; Noe, Clarke, & Klein, 2014). These programs can include training, education, coaching, and mentoring programs. While formal development programs are beneficial, they do not address how knowledge is transferred informally through close relationships, experiences, and behaviors that involve emotion and feelings such as empathy. These are found in connected knowing or the cognitive process of critical thinking or inquisition (W. M. Jones & Dexter, 2014). Informal learning is as important as formal learning and complements it on the continuum of learning (Cunningham & Hillier, 2012; Van der Klink, Van der Heijden, Boon, & Williams van Rooij, 2014).

According to Jeon and Kim (2012) and Livingstone (1999), even though organizations spend billions of dollars on formal learning activities, most learning is informal. Fifty percent of participants in Laud and Johnson (2012) said they advocated and exploited methods more closely aligned with informal methods of procedural knowing as a strategy for career success, while only 37 percent of respondents identified formal training and education as a strategy they utilized.

The federal government generally administers formal employee development through “training, structured on-the-job learning experiences, and education. Developmental programs can include experiences such as coaching, mentoring, or rotational assignments” (U. S. Government Accountability Office [GAO], 2012, p. 2). Training for employees who desire to advance in the organization to senior executive service (SES) positions is provided through the Candidate Development Program (CDP). The SESCDP is designed to help individuals develop the skills that have been identified as executive core qualifications (ECQs). The program consists of formal mentoring and training methods, such as instructor-led classroom training, e-learning, and professional conferences that are educational or instructional in nature (GAO, 2012). Although improving employee skills continues to focus on these traditional methods,
they may not be how women gain the most knowledge in preparation for the senior positions in which technical skills are less important.

The nature and acquisition of knowledge can play an important role in women’s career development (Allen, French, & Poteet, 2016; Watkins & Smith, 2014). Although women avail themselves of training and other career development programs to increase their knowledge and develop the skills they need for career advancement, it is unclear whether there is a connection between these traditional resources and the different ways women learn or gain knowledge. Grover and Miller (2014) found that women utilized different ways of learning than men (p. 190) and were more likely to participate in informal ways of gaining knowledge. Noe, Tews, and Marand (2013) noted, “Informal learning is an important means by which employees continually update their knowledge and skill sets to adapt to changing situations” (p. 327).

The means of learning that help women gain knowledge can take place outside traditional career development settings. Belenky et al. (1997) stated, “Women don’t just learn in classrooms; they learn in relationships, by juggling life demands, by dealing with crises in families and communities” (p. xi). Women gain knowledge by reflecting on their experiences, sharing, expanding relationships, and engaging with peers and subordinates (Belenky et al., 1997).

How women gain knowledge should not be narrowly defined. Belenky et al. (1997) described five epistemological perspectives on how women gain knowledge: silence, received knowing, subjective knowing, procedural knowing, and constructed knowing. Among these five perspectives, several research studies have corroborated that women are more closely aligned with connected knowing (Aldegether, 2017; Khine & Hayes, 2010; Selzer, Howton, & Wallace, 2017). Connected knowing is based on empathy and caring. Through connectedness and
relationships, individuals can evaluate knowledge despite disagreements. Noe et al. (2014) found, “The use of emotions can influence learning and thus subsequent knowledge and skill acquisition” (p. 256). These experiences and cognitive behaviors help women engage in professional dialogue with confidence (Belenky et al., 1997).

Building close relationships with people in the workplace who can share knowledge is one method of informal learning (Schürmann & Beausaert, 2016; Van der Klink et al., 2014). Relationships can provide individuals with emotional support and knowledge gained through personal experiences and formal training. Although individuals form different types of relationships based on context and need, those relationships that allow the exchange of honest and open viewpoints are the type that are most beneficial in the self-creation of knowledge. A two-way exchange of information where individuals can share emotionally relevant information distinguishes a formal mentoring relationship from a reciprocal relationship (Colbert, Bono, & Purvanova, 2016; Janssen, van Vuuren, & de Jong, 2013). These relationships differ from formal mentoring or coaching relationships in the way individuals connect and respond to each other. Individuals connect in a closer way by displaying empathy in a reciprocal relationship.

Reciprocal relationships can be very meaningful in the learning process (Janssen et al., 2013; Sabourin, 2013). Such relationships enable openness to gaining new knowledge that is not usually seen in more formal relationships. According to Ghosh (2015), the ability to safely express disagreement allows for more productive debates and discussions, which in turn can lead to discoveries and new realizations. Men gain knowledge through reciprocal relationships in part through their majority status. Women need to learn how to leverage these types of connected knowing skills to learn valuable knowledge that can be applied in their professional lives.
Banks-Wallace (2000) found that a capacity for empathy allowed women to discern the validity of a person’s claim, which is essential in the decision-making process. This was corroborated by Gilligan (1993), who posited that empathy allows women to build relationships, which are key in establishing connections that are beneficial for upward mobility. Women may already be using empathy and reciprocal relationships without understanding their value in the creation of new knowledge. Actively utilizing empathy and reciprocal relationships in conjunction with formal development programs makes another resource available to women in their career development.

While research has shown that connected knowing is one aspect of how women use informal learning through relationships and the capacity for empathy, separate knowing is also utilized by women. According to Sugiyama, Cavanagh, van Esch, Bilimoria, and Brown (2016), “by engaging in both separate and connected knowing, women can integrate the need for distinctiveness and the need to belong” (p. 285). The integration of both of the procedural knowledge perspectives, connected and separate knowing, provides women with increased potential to gain knowledge through relational connections and promote a more active learning style, such as the critical thinking and analysis skills needed for career shifts to senior positions. Separate knowing demonstrates women’s ability to think critically and make objective assessments that can be used to competitively gain knowledge that is not co-created (Belenky et al. 1997). Women who demonstrate critical thinking skills can challenge the dominant ways of thinking and generate innovative solutions to complex problems (Sugiyama et al., 2016; Tedesco-Schneck, 2013). Critical thinking allows women to create opportunities to influence the dominant power structure. For women, procedural knowledge (connected and
(Piechowski, 2017).

As women seek to achieve career advancement into more senior leadership positions, they may not be capitalizing on all the resources available within and outside of their professional environment. They must be cognizant of the different ways knowledge is obtained in order to avail themselves of those activities. As they become more aware of their personal epistemology and develop a more comprehensive view of the learning process, women can become better prepared for career opportunities. According to Laud and Johnson (2012), “individuals should exhibit a range of tactics and strategies in order to influence career outcomes” (p. 234). In addition, as career advancement becomes more competitive, increasing opportunities for the acquisition of knowledge can be an important component of an individual’s career management. Recognizing and authenticating how knowledge is gained through procedural knowing is an asset. Leveraging procedural knowing to gain knowledge that can be utilized for decision-making, critical thinking, and working through challenging situations to achieve positive outcomes can be a valuable skill in senior positions.

The increasing share of women in positions of power has transformed them from silent to critical thinkers who confidently provide an additional dimension to professional discourse in the workplace. Women who tap into all forms of knowledge and contribute to the strategies needed to meet the increased demand for innovation and efficiency can address their own personal and professional growth. Women who recognize the comprehensive nature of their personal epistemology can leverage their knowledge in ways that increase opportunities for professional growth. According to Schommer-Aikins & Easter (2006), “When women attain
some form of procedural knowing, separate, connected, or beyond, they also attain beliefs that allow them to be critical thinkers” (p. 414).

Significance of the Research Question

Examining how women experience the epistemological process of acquiring knowledge and understanding how they increase their knowledge in order to improve their ability to advance in their careers is especially relevant today. Women have been the fastest growing segment of the workforce in the United States. Women constitute 46.8% of the workforce, and the proportion is expected to increase over the next several years (U.S. Department of Labor, Bureau of Labor Statistics [BLS], 2017b). A 5.8% increase (3.7 million) in the female civilian workforce is projected between 2014 and 2024 (BLS, 2017a). Despite the increasing number of women at all levels of the workforce, there continues to be gender disparity of women at the higher levels of organizations (Selzer et al., 2017).

Similar to the demographics in the civilian workforce, the federal government has seen a steady rise of women employees. Sabharwal (2013) noted, “In 2010, women comprised 30% of the Senior Executive Service (SES) positions, which more than doubled from 12.3% in 1992” (pp. 426-427). It is estimated that “41 percent of the Senior Executive Service will be women compared with 47 percent of the projected civilian labor force in 2030” (Kohli, Gans, & Hairston, 2011, p. 8). Although women will make significant gains over the next decade, they will still be underrepresented in senior leadership positions. Given the current focus on improving opportunities for the advancement of women in the public sector (Choi, 2010; Sabharwal, 2013) professional development is one way women can improve their skill set and gain the individual knowledge that is necessary to prepare for career advancement into more senior positions. However, the federal government’s formal employee development program
does not acknowledge or identify knowledge growth opportunities gained through relationships, personal experiences, and close connections formed with others. Therefore, women may not recognize or exploit these types of opportunities as ways to gain knowledge.

GAO (2012) stated, “Constrained budgets and the need to address gaps in critical federal skills and competencies make it essential that agencies identify the appropriate methods for employee training and development, so that the most important training needs are addressed first” (p. 1). Women need to understand how to capitalize on all aspects of how they gain knowledge to better position themselves for consideration of career advancement. Beeson and Valerio (2012) stated, “In the interest of creating a level playing field for executive advancement, women need to take proactive measures in their own development as leaders” (p. 417).

A greater understanding of women’s epistemological paradigms can help women become more aware of how to approach gaining knowledge to address their individual needs and professional growth. Women who are looking to advance in their careers should proceed with a holistic approach, taking advantage of formal programs offered by their organizations and proactively creating and participating in the informal opportunities for gaining knowledge that are not addressed in formal programs. As women begin to see the advantages of including these informal resources in how they increase their learning and soft skills, they can begin actively positioning themselves into situations that are conducive to gaining knowledge.

Organizations have acknowledged that providing women with equal opportunities in the workforce is not only a legal requirement, it is a moral obligation. Organizations should reflect the citizenry in order to represent the interests of all, especially historically disadvantaged communities. Women’s participation in policy making and management decisions influences the direction of an organization and the programs and products that it institutes.
Although women are consistently underrepresented in senior positions, based on their high level of educational attainment compared to men, women are poised to lead organizations and make great contributions (Bierema, 2016). Capitalizing on all the knowledge attainment resources that are available to them and proactively engaging in informal activities that create a perpetual learning environment can help prepare women to meet the professional needs of their organization. Women who are proactive in their personal and professional knowledge growth are taking ownership of and responsibility for their professional achievements.

Opportunities for professional growth extend beyond the domestic workforce. Technology has afforded organizations the opportunity to increase their operations internationally in order to remain competitive. This global expansion requires organizations to utilize personnel who understand how to gain knowledge through all available resources and how to apply that knowledge to improve operations. As organizations grow, their need for employees who have achieved a level of leadership success will expand. Organizations that acknowledge and encourage women to take advantage of informal opportunities to gain knowledge are creating a workforce that values the skills that women possess and the advantages they bring to the organization.

As women are becoming a critical component of meeting the domestic and global demands of corporate competition and government efficiency, their ability to meet these demands is an important opportunity for individual and organizational growth. Creating opportunities that encourage a diverse workforce and encourage women to work towards senior positions is of value to private and public organizations. Integrating those skills that are closely associated with women’s learning is a key component in moving women towards a deeper understanding of themselves as learners.
Research Problem and Research Question

The following overarching question guided this research into understanding how women know what they know: How do women experience the epistemological process of procedural knowledge (connected and separate) that assists their pursuit of career advancement?

Definition of Key Terminology

**Cognitive development** – The process of developing information and knowledge through reasoning and understanding (Rehman Ghazi, Ali Khan, Shahzada, & Scholar, 2014).

**Connected knowing** – The ability to gain knowledge from the personal experience of others through caring and empathy. Key to connected knowing is developing procedures to gain access to another person’s knowledge. According to Belenky et al. (1997) “connected knowers begin with an interest in the facts of other people’s lives, but they gradually shift the focus to other people’s ways of thinking” (p. 113).

**Executive core qualifications (ECQ)** - These “assess executive experience and potential - not technical expertise. They measure whether an individual has the broad executive skills needed to succeed in a variety of SES positions--not whether they are the most superior candidate” (U.S. Office of Personnel Management [OPM], 2012).

**Feminist theory** – Historically, women have been marginalized and misrepresented in positions of power in organizations. Heteromasculinity and masculinity are dominant and acceptable behaviors that have been used to suppress women’s growth through language, understandings, beliefs, or practices (McCormack, 2012). Feminist theories challenge these perspectives and assumptions about privilege and power and provide new ways of thinking (Gedro & Mizzi, 2014).
**Knowledge** – “Dynamic human process of justifying personal beliefs as part of an aspiration for the truth” (Ikujiro, 1994, p. 15).

**Knowledge acquisition** – A change in cognitive structure and capacity for action that is achieved through the justification of personal beliefs (Nonaka, 1994).

**Reciprocal relationship** – The exchange of information or knowledge between two or more people that also includes consideration of the needs of others. According to Sabourin (2013), the “transmission of knowledge and adult training are examples of pedagogical situations in which relationships of reciprocity can be built” (p. 306).

**Senior Executive Service (SES)** – Positions in the federal government classified above General Service 15. Their primary responsibility is to lead the federal government. “Members of the SES serve in key positions just below the top Presidential appointees, and are the major link between these appointees and the rest of the Federal workforce” (OPM, 2017).

**Separate knowing** - The ability to gain knowledge from the impersonal experience of critical thinking and inquisition. Key to separate knowing is the exclusion of personal feelings and beliefs while assessing knowledge presented by others for validity and truth. According to Belenky et al. (1997) “separate knowers assume that everyone—including themselves-may be wrong (p. 104).

**Theoretical Framework**

Belenky et al.’s (1997) women’s ways of knowing (WWK) provides a feminist perspective on the intersection of gender and the acquisition of knowledge. Their research was rooted in a concern that women were not represented in research that modeled intellectual development. Belenky et al. (1997) stated, “Nowhere is the pattern of using male experience to define the human experience seen more clearly than in models of intellectual development” (p.
7). The framework provides a theoretical lens for understanding how women understand, develop, and articulate their experiences with knowledge within a personal and educational context. It challenges the dominant paradigm regarding the construction of truth, reality, knowledge, and how women see themselves in the world (Banks-Wallace, 2000). The theory rejects the traditional patriarchy of dominant white males as the custodians of knowledge and their views on how knowledge is transferred to others (Nelms & Lane, 1999).

WWK is grounded in the seminal work of Perry (1970) and Gilligan (1993). Gilligan (1993) focused on the “discussion about women’s voices, about difference, about the foundations of knowledge or what is currently called ‘the canon’, about relationships between women and men, and about women’s and men’s relationships with children” (p. xi). According to Hofer and Pintrich (1997), Belenky et al. (1997) used questions derived from Gilligan’s theoretical framework while similarly challenging a psychological theory based on the male experience.

Belenky et al. (1997) advanced Perry’s (1970) work in the field of epistemological beliefs by acknowledging the influence of gender on how people construct and articulate knowledge. Perry’s research focused on shifting beliefs about truth and knowledge, concluding by developing a scheme of knowing and valuing. Perry found that the perspective of white male students shifted from knowledge as black and white through a series of nine positions within four progressive cognitive development categories: dualism, multiplicity, relativism, and commitment in relativism. Perry observed that students’ ideas about authority were transformed with knowledge. Their ability to think critically as they progressed in their academic studies broadened their worldview and transformed their beliefs on the role of “authority” and its relationship to knowledge.
Although some perspectives of the WWK theoretical framework overlap with Perry’s cognitive development framework, the research conducted by Belenky et al. (1997) found additional epistemological perspectives that were not observed in Perry’s study. In contrast to Perry’s participant pool of all white male college students, Belenky et al. examined the “ways of knowing” of a group of 135 women from different contexts and educational settings, including clients from a human services agency. The women responded to a series of questions on personal and professional growth aspirations over a period of 5 years.

Belenky et al. (1997) focused on describing the perspectives from which women view reality and draw conclusions about truth, knowledge, and authority. The participants’ personal epistemology fell across a continuum of five perspectives: silence, received knowing, subjective knowing, procedural knowing, and constructed knowledge (Table 1). These five perspectives make up WWK. These five perspectives outline the cognitive developmental stages of women’s perceptions of truth and knowledge. Although Perry’s research described these stages as a sequential progression along a continuum of cognitive development, the WWK theoretical framework does not conclude that there is a sequential progression through the five perspectives, but rather there is a developmental path. Women may experience times throughout their personal and professional lives when their understanding, acquisition, and communication of knowledge is dictated and challenged by their environment, psychology, or economic factors as opposed to following a sequential progression. These periods of cognitive conflict represent growth opportunities that can be addressed through close reciprocal relationships that provide the objectivity and truth necessary to receive and produce knowledge.
### Table 1

**Women’s Ways of Knowing Personal Epistemological Perspectives**

<table>
<thead>
<tr>
<th>Knowledge perspective</th>
<th>Characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Silence</td>
<td>“Women are often silenced by culture or by the actions of others” (Love &amp; Guthrie, 1999, p. 18). Women who lack the confidence or understanding of their personal experiences as opportunities of knowledge acquisition describe the silence perspective. Because women don’t see themselves as learners, they are unable to express their opinions or speak with confidence on a given subject.</td>
</tr>
<tr>
<td>Received knowing</td>
<td>Describes women who are able to receive knowledge from others, such as authority figures or peers. They learn by hearing and do not recognize themselves as creators of knowledge. Their inner voice is silent as they look to others as creators of knowledge.</td>
</tr>
<tr>
<td>Subjective knowing</td>
<td>As women begin to recognize their ability to learn from their experiences and acquire knowledge, they become confident in their ability to give a voice to their understanding of their personal truths as knowledge. Women are able to accept the opinion and truth of others.</td>
</tr>
<tr>
<td>Procedural knowing</td>
<td>Describes women who engage in systematic analysis to discern multiple truths and sources of knowledge. Women recognize all opinions are equally valid and expertise should be respected. The procedural knowing perspective is further divided into two components, separate knowing and connected knowing. Separate knowers are more disconnected. Knowledge is acquired through critical thinking and inquisition. Emphasis is placed on impersonal procedures used to analyze or establish truth. Connected knowers place more emphasis on understanding other points of view within context rather than evaluating their perspective. They use relationships, empathy, and closeness to understand others’ perspective.</td>
</tr>
<tr>
<td>Constructed knowing</td>
<td>“Constructed knowing represents an integration of the knower (self), the known (mind), and the communication of the known (voice)” (Love &amp; Guthrie, 1999). The constructed knower utilizes their voice to represent their own thoughts and opinions while acknowledging and reflecting on the thoughts and opinions of others.</td>
</tr>
</tbody>
</table>

*Note.* Taken from Belenky et al. (1997)
Researchers have used the WWK theoretical framework to determine how women acquire knowledge in professional and educational settings. The following research studies were conducted to understand how women acquire knowledge through relationships, empathy, critical thinking, and analysis.

Selzer et al. (2017) utilized the WWK theory of procedural knowing (connected) to make sense of shared experiences in a women-only leadership development program. The program included a cohort of 10-20 women selected from a steering committee comprised of senior leaders and alumnae. The program met monthly and featured speakers, interactive exercises, and stretch assignments. The researchers sought to understand what the program meant to the participants and their institutions.

The WWK’s theoretical framework guided the data analysis process and centered on the concept of women listening to their inner voices. Personal narratives were used to make meaning of their experiences. Viewing the data through the connected knowing lens brought the researchers to a far deeper understanding of the participants’ experiences. Themes identified as a result of using the connected knowing lens were refined to reveal self-development, interpersonal development, and organizational development as important components of a women-only leadership development program (Selzer et al., 2017). Shared reflections and experiences outside of the leadership development program were noted as critical to the learning process. The research suggests any women’s leadership development program should consider relationship-building as a key strategy (Selzer et al., 2017).

The researchers cited the importance of a theoretical lens in the development of leadership development programs. The procedural knowing perspective of WWK provided a lens that enabled the researchers to position themselves as “knowers” and carefully critique their
experiences within the context of their professional environment. The lens highlighted the importance of addressing gender bias, discriminatory practices, and the personal barriers women face in leadership development. The findings of this research remain relevant today. These factors continue to influence women’s ability to advance to senior leadership positions in organizations.

Understanding how societal norms and culture shape women’s beliefs about knowledge and how they influence learning has important implications for female teachers and students. The role women have in the acquisition of knowledge has evolved over time, just as women’s roles in society have changed. As women continue to excel professionally, some countries place more value on preserving customs and traditional women’s roles. An exploratory quantitative study conducted by Aldegether (2017) highlighted how societal norms and culture have shaped women’s beliefs about knowledge. The study aimed to understand how 190 female Saudi student teachers’ personal epistemology impacted their teaching and learning. The research used WWK procedural knowing (connected and separate) as the theoretical lens. The results were used to inform the Saudi educational system on how to best educate female Saudi teachers.

The study found that female Saudi teachers used connected knowing more than separate knowing. The researchers noted the possible influence of the cultural expectations of women in Saudi Arabia. Therefore, the study may not necessarily represent women’s independent beliefs about knowledge, but rather may reflect their role in society. These results had two implications for this research: (a) the role of gender in the knowledge acquisition process and (b) the role of culture in shaping how women approach the learning process.

**Critics of Women’s Ways of Knowing**
WWK advances the field of personal epistemology using a feminist perspective that challenges biases in the study of cognitive development. Critics of the theoretical framework point to several limitations. Although many acknowledge that Belenky et al. (1997) advanced the field of epistemological research beyond Perry (1970) and Gilligan (1993), their approach led to criticisms related to gender, racial, and class bias, as well as cultural influences.

**Gender bias.** Belenky et al. (1997) is notable for its inclusion of women’s perspectives in epistemological research, yet it also prompts several questions and criticisms. The inclusion of only female participants raises a question of whether this research is biased against men. Many researchers suggest the five epistemological ways of knowing identified in the research can be exhibited by either gender, with some individuals preferring one way of learning over another (Schommer-Aikins & Easter, 2006; Hofer & Pintrich, 1997). Ascribing these perspectives to women could be limiting in its assumptions about gender and could perpetuate these norms. Additionally, their research did not provide a method of assessing the association of gender with their findings (Hofer & Pintrich, 1997).

Further studies have corroborated the finding that there is minimal correlation between gender and how men and women acquire knowledge. Ekanem (2015) conducted a longitudinal study in an organization utilizing in-depth, semi-structured interviews, direct observations, and archival data records. The case study found there were some differences and similarities in learning experiences between men and women. Men and women can both learn from connected knowing skills such as relationships with others. However, in some cases, men gravitated more towards professional relationships in their acquisition of knowledge and women learned more from family and friends (Ekanem, 2015). Ekanem noted that context and self-efficacy influenced the process of learning employed by each.
Factors such as opportunity, choices made by men and women, job demands, and controls can affect how individuals experience learning opportunities (Harteis, Billett, Goller, & Rausch, 2016). Given these various influences and how they can affect individuals, it is difficult to definitively assign a particular learning or knowledge acquisition process to any gender. Exploratory research conducted by Harteis et al. (2016) identified workplace support as a factor that influences how individuals learn. Harteis et al. (2016) related gender, age, and occupation to workplace learning. A convenience sample comprised of 224 men and 231 women and four of unknown gender were selected to complete a questionnaire on workplace learning. Research findings indicated that factors beyond age and gender may have more effect on opportunities to develop skills in the workplace. Only small differences were found between men and women regarding their perceptions of factors that affect how individuals acquire knowledge.

**Culture.** Belenky et al. (1997) acknowledged that women’s ways of knowing may differ across cultural backgrounds and specific groups. A case study conducted by Frieze, Quesenberry, Kemp, and Velázquez (2012) found:

> Without an awareness of cultural contexts gender difference approaches can serve (a) to reinforce the belief that men and women are two distinct and fundamentally different categories which in turn can support an essentialist position, and (b) to exclude significant cultural factors outside of gender that are impacting participants (p. 426).

Turton (1997) found that “American Indians’ ways of knowing were directly connected to the stories, spiritual practices, and traditions of relationships that have long been a part of their way of life and community.” Culture in the United Arab Emirates, where there is a very distinct identification of male and female roles and relationships, requires that women’s education programs be managed and overseen by women only. In Arab countries, the cultivation of
women’s perspectives on learning and knowledge has been significantly influenced by women due to the segregation of men and women during their education (Aldegether, 2017). Therefore, the assumption made in Belenky et al. (1997) that women who have reached college and succeeded in developing their own voice have been taught by a generation of male teachers does not necessarily hold true in other cultures.

**Race and class.** Belenky et al.’s (1997) perspective on WWK subscribes to a single or universal mode of knowing. It does not speak to the complexities of how racial and class relations of power shape how people think about learning and knowing (Luttrell, 1989). Evidence indicates that race/ethnicity and class play important roles in people’s ways of knowing and their viewpoints on knowledge.

The lack of information about the racial background of the participants in Belenky et al. (1997) makes it impossible to answer questions related to variation in ways of knowing across racial groups. Research conducted from the feminist perspective on the intersection of gender, race, and class in the social construction of knowledge found that Black and White working-class women had different perspectives on the meaning of their experiences and knowledge (Luttrell, 1989). Based on their culture and community, they placed a different meaning and importance on their roles and how they translated into the creation of knowledge: “Patriarchal hierarchies and epistemological polarities take on different meanings for women through their mediating or meaning-making structures of class and race, fundamental gender asymmetries and inequalities” (Luttrell, 1989, p. 34). There is a complex linkage between gender, race, and class that is not addressed in the WWK theoretical framework.
Rationale For Using Women’s Ways of Knowing

WWK (Belenky et al., 1997) provides a theoretical lens for understanding the acquisition of knowledge from a feminist perspective. The feminist perspective challenges traditional worldviews on knowledge and truth by questioning and opening up new ways of seeing and thinking. The premise of WWK research is to “better understand the concept of knowledge and truth that are accepted and articulated by women” (Belenky et al., 1997, p. 5). This premise closely aligns with the research questions, participant pool, and the context of the organization where the research was conducted.

Application of Theory

WWK is a feminist theory that challenges traditional perspectives about how individuals acquire knowledge. It provides a lens that centers the epistemological perspective of how women construct knowledge that is used in their personal, educational, and professional development. The theory provides five epistemological perspectives of how women acquire knowledge: silence, received knowledge, subjective knowledge, procedural knowledge, and constructed knowledge. Several research studies have shown that women are more likely to use connected knowing in their acquisition of knowledge (Aldegether, 2017; Khine & Hayes, 2010; Selzer et al., 2017). However, separate knowing is acknowledged by research participants as a way of validating and creating knowledge as women become more knowledgeable and confident (Khine & Hayes, 2010; Nelms & Lane, 1999). The procedural knowing perspective of WWK will be utilized as the lens to acquire a deeper level of understanding of women’s experiences in acquiring knowledge in the study organization.

Although the study organization is historically male dominated, with men holding most leadership positions, women are quickly advancing into leadership positions. Women can put
themselves in a position of advantage by utilizing their experiences and the experiences of others to increase their knowledge to help them pursue career advancement. The procedural knowing perspective of WWK provides a framework for understanding women’s perspectives on learning that can be incorporated into women’s professional development as an informal, practical way of increasing their knowledge that they can initiate and manage. Understanding women’s procedural knowing skills, such as factors that assist in developing reciprocal relationships and working in disagreement or an adversarial approach in a critical analysis of each other’s truths, can be a valuable knowledge-building tool in a competitive professional environment.

Conclusion

This introductory chapter provided an overview of how procedural knowing can inform how women gain knowledge and the significance of that perspective to women in the workplace. The chapter has made the case for understanding how women may informally acquire knowledge through procedural knowing as an opportunity to increase their knowledge as they pursue career advancement opportunities. This research employed the women’s ways of knowing theoretical framework as a lens for examining the following research question: How do women experience the epistemological process of procedural knowledge (connected and separate) that assists their pursuit of career advancement?

The next chapter will give an overview of the most relevant scholarly literature that surrounds women and the acquisition of knowledge. A rationale and explanation for the proposed IPA research design is thoroughly discussed in Chapter 3. The remainder of the dissertation will cover analysis, findings, and discussion.
Chapter 2: Literature Review

It is especially relevant today to examine how women experience the epistemological process of acquiring knowledge and to understand how they increase their knowledge to improve their ability to advance in their careers. Three bodies of literature that informed this study will be discussed in this chapter. The first section reviews professional development (PD), both formal and informal, which is a continuous process required for individuals who desire to excel in a career. PD helps individuals maintain, update, develop, and enhance their professional skills, knowledge, and attitudes. This is accomplished through formal and informal activities initiated by an individual, organization, or professional association. The second section reviews politics; it will explore women’s ability to articulate or exhibit influence utilizing knowledge as they pursue career advancement. The third section reviews disparities in women’s career advancement and the challenges women face in advancing to senior positions. As a marginalized group, women have continued to be underrepresented in senior positions within organizations. Women’s ability to acquire, articulate, and apply knowledge is critical to career success. The theme of knowledge (acquisition, application, and barriers) will be explored throughout the three bodies of literature.

Professional Development

Professional development is multifaceted. PD can range from traditional training methods that are planned or required by an organization or profession to less formal activities that are initiated by an individual (Lindsay, 2012; Mackay, 2017). PD is widely considered by individuals, organizations, and industry to be the implicit responsibility of today’s professional (Collin, Van der Heijden, & Lewis, 2012; Webster-Wright, 2009). Across many professions, requirements rooted in professional standards, government regulations, and organizational
competition have increased the pressure to pursue more effective, efficient, and evidence-based practices. MacKay (2017) posited that PD is a form of employment capital that practitioners should invest in to enhance credibility, job security, and employment opportunities. PD provides an opportunity for individuals to grow professionally by helping them move towards professional maturity and actualize potential capabilities. Personal and professional goals are accomplished through PD by providing a way to increase their intellectual, vocational, and behavioral skills and competencies through learning opportunities. These are important for advancing to senior leadership positions (Bailey, 2015; Ferrelli, Mattosovich, El-Seweify, & Dowidar, 2016).

According to Jeon and Kim (2012), individuals must actively engage in continuous learning and gain knowledge to remain competent and competitive. Consistent throughout most research is the need for PD to achieve the desired outcomes for individuals, organizations, and society.

PD can be viewed at the micro, organizational, and macro level. First, PD is an individual responsibility, an action that ensures individuals will have the skills needed to support the supply and demand of the labor market and support career goals and opportunities (Volles, 2014). Second, organizations require individuals to remain current with the most recent knowledge and skills so they can address competition and change. Organizational environments are constantly changing, and individuals should position themselves to address organizational needs and their career goals through PD activities. Last, from a societal perspective, PD provides society with a workforce that is trained and capable of addressing the constantly changing technical and managerial requirements of the work environment (MacKay, 2017).

According to Rothwell and Arnold (2005), “The more a profession is affected by changing conditions, the more continuous learning is needed” (p. 19).
PD is a resource that can help women fight discrimination and ignorance. Women’s inability to access formal training inhibits their ability to counter the discrimination they meet in the workplace. Although women have achieved advances in education and now exceed men in educational attainment, the lack of PD opportunities as they advance professionally limits their career (Davis, 2012). According to Davis (2012), targeted training and development helps women achieve their career objectives. Tan (2008) suggested there is no distinction between the training needs of men and women. However, Tillmar (2007) argued women have specific PD needs because of the sexism, prejudice, and discrimination that are prevalent in the workplace.

As individuals increase their knowledge and skills, there are benefits to the individual, organization, and society. Individually, PD supports longer careers by enhancing job progress, career mobility, and increasing skills and knowledge. Organizationally, more skilled workers are available (McNair, 2012). Longitudinal research has found that employees who participate in PD activities may experience more promotions (Maurer and Chapman, 2013, p. 463). The following sections will explore the foundation for PD and the relevance of formal and informal PD, concluding with an exploration of mentoring and networking activities.

Adult Learning and Professional Development

Learning and knowledge activities associated with PD have a foundation in many of the principles and practices identified in andragogy, or the theory of adult learning (Ferrelli et al., 2016; Webster-Wright, 2009). The concept of andragogy, which is defined as “the art and science of helping adults learn,” was popularized by Knowles (1980) to distinguish how adults learn from how children learn (p. 43). Organizations have provided structure and support for PD activities that are intended to engage adult professionals in activities that will increase learning
and create new knowledge within the organization. The five assumptions underlying andragogy can be similarly applied to professionals who engage in PD:

1. has an independent self-concept and direct his or her own learning,
2. has accumulated a reservoir of life experiences that is a rich resource for learning,
3. has learning needs closely related to changing social roles,
4. is problem-centered and interested in immediate application of knowledge,
5. is motivated to learn by internal rather than external factors. (Merriam, 2001, p. 5)

For adult learners, growth requires ownership of the process of seeking appropriate activities. As cited in Zepeda, Parylo, and Bengtson (2014), Knowles (1980) stated, “Adults are autonomous learners that are goal oriented and relevancy oriented and are practical people who have gained knowledge through their past experiences” (p. 300).

The first assumption of professionals who participate in adult learning is that they are self-directed, meaning that they can plan, conduct, and evaluate the content, processes, and outcomes of their PD. Self-directed learning promotes emancipatory learning and social action (Andruske, 2003). Individuals take an active role in choosing to participate in activities that directly influence their PD. This type of learning is especially critical for women in the workplace. Rothwell and Arnold (2005) defined this type of learning as an investment to protect continuity and enhance opportunities for career advancement. Andruske (2000) found that women who participated in self-directed learning were able to initiate change in oppressive environments. Self-directed learners are prepared to address change in their environment through the acquisition of new skills and learning. This is supported by Gijbels, Raemdonck, Vervecken, and Van Herck (2012), who found that self-directed learning strongly correlated with work-related learning and behavior.
Formal and Informal Professional Development

Adult learners participate in formal and informal learning activities. However, research suggests that most adult learning takes place informally through relationships, online information, and reading (Schurman & Beausaert, 2016). Adults can learn from everyday activities, picking up additional skills and knowledge in informal settings (Cunningham & Hillier, 2012). Van der Klink et al. (2014) and Bailey (2015) cited informal learning as the preferred and most frequent learning technique.

Individuals can choose from a variety of PD practices and tools, both formal and informal. Formal PD consists of active, intentional training or education that is typically institutionally sponsored, such as courses or highly structured activities. Formal PD can include training or education such as classes, specific workshops, or designed learning opportunities (Chun, Sosik, & Yun, 2012). Organization-sponsored training and development programs that address organizational and individual learning needs through various types of learning activities are often part of formal PD. Organizations that continue to be underrepresented by women at the senior level are implementing formal PD programs specifically to assist women in their career pursuits (Van Oosten, Buse, & Bilimoria, 2017). The Association of American Medical Colleges offers mid-career women the opportunity to participate in courses that help develop skills for career advancement (Sonnino, 2013). Professional networking is a major related activity that help women increase their knowledge and skills through interaction with other professionals in their field. Formal mentoring programs developed and implemented by the Leadership Lab for Women in STEM facilitated developmental relationships between senior employees and women in the pipeline for senior positions. Mentoring provides a platform for women to learn through others’ stories of success and struggle (Debebe, 2011).
While formal PD can be seen as more beneficial because of its structure and support by leadership, informal PD opportunities can also complement formal programs (Bailey, 2015). Informal activities incorporate distinctive needs into the management of career development and is an integral part of PD (Choi & Jacobs, 2011; Van der Klink et al., 2014). Unlike formal learning, which is initiated by the organization, informal learning requires individuals to take the initiative in their own career development and learning needs. The process by which individuals gain knowledge through informal PD is described as “implicit, unintended, opportunistic and unstructured learning in the absence of a teacher” (Eraut, 2004, p. 131). Informal PD allows individuals to gain knowledge, information, feedback, or support through the perspectives and learning experiences of others while reflecting on alternate ways of thinking, behaving, and achieving desirable outcomes. Noe et al. (2013) further characterized informal learning as an intentional activity that is followed by “experience and action, feedback seeking, and reflection” (p. 328). The flexibility of informal learning increases the opportunity for individuals to learn while collaborating with others.

As requirements for new knowledge and skills in the workforce change rapidly, formal PD programs quickly become out of date. Therefore, more flexible methods of increasing knowledge need to be considered (Cunningham & Hillier, 2013). Networking or mentoring activities create an opportunity for individuals to increase their knowledge and skills through interactions and relationships with others. Many women who have advanced to senior leadership positions participated in mentoring or networking at some point in the beginning or mid-career time frame (Sexton, Lemak, & Wainio, 2014)

Bailey (2015) noted that formal qualifications such as degrees were important for credibility and status. However, informal activities that promoted collaboration with peers, such
as networking, mentoring, coaching, practically based experiences, and informal learning events, were individuals’ preferred method of PD. PD programs often do not document or acknowledge informal activities, which discounts many of the activities that assist individuals in learning. Van der Klink et al. (2014) corroborated the findings of Bailey (2015) concerning the preference for informal learning activities while noting that most organizational policies encourage both formal and informal learning. Bailey (2015) cited a strong connection between informal learning activities such as external networking and learning to job employability.

Although professional networking and mentoring can be formal or informal, a distinguishing factor is the connection between the activity, the individual, and the organization. In formal PD, participation in the activity may be competitive; therefore, it is only available to a select few. Underrepresentation of women means fewer women are available to participate in formal PD. Individuals have less control over the activities in formal PD, which may be contrary to how adults learn. Formal PD programs are closely aligned with knowledge acceptance and understanding. The specific ways women learn may not be addressed in this structured environment. Self-directed adult learners may not be able to tailor learning to address their specific learning needs. As women begin to blend connected and separate knowing, how knowledge is processed changes from seeking to understand to critically challenging how knowledge is created. Van Oosten et al. (2017) stated, “Given the barriers, advancing and retaining women in traditionally male-dominated professions requires organizations to implement strategies for PD tailored to address the gendered context of women’s careers and lives” (p. 3). Informal learning activities may be more suitable for women who are focused on softer professional skills and are ready to create their own knowledge through critical thinking and evaluative reasoning rather than accepting knowledge created by others. Allowing a space
for women to think critically and analyze and evaluate knowledge is as important to personal and professional growth as knowledge created by others.

**Gender and Types of PD**

**Mentoring.** The U.S. Office of Personnel Management (OPM) describes the mentorship process as a formal or informal relationship between two people, a senior employee referred to as the mentor, and a junior protégé. Mentoring relationships can be a primary method of actively transferring knowledge to gain competencies and accomplish tasks (Crocitto, Sullivan, & Carraher, 2005). The federal government has implemented formal mentoring programs to enhance career and personal development. The premise of these programs is the pairing of a senior employee (mentor) with a protégé to give the protégé an opportunity to enhance knowledge and skills through a relationship that allows for the meaningful exchange of information, ideas, and organizational practices. Throughout this process, the mentor and protégé are establishing a relationship that enables connected knowing and separate knowing. The protégé can learn from the experiences and knowledge of the mentor and challenge others’ assessments and truths through this relationship. As the protégé and mentor establish trust, the relationship offers an opportunity for personal learning, growth, and discovery for both the mentor and protégé (Ragins, 2016; Zanchetta et al., 2017).

Several studies conducted over the last 30 years have confirmed that mentoring can be valuable for individuals seeking to advance in their careers (Chandler, Kram, & Yip, 2011; O’Brien, Biga, Kessler, & Allen, 2010). Mentoring can play a significant role in women’s career advancement by providing them with an opportunity to receive advice, guidance, strategies for overcoming gendered barriers, and psychological and social support (Hill & Wheat, 2017). Mentoring can assist individuals with career and psychosocial functions that augment formal PD
programs (Ghosh & Reio, 2013; Haggard & Turban, 2012). According to the seminal work on mentoring by Kram (1983), “The mentor relationship can significantly enhance development in early adulthood and also in the midcareer stage of the more experienced individuals” (p. 608). The mentor and protégé each bring their own knowledge and skills to the relationship, creating a two-way learning environment (Chun et al., 2012).

Bynum (2015) suggested that informal mentoring relationships result in a more positive emotional and professional outcome for the protégé. Informal mentoring is unstructured and expands the mentor-protégé relationship to include mentors outside the confines of an organization. Although participation in mentoring activities in general has been closely correlated with career advancement, it is the learning aspect of the relationship, sharing knowledge, seeking feedback, and collaboration between mentor and protégé, that provides an advantage to female protégés (Bynum, 2015; Tharenou, 2005).

**Gender and mentoring.** Men and women both benefit from mentoring; however, it may be more helpful to women because of the barriers they face (Wallace, 2001). Fagenson (1989) explored the perceptions of male and female protégés to determine whether systematic differences existed in the experience of being mentored and whether men and women at different career levels received equal benefits. Fagenson (1989) supported the hypothesis that mentors had a significant effect on career mobility and advancement. Senior male mentors were sources of power in male-dominated occupations or organizations (Dougherty, Dreher, Arunachalam, & Wilbanks, 2013). Power can be perceived as expertise and positional influence (Ragins, 1997). Mentors with prominence and power are better equipped to produce positive outcomes for the protégé. The results of mentoring are particularly prominent for female protégés in disadvantaged work environments (Fagenson, 1989) and mid-career participants.
More recent research by Kao, Rogers, Spitzmueler, Lin, and Lin (2014) supports the findings related to gender dissimilarity in the mentoring relationship and career mobility. Mentoring can be most beneficial to women in cross-gender mentoring relationships (Kao et al., 2014; Ghosh & Reio, 2013). In addition, mentoring relationships with protégés’ supervisors provided greater advantages than those with non-supervisors. Protégés were able to acquire information, knowledge, support, and advice through a relationship established with a supervisor and supervisors provided greater support and socialization for subordinates (Kao et al., 2014). Because the mentoring relationship requires open communication and exchange of information and knowledge, women should consider the context in which mentoring relationships best meet their needs. Women may maximize the opportunity and level of success of career advancement in male-gendered occupations by choosing senior, influential male mentors with whom they have a previously established relationship (Dougherty et al., 2013).

**Networking.** Gould and Penley (1984) defined networking as “the practice of developing or maintaining a system or network of contacts inside and/or outside the organization, thereby providing relevant career information and support for the individual” (p. 246). Networking or interpersonal relationships within a network can enhance the flow of information and knowledge and improve career opportunities (Durbin, 2011; Sexton et al., 2014). Seufert, von Krogh, and Bach (1999) coined the term *knowledge networking* “to signify how people, resources and relationships are assembled in order to accumulate and use knowledge primarily by means of knowledge creation and transfer processes, for the purpose of creating value” (p. 184). Women often use their network as a means of social support, to share experiences, and to exchange knowledge. Sexton et al. (2014) found that most women at the senior executive level and mid-career were involved in networking at some point in their career.
Michael and Yukl (1993) further defined networking by incorporating an interpersonal perspective. This viewpoint incorporates a behavioral perspective, outlining how an individual builds an interpersonal relationship. Behaviors such as “visiting people, socializing before and after formal events, attending social activities, doing favors, mentoring, informal conversations, or passing on gossip” were activities that helped create an individual’s network (Michael & Yukl, 1993, p. 148). Gibson, Hardy, and Buckley (2014) defined these relationships as goal-directed behaviors used to “increase visibility and power, job performance, organizational access to strategic information, and career success” (p. 146).

Two kinds of networks exist in organizations: networks formed through shared commonalities such as goals, gender, or status or transactional networks developed for exchanges (Fombrun, 1982). Women in senior positions primarily network to acquire or exchange knowledge and share their experiences with others. Access to information is one mechanism that mediates the outcome of a networking relationship. Professional networks can provide access to wider and richer information that leverages the benefits of networking. Porter and Woo’s (2015) psychological model of networking provides a framework for the foundational premises of how individuals network across dyadic and intra-individual levels. The network is defined in three foundational premises: (a) relationship stages and behaviors, (b) quality and dynamics, and (c) relationship types of networking. The network relationship exists at three stages: initiation, growth, and maintenance. Each stage of the network relationship coincides with the quality of the relationship. As the network advances through the different stages, individuals reach a position of influence and connectedness that allows the network to become a source for information and resources beneficial for work-related activities. Porter and Woo (2015)
theorized that there is simultaneous reciprocal feedback and exchange of information between network partners.

**Gender and networking.** A gendered lens of networking reveals challenges and strengths of networking for women and the effect it has on knowledge exchange. According to Ibarra (1992), “although people tend to interact with others who are similar in socially significant ways, that tendency is highly constrained by the availability of similar others within the social groups to which an individual belongs” (p. 7). This is especially prevalent in fields where women are underrepresented in positions of power and authority. This may not be readily apparent, but it is part of the subtleties of everyday work and interactions (Bruni, Gherardi, & Poggio, 2004). In networks, the level of awareness of gendered practices may be non-reflexive. Humans may not consciously think about what regulates their behavior (Howard-Grenville, Golden-Biddle, Irwin, & Mao, 2011).

Typically, men are network gatekeepers. How they communicate or behave can create, reinforce, or counter how women gain access to less formal networking activities (Berger, Benschop, & Brink, 2015; Brink & Benschop, 2014). Men and women may both experience the consequences of gendered behavior, but the outcomes are disproportionately negative for women. Durbin (2011) wrote, “Restricted network access denies involvement in the exchange and creation of tacit knowledge and ultimately, organizational resources and power” (p. 90).

**Conclusion**

How women learn is an integral part of their professional development and growth. Formal PD is often seen as the best way to gain knowledge. However, as women advance in their careers and seek to hold more senior positions, increasing knowledge through formal PD may not be the most effective way for women to gain relevant and current knowledge and skills.
Researchers have identified informal learning as the most common way individuals learn (Noe et al., 2013; Schurman & Beausaert, 2016). The flexibility of informal unstructured learning allows women to make decisions about how they gain knowledge and how they process knowledge provided by others.

Activities that provide opportunities for access to knowledge are important in women’s professional development and career progression. Researchers have found networking and mentoring to be two activities that facilitate the development of relationships that help create opportunities to gain knowledge. Women who participate in networking and mentoring have a professional advantage, with more opportunities for career advancement and knowledge sharing opportunities (Neck, 2015; Klerk & Verreynne, 2017). This professional advantage helps women navigate the political environment found in organizations.

**Political Skill**

Understanding how women learn and the activities that facilitate learning will not always improve opportunities for career advancement. Women must also recognize, evaluate, and capitalize on opportunities. Identifying the reasons behind relationships that are successful and unsuccessful at increasing knowledge can facilitate learning and improvement. “The ability to effectively understand others at work, and to use such knowledge to influence others to act in ways that enhance one’s personal and/or organizational objectives” is an asset in federal agencies, which are inherently political due to the nature of presidential appointees and Congressional influence (Ahearn, Ferris, Hochwarter, Douglas, & Ammeter, 2004, p. 311). Political skill requires individuals to have a necessary level of cognitive ability and astuteness to understand why certain actions resulted in a specific outcome (McAllister, Ellen, & Ferris, 2018). McAllister, Ellen, & Ferris (2018) stated:
The social astuteness dimension of political skill is a primary driver of informed learning, as socially astute individuals are capable of interpreting environmental cues and identifying the root causes that led to their success (or failure). Astute individuals learn from the process of selecting a goal, identifying opportunities that lead to the accomplishment of the goal, evaluating whether and how to pursue those opportunities, and capitalizing on those opportunities. (p. 1943).

Recognizing that organizations are inherently political, the ability to navigate within that context is particularly important to women seeking career advancement to senior positions (Buchanan, 2008; Perrewé & Nelson, 2004). Women who recognize the political nature of organizations can leverage political skill and behaviors to gain access to resources such as knowledge, ideas, and information. Treadway, Hochwarter, Kacmar, and Ferris (2005) asserted that individuals with political skill can “effectively understand others at work and use such knowledge to influence others to act in ways that enhances one’s personal and/or organizational objectives” (p. 127). Rouleau and Balogun (2011) found that most senior and middle managers believed that political ability was a requirement of their job performance. As individuals move up the hierarchy of an organization, competing goals and ambiguous and conflicting objectives require more political skill and behaviors. Political skill may help women advance in their careers by utilizing behaviors that strategically position them to gain access to individuals who can provide information and resources (Watkins & Smith, 2014). This is especially relevant in male-dominated organizations where women face difficulty in ascending to senior positions. Of the four subdimensions of political skill, social astuteness and networking are the most relevant for understanding how women gain knowledge.
There is often disagreement about the benefits of political behavior by individuals. However, political skill is a valuable capability in the public sector due to competing interests and stakeholders (Hartley, Alford, Hughes, & Yates, 2015). Understanding people and forming alliances are two positive aspects of political astuteness that are closely associated with increasing knowledge and access to resources. Doldor, Anderson, and Vinnicombe (2013) found that most women were fully aware of the benefits of political engagement and of navigating a masculine organizational culture. Astute political strategies provide women with a mechanism to disrupt the masculine culture and navigate the gendered dynamics of the workplace (Doldor et al., 2013; Watkins & Smith, 2014).

**Political Skill Construct**

The construct of political skill is derived from the seminal work of Pfeffer (1981) and Mintzberg (1983). Mintzberg (1985) and Pfeffer (1981) shared the view of many researchers that organizations are inherently political. Although intelligence, hard work, and performance are a part of individual achievements, social astuteness, savvy, and positioning also play important roles. Mintzberg (1985) suggested that political skill referred to exercising influence using negotiation, persuasion, and manipulation. Ferris, Treadway, et al. (2005) defined the political skill construct as a combination of four subdimensions: social astuteness, interpersonal influence, networking ability, and apparent sincerity (Ferris, Treadway, et al., 2005). Individuals who demonstrate political skill execute appropriate behavior through understanding situations, influencing others, and capitalizing on power coalitions. Political skill allows women to strategically position themselves in male-dominated workplaces (Watkins & Smith, 2014; Perrewé & Nelson, 2004) by gaining access to important inside organizational information and knowledge they can use to influence others’ actions in a way that positively affects outcomes and
allows for effective positioning within the organization (Perrewé & Nelson, 2004; Todd, Harris, Harris, & Wheeler, 2009). Watkins and Smith (2014) found that women in male-dominated organizations who have political skill are more likely to achieve positions of authority. As shown in the plot below, women who have political skill are more likely to occupy positions with authority in male-dominated organizations than women who lack political skill. When women worked in less masculine organizations men and women had more equal access to positions of authority.

Figure 2.

Figure 2. Interaction between male-dominated organizations and political skill on women’s positions with authority. (Watkins & Smith, 2014)

Social Astuteness

Social astuteness and political savvy enable individuals to employ situational diagnosis and respond in ways that may lead to positive outcomes (Munyon, Summers, Thompson, & Ferris, 2015). Knowledge gained from social astuteness is closely related to succeeding in the
political environment of public organizations (Ferris, Davidson, & Perrewé, 2005). Women who practice political skills can utilize knowledge gained through engaging with the organizational environment to understand what is or might happen. The practice can include thinking through immediate and long-term effects of individual and others’ actions, utilizing knowledge of institutions, processes, and social systems in the decision-making process. Information and knowledge gained through social astuteness is assessed strategically to align personal interests with organizational goals (Bolman & Deal, 2008; Hartley et al., 2015). Politically skilled individuals have keen self-awareness. The ability to listen to others and reflect on their views and underlying objectives provides insights used to process information and knowledge.

Individuals who demonstrate social astuteness understand the limits of their actions and decisions. Hartley et al. (2015) found that individuals who demonstrate social astuteness “are able to come to judgments to know how far to go across the line. They see a zone within which to operate according to the situation, history, issues, and personalities” (p. 208). Most individuals utilized social astuteness with positive intentions (Hartley et al., 2015).

**Networking**

The ability to build strong alliances or networks is a subcomponent of the political skill construct (Bolman and Deal, 2008; Ferris, Treadwell, et al., 2005). Of the four subdimensions of political skill, networking is the one that is most strongly associated with meaningful career outcomes (Todd et al., 2009). Politically skilled individuals excel in utilizing and developing networks to gain access and inclusion in male-dominated upper echelons (Watkins & Smith, 2014). During networking, individuals can receive information through informal channels. In male-dominated organizations, these informal communication channels are a source of power.
The lack of entry to male-dominated groups and networks results in low power and access to knowledge and informal information for women (Stead, 1985).

**Conclusion**

As women advance in the federal government, an acute awareness and understanding of how to effectively use and gain knowledge can increase opportunities for women in the pipeline for senior positions. In male-dominated organizations where women are underrepresented, women must have the cognitive ability to discern, evaluate, and capitalize on opportunities that create informal connections that allow the sharing of knowledge and resources. According to Watkins and Smith (2014), women with political skill may be able to recognize and break down barriers that are especially present in male-dominated organizations (p. 206).

**Women’s Obstacles to Career Advancement**

Gender equality has been a focal point for women who want to advance into senior positions. Researchers have documented the gendered environment women must navigate to achieve senior positions (Fotaki, 2013; Maranto & Griffin, 2011). Although women have made significant gains, they still lag men in achieving similar levels of career attainment. According to Bolitzer and Godtland (2012), female employees in the federal government, which is considered a leader in providing equal opportunities for men and women, continue to struggle with equal representation of women in senior positions. The absence of women from top-tier positions perpetuates the dominance of male culture in the federal government and draws attention to the perception that women may face barriers to their vertical mobility and career progression. Research suggests women have as much desire to compete for senior positions as their male colleagues, so consideration should be given to barriers that impede advancement
despite women increasing their knowledge and critical thinking skills. Understanding these factors could increase the number of women at senior organizational levels (Booysen, 2013)

Wynen, Beeck, and Ruebens (2015) utilized the federal employee viewpoint survey conducted by the OPM in 2006 and 2013 to understand employees’ perceived lack of career advancement opportunities. The federal viewpoint survey is conducted annually to assess the perception of employees regarding the extent to which the conditions that characterize successful organizations are present in their own organization. Wynen et al. (2015) found that women reported significantly fewer perceived opportunities for career advancement within the federal government than men. The absence of women in senior positions often results from internal and external barriers, which support women’s perceptions that there are few opportunities to advance to senior positions (Clevenger & Singh; 2013; U.S. Federal Glass Ceiling Commission, 1995). The following subsections explore how internal barriers, which are self-limiting career impediments, and external barriers, which are obstacles outside one’s span of control, influence the career advancement of women despite women gaining knowledge through relationships and critical analysis in their pursuit of career advancement to senior positions.

**Internal Barriers**

Although federal agencies have policies in place to ensure that men and women have equal opportunities for career advancement, perceived barriers may influence how women see their opportunities. Individual barriers to women’s ability to advance to senior positions contribute to the overall challenges women face in career advancement in male-dominated organizations (Bombuwela & Alwis, 2013; Wright, Perrone-McGovern, Boo, & White, 2014). Women require resilience and confidence to overcome barriers and obstacles that hinder their ability to advance in predominantly male-led organizations. Interpersonal attributions and social
interactions can increase the barriers perceived by women in the workplace and may account for how women evaluate opportunities for career advancement.

Tharshini, Kumar, and Rathnasekara (2016) utilized the social constructivist paradigm to explore how women perceived barriers in the workplace. Of the barriers identified, factors associated with the individual and interactions with the work environment were among the strongest. Women identified factors such as lack of necessary skills, lack of self-confidence, self-selection, less commitment to work, and less aspiration. Although both men and women experienced career barriers, women perceived more barriers to career advancement. This finding is supported by Novakovic and Gnilka (2014) and Tlaiss (2013), who suggested women’s interactions with their social environment influence their perceptions of barriers to career advancement. This research emphasized that the perception of one’s social environment influences the interpretation of the environment and its role in creating barriers.

How individuals respond to or cope with barriers moderates the effect they have on career advancement (Novakovic & Gnilka, 2014; Wright et al., 2014). Individuals who have a negative response to perceived barriers are more likely to experience distress and lack the ability to cope in a way that demonstrates self-efficacy. A positive response may demonstrate an ability to formulate goals and individual strategies to overcome the barrier. Through positively approaching barriers, women may have a more balanced understanding and assessment of barriers and their ability to cope. Women who perceive barriers as requiring organizational or societal change, as opposed to being individual obstacles, may see coping mechanisms as ineffective (Novakovic & Gnilka, 2014). Organizations that do not address the individual needs of women may lead to self-imposed barriers that artificially block career advancement.
Wright et al. (2014) used social cognitive career theory to understand the interrelationships between career barriers and the individual factors of attachment, social support, and self-efficacy. Women who had strong personal connections and social support perceived fewer career barriers (Davila & Kashy, 2009; Wright et al., 2014). The study provided support for a direct link between barriers and women’s self-efficacy beliefs. Women who can build relationships through various activities, such as mentoring and networking, make connections that provide knowledge and get the support needed to overcome barriers through increased self-efficacy.

**External**

**Structural barriers.** Structural barriers are a common explanation for the obstacles women face in the United States. Structural barriers prevent women from receiving equal consideration for career advancement opportunities and from participating in activities that help prepare them for advancement by increasing knowledge and providing access and exposure to influential people. Structural barriers such as discrimination, stereotyping, and exclusion from social networks are closely aligned with organizational culture and authority hierarchies within the workplace (Cech & Blair-Loy, 2010; Riccucci, 2009). These barriers suggest women are subject to implicit bias (e.g., gender stereotyping, backlash, and gendered work-life processes) and explicit biases (e.g., harassment, pay discrimination, and job loss after childbirth) that can hinder career advancement (Kossek, Su, & Wu, 2017). Governmental barriers may also contribute to the obstacles to parity women may face in the pursuit of opportunities to prepare and pursue senior positions. The argument that women face more barriers than men is more prominent at higher levels of organizations, suggesting that women who are seeking senior
positions may have a heightened perception of structural barriers (Akpinar-Sposito, 2013). This may negatively affect their perceptions of their ability and opportunities within the organization.

**Discrimination.** Martin and Barnard (2013) found that “formal and covert organizational practices, which upheld gender discrimination and bias, were the main challenges that women face” (p.1). Condiff and Vescio (2016) found that gender stereotypes strongly influenced attributions of discrimination when explaining gender gaps in leadership positions. Challenges to women’s career advancement may center around work-life balance decisions. Women often identified the primary role of caregiver as a competing obligation that must be balanced with being a career woman (Martin & Barnard, 2013). Organizational practices that promote inflexible work schedules or assign stereotypical gender roles and expectations to women influence organizational culture and underpin biased employment policies and management strategies that disadvantage women (Martin & Barnard, 2013). According to Akpinar-Sposito (2013), “for this reason, employers occasionally hesitate to promote women because they are afraid that women will choose their families first” (p. 492).

The 1964 Civil Rights Act made discrimination based on race, color, religion, sex, or national origin illegal in the United States. The law was enacted to extend the equal opportunities principle to all employees in the workplace. This civil rights and labor law provided protections for women who were dramatically underrepresented in the workplace and upper management (Wasserman, 2003). Although society has embraced equal rights for all, this has not necessarily translated to equal opportunities for advancement by women. Tomaskovic-Devey and Stainback (2007) stated the government continues to struggle with enforcement, interpretation, and managerial commitment to those laws.
The Civil Service Reform Act of 1978 requires a “federal workforce reflective of the Nation’s diversity.” This law has helped increase the number of women and minorities in senior positions and other underrepresented categories. However, Clark, Ochs, and Frazier (2013) found that disparities continue to exist within the federal government due to presidential partisanship and ideological influence on the selection of these policy-making positions. These influences may stem from conservative or liberal views on affirmative action, which are closely aligned to the political parties. Women may have more opportunities to advance or be appointed to senior positions when Democrats are in office (Clark et al., 2013). This indicates that the ability of women to reach the SES level is contingent upon the political affiliation and prerogatives of the presidential administration.

**Stereotyping.** Women in male-dominated fields anticipated or perceived discrimination in the form of unequal treatment and stereotyping related to their gender (Cochran et al., 2013; Ezzedeen, Budworth, & Baker, 2015). The presence of overt and implicit bias related to gender stereotyping creates an environment that results in formal and covert organizational practices that maintain stereotyping and prejudices (Martin & Barnard, 2013). Davey (2008) found that women were not treated equally based on perceptions of behaviors more commonly associated with, and found acceptable among, men such as aggressiveness, overconfidence, point-scoring, and game playing.

Gender-role stereotyping may influence the types of roles and jobs both women and men see as “female appropriate” (Ryan, Haslam, Hersby, & Bongiorno, 2011; Watts, Frame, Moffett, Van Hein, & Hein, 2015). Women may not envision themselves in powerful positions associated with stereotypically male traits. This can lead to self-directed bias in assessing ability or fitness for a position (Diekman and Steinberg, 2013). These negative stereotypes impede
career advancement by inaccurately assessing the alignment of a woman’s skills and ability with senior positions (Nguyen, 2013). Woodcock, Hernandez, Estrada, and Schultz (2012) and Walton, Murphy, and Ryan (2015) hypothesized that continued exposure to stereotyping may lead to an abandonment of career aspirations, which may further lead to a disproportionate number of women missing from senior positions.

**Gender bias.** Gender stereotypes can lead to bias in the workplace that affects workplace decisions. Gender bias can arise when men and women are judged differently because of gender stereotypes (Koch, D’Mello, & Sackett, 2015). Women may experience gender bias during decision-making for hiring into senior positions or development opportunities. Heilman (2001, 2012) found that stereotypical gender characteristics associated with women that do not align with stereotypical job requirements can lead to bias in job applicant selections and competitive development opportunities. These gender biases manifest in more consequential ways when a male hiring manager is rating a female applicant for a masculine stereotyped job. Koch et al. (2015) found that male hiring managers exhibited a greater propensity to hire men for male-dominated jobs even when provided additional individuating information that suggests a different decision. Findings also suggested that women may face greater gender bias in male-dominated environments. The lack of women in senior positions with hiring authority supports the finding that highly qualified women can face discrimination and bias in the decision-making process of hiring personnel into senior positions typically dominated by males (Koch et al.; Rudman, Moss-Racusin, Phelan, & Nauts, 2012).

**Exclusion from networking.** Researchers have identified participation in networking as a way to increase knowledge and organizational exposure (Durbin, 2011; Porter & Woo, 2015). Networking can help individuals build social capital and understand the political landscape of an
organization, which are critical skills at the senior level of most organizations (O’Brien 2015; DeKlerk and Verreyne, 2017). Although most women and organizations recognize the importance of networking, barriers continue to impede their ability to participate in networking opportunities in male-dominated organizations (O’Neil, Hopkins, & Sullivan, 2011). Women’s exclusion from networks hinders their ability to be fully engaged in the organizational culture, stymies career advancement, and limits opportunities to influence policy (Franceschet & Piscopo, 2014). Lack of access to networking opportunities puts women at a disadvantage when trying to gain access and build rapport with senior leaders and those in the organization who have information power (Barnes and Beaulieu, 2017; Cook & Glass, 2014). In organizations where men dominate senior and mid-career positions, “women’s exclusion from this essentially closed, informal system where strategic tacit knowledge predominates means that women are potentially denied access to a gateway network that ultimately controls resources” (Durbin, 2011, p. 91).

How women use networking can be an important aspect of overcoming barriers or challenges within an organization. Women who can navigate the individual and organizational barriers that make networking difficult found that networking activities bolstered career advancement and opportunities. Strategic engagement in networking can build relationships towards career development and advancement (Klerk & Verreyne, 2017). Therefore, women should consider how and with whom networking is most beneficial for career advancement.

**Governmental barriers.** Governmental barriers were identified by Clevenger and Singh (2013), who found that the lack of vigorous and consistent monitoring and enforcement of the tenets of the Civil Rights Act presents a missed opportunity to provide women with the protections outlined in the law. Inadequate reporting mechanisms and transparency of relevant
information about the status of women’s progress in career advancement to senior positions obscures the magnitude of the lack of progress in achieving equal opportunities. Government policies and programs have been effective in reducing overt discrimination and barriers to women’s career advancement. However, research conducted by the U.S. Equal Employment Opportunity Commission, Office of Research, Information, and Planning (2012) found that gaps persist between men, minorities, and women in executive management positions. Hsieh and Winslow’s (2006) analysis of aggregated federal workforce data corroborated the gains made by women in the federal government. However, much of the gain is concentrated at the GS-11 level and below. Senior positions are still mainly dominated by men, especially in the GS 14 through GS 15 and senior pay levels (Choi, 2010; Clark et al., 2013; Hsieh & Winslow, 2006).

**Conclusion**

Although women continue to acquire knowledge and utilize cognitive ability and social astuteness to navigate the gendered environment of the federal government, barriers can hinder this effort. The internal barriers that have the most influence on women are within individuals. Self-imposed barriers create self-doubt and affect how women perceive their ability to advance in their careers. Advancing to senior positions requires women to be confident about their ability and the knowledge and skills necessary to perform the job. Individual barriers hinder mentoring and networking activities that allow women to make connections that provide knowledge along with the support needed to overcome individual barriers through increased self-efficacy.

Influences outside of women’s control also create barriers that affect career advancement. The external influences that appear to have the most effect include discrimination, stereotyping, exclusion from social networks, and governmental barriers. Although laws protect women from
many of these barriers, discrimination, stereotyping, exclusion from social networks, and governmental barriers continue to be pervasive in the workplace (Novakovic & Gnilka, 2014).

Internal and external barriers have a direct effect on women’s ability to gain access to information and knowledge. Knowledge and acquisition of knowledge are keys to women gaining access to senior positions. However, research has shown that barriers continue to hinder women’s career advancement by limiting access to critical knowledge generating activities.

Summary

This chapter explored the manner in which women gain knowledge in their pursuit of career advancement to senior positions. The study evolved from understanding the epistemological process of learning from the perspective of women and those actions that assist women in gaining knowledge while delving into how women recognize, evaluate, and capitalize on knowledge gains to influence others to act in ways to enhance personal and organizational objectives. As noted, more informal ways of learning may be better aligned with women gaining knowledge. Professional development does not always align with adult learning principles or address the specific needs of women in a male-dominated organization.

Although women are advancing into senior levels of organizations, they continue to be underrepresented. In understanding how women gain knowledge, a key point is understanding why specific actions increase knowledge and facilitate learning and improvements. The researcher found in the literature that navigating the political nature of a work environment is a primary driver of informed learning and that pursuing and capitalizing on those opportunities is important to knowledge acquisition.

Despite women gaining knowledge and utilizing this knowledge to achieve career goals and advancing to senior positions, barriers continue to exist. Researchers have identified internal
and external barriers that influence women’s career projections. Although knowledge is an essential component of career advancement, women must overcome barriers that may influence their ability to achieve equal representation at senior levels in the federal government. The researcher found that, along with knowledge, a belief in one’s own ability to overcome internal and external barriers is fundamental to advancement to senior positions.
Chapter 3: Research Design

The purpose of this interpretative phenomenological analysis study was to understand the ways female mid-career supervisors at a government agency have experienced procedural knowing skills that have assisted their pursuit of career advancement. A qualitative research design was used to collect data aimed at answering the following research question: How do women experience the epistemological process of procedural knowledge (connected and separate) that assists their pursuit of career advancement? This chapter will discuss the research approach, participant selection, procedures, and criteria for quality research.

Qualitative Research Approach

“Qualitative research is a situated activity that locates the observer in the world. Qualitative research consists of a set of interpretive, material practices that make the world visible” (Creswell, 2013, p. 43). Understanding the lived experiences of women situated within their world is not something that can be derived by testing a hypothesis. Their experiences cannot be narrowed to a single set of variables; they must be interpreted using a method that allows for thick descriptions captured from participants. Given the purpose of the research, the researcher chose qualitative methodology as the most appropriate method for investigating the topic. Procedural knowing is based on the perspectives from which women view reality and draw conclusions about truth, knowledge, and authority (Belenky et al., 1997). The researcher needed to engage the participants in a manner that allowed the expression of different perspectives and sense making through their lived experiences. Qualitative research allowed the research question to be explored through the voices of the participants, providing an array of perspectives and thick descriptions of their experiences. According to Merriam and Tisdell (2016), “Qualitative research allows researchers to understand how people interpret their
experiences, how they construct their worlds, and what meaning they attribute to their experiences” (p. 6). Four key characteristics of qualitative research processes align with the most effective means for the researcher to understand the research phenomenon:

- Participant’s construction of meaning and understanding of their experiences,
- analysis of the data using the inductive process,
- immersion of the researcher in data collection and analysis, and
- the final product is richly descriptive. (Merriam & Tisdell, 2016, p. 15)

The constructivist-interpretivist paradigm was selected as the philosophical perspective for this research. This paradigm seeks to understand a participant’s reality within the boundaries of where she lives and works. The researcher believed the nature of this reality would be varied based on the unique lived experiences of each participant as she navigated within her world. These experiences and the participants’ positionality help formulate the nature of their reality (Guba & Lincoln, 1994). Although the participants may have shared similar perspectives based on some commonalities, it was assumed that there would be multiple, equally valid realities (Schwandt, 1994). These perspectives are not absolute truths but are informed and sophisticated constructions of their reality. According to Creswell (2013), participants made subjective meaning of their experiences, leading the researcher to make sense of this sense-making to find complexity of views rather than narrow the meanings into a few categories or ideas.

The process of participants making sense of their lived experiences is not easily understood or visible to a researcher. This process is hidden and can only be exposed through deep reflection and reflexivity by participants (Merriam, 1991). Kant’s (1781/1966) *Critique of Pure Reason* described this process as a central tenet of constructivist thinking. According to
Hamilton (1994), Kant believed individual perceptions are derived through cognitive processes that help formulate their perspectives; these perspectives are not independent of these processes.

The researcher’s role in this study is critical to understanding the participants’ perceptions and sense making process. Because the sense-making process is cognitive, the researcher interacted closely with the participants in their role as co-constructors of the findings of the research. The researcher-participant exchange is a transactional interaction that is beneficial in creating deeper meaning in the creation of knowledge.

Within the IPA methodology, Smith, Flowers, and Larkin (2009) identified three major theoretical underpinnings from the philosophy of knowledge: phenomenology, hermeneutics, and idiography. IPA draws on these concepts to form a theoretical foundation. These concepts guided the researcher in the key phases of this study.

**Phenomenology**

Phenomenology is a philosophical approach that is based on the work of the 20th century philosopher Edmund Husserl. The premise of phenomenological inquiry is to allow people to examine their own “lived experience” (Van Manen, 2014, p. 26). Husserl’s founding principle is “examination of the lived experience in the way it occurs and in its own terms” (Smith et al., 2009). The lived experience in phenomenological inquiry takes place in the consciousness of the individual. Husserl used *intentionality* to describe the relationship between consciousness and the object of attention (Smith et al., 2009). How individuals interact with the world around them is intentional and has meaning. Individuals take these experiences beyond simple observations of an object and reflexively look inward towards their perception (Smith et al., 2009). The essential qualities of this experience can then be used to provide insights and meaning to others.
Phenomenology provides a rich source of experiences; how individuals interpret their lived experiences may have practical applications in the workplace. Based on the research focus, describing or interpreting the participants’ experience and application of the findings, there are two approaches for consideration: descriptive phenomenology and interpretive or hermeneutic phenomenology. Each methodology is based on Husserl’s work, although Heidegger moves away from Husserl’s purely descriptive and more theoretical philosophy to include an interpretive view.

**Descriptive phenomenology.** Husserl’s philosophical approach is associated with what is known as descriptive phenomenology. Descriptive phenomenology is most concerned with the essence of the experience and capturing the experience as described by individuals (Smith et al., 2009). The methodology involves the rigorous study of things as they appear in order to understand human consciousness and experience (Valle, King, & Halling, 1989). It is how individuals see things before applying their worldview or understanding. “It is experience as it is before we have thought about it” (Crotty, 1996, p. 95). Hence, Husserl’s phenomenological viewpoint suggests focusing on describing the experience in its natural state and less on interpretation.

Bracketing is an important assumption in Husserl’s phenomenological approach. The idea of bracketing is to exclude a researcher’s personal biases and beliefs in order to not interfere with the analysis of the data. Merriam and Tisdell (2016) suggested, “When belief is temporarily suspended, consciousness itself becomes heightened and can be examined in the same way that an object of consciousness can be examined” (p. 26). The goal of a researcher is to constantly assess beliefs and biases so as not to influence the study (Lopez & Willis, 2004).
Another assumption underpinning Husserl’s approach is commonalities in human experiences. There are certain experiences that all individuals have in common. These commonalities are important to the science of phenomenology and assist in the correct interpretation of participant experiences. The belief that the participants’ lived experiences can be extracted without consideration of context is Husserl’s attempt at scientific rigor. This view considers reality as objective and independent (Lopez & Willis, 2004).

**Interpretive phenomenology.** Martin Heidegger’s (1889-1976) phenomenological approach is similarly concerned with the human experience. However, Heidegger diverged from the focus on description and primarily advocated for the inclusion of hermeneutics, the theory of interpretation. Hermeneutics focuses on looking for meaning in the human experience that is not always visible to the participant but must be interpreted by a researcher. Heidegger (1962) moved away from what he considered a more theoretical approach to phenomenology and introduced “interpretation as both a concept and method of phenomenology” (p. 61). Smith et al. (2009) stated that Husserl is more broadly associated with individual psychological processes and Heidegger is more concerned with the meaning of being. Being is conceptualized as how individuals situate themselves in the world itself, along with their relationships and activities (Mackey, 2005).

A central tenet of Heidegger’s phenomenological approach is the relationship of individuals to their world. Heidegger described this as being-in-the-world, which points to the fact that individuals cannot divorce themselves from the world around them. Their environment influences their realities. How individuals make sense of their lived experiences is not purely human subjectivity, but what is implied by the experience relative to their environment.
A researcher brings expert knowledge to a study and gives voice to the participants. A researcher’s role extends beyond describing the phenomenon to seeking to make sense of it within wider social, cultural and theoretical contexts (Larkin, Watts, & Clifton, 2006). Heidegger (1962) acknowledged that it is impossible for researchers to fully rid themselves of their experiences and prior knowledge that led them to their topic of interest. After all, a researcher’s knowledge of the literature or desire to address or understand a problem of practice led to the study.

**Hermeneutics**

Hermeneutics is the second major theoretical underpinning of IPA. It is noted in the work of Heidegger as a critical component of deep analysis. Historically, hermeneutics was an attempt to provide a better foundation for the interpretation of Biblical texts. The theory of hermeneutics is concerned with the process of interpretation, the intentions and meaning of the individual, and the relationship of the production of the text and the interpreter (Fade, 2004; Smith & Osborn, 2003). Moustakas (1994) posited hermeneutics is “an art of reading a text so that the intention and meaning behind appearances are fully understood” (p. 9). This process of analysis involves four criteria:

1) a fixation on meaning, 2) dissociation at some point from the mental intention of the subject (author), 3) the necessity to interpret the protocols (texts), a gestalt of interconnected meanings, 4) their universal range of address, i.e., their potentiality for multiple interpretations. (Moustakas, 1994, p. 180)

The dual role of the researcher is described as the *double hermeneutic*. The researcher is engaged in a process of making sense of the participant trying to make sense of the phenomena being studied (Smith et al., 2009). This iterative process consists of several rounds of reading,
re-reading, and interpreting the data (Biggerstaff & Thompson, 2008). Both the researcher and participant are exhibiting similar cognitive exercises as they attempt to make sense of the text. A researcher also employs skills that assist in mitigating biases and acknowledging preconceptions so as to not influence the interpretation of the data. This allows a researcher to be completely open and receptive to how participants describe their experiences (Moustakas, 1994).

**Idiography**

Idiography is the third major component of IPA. Idiography stems from the psychologist Gordon Allport’s work on the effects that models of human behavior have on the type of scientific evidence gathered (Marcel, 1977). Allport (1937) coined the term *idiographic sciences* as the study of a particular event in nature or in society. Allport attempted to expose psychologists to a research approach that reflected a more humanitarian perspective. IPA methodology has two levels of idiography: a commitment to the, which enhances the detailed analysis, and understanding of how a particular event, process, or relationship is understood by the individual in a particular context (Smith et al., 2009). The focus on the particular moves IPA away from generalizations about large groups and makes it more suited for the individual being the fundamental unit of analysis (Tomkins & Eatough, 2010).

The idiographic approach allows a researcher to focus on each individual in the analysis process. Smith (1999) elaborated that the idiographic approach in IPA allows a researcher to identify the particulars of an individual’s life without being lost in the aggregate data. Bromley (1985) added that the idiographic level of analysis does not suggest that the distinct parts of the particular and general are not connected. As quoted in Hermans (1988), Goethe stated: “The particular eternally underlies the general; general eternally has to comply with the particular” (p. 785). When understanding the particular, a researcher is getting closer to the characteristics of
the general. Manis (1976) posited, “There still remains the possibility that at some more abstract level an unchanging general process underlies the variability that we observe” (p. 434).

The researcher sought to understand the lived experiences of women within the context of the federal government using IPA methodology. The IPA methodology aligned with the desired outcome of this research, which is understanding each individual’s perspective of procedural knowing and how they made sense of the phenomenon. Understanding how women make sense of the phenomenon of procedural knowing must take into consideration the environment and historical context of women’s lived experiences. This is described by Heidegger as being-in-the-world. To understand the totality of the problem of practice, consideration must be given to the descriptions women provide and how they make sense of the phenomenon of procedural knowing in order to develop a coherent theme that accurately depicts the researcher’s and participants’ interpretation.

Although the findings of this research study are not transferrable, it provides a link between the findings, the participants’ personal experiences, and the literature. The outcome may allow readers to capture what it is like for research participants within the federal government and may be insightful enough to influence policy and programmatic changes.

**Participants**

The researcher selected participants for this study who met the following criteria:

- Female employees at a GS 14 or GS 15 grade within the agency. Women in these grade levels are considered mid-career professionals who are in the pipeline of available individuals preparing for senior positions.

- A minimum of five years of experience in the organization. This ensures participants understand the environment and career opportunities.
• Women who have a bachelor’s degree or higher. Senior positions require a minimum of a bachelor’s degree.
• Women who do not work a full-time remote schedule. Women who work a full-time remote schedule spend most of their workday in a home office. They have minimal opportunities to organically build relationships or gain knowledge from others.

Consistent with the WWK theoretical framework and the problem of practice, participant selection included only women who may have experienced the phenomenon of procedural and have a desire to advancing in their careers. The women selected are currently employed with a federal agency.

**Participant Selection**

IPA idiography focuses on the particular more than the whole, which makes the use of small purposively selected samples more effective for analysis. The benefit of purposeful sampling is the in-depth understanding of specific, information-rich cases. “Information-rich cases are those from which one can learn a great deal about issues of central importance to the purpose of the inquiry, thus the term purposeful sampling” (Patton, 2015, p. 53). The researcher also relied on snowballing, which is the use of referral by participants to solicit additional participants for the study (Smith et al., 2009). Snowballing gave greater access to potential participants who were located within the agency but outside of the main office.

The IPA approach uses small, fairly homogenous samples to allow for detailed summation of each individual’s experience (Smith et al., 2009). According to Maggs-Rapport (2001), “Analysis as an intensely in-depth process means limits on size are not theoretical but practical. Small sample, in-depth work is preferable” (p. 380). Pietkiewicz (2016) chose a small sample of 10 participants because the size and selection method of purposeful sampling seemed
best suited for exploring the unique experiences of each individual participant. Turner, Barlow, and Ilbery (2002) found that data saturation (no new themes) was reached after 12 participants. Although Smith and Osborn (2003) stated there is no “right” sample size (p. 54), small sample sizes are the norm to ensure a researcher does not lose “potentially subtle inflections of meaning” (p. 626). For this reason, 10 participants were recruited to participate in this study, with a goal of at least eight participants for the final analysis phase. Creswell (2012) posited a sample size as small as two is suitable if it provided sufficient data for the analysis.

Participant recruitment followed the Northeastern Institutional Review Board (IRB) approval and the agency approval process. Once all approvals were received, potential participants were selected using purposive sampling. Purposive sampling allows the selection of participants who have a common experience of the study phenomena (Smith et al., 2009). Potential participants identified through professional bios listed on an internal agency website and through colleagues were emailed the recruitment letter in Appendix A requesting their voluntary participation in the study. The researcher contacted other potential participants identified through the snowball process.

In all, 10 women indicated an interest in participating in the study. Each participant was emailed a recruitment letter for their review followed by an informed consent document for their review and signature. This resulted in a study sample composed of eight women. Five identified as Caucasian, two identified as African American, and one identified as Hispanic. One had a terminal degree, six held master’s degrees, and one bachelor’s degrees. Participant characteristics are summarized in Table 2.
Table 2

Study Participant Characteristics

<table>
<thead>
<tr>
<th>Name</th>
<th>Race/ethnicity</th>
<th>Age</th>
<th>Highest degree held</th>
<th>General schedule</th>
<th>Years with agency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nikco</td>
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<td>Masters</td>
<td>GS 14</td>
<td>17</td>
</tr>
<tr>
<td>Heather</td>
<td>Caucasian</td>
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<td>Masters</td>
<td>GS 14</td>
<td>10</td>
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<tr>
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<td>GS 15</td>
<td>7</td>
</tr>
<tr>
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<td>Juris doctor</td>
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<td>11</td>
</tr>
<tr>
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<tr>
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<tr>
<td>Lola</td>
<td>Hispanic</td>
<td>46</td>
<td>Masters</td>
<td>GS 14</td>
<td>9</td>
</tr>
</tbody>
</table>

Research Site

The participants were current employees of a federal agency. The agency’s main office is in Washington, DC, with field offices throughout the contiguous United States and U.S. territories. The organization is an agency within the U.S. Department of Transportation that supports state and local governments. As of September 2017, the agency had 2,881 employees, of whom 988 were female; 500 of them were employed at the GS 13, GS 14 or GS 15 grade level (OPM, 2017b).

Procedures

Data Collection

In-depth interviews and diaries were listed by Smith et al. (2009) as the best means of eliciting detailed accounts of study phenomena. The researcher used semi-structured interview questions to collect data and a research diary to document notes and researcher reflections after the interview. Semi-structured interviews are the most suitable method of capturing the experiences of participants (Seidman, 2013). Tomkins and Eatough (2010) described interviews as a “tried and tested procedural combination” for studies utilizing IPA (p. 246). Semi-structured interview questions provide guidance for the researcher but also allowed a high degree of
flexibility guided by participant experiences (Broom, 2005; Creswell, 2013). Smith et al. (2009) posited that flexibility may lead to unexpected turns, which may be the most valuable aspects of an interview. These turns may introduce something that could be important to the participant and the study. The questions were phrased in a manner that encouraged participants to talk at length and be expansive in their responses. According to Moustakas (1994), research questions are intended to reveal the human experience and uncover qualitative rather than quantitative factors and experiences. Questions should engage participants to illuminate details of their experiences without seeking to predict or determine causal relationships (p. 105).

Although interviews were the most effective way to collect data from these participants, this method also presented challenges that the researcher anticipated prior to and during the interviews. Researchers must be prepared to hear sensitive information or observe unexpected behaviors from participants. Patience and listening skills were exhibited by the researcher during the interview to create an unintimidating environment.

**Interview protocol.** Using the semi-structured interview questions shown in Appendix B, an interview protocol was developed to prepare for the interview process. This helped the researcher facilitate a conversation about the participants’ experiences (Biggerstaff & Thompson, 2008; Jacob and Furgerson, 2012). The interview protocol was tested on non-study participants to gauge the length of time needed for the interview and the clarity of the interview questions. The interview protocol was developed for interviews that were approximately 60 minutes long.

Once all participants were selected, the researcher scheduled an interview date and time with each participant. Prior to the start of the interview, participants were walked through the informed consent document found in Appendix C, which apprised participants of the purpose of the study and their role as a participant. The participants were given an opportunity to ask
questions related to the study and their role as participants. Once their questions were answered, participants were asked again if they were willing to participate in the study. Agreeable participants were given two consent forms to sign, one for the participant and the other for the researcher’s files. The recording instrument and backup instrument were started once the participant signed all consent forms and indicated she was ready to begin the interview.

The first section of the interview protocol attempted to put the participant at ease by addressing the interview process and ethical considerations related to participant participation. The participants were advised that their participation in the study was completely confidential and their anonymity would be maintained throughout the study. It is important to establish a rapport with participants, so they feel comfortable discussing the questions in the interview protocol (Smith et al., 2009).

The questions were administered in face-to-face meetings at a location that was mutually selected by the participant and researcher that allowed an interview free of interruptions. The researcher took occasional notes during the interview to document visual cues and researcher thoughts. However, the primary means of documenting the interview was a hand-held recorder and Macbook Air QuickTime as a backup. Audio taping recorded details not captured in writing by the researcher who was engaged in the conversation and listening intently. It also helped validate accuracy and completeness during the analysis process (Barriball & While, 1994; Creswell, 2013). In addition, face-to-face interviews gave the researcher the opportunity to observe the participant’s body language and monitor the effects of the interview on the participant. This led the researcher to ask follow-up questions that expanded specific lines of questioning that was pursued further, rephrased, or discontinued (Smith et al., 2009).
After the interview, the participants were advised of the next steps in the study and asked to participate in follow-up questions if necessary and member checking of the preliminary findings.

**Data Storage.** Data was stored on the researcher’s computer, which is password protected. For backup purposes, the researcher also uses a secure iCloud account. All paper documents and recording devices are secured in a locked cabinet. A master list was used to document the type and location of all material. This assisted in ensuring that all data will be destroyed at the end of the study.

**Data Analysis**

To begin the data analysis process, the researcher submitted the audiotaped interviews to a professional transcription service. The researcher required a verbatim account of the interview that was transferred to a line-numbered transcript using analysis software. The accuracy of the transcript was verified by listening to the audio at least twice while following along with the transcript and taking additional notes. Any discrepancies were corrected during this time. Once the accuracy of the transcript was verified, the transcript was uploaded to Excel to begin an iterative analysis that moved the phenomenon from “particular to shared, and from descriptive to the interpretive” (Smith et al., 2009, p. 78).

The first phase of analysis focused on reading the text to immerse the researcher in the participants’ language, the context of their experience, and abstract concepts that helped make sense of the patterns of meaning in their description (Smith et al., 2009). During the readings, detailed notes were taken in the margin to capture the researcher’s thoughts concerning significant statements about what the participant said. Careful attention was paid to the process and analysis of each line of text as well as the outcome to avoid a superficial reading that focused
only on what was seen. During the first phase, there were three levels of review. The first level of review was descriptive and focused on highlighting the participants’ thoughts and experiences captured on the transcript and in the researcher’s diary. The second level was concerned with language, with how the content was presented. The third level was more interpretive and sought to analyze the data to understand the participants’ understanding (Smith et al., 2009).

The next phase of the analysis consisted of developing emergent themes. The researcher used MAXQDA analysis software as a tool to assist in investigating the data. The notes taken in the first phase of the analysis were used to develop emerging themes. These themes reflected the participant’s words and thoughts and also the researcher’s interpretation and understanding. The main objective of this phase was to “produce concise and pithy statement of what was important in the various notes” (Smith et al., 2009, p. 92). The themes were mapped to look for patterns or relationships between themes. The researcher developed superordinate themes from the assembly of like themes. This process was iterative and consisted several rounds of analysis.

The analysis process was completed for each transcript before moving to the next transcript. Once all transcripts and notes were analyzed, the researcher looked for connections across each participant’s data. This led to opportunities to illuminate one participant’s data through the understanding of another’s.

Merriam (2001) posited that writing qualitative research findings requires discipline and continuous interaction with the data. The researcher presented the findings in a manner that transitioned the reader from the final themes to a narrative account that articulated the meanings inherent to each participant’s experience (Smith & Osborn, 2003). The detailed narrative account illustrates how the theme applies to each participant. The narrative drew on extracts,
quotes, researcher notes, and themes from the data to support the account (Smith et al., 2009).
This process was repeated for each theme.

**Criteria for Quality Research**

All research studies should be conducted in an ethical manner that produces valid and reliable knowledge. Being able to trust the results of this study is important for the implementation of practical applications and policy considerations. While the findings of this study are specific to the women who participated, it is the desire of the researcher that the results be used to increase career opportunities for all women. In conjunction with outlining the methodology, the following topics and associated strategies were considered and implemented to allow the research data and findings to be authenticated so that the quality of the study could be established: ethical considerations, credibility, transferability, internal audit, self-reflexivity, and acknowledgement of study limitations.

**Ethical Considerations**

*The Belmont Report* of the National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research (1979) identified three basic ethical principles that assist persons conducting research on human subjects in understanding the inherent ethical issues. The three basic ethical principles—respect for persons, beneficence, and justice—provide a framework for resolving ethical problems that may be faced in research. The term *basic ethical principles* refers to “general judgments that serve as basic justification for many particular ethical prescriptions and evaluations of human actions” (n.p.). The researcher adhered to these basic ethical principles by following the three basic principles in *The Belmont Report*. The study only included adults who had the capacity to make decisions concerning their participation in the study; no vulnerable populations participated in the study. Participants were given the option to
withdraw from the study at any time. The researcher was respectful of the participants by ensuring that their data accurately reflected their words and perspectives through follow-up meetings and allowing the participants to review the data. Steps were taken to ensure their anonymity and the security of collected data during and after the study.

**Credibility**

Ensuring that the researcher has accurately reflected the meaning and perspectives of the study participants is paramount to credibility. This research incorporated three strategies – member checking, follow-up interviews, and continuous data analysis – to promote the credibility of the research. The member checking process occurred at various stages throughout the study. Participants were given the opportunity to review documents at the preliminary analysis and final draft phases to ensure the researcher’s interpretations rang true (Krefting, 1991; Merriam & Tisdell, 2016;). Follow-up interviews were conducted for clarification and accuracy of the data after the transcripts were read numerous times by the researcher. The researcher submerged herself in the data to flush out recurrent patterns and enhance research findings. The study documented the processes using a journal that outlined stages of the research process to demonstrate a thorough investigation of the problem of practice in terms of appropriateness of the sample, quality of the data collected, and completeness of the analysis (Smith et al., 2009).

**Internal Audit**

Periodic internal audits were conducted by the researcher to address the rigor of the study. The audits reviewed the research process, data, findings, interpretations, and recommendations. The researcher filed all data in a manner that showed a chronological account of how the research was conducted and the methodological decisions made throughout the study.
to enable an audit. The internal audit confirmed that another researcher could follow the data and arrive at a comparable finding (Krefting, 1991). Lincoln and Guba (1985) suggested that an audit can enhance the dependability and confirmability of the study.

**Transferability**

According to Wagstaff et al. (2014), IPA’s emphasis on idiography makes transferability a claim that should be advanced with caution. The question of transferability should be answered by the reader after determining the existence of shared characteristics identified in the analysis and findings. The study used analysis software and multiple iterations of review and analysis to provide sufficient descriptive data that may be transferable with the appropriate level of assessment by readers (Merriam & Tisdell, 2016; Lincoln & Guba, 1985).

**Self-reflexivity and Transparency**

A researcher’s role in IPA requires active participation in the interpretative process of making sense of the participant’s sense making. Such research seeks an insider’s perspective, which can be complicated by the researcher’s own worldviews and experiences (Smith & Osborn, 2003). The role of a researcher and her relationship to the topic plays an important role in phenomenological research. Therefore, the researcher’s bias and power with respect to the participants and the topic should be explored.

I have spent all of my career in the public sector as a rising leader and in leadership positions. My experience in public organizations has given me the opportunity to observe the role that knowledge and relationships play in achieving personal and professional goals. I believe relationships and knowledge are important to professional advancement in the public sector. The leadership of public organizations relies on knowledge and relationships to accomplish its mission. As a leader, I have always encouraged employees to develop
relationships to improve their skills and gain knowledge. As a woman who has always worked in a male-dominated field, the ability to learn through others’ experiences and gain knowledge had been very insightful in my career.

This researcher identifies herself as a mid-career African American woman who has a goal of advancing to senior positions. Although my experiences have shaped my actions and understanding of how government operates with respect to the role of knowledge and career advancement, I was careful not to allow my beliefs to influence my interpretation of how others view these areas. Also, my position and standing within the organization may have had the unintentional consequence of exhibiting power over participants. Care was taken to create an environment for the participants that allowed them to speak freely without concern for judgment or negative consequence.

Pascal et al. (2011) posited that an IPA researcher is a co-creator of mutual research knowledge with the participants. This intersubjectivity aids in developing a relationship between researcher and researched that decreases the object-subject divide within the research relationship. The researcher’s role supports Heidegger’s concept of being-in-the-world. As humans, our experiences are in relationship to other people. Thus, “we are not self-sufficient entities, but born to be part of a world that is mutually interactive” (Pascal et al., 2011 p. 176). The researcher recognized that her relationship with the participants and their experiences was fundamental to this study. Thus, my lived experiences were acknowledged and should not be discounted as adding value to the study (Lopez & Willis, 2004). However, the researcher conducted this research with careful consideration of objectivity throughout the process.
Limitations of the Study

Women’s ways of knowing gives a platform for understanding how women know by challenging stereotypical assumptions about women’s belief systems on learning. Feminist social scientists have strongly advocated for qualitative methods for understanding women’s epistemological beliefs (Oakley, 1998). However, feminist use of qualitative methods reveals problems in the area of validity of truth claims. For example, Belenky et al.’s (1997) women-only sample has the same challenges and concerns as Perry’s (1970) men-only sample, raising questions about the validity of the findings. Belenky et al. (1997) may further perpetuate assumptions about gender norms, which may be limiting to women. The researcher may face similar claims concerning her selection of all female participants in this study. Several steps identified in Chapter 3 were taken to enhance the quality and validity of this study.

The nature of IPA analysis limits the generalizability of the findings. IPA is predicated on idiography, which is an analysis of a particular phenomenon from the perspective of an individual. According to Smith et al. (2009), lived experiences are “uniquely embodied, situated, and perspectival” (p. 29). Typical small, homogeneous, purposively selected samples can provide insights into a particular experience. The small sample size and focus on the individual perspective requires different ways of generalizing the findings of an IPA study to other contexts or samples. Readers are better positioned to assess the applicability of this study based on their assessment of commonalities.
Chapter 4: Findings and Analysis

The purpose of this study is to investigate how women in a federal agency acquired knowledge during their professional journey and they how they perceived their knowledge acquisition experiences. The study’s scope was limited to eight women who had been employed with the agency for at least five years. The researcher explored their experiences and behaviors that contributed to their ability to acquire knowledge in a federal professional setting. Specifically, the participants elaborated on their experiences in navigating the federal environment to seek out information and knowledge. Analysis of the collected data led to five superordinate themes and eight subthemes. Themes and subthemes were determined based on the frequency with which the participants reported them in their interviews. All themes appeared in at least four of the eight participants’ interview data. Those themes and accompanying discussions have been organized as follows for this chapter:

1. Essential relationships (1.1 Using informal relationships to safely exchange information, 1.2 Capitalizing on a professional network);
2. Critical thinking and inquiry (2.1 Creation of knowledge through research and analysis, 2.2 Independent thinker);
3. Professional inclusion (3.1 Accessing information and knowledge through senior leaders, 3.2 Encouragement by senior leaders to increase knowledge);
4. Learning through professional experiences (4.1 Temporary development assignments);
5. Barriers to participation in learning (5.1 Self-imposed gender stereotypes, 5.2 Organizational barriers).

All five superordinate themes resulted from equal or similar statements made by the participants. The superordinate themes and subthemes are presented in Table 3.
Table 3

Identification of Recurring Themes

<table>
<thead>
<tr>
<th>Subthemes</th>
<th>Nikco</th>
<th>Heather</th>
<th>Natalie</th>
<th>Sandra</th>
<th>Jennie</th>
<th>Jessie</th>
<th>Karen</th>
<th>Lola</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.) Essential relationships</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>1.1 Using informal relationships to safely exchange information</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>1.2 Capitalizing on a professional network</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>2.) Critical thinking and inquiry</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>2.1 Creation of knowledge through research and analysis</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>2.2 Independent thinker</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>3.) Professional Inclusion</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>3.1 Accessing information and knowledge through senior leaders</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>3.2 Encouragement by senior leaders to increase knowledge</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>4.) Learning through professional experiences</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>4.1 Temporary development opportunities</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>5.) Barriers to participation in learning</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>5.1 Self-imposed gender stereotypes</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>5.2 Perceived organizational barriers</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

**Essential Relationships**

The first superordinate theme, *Essential relationships*, captures the participants’ perceptions about the importance of relationships in seeking information and knowledge in their daily work performance. Relationships appeared to be a recurring method that participants used to gain knowledge or information. Since all participants have been with the agency for at least 5
years, they appeared to have an established pool of colleagues they contacted to discuss and exchange perspectives. Participants also described relationships as a mechanism for support as they worked through challenges.

While the participants described themselves as confident in their ability to perform their jobs, they perceived relationships as an integral part of successful performance. The participants described relationships as a pipeline for relevant information, different perspectives, and knowledge. Through exploration of the data, descriptions of the participant experiences, and interpreting and analyzing the results, the researcher identified two converging themes regarding essential relationships. First, in a highly competitive environment, employees seek information or knowledge from people they feel comfortable exchanging different perspectives without fear of judgment or acknowledging they have a knowledge gap in an area that is critical to the performance of their work. Second, informal connections between colleagues can be used as open lines of communications that are beneficial in providing access to information and knowledge that may not be accessible through other means. These connections provided primary and secondary lines of connections. Participants were able to use their primary contacts to reach other people in the organization who may be able to provide useful information or knowledge. The two subthemes identified are: *Using informal relationships to safely exchange information* and *Capitalizing on a professional network*.

**Using Informal Relationships to Safely Exchange Information**

There were eight participants in this study. All participants expressed how their relationships with other employees provided access to information or knowledge that was critical to their work. The participants reported that there were times when they were given assignments that were beyond their knowledge or expertise. These assignments required the perspectives and
expertise of others within and outside of the agency. Despite perceiving themselves as high performers, the researcher noted that the participants recognized the challenges posed by these assignments. The participants did not perceive this as an obstacle but as a challenge that could be overcome. Participants felt safe in exchanging different perspectives and information in relationships that were more personal and trusting. Jessie’s reflective description gave a perspective on how she received information and solved workplace challenges, as well as her concern for having a safe place to exchange ideas. The unease in her voice and her decision to have discussions with her close colleagues outside of work constructed a portrait of a woman who felt the work environment may not provide the support needed to openly discuss and exchange ideas and information to solve problems and address gaps in knowledge or skills. Jessie referenced her gender in describing her concern and discomfort in seeking out knowledge in the agency. Regarding relationships, Jessie stated:

“So, I have a core group that I have opened up to. I mean, we’ll call each other in the evenings, and we’ll really, you know, dive into issues to kind of help each other solve problems. So that allows for me to kind of be able to vent and get things off my chest and then hear from people I trust that I know are giving me good information and vice versa. I hope they feel the same way about me. Um, but still allow for me to kind of... I don’t know, I hate to say to protect myself because I just, I don’t know, I- I think sometimes because there’s not that many like um, females”.

Sandra also recalled her experience with seeking information from a trusted senior leader. Sandra illustrated the importance of relationships that allowed her to work through challenges while creating her own understanding for decision-making. She distinguished the relationship
with Amy, her colleague, as more than a co-worker. She was an informal mentor who provided expert views at key points throughout the decision-making process:

“Actually, Amy has helped me a great deal just in positioning myself. Um, and I’ve gone to her very strategically, not with any old thing, right. She’s not that kind of person. But when I-I have almost like everything figured out, but I need another dot connected or two I go to her for information. Um, and it's usually because I’m struggling, and I try not to complain, but I just try to present it in such a way where she can really, you know, give me a senior leadership’s perspective and then she's also ... really kind of cut through some of the crap for me you know”.

Jessie and Sandra’s experiences offered the researcher an interpretation of self-awareness in acknowledging gaps in their professional knowledge and an understanding of how to navigate the culture of the organization to address those gaps. Jessie and Sandra sought safe informal learning relationships to get information and knowledge to help them make decisions and formulate their own perspectives in addressing work challenges. Although Jessie and Sandra displayed confidence in their ability to perform their jobs, they also expressed concern with how they might be perceived if they appeared uninformed. Natalie recalled a similar connection with a person in the agency. Natalie perceived the relationship as based on trust, which allowed her to freely exchange information as she developed her own perspectives and beliefs. She stated:

“I have several people that I confide in. I wouldn't say they’re formal mentors, but they give me a different perspectives and different information. Probably the biggest is just acquiring a different perspective depending on where they sit, you know”.

Nikco believed she has a few relationships that were important in her career. Nikco relied on close relationships to provide support that allowed her to express her beliefs freely and honestly
without consideration of how they were being perceived. When asked about important relationships, Nikco stated:

“It’s important to be able to talk to people that support you and be able to be candid, and get advice, constructive criticism, and knowledge. It’s helped me in many of my projects. So, probably the most important relationship is with my operations director. And, my director, we don’t always see eye to eye, but I think it’s important for us to have a good working relationship and continue to improve that relationship. I’ve really benefited from her knowledge. She has been around a long time”.

Heather considered herself a hard worker who was dedicated to the organization. She acknowledged that there were times when she needed help but did not feel comfortable going to someone in leadership. In her desire to appear capable to her colleagues, Heather developed a keen awareness of exhibiting her competence in the office while also addressing her need for information. Heather expanded on an important relationship in the organization by stating:

“I asked Taylor for her perspectives on challenges I’ve come across in the agency. I’m careful to try not to look like I don’t know what I’m doing by showing that I’m resourceful and competent. I also rely on her when I get stumped or can’t find the right information or statute to draft my briefing. This has really worked for me. Our relationship developed organically over time. We can't force it, it doesn't just happen that way”.

Similarly, Jennie described a project she was working on and how she gained access to information valuable for successfully completing the project. Jennie perceived herself as someone who was self-aware of her strengths and weaknesses, which allowed her to seek out others without having feelings of inadequacy. Jennie’s reliance on experts revealed her
understanding that she did not have all of the answers and there were times when the help of experts was required. Jenny also conveyed that she had been assigned projects that her supervisors understood would require her to rely on others. When asked how she addressed the lack of information or knowledge to complete her project, she discussed her relationship with the staff in her procurement office:

“I’m aware that I don’t know everything. I learned, you know, why, what it takes to make my program successful in that office, in that context. You can’t do it in a vacuum, and I think a project is just the right atmosphere to make that happen, because, like me, I’m too shy to just go over and talk to procurement and go, tell me what you do? Because it wouldn’t have a context for me. I have to have things in a context. So just by them saying, this is what we do, wouldn’t really help. But being able to discuss my project with Beth and her team in procurement has really helped. Really, being open and learning from others ... and that’s so very important for me. And not pretend you know everything. And, and ask questions.”

Lola believed that her relationships have been valuable when she needed to learn critical knowledge in a short time span. She described personal relationships as an expansion of knowledge that is readily available to her. When asked about her relationships, she replied:

“I’m always having to learn something new to keep up with the constant changes at work. If I don’t, I’ll be left behind. I have a close-knit group of people that I started with, some have either been promoted or took positions with other offices, but we stay in contact. I can always call someone in the group when I need information, or I’m working through a problem. We have been there for each other when things got really challenging. I can say that when we upgraded to a new learning management system, I
needed to get up to speed really fast. The information and guidance they provided was instrumental in getting that new system up and running in such a short turnaround. I’m not sure what I would have done without them. That project was sink or swim and being the only woman on the team, I couldn’t fail”.

Karen explained how she overcame her knowledge gap in the program area she supports through relationships:

“*My background is in training and education. So, when I took this job, I knew the training part, how to develop learning outcomes and adult learning principles, but I had a big deficit in the actual subject. My first order of business was to reach out to the program office and introduce myself. I knew that in order to really make this work for me, I would need to establish a good relationship with the people my office supports, the experts. Over the years, our relationship has really grown. I’ve learned so much about incident management through those relationships, it’s made me a better training manager. The program office is even receptive to me pushing the envelope on more innovative delivery methods*”.

All participants perceived close relationships as a means of accessing information and diverse perspectives as they formulated their own beliefs about resolving workplace challenges. The relationships were described as being based on a premise of trust, which gave the participants a forum to safely explore ideas, develop their internal beliefs, and gather different perspectives as they went through the process of informing their decision making with new knowledge and information.
Capitalizing on a Professional Network

Analysis of the data indicates that professional networks provide an assemblage of experts who have ideas, different perspectives, valuable information, and knowledge that participants can access. Seven participants perceived that their experiences with a professional network provided access to expert knowledge. Participants perceived that supervisor invitations to participate in events provided access to senior leaders with intimate knowledge of the organization, strategic direction, and critical information. Formal training also was an opportunity to establish connections with individuals who participants later considered an integral part of their professional network. As the participants recalled their experiences, they voiced the significance of using long-term associations with individuals for exchanges of information and knowledge. Furthermore, all participants affirmed the positive aspects of having a network.

Jessie reflected on her experience in formal training as beneficial from an individual perspective. The participant perceived that the outcome of the formal connections made during training allowed for future exchanges of information and ideas. Jessie reflected on her experience with establishing connections with people who later became a part of her professional network:

“I’m going to say something that I probably shouldn’t. Okay. I’ll be honest, um ... with those career development opportunities like leadership training, it’s almost like checking a box. People look at your resume and you need to have those items. And the biggest thing for that is I’m still relatively in touch with the individuals that were part of my team in the leadership training. Not everybody. But I would say that a good- a good number of the individuals. Just kind of having that person that I can follow up with and
piggyback ideas off of and get information. Um, that was something that I think it’s of value with those um, you know, career developing or professional development opportunities. It’s just the networking component of it”.

Jennie shared similar feelings about her connections within the agency. She described her network as connections to the expertise that she did not possess. Jennie stated:

“I’ve built quite a network through working together and being friendly, asking people about... you know, just what comes up naturally, just like you would with friends. I think people will say I’m the same person in work and out of work. I don’t have any personas. I’ve tried to be the bitch once, it just didn’t take, long time ago. I’ve called on people that I have met throughout my time with the agency on numerous occasions to get information or a better understanding on things that I have worked on. My connections in the legal department have been especially helpful. That’s not my area of expertise so I really rely on their help”.

Heather affirmed her perception of how a network of professionals within the agency helped her gain expert knowledge in areas outside of her purview. Although not a close connection, she perceived she had established enough rapport with individuals she had briefly met at a training to call on them when she needed their expertise. Heather discussed her ability to connect with people as positive in terms of how they helped her learn. She stated:

“Yeah, so, I obviously have not linked attending the leadership training to a promotion (laughs). But um, yeah, it’s a happy, immediate outcome. It helped me understand about myself. You know how I said, Lacy was a quick learner and, assimilated new information quickly. So, it demonstrated to me, one, that I could learn about something pretty quickly and now I know people I can call on when I have questions about construction which I
know nothing about. There were people that I met from across the agency that helped me learn about design-build contracting and public-private partnerships. Something that I never come across in my job. Now when I get a briefing request on public-private partnerships, I know who to call”.

Evidencing similar experiences, Sandra and Nikco related their experiences with networks to meetings and organizational functions that facilitated making connections between people. Sandra took advantage of opportunities to meet new people and build her network. She stated:

“I have good relationships with the division offices in my program experience, but pretty much at my level. I was always meeting with Division Administrators [DA’s] and I think it was good to hear their perspective. I mean, they had a really high-level perspective, and it was good, like what issues they chose, you know, what issues were significant to them and risks that’s how I started to learn about risk management. I really started to learn about risk-based stewardship and oversight [RBSO] and enterprise risk management [ERM] from the DAs. I call certain DAs that I know well from various meetings and trainings. The DAs are my go-to for RBSO and ERM”.

Nikco perceived that any opportunity to connect with people could be used to increase her network. She stated:

“One of my networking strategies is to meet as many people as I can at important agency meetings and follow-up with an email later to make a more informal contact. Once I’ve established that connection, it’s a way to get information that I may otherwise not be able to get. That’s really worked for me”.
Conclusion

Most of the participants benefitted from making connections that allowed for continued communication and exchange of information and knowledge. The researcher notes that most projects in the federal agency require a collaboration of expertise and knowledge about different subjects. The participants were able to establish and access their professional network without restraints or competition that might hinder other methods of accessing information or knowledge. Relationships created an environment where women felt comfortable exchanging information and knowledge without fear of judgment. Establishing a repository of experts that can be accessed at any time and is based on the ability to connect through relationships or an established network is in line with women’s ability to direct their own learning. The second superordinate theme aligns with participants’ pursuit of their own creation of knowledge; it is discussed below.

Critical Thinking and Inquiry

The superordinate theme Critical thinking and inquiry emerged from the vast amount of data evaluated and analyzed to determine how participants independently increase their knowledge and formulate their own perspective. This theme was strongly expressed by all participants as a preliminary method of addressing knowledge or information gaps. The participants exhibited satisfaction and a sense of accomplishment in their ability to independently increase their own knowledge. Despite operational silos within the agency, the participants were able to navigate the bureaucracy to prove themselves to be knowledgeable professionals who could analyze data and develop informed and unbiased perspectives. They made sense of this ability to independently increase their knowledge as being a desirable skillset in their job performance. The researcher identified two converging themes regarding the creation of knowledge through the exploration of the participant data, descriptions of the participants
experiences, and interpreting and analyzing the results. First, participants were given the autonomy to make judgments, which required a level of understanding and knowledge they may not already possess. They must rely on their ability to gather, assess, and analyze information and knowledge to independently construct supplemental knowledge and understanding. Second, participants were called upon to demonstrate extensive knowledge in a particular area amassed through their experience, research, and connections. The two subthemes identified are: *Creation of knowledge through research and analysis* and *Independent thinker*.

**Creation of Knowledge through Research and Analysis**

The participants reported conducting research and analyzing data and information as an initial approach for creating knowledge. When exploring the participants’ proclivity to learning, the researcher found several explicit references to proactive knowledge creation. Each participant conveyed how she researched different documents and information sources in an attempt to address a knowledge gap. Independently addressing knowledge gaps allowed participants to comprehend, create, and articulate their own understanding and beliefs on different subject matter. The data indicated that participants perceived creating their own knowledge as a sense of accomplishment and self-reliance. The participants worked in a highly competitive environment where women may not be afforded equal opportunities to participate in more formal avenues to increase knowledge. This form of self-directed learning relied on the participants’ abilities to conduct research and analysis.

Jessie’s reflective description of how she increased her knowledge constructed a portrait of a women who was determined to stay on top of changes in the agency by staying informed and knowledgeable. Jessie conveyed how she stayed knowledgeable through analyzing
numerous research documents and attending voluntary informational sessions. Jessie recalled being proactive in increasing her knowledge of changes that affected her program:

“For me, I looked at those areas that are of emphasis to the agency, like regulatory changes, to make sure that I fully understand those areas. I research the background associated with the regulation. If I see, like, a webinar that’s out there, I’ll try to attend that given webinar. If there is correspondence, emails, anything that is disseminated to the regional office offices, then I will make sure that I actually open that one and read it and print it and make sure that I’m knowledgeable about the subject. So that’s something you know, just because it’s a regulatory change, I’ve beefed myself up on that to be aware and familiar and make sure I attend everything that’s associated with it [regulation].”

Sandra also conveyed initiative in seeking knowledge. Sandra perceived knowledge gaps as opportunities to demonstrate her ability to assess information and portray herself as proactive to her colleagues. She stated:

“And so, because there wasn’t really anyone here who wanted to figure it out as it related to fed lands or Indian tribes, I just figured there was not really nothing preventing me from reading it myself. So, I became the expert, but I don’t profess to be an expert, but I will tell you I read it, and that I’m at least the most knowledgeable person around here”.

Jessie and Sandra’s experiences demonstrated their belief that addressing gaps in knowledge is an individual professional responsibility. The researcher found that Jessie and Sandra exhibited tenacity in finding the appropriate documents or experience in a self-directed
approach to addressing their knowledge gap. The participants perceived conducting research as one approach to independently developing their perspective and understanding.

Jennie perceived herself as an expert in a specific topic area based on her ability to analyze and process information and formulate her own understanding and beliefs. She experienced satisfaction at having the autonomy to oversee her individual learning that enabled decision-making from a position of informed authority. Jennie expressed her penchant for self-directed learning in her analysis process:

“I’ve got to know the legislative history. If I’m going to get rid of this regulation, I’m going to have to figure out why it was there in the first place, instead of just meeting with someone and saying, “What’s the process for getting rid of this regulation?” Which, of course, this administration wants to get rid of all the regulations, and I don’t like that. But at any rate, I try to find some that aren’t very important. So, you know, really, nothing beats your own research”.

Heather also expressed satisfaction with self-directed learning. Heather reflected on her contacts outside of the agency in conjunction with her inquiry. She perceived the autonomy to direct her own learning as needed to inform her projects as a sign of confidence from her supervisors. Heather recalled her learning experiences in developing a new project:

“It took me a long time to get this project up and running. I did research on communities of practice, read a lot of articles, studied other organizations, and I talked to folks in a similar agency that had communities of practice to get a better understanding of how to implement and manage the forum. That helped me determine how I should go about it. As long as I’ve done a thorough job and can back up my decisions, my projects usually get funding without any problems”.
Nikco shared feelings of adeptness at conducting research and collaborating with other experts in the agency to increase their knowledge. Nikco perceived her ability to address her learning needs as important to her position and a key skill for the next level in her career. She described conducting research, reading reports, and asking questions as a method of increasing her knowledge. Nikco stated:

“I had begun to do a lot of fixing in terms of programs that needed enhancing or things that needed evaluated or analyzed. The first thing I did was research the program. I read the legislation, policy, and any changes made over the last year before I consulted with legal. If I didn’t know all of the ins and outs of the program, there was no way I would have any credibility with the state let alone my director. Since I was the project lead, I needed to be knowledgeable enough to discuss where the program did not line up with the federal requirements in order to get them back on track”.

Natalie conveyed confidence in how she systematically approached analyzing data to inform her decision-making process. Her approach revealed a proclivity towards self-reliance and inquiry:

“I’m very resourceful. So, my first line of attack is do a literature review and take in as much information that is publicly available. Then, tap into people in my agency and our sister agency. So again, just getting as much input as I can and trying to compartmentalize all that information to create that big picture of what’s next”.

Karen perceived her ability to appear knowledgeable as directly related to people’s perception of her as a competent professional. As one of two women in the office, she exerted pressure on herself to always appear knowledgeable. When asked about the initial steps to fill in knowledge gaps, Karen responded:
“I spent a lot of time initially poring over all the information around the project and what has been done in the past. I review the files, articles, memos, and whatever I can get my hands on to fill in the gaps. When I present to the team, I have to know everything there is to know. If you can imagine how stressful that is. Not really knowing what may come up”.

Lola described her experience with resolving a problem her team faced that required her to conduct research and analysis in a critical project decision. Lola stated:

“I had to figure out how to bring our new analyst up to speed quickly. These people were new, and we needed to get them up and running quicker, before they came to the larger meeting. So, I did a lot of research on online and web-based training. Once I felt I had enough knowledge on delivery methods that could be done quickly and prior to the meeting, I met with the proper personnel in IT. I pitched the idea to senior leadership for final approval. Had I not done my research I don’t think I would have been able to get everyone onboard and get the project done in six months. And with that system was able to monitor, track their progress, and track their um grades with that as well”.

Each participant demonstrated a strong determination to individually address her gaps in knowledge. The participants engaged in self-directed learning through systematically researching and analyzing agency data and information. They were proactive in their approach to formulating their own understanding and beliefs. The participants expressed confidence and satisfaction in directing their own learning.

**Independent thinker**

The ability to think independently and present themselves as informed and knowledgeable is a fundamental element of the GS 14 and GS 15 participants. The participants
have advanced in their field to a level where they are expected to be knowledgeable or have the ability to gain knowledge. Although all participants expressed some type of knowledge gap, their ability to independently conduct research and analyze information allowed them to address these knowledge gaps and present themselves as independent thinkers. The participants presented themselves as someone with enough skill and ability to demonstrate critical thinking and analysis. This allowed the participant to formulate and exchange knowledge and views from a position of understanding or present a final product that was technically sound. The data suggest that participants perceived their ability to present themselves as an independent thinker who is capable of developing and formulating their own perspective and understanding was a requirement of their jobs.

Heather’s reflective description of herself constructs a portrait of someone who can analyze information from various sources and presenting the agency’s perspective. She was called upon to brief senior leaders in the agency. Heather recalled how she presented the agency’s position to senior leaders:

“I am on the briefing team. Our biggest function is to respond to requests for information or briefings from the office of the secretary, which could be for the secretary, deputy secretary, or for any member of the secretary’s staff. It’s my job to pull all the information together and present the agency’s position. We also respond to our administrator’s office, so, uh, the administrators, the deputy administrator, the executive director, if they need a briefing on a particular topic, we prepare that for them as well”.

Jennie experienced some pushback when presenting herself as knowledgeable in the past. She described the techniques she currently used to facilitate a collaborative working relationship that allowed her to utilize her knowledge to help her colleagues. Jennie recalled being proactive
in presenting herself as capable of assessing information and communicating with her colleagues:

“My tactic is to get them the information up front in the procurement process, then they’ve already agreed to it, and there’s going to be no surprises later on. This has to be done, but I’d better darn well figure out how to make it easy for them to do this and talk their language and tell them how I can help make it easy if I’m at the table early on”.

Jessie distinguished the importance of when to demonstrate her ability to analyze and access information or when to allow her staff to process and analyze information to develop their own solutions. Jessie recalled working on a project with her staff. She described balancing making progress on a project and taking time to allow her staff to get up to speed and eventually take the lead:

“As the most knowledgeable person in the office, I did micromanage a little bit on performance management. I did it to make sure that we were able to move forward. As I felt the analyst was comfortable to kind of take more of that leadership role, then I started pulling myself back. I never want the staff to feel like I’m just dumping. I want them to feel like they can be successful”.

Natalie reconstructed her experience of presenting information on her program on behalf of her office leadership. She perceived these opportunities as reflective of her ability to assess and present her perspective in the program area. Natalie stated:

“I have presented like three or four times at the administration meeting. Whenever they have a meeting that rises to their level but involves my program, they’ve been really good about bringing me along and, you know, allowing me to be a part of the meeting, not just
observing it. I get to present on my program. They look to me for my expertise on the subject”.

Sandra perceived her invitation to work on the deputy administrator’s roundtable on how to better support the territories as confirmation that her ability to analyze information and contribute her perspective and knowledge in this area is respected in the agency. Opportunities to work directly with senior leaders in the organization are typically extended to employees who are knowledgeable in their area and can contribute a unique perspective based on their experiences and assessment of information contributed by others. Sandra stated:

“I was given the opportunity to work closely with the deputy administrator on improving the financial checks and balances for the professional development program that supports the territories. He specifically asked my office director if I could work on the program with him because I helped develop the current iteration. I’ve been able to improve compliance and get more participants through the program”.

Nikco expressed concern with taking a negative action against a state. She researched the requirements of the grant and took ownership of establishing a process that she replicated throughout the 52 division offices. Although grants is not an area where she had significant experience, Nikco assumed the role so she could successfully manage the project. She perceived her ability to analyze information and formulate authoritative conclusions as critical to her being allowed to make necessary changes to help the agency’s partners:

“Originally, they were talking about a hard stop in the financial system, which would have caused the divisions to have a lot more work. To stop a program hard stop in a financial system takes a lot of work from a lot of people. So, based on my research, I was able to develop a soft process that was agreed upon by management and the office of
finance. Politically, it was a good move as well. I think they recognized my input on making this happen”.

Lola indicated that there were times when she had to defend her ability to make decisions on her program. She had to prove that she had the knowledge and technical expertise. Lola explained how she used knowledge gained through independent research and past experiences to support an important decision to a senior leader:

“‘There was something that I was working on and me and my director just kept going back and forth about how to do it. She wanted it a certain way, but the information and numbers just didn’t support that. So, I took it upon myself to research the historical background and the legislative requirements. I went back through the program office technical guidance memorandums that were issued and some of the end-of-year reports. She and I sat down behind closed doors and I laid out the rationale for my decision. I had the information and data to support it. I was able to defend my decision and persuade her to move to my side’”.

Karen was perceived by her senior leaders as the most knowledgeable person in her office on program matters. Her unique experience and participation in drafting legislative language and ability to articulate her knowledge and experiences has positioned her to be perceived by her leadership as the most knowledgeable:

“I’ve had the opportunity to manage a program through three authorizations in this agency and I’ve worked on the last two bills. There are times when I have to consult with legal when I get questions on penalties for noncompliance, but for the most part, I’m the go-to person in the office. When the associate administrator or the director needs a briefing or presentation, I’m the one who prepares it”.
Conclusion

The participants’ accounts related to the superordinate theme Critical thinking and inquiry indicated several important findings. When faced with addressing knowledge gaps or lack of understanding, all participants had the ability to independently analyze information and formulate their own beliefs and knowledge. This skill provided participants with the ability to engage in the exchange of information with senior leaders and peers from a position of authority, relying on their own ability to independently think and analyze to information. As independent thinkers within the agency, they were not hindered by how much and when they could learn.

When presenting from a position of knowledge, most participants were perceived as very capable and competent. They spoke from their experiences and knowledge gained through research and analysis in a manner that garnered the regard of others in the agency. All participants were motivated by success and a sense of accomplishment. They had the skills and ability to prepare themselves to perform at a higher knowledge level when needed.

The third superordinate theme is Professional inclusion. Its two subthemes identified are: Access to leadership and Encouragement by leadership.

Professional Inclusion

Senior leaders in the agency are privy to information and knowledge gained through closed meetings, strategic planning sessions, or networking among those in the senior leadership ranks. Information or advanced knowledge of topics may only be assessible through those who are in attendance or have direct access to this select group. The researcher interpreted professional inclusion and encouragement as opportunities participants received to gain access to the perspectives and knowledge of senior leaders while also gaining exposure through their self-representation. Through interpreting the data and the reflections of the participants, the
researcher found two converging themes around professional inclusion. First, senior leaders play an important role in paving the way for inclusion of women in high level meetings, projects of regional significance, or special projects that expose them to information or knowledge that can only be gained through direct contact with senior leaders or inclusion by senior leaders. Participants reflected on their supervisors as gatekeepers to an elite group of people who possessed valuable information and knowledge. Second, as women face challenges or uncertainty, their participation in learning opportunities may become secondary to other areas of their career. Encouragement by senior leaders reinforced women’s sense of self-efficacy in balancing work requirements and learning opportunities. The two subthemes identified are: *Accessing information and knowledge through senior leaders* and *Encouragement by senior leaders to increase knowledge.*

**Accessing Information and Knowledge through Senior Leaders**

The findings indicated that women perceive access to senior leaders as important to their knowledge growth. When exploring the participants’ knowledge resources, the researcher found several explicit references to supervisors facilitating the participants’ ability to interact with senior leaders in the organization. These interactions fostered the exchange or receipt of ideas and knowledge beyond their normal channels. The data also suggested that the participants perceived that being in the presence of senior leaders played an important role in their learning. Participants perceived that their supervisor’s influence and actions was based on a desire to help their knowledge development through exposure to new information, perspectives, and agency initiatives. Their presence and ability to participate in information exchanges gave them access to information and knowledge that was not normally available at their level.
Heather spoke of her supervisor as someone who was interested in her gaining a better understanding of agency policy development. Heather perceived an opportunity provided by her supervisor as increased exposure to knowledge pertinent to her job. Heather explained:

“My supervisor asked me to facilitate a policy review board, which sort of prevetted topics for the Agency Policy Board. I set up the topics and everything for the meetings. That was great because, as I mentioned, well it gave me a lot more exposure to leadership and the decision-making process. A lot of what I do is behind the scenes on my regular job, through email and phone calls, so this gave me an opportunity to have a little face time with leadership and more interaction with them on issues. I came away with a better understanding of the major issues coming down the pipe which will help me when I’m developing my briefing papers”.

Nikco discussed her experience in her office and identified her associate administrator as instrumental in ensuring she had exposure to senior leaders and their perspectives. She perceived that her ability to work with leadership gave her an advantage in the office:

“My associate administrator has an open-door policy. He thinks it’s important to allow his employees to get time with leadership. He’s allowed me to attend senior leadership meetings in his absence. I got exposure to information and decisions I would otherwise not be a part of. What I learned, the political maneuvering, has been invaluable. It’s not always what you think”.

Jennie indicated that she was well-respected within the agency, which gave her access to senior leaders and allowed her to garner strategic information. When asked about how she perceived her involvement with senior leaders, Jennie responded:
“My access to high-level meetings with our executive director and an acting administrator gives me a direct line to the decision makers in the agency. I’m able to get their perspective, which is very valuable when you’re developing strategies and trying to figure this stuff out. It has given me an advantage that I’m grateful for”

Natalie spoke of her supervisor’s interest in her interacting with SES members. She emphasized the importance of self-representation in communicating with senior leaders in the organization. She perceived her supervisor’s inclusion at meetings with SES leaders as beneficial in directing her own self-learning. The SES serve in key positions just below the top Presidential appointees. SES members are the major link between Presidential appointees and the rest of the federal workforce. When asked about her access to senior leaders, Natalie replied:

“My supervisor made it a huge point to give me an opportunity to interface with SES, you know. Whenever they have a meeting that rises to their level but involves my program, they’ve been really good about bringing me along and, you know, being part of the meeting, not just observing it. What I learned in these meetings will help me make improvements to my program for the next authorization”.

Sandra described similar experiences interacting with senior executives within the agency:

I was always meeting with senior executives and I think it was good to hear their perspective. I mean, they had a really high-level perspective, and it was good, like what issues they chose, you know, what issues were significant to them and risks that’s how I started to learn about risk, and I thought God, that makes so much sense. I really started to learn about risk-based stewardship and oversight and enterprise risk management”.
Jessie’s observations of a female senior leader changed her perceptions of how women’s voices can be heard in meetings that were predominantly led and attended by men. Jessie perceived that her attendance at this meeting changed how she interacted in meetings with people who were more senior. Jessie stated:

“I was in a meeting with the associate administrator, who is a female, and one of the things that she talked about was what to do when you’re in a situation where you’re trying to get your point across and nobody’s hearing it, you know, and she gave the most real answer. She talked about the fact that sometimes she’ll go to a meeting and she’ll say something and then a few minutes later somebody will say the same exact thing. And she’s like, "Were you not listening to me?" (laughs) You know? And she said one of the things that she does is then she’ll spin it and say, “Yes, I’m glad that you agree with me.” That stuck with me ever since”.

Lola perceived that her supervisor’s support in reaching out to senior leaders gave her the ability to assume responsibility for her learning and information needs. She recounted her experience:

“What’s been extremely valuable for me and something that I didn’t experience in my last job is the access I have to the senior leaders in my division. I don’t have to go through layers of people to get access to information and feedback. I’ve been given the leeway by my supervisor to manage my program and if that means I need to meet with the associate administrator, then I can do that. Keep in mind, I always keep my supervisor abreast of what’s going on”.
Encouragement by Senior Leaders to Increase Knowledge

Supervisors play an important role in establishing when and how women participate or gain access to knowledge and information. Their influence in facilitating opportunities, along with their willingness to support learning needs, is valuable to professional development. This coincides with their overarching role of ensuring their employees have the necessary tools and knowledge to perform the job and meet their developmental needs. Some participants experienced encouragement and support from their supervisors with respect to their desire to address their learning needs. Supervisors used their political and professional capital to facilitate opportunities that led to knowledge gains and experiences participants could draw from as they informed and developed their knowledge repository. The participants described supervisor-employee relationships that encouraged their desire to seek different experiences and promotional opportunities to enhance their learning.

Heather described her experience with her supervisor as being instrumental to her stepping outside of her comfort zone. She perceived his actions as helping her suppress her own self-doubt and barriers to new learning experiences. Heather explained:

“There was a special project that I thought would be good for my career. I could learn something new and get my name out there. I was a little unsure, but my supervisor told me that he thought the assignment would be something that was good for me. He even helped me get it”.

Nikco shared a similar experience she encountered with her immediate supervisor. Nikco did not perceive herself as someone who made strategic decisions or was forward-thinking. Nikco perceived the conversation with her supervisor as validation that learning and diverse experiences paid off. Nikco recalled a conversation with a supervisor:
“Nikco, you may not recognize it because it's just what you do.” She said, “But, you have the ability to do something that most people don't do.” She said, “You’re always looking at the end game. You’re always thinking, putting the pieces together, and learning.”

Natalie was overwhelmed by the support and encouragement she received from her supervisor since accepting her current position. She experienced a sense of disbelief with the amount of training her supervisor encouraged her to attend. She valued the support to increase her leadership skills but struggled to balance the opportunities with work and family responsibilities. Natalie exclaimed:

“I’ve been afforded a multitude of training opportunities and experiences. I honestly want to say too many. Since I’ve been here the number of things that I’ve been offered, I’m like, Jesus. I have to say hold on, don’t exceed yourself. If I can say one thing, it’s that my supervisor supports my development. But sometimes I just can’t fit it in”.

Jessie characterized supervisor support for participation in professional development opportunities as important in preparing her for promotion opportunities. Jessie felt that her supervisor’s encouragement was instrumental in overcoming her apprehension about applying for a rotational assignment outside of her office. Jessie recounted:

“I initially I didn’t think I had enough experience or understanding of the program to apply for the temporary employment assignment, so I wasn’t even going to apply. It just so happened that my team leader overheard me talking about it and she brought it up in my one-on-one. After our conversation, I had a different perspective on whether or not I should apply for assignments that were sort of a stretch. She believes those are the assignments that really get you ahead. She signed off on my application that day”.
Karen credited her office director with giving her the encouragement she needed to feel comfortable with not knowing everything. She expressed feelings of anxiety with not having all the answers when someone asked. When asked about support or encouragement, Lola stated:

“It was really hard for me not knowing all the answers, but my director helped me realize, you’re not expected to know all of the answers, you need to know how to get the answers. If that means getting more training, spending some time with the subject matter experts in the field office, whatever you need. Just let me know and I’ll help you get what you need”.

Sandra perceived that the encouragement and support provided by her supervisor to gain new experiences and expand her agency knowledge would help her find better opportunities outside the agency. She posited that some of what she learned in the agency would be interchangeable at the SES level in the federal government. Sandra expressed disappointment with the advancement of women in the agency but characterized her supervisor as being encouraging and open to helping her with learning opportunities that would help her advance:

“My goal is to advance to the SES level. The more I can learn from different offices the better my chances. Because I am serious about an executive level position, and I don’t feel like hanging out here, like I have seen a lot of other women do, plateauing, quite frankly. Even when you look at the theory or the premise behind Senior Executive Service, you really should be able to go anywhere in the agency. My supervisor has allowed me to take some SES training that has increased my knowledge on what they are looking for at the SES level. I’ve made the cert a few times, so it has really helped”.
Conclusion

Supervisors can provide support and positional influence within an agency to help women pursue and take advantage of opportunities for professional development that increase their knowledge. Each participant reflected on her supervisor as a gatekeeper to an elite group of people who possessed valuable information and knowledge. They made sense of professional inclusion as gaining access to agency expert knowledge that was compatible with their professional growth. The researcher interpreted professional inclusion as an opportunity for the participants to leverage their connections with their supervisors to gain access to the perspectives and knowledge of senior leaders while also gaining exposure through self-representation. The participants were ready and able to navigate the organization hierarchy with the assistance of their supervisor. Women should take advantage of supportive supervisory relationships to further their professional development needs. The researcher interprets these episodes of encouragement and connectedness as evidence that supervisors can increase opportunities for women to participate in professional growth opportunities and facilitate access to senior leaders that may have a unique perspective or privileged knowledge. Next, the importance of women’s participation in temporary employment assignments is discussed.

Learning through Professional Experiences

Opportunities to work in temporary employment assignments or volunteer for national or regional projects is promoted by agency leadership as a professional development tool to help employees gain new skills and knowledge. The researcher identified one recurring theme across all participants’ reflections and descriptive summaries. The agency’s publicity of temporary development opportunities, such as working on regional projects, committee assignments, or in vacant positions, resonated with the participants. Although the agency had a formal process for
participating in these opportunities, participants could also independently work with senior leaders to propose assignments that best met their developmental needs. These opportunities allowed women to take control of their learning needs and determine when and how these needs were met. This was especially beneficial to women who had familial responsibilities that posed challenges to participation in learning opportunities. The participants were able to meet their development needs of increasing their knowledge and skills while also adding to their professional network and relationships across the agency. All the women perceived that participating in diverse professional experiences within and outside of their field of knowledge increased their learning and supported preparation for professional advancement. Furthermore, all participants affirmed an agency commitment to provide and support formal and informal opportunities to participate in professional experiences. The subtheme identified in the analysis of the data is Temporary development opportunities.

Temporary Development Opportunities

The participants experienced professional growth, self-assurance, and a sense of accomplishment from their temporary employment assignments. These assignments increased knowledge, professional skills, and technical abilities while exposing them to different perspectives and professional opportunities within the agency. The participants viewed experiencing a new technical or administrative skill through real-time first-hand experience as valuable.

Jessie reflected on her experience as a vivid turning point in her career. She analyzed the experience as an epiphany in understanding her own abilities that afforded a chance to participate in new experiences and professional development that aligned with her professional goals. Jessie interpreted the temporary job assignment as pivotal in her last promotion. The researcher sensed
Jessie’s keen awareness of how her professional development needs affected her self-confidence. Her ability to excel in an area she perceived as a knowledge gap challenged her judgment about possibilities. Jessie reconstructed experiences with temporary job assignments that changed her thoughts about her ability to analyze and process information and experiences in formulating knowledge and new skills. Jessie stated:

“And that temporary job assignment, I think, was the vehicle for me to realize, yes, I can stay. I can do this. When I was in the temporary employment assignment, they really used me in that role. I wasn’t sitting down at a desk, you know, just not doing anything. I was actually doing the role. Learning what an assistant administrator would do. I would present on my administrator’s behalf at certain conferences. I would attend certain meetings. I would lead certain meetings. And I was pushing forward various initiatives. So, it led me to realize yes, I can do this job. All I need is the opportunity to learn and gain some experience”.

Sandra found that temporary employment assignments filled a void in professional knowledge and increased her critical thinking skills and knowledge application. A temporary assignment increased Sandra’s confidence in her ability to process information outside her area of expertise and apply it to her job. She reflected positively on the value of her experience:

“I feel I was in a tough situation and then there was no training. There was absolutely no training whatsoever. So, I kind of struggled with that. I inherited, what the guy before me did, but in a lot of ways, it wasn’t relevant. So, at some point, I got a temporary employment assignment with the Project Management Improvement Team and I started to do program reviews, which were outside of my wheelhouse in terms of subject matter, some pretty arcane subject matter that I had to figure out. But I really enjoyed the
process. I just really enjoyed the whole thing. It exposed me to a subject I had no background or knowledge of. I learned a lot in those 90 days.”

Nikco described her learning experience participating in a national project as paramount to the success of her project: “When I started this project there were some things that I didn’t know, which I have been able to learn. I probably wouldn’t have learned it if I hadn't gone through the experience.”

Heather interpreted her experiences with a temporary employment assignment as informative. She characterized her supervisor as encouraging and supportive in her filling-in for a co-worker by allowing her to temporarily backfill her position so that she could focus on the new assignment. She explained that his actions allowed her to immerse herself in the job and learn more about current policies. She stated:

“My supervisor asked me to do an almost 4-month rotation to fill in for a colleague. It gave me exposure to issues, there’s a lot of things discussed that I also prepared briefings for. So, it gave me a little more depth and insight into the topics”.

Natalie described a similar experience in a temporary assignment. Natalie recalled an unexpected temporary assignment that thrust her into a rule-making process that she knew little about. The researcher interpreted Natalie as having initial feelings of apprehension about the new assignment, but she accepted the opportunity. Natalie experienced periods of concern with her ability to learn about the project in a short period of time. She believed that her ability to learn a new subject, process the information she received from various other agencies and leadership, and apply what she learned was paramount in her being considered for the permanent position. Natalie described her experience in the temporary assignment:
“They lost my team leader, who probably had the most knowledge of the new regulation you know. The director asked me to be the acting team leader until they fill the position. He departed and, and honestly there was no one really to tap into. I accepted the temporary team leader position at the recommendation of my director. It was tough in the beginning. I had to kind of figure it out myself and so I immersed myself with people that knew about it in different organizations and, and different program offices and did a great amount of reading. That acting team leader assignment really gave me the leg up when the position was advertised. Not only did I have some knowledge, but I also had the experience”.

When temporary employment assignments coincided with position vacancies, the participants perceived the ability to learn and demonstrate a new skill as advantageous in their pursuit of being promoted permanently into the temporary employment assignment.

Jennie applied for a temporary assignment through a competitive application process. She experienced anxiety while waiting through the selection process. She perceived that the agency’s support of opportunities to participate in temporary employment assignments gave women an avenue to gain different experiences and learning opportunities. The researcher perceived that this experience gave Jennie an opportunity to cultivate her own perspective and apply her knowledge on a national platform. Jennie reflected on her experience vividly, with a sense of accomplishment:

“...I worked with the lawyers that did appeals, and I did get a really different perspective about my program from what they were doing. I was also able to work with the Office of General Counsel and actually write some guidance pieces for the program that were
published as national guidance, approved by the general counsel. That took my level of understanding to a different level”.

Participation on agency committees can provide access to information and knowledge that is not available to most employees. Karen described participation on an agency-wide committee as helpful in providing innovative ways to communicate with her partners. She believed her participation gave her access to information that helped her connect with people from different areas within the agency. Karen was asked about her experiences on a special committee, and she replied:

“I submitted my resume to be considered for the knowledge management team and was accepted for a 2-year term last year. I had some idea of what the committee was working on, but I had no idea that I would be vetting new technologies for the Agency. I had firsthand knowledge of innovative technologies that I could possibly incorporate into what I’m doing in the office. If had to recommend a committee to work on that would be it. The experience was directly applicable to where I see my next career move”.

Regarding the value of diverse experiences when she was working on a special project, Lola stated:

“Actually, I had a special project while in a temporary employment assignment. I was there to develop training for some of their senior leadership. So that was different for me, because before I’ve only developed training for either colleagues or our partners. This project was very beneficial to me, because I actually had the opportunity to interview senior leaders. I was able to ask them questions that filled in some gaps for me with respect to policy initiatives. I looked at curriculum that had been developed previously. Taking pieces of that um, integrating new things that I’ve learned from just my research,
I was able to put together a really successful training. I actually took some of that information back to my office”.

Conclusion

Engaging in diverse experiences provided participants with the opportunity to expand their knowledge. The subtheme *Temporary development opportunities* appeared to be important to all participants. The agency’s promotion of temporary development opportunities was relevant to the participants as an option for addressing their knowledge and information needs. Participants believed that by engaging in diverse experiences they could address their knowledge gaps through first-hand experience and participation. Therefore, these participants were proactive in seeking out temporary development opportunities. Their experience indicated the participants perceived these learning opportunities as influential in the successful performance of their current positions and potential career advancement.

In a predominantly male organization, learning opportunities that can be directed by individual women allow for flexibility and diversity that aligns with their particular needs. This form of self-directed learning promotes self-confidence in an individual’s ability to learn and independently strategize on how to best address individual needs in a competitive environment.

**Barriers to Participation in Learning**

After carefully listening to, reflecting on, and processing the women’s accounts of their lived experiences, a few participants described perceived barriers to their participation in learning opportunities. Barriers to learning are a concern when addressing opportunities in a highly competitive organization that has an underrepresentation of women in positions of influence and power. This analysis led to two converging themes regarding barriers. First, women who have families may find it challenging when work opportunities coincide with
familial responsibilities. Women may prioritize familial responsibilities with the desire to fully take advantage of opportunities at a later date or time in their career. Second, inequities may not always be readily apparent but may be perceived due to the underrepresentation of women in competitive learning opportunities. The participants made sense of these barriers as temporary or as an everyday issue that they needed to address or that should be addressed by the organization. The two subthemes emergent from the data were: Self-imposed gender stereotypes and Organizational barriers.

**Self-imposed Gender Stereotypes**

Equal to organizational barriers faced by the participants, the researcher captured experiences with self-imposed gender barriers in the federal environment. The participants reported that familial responsibilities and gender stereotypes hindered their opportunity to participate in activities that facilitated the exchange of information and knowledge. Three participants voiced discontent with their decision to prioritize family over work opportunities. The data also revealed that the participants perceived familial responsibilities as temporary – they would lessen in time. One participant said gender biases in a competitive selection process hindered opportunities to participate in specific learning opportunities. Natalie, Jennie, and Nikco shared their experiences with managing familial responsibilities with work opportunities.

Natalie affirmed her desire to participate in learning experiences, but perceived familial responsibilities as having a higher priority at this point in her life. The researcher noted that Natalie had taken advantage of other opportunities but felt empowered to make decisions on when and how she participated in learning experiences. Natalie reflected on her children and her responsibilities as a parent at this critical point in their life:
“They offered me the opportunity to attend the training and I actually had to decline because I was trying to get three kids off to college in August and there was no way I was gonna be able to do that. I feel like I lost a lot of years with my kids because all I did was work and I don’t want to be that 24-7 person right now. I think in a couple years when my kids are all grown, I’ll be okay. But at this point in my life I’m very pleased at where I am right now. A lot of people have come to me and said, there’s so much opportunity right now, it’s all about timing, you’re not making the right choice. But I’m okay with it. Like, I’ve gotta follow my gut”.

Similarly, Jennie’s ability to work from home so she could take care of family obligations limited her ability to interact with people to exchange and learn new ideas. She perceived working from home as a benefit and a disadvantage. Jennie expressed feelings of conflict between work and family responsibilities:

“I know being able to telework is great and all but it’s not ideal for relationship building. Women have other obligations, more so than men, which makes me mad, because ... Several men, actually, in my office have just as much feeling of obligation toward their children as their wives, which I’m very encouraged about. But I need the flexibility. It’s hard to bounce things off of people if you’re working from home a lot. I know it helps when you’re the primary caregiver to telework. But sometimes I feel like I’m at a disadvantage. Women need to find other ways to make those connections”.

As the primary caregiver, Nikco experienced feelings of contentment with her current work-life balance. She characterized her familial role as being in harmony with work responsibilities and learning opportunities. As Nikco reflected on her experiences, she perceived
that her ability to participate in learning opportunities would increase as her parental responsibilities decreased. Nikco reflected on prioritizing family over work:

“I love working, I love what I do, but I also love raising my family. I love having opportunities to do things with my relatives. I love being there for my mother when she needs me. So, there are a lot of training or volunteer projects that I don’t have the flexibility to do or commit to, especially during the summer when I’m running this place and that place with the kid. So, I have one more to go and then we’ll see what happens next”.

Lola described her primary focus as taking care of her sick father. She perceived that opportunities would be available in the next couple of years when she can shed some of her familial responsibilities between her siblings. Learning opportunities are important. However, if given a choice, she can’t prioritize work over family. Lola stated:

“I’m at a point right now where I can’t really do everything I want to do. I feel like I could be pulled away at any time to take care of my father’s health issues and that would hurt me in the future if I get started on a committee or leadership program and have to stop participating. Right now, I’m just focusing on getting the work done. That’s all I can do. I pick up things here and there and that’s enough for now”.

**Perceived Organizational Barriers**

Four of the participants perceived there were inequities in the selection process for competitive learning opportunities. Participation in competitive learning opportunities were perceived by most participants as preparation for career advancement within the agency. The researcher found the participants were keenly aware of the historical gender disparities within the organization. Participants described barriers that stemmed from gender and race stereotypes
when describing their pursuit of competitive learning opportunities. Despite the perceived inequities in the selection process for competitive learning opportunities, the participants continued to pursue these opportunities. When exploring the participants’ professional background, the researcher found several explicit references to their professional experiences and abilities to assess and formulate new ideas pertinent to the organization.

Sandra perceived that the organization showed favoritism toward employees in professional fields that are predominantly held by men. Sandra expressed her frustration with the selection process for competitive agency learning opportunities:

“I’ve had this conversation before, you don’t have to be an engineer, but they all feel that we would all be better off if we had more engineers. It seems like women aren’t being given the same opportunities as these men because most of us aren’t engineers”.

Heather perceived the decision-making process regarding who should be selected to participate in special projects or committees as not being done fairly. She perceived that it was not transparent and favored the men in the office. Heather stated:

“I don’t want to believe the selection process is skewed towards the men in the office, but how would I know. I only find out about these opportunities after they announce who has been selected. I’ve raised my concerns, but nothing really happens. The only time I’ve been able to participate is when I initiate the conversation. My friend in HR usually keeps me up on what opportunities are coming up. That’s the only way I know to apply”.

Jessie perceived that women were at a disadvantage regarding learning opportunities because of the lack of women or people of color on selection panels. She described her experience interviewing for the Leadership Academy as disappointing. The Leadership
Academy provides candidates with training to prepare them for the next step in their career.

Jessie stated:

“I didn’t think my chances were good when I walked in the interview. Here I am a female in a room full of old White males. I am already at a disadvantage because my background is not in one of the techy fields. Sometimes I think I would have a better shot if the panel was a little more diverse. I could be wrong but that’s just what I feel”.

Nikco perceived that the agency had not progressed as much as it should in ensuring that women had the same opportunities as men. Nikco considered temporary development opportunities as critical to increasing women’s knowledge and leadership skillset. Nikco believed that if the agency wanted more women in senior positions, it should send them to those trainings that prepare them for agency leadership positions. Nikco stated:

“During my training for SES, I found out that only eight people are selected each year. I was told that I was very fortunate to be participating in the training because it cost the agency a lot of money and that’s why it’s so selective. I’ve been trying to go for almost four years. I even suggested that I would pay for it myself. I just don’t understand why it’s so hard for women who want it to get SES training. It was a room full of men when I took the training”.

**Conclusions**

The research group was comprised of eight motivated professional women who enjoyed learning and the learning process. The participants placed importance on their ability to learn through relationships, diverse experiences, independent research and analysis, and encouragement from their supervisors. Strong similarities existed across all the participants in their identification as skilled professionals who believed in the benefits of continuous learning.
Each participant articulated her desire to learn and increase her knowledge with an anticipation of leveraging what she learned to achieve professional advancement.

Building relationships within the federal work environment was perceived by all the participants as an integral component of daily work. The participants expressed the need to evaluate information and formulate their own understanding and beliefs in a safe environment. The need for a safe learning environment stemmed from insecurities related to gender disparities within the organization and the need to appear competent and resourceful in a highly competitive male environment. There was an observable awareness of the underrepresentation of women in senior positions within the agency. Because all participants expressed a desire to advance in their careers, informal relationships provided a comfort level that allowed the women to express their beliefs while also exchanging ideas and information without fear of judgment. The relationships described by the participants exhibited characteristics of an informal mentor, trust, and a willingness to share information. Several participants described using relationships to gain access to information or knowledge, a different perspective, or supplement their own knowledge to formulate solutions or better understanding of project approaches.

The researcher found that the participants perceived professional inclusion as the most influential part of their learning experiences. Participants perceived opportunities to interface with SES leaders as beneficial to their learning and career advancement. The participants noted that senior leaders and informal mentors used their influence and professional capital to provide access to knowledge. These opportunities exposed participants to new information, the SES decision-making process, and strategic organizational goals. This experience provided insights used by the participants to supplement their current knowledge and information, supplement their analysis and successful implementation of their projects, and position themselves for
advancement in their field. Divergence existed in the role supervisors played in facilitating learning opportunities. Those participants who experienced encouragement from senior leaders leveraged their support and willingness to help facilitate learning opportunities, participate in development opportunities, or gain access to senior leaders.

Participants described their experiences in temporary development assignments, national projects, and participation in agency committees as learning opportunities that increased their confidence in their ability to learn and apply new knowledge. Although only one participant described her experience as having led to an actual promotion, each participant perceived these temporary employment assignment as having a positive effect on her knowledge repository and career goals. It seemed that all participants perceived the agency’s support of temporary learning opportunities as advantageous to potential participation. The researcher noted the agency has a formal process for participation in temporary employment assignments, but many opportunities arise outside of that formal process through relationships.

A similarity across three of the participants was their self-imposed limitations on their ability to participate in learning experiences and opportunities. Most participants were parents of children ranging from school age to adulthood. Participants with school-age children placed a higher priority on familial responsibilities and sought to balance their participation in learning opportunities with work. Participants prioritized familial responsibilities over learning opportunities. These self-imposed restrictions were described as temporary, closely related to parental obligations to children, and as having no effect on future participation in learning opportunities. One participant perceived that cultural and discriminatory limitations reduced her opportunity to participate in learning opportunities. However, these limitations did not deter her desire or pursuit of learning opportunities.
The researcher notes the agency has several committees that have a mission to address perceived disparities related to minorities and women within the agency. The agency recently disseminated an electronic survey to capture the career goals of GS 14 and GS 15 employees. The survey will further analyze the connection between gender and professional development needs. This survey will help the agency with succession planning by ensuring that training and knowledge development is readily available to GS 14 and GS 15 employees, with special attention given to the learning needs of women in the organization.
Chapter 5: Discussion and Implications for Practice

The purpose of this study was to explore how women perceived and made sense of their learning experiences. Eight purposively selected women with at least five years of experience working in a federal agency who do not work a full-time remote schedule volunteered to participate in the study. An interpretive phenomenological analysis (IPA) methodology was chosen for this research. IPA methodology is concerned with detailed examination of the lived experience of participants and is conducted in a manner that allows individual experiences to be expressed without the constraints of a predetermined category system (Smith et al., 2009). The IPA methodology allowed the researcher to focus on the individuals’ experiences of how they learned while situated in the federal environment. The use of semi-structured interviews provided the researcher with the flexibility to explore relevant topics that surfaced during the interview while also providing a guide for the interview.

Women’s ways of knowing (WWK), specifically procedural knowing, was the theoretical framework applied in this study. The framework provided a basis for understanding how women made sense of their learning experiences through connectedness and critical thinking (Belenky et al., 1997). The findings of this study were aimed at expanding the existing research base regarding how this population experiences learning in a federal agency.

The findings of this study are based on five superordinate themes: Essential relationships, Critical thinking and inquiry, Professional inclusion, Learning through professional experiences, and Barriers to participation in learning. The nine subthemes were: Using informal relationships to safely exchange information, Capitalizing on a professional network, Creation of knowledge through research and analysis, Independent thinker, Accessing information and knowledge through senior leaders, Encouragement by senior leaders to increase
knowledge, Temporary development opportunities, Self-imposed gender stereotypes, and

Perceived organizational barriers. Superordinate themes and subthemes emerged from four or more participants. The research identified nine findings, as shown in Table 4; these will be discussed later in this chapter.

Table 4

**Findings**

<table>
<thead>
<tr>
<th>Superordinate theme</th>
<th>Subthemes</th>
<th>Findings</th>
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<tbody>
<tr>
<td>Essential relationships</td>
<td>• Using informal relationships to safely exchange information</td>
<td>• Informal relationships made it possible for women to gain access to knowledge and information in a safe environment.</td>
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<td></td>
<td>• Capitalizing on a professional network</td>
<td>• Formal networks provided a constant source of information and knowledge that women accessed.</td>
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<tr>
<td>Critical thinking and inquiry</td>
<td>• Creation of knowledge through research and analysis</td>
<td>• Women used research and analysis as a common method of addressing knowledge gaps.</td>
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<td></td>
<td>• Independent thinker</td>
<td>• Through experiences, research and analysis, and gaining different perspectives, women were able to present themselves as independent thinkers.</td>
</tr>
<tr>
<td>Professional Inclusion</td>
<td>• Accessing information and knowledge through senior leaders</td>
<td>• Access to senior leaders provided a source of knowledge and information.</td>
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<td></td>
<td>• Encouragement by senior leaders to increase knowledge</td>
<td>• Senior leaders played a role in encouraging women to increase their knowledge.</td>
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<tr>
<td>Superordinate theme</td>
<td>Subthemes</td>
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<tr>
<td>Learning through professional experiences</td>
<td>• Temporary development opportunities</td>
<td>• Temporary development opportunities provided a rich source of new knowledge and experiences.</td>
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<tr>
<td>Barriers to participation in learning</td>
<td>• Self-imposed gender stereotypes</td>
<td>• Women may opt-out of learning opportunities due to familial responsibilities and other priorities.</td>
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<tr>
<td></td>
<td>• Perceived organizational barriers</td>
<td>• Perceived organizational barriers may hinder or create self-directed barriers to learning.</td>
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This chapter will discuss each of these findings, including how they align with the literature and how they relate to the theoretical framework and the participant’s description. Afterwards, the chapter will present contributions to theory and practice, implications for practice, limitations of the study, and recommendations for future research.

**Findings**

**Using Informal Relationships to Safely Exchange Information**

The first finding is that informal relationships made it possible for women to gain access to knowledge and information in a safe environment. Participants sought thoughtful and beneficial relationships with their colleagues. This finding aligns with the existing literature on the role of relationships in learning. According to Kozlowski and Ilgen (2006), learning is a relational process that enables the exchange of knowledge and information. This finding is further supported by Carmeli, Brueller, and Dutton (2009), who suggested that high-quality relationships are directly and indirectly associated with learning. The participants formed connections with colleagues to establish an environment where they felt comfortable with
seeking information or exchanging different perspectives. In addition, participants highlighted the importance of the organic way in which these relationships were established and maintained.

Participants described how relationships played an important role in their professional growth. Each participant described how her connection to individuals gave her access to information or knowledge that she used to enhance or add to her current perspectives or understanding. The relationships described by the participants have the characteristics of an informal mentor-mentee relationship. Moreover, the informal relationships created space to form a connection in an otherwise competitive environment that gave the participants a sense of comfort and support to freely explore their beliefs and exchange ideas or knowledge.

This finding closely fits with those of prior research. Hill and Wheat (2017) similarly suggested that mentoring could provide psychological and social support for women. Ghosh (2015) maintained that the ability to safely express disagreements and ideas allows for more productive debates and discussions and can lead to discoveries and new realizations. Schürmann and Beausaert (2016) and Van der Klink et al. (2014) suggested that close relationships with people in the workplace provide an avenue to share knowledge as a method of informal learning. For example, participants described their interactions in these relationships as opportunities to gain the perspectives and experiences of others as they formulated their own beliefs and the understanding needed to address workplace obstacles.

The research findings closely align with the concept of connected knowers from WWK. Belenky et al. (1997) found that women can gain access to another person’s knowledge through connectedness. Through these personal connections, the participants shared experiences of exchanging information and perspectives in an environment that demonstrated a sense of empathy and understanding. One participant described experiencing a level of comfort in a
relationship that allowed her to freely vent in addition to hearing the perspectives of others. All participants described their relationship experiences as an element of their learning experience.

**Capitalizing on a Professional Formal Network**

The second finding, formal networks provide a constant source of information and knowledge that women accessed, indicates that a professional network was essential in establishing a source of information and knowledge that was easily and readily accessible. Because participants were often given projects that were multi-disciplinary and required expertise and knowledge outside of their knowledge area or understanding, having a network of individuals who were able and willing to exchange ideas and knowledge was paramount to their understanding and knowledge growth.

The literature supports this finding by stating that a network can provide outcomes such as strategic information, job performance, and career success (Gibson, Hardy, & Buckley, 2014). The finding is further supported by Molm, Whitham, and Melamed (2012), who posited that a network structure encourages a commitment between two people for the benefit of an exchange.

Participants reported how they used formal training, meetings, and organizational events to meet people. Through these connections, the participants formed a network of individuals who could be consulted to provide information, expert knowledge, or advice. Durbin (2011) agreed with this finding and suggested that informal networks resulting from relationships assist in accomplishing work-related tasks. Moreover, an organization that supports collaboration and interaction facilitates the knowledge creation and knowledge building process for women (Durbin, 2011). For example, participants described how connections made with other employees during work events would be subsequently used as a source of information,
knowledge for work projects, or to exchange ideas or perspectives. Networks offer participants access to expertise and knowledge through an established relational connection.

**Creation of Knowledge through Research and Analysis**

The third finding, women used research and analysis to address knowledge gaps, demonstrated how women used their analytical skills to develop their own understanding and beliefs. The literature supports some aspects of this finding. Participants highlighted the importance of self-directed learning in creating knowledge. This process of creating knowledge that could be applied in their work and added to their professional development for future career aspirations gave the participants a sense of fulfillment. Participants discussed how they used research and analysis to process information and data for independent knowledge creation.

The data described how participants coped with perceived knowledge deficiencies when given a work assignment. Participants described how they initiated self-directed learning through conducting research and analysis. According to the participants, gathering information and data, reading, analyzing information, and making informed deductions was a pragmatic way to increase their knowledge for decisions and practical applications. Gijbels et al. (2012) posited that self-directed learning strongly correlates with work-related learning and behavior. According to Gijbels et al. (2012), informal learning techniques such as reading, observing, and consulting with colleagues can be effective in gaining more expertise and understanding in a specific field.

The data revealed that participants displayed an inclination to develop their own understanding and knowledge before seeking out others while filling a knowledge gap. As competent professionals, they expressed a desire to formulate their own perspectives in order to analyze and evaluate the perspectives of others. For example, four participants mentioned
reading as an action used to become knowledgeable about a subject. Additionally, one participant cited using a literature review as a source of information for analysis and interpretation before reaching out to others in the agency. Kyndt, Gijbels, Grosemans, and Donche (2016) reinforced the participants’ experience in this study. Kyndt et al. (2016) found that conducting independent research, conducting inquiry, and reading literature were activities that increase learning.

Conducting research and analysis provided the participants with opportunities to independently evaluate information and construct new knowledge and beliefs. The independent development of knowledge prepared participants for engaging in scholarly exchanges with colleagues, supervisors, and senior leaders from a position of authority. This authority was based on their ability to reason. Belenky et al. (1997) stated, “Anyone who speaks with the voice of reason—even a peasant or a student—has a right to be heard; and anyone who does not, whether king or a professor, has no right to be heard” (pp. 107-108). All participants mentioned research and analysis as one of their primary sources of knowledge and information.

**Independent thinker**

The fourth finding, women presented themselves as independent thinkers through their experiences, research and analysis, and gaining different perspectives, conveys how women can articulate their beliefs and understanding from a position of knowledge authority. This is relevant for individuals at the GS 14 and GS 15 level in the federal government. The participants are considered by the agency to be professionals who are eligible for consideration for SES. This requires participants to have a certain level of expertise in their field and the ability to independently address knowledge gaps through quickly researching and analyzing data, information, and the experiences of others. Independent thinkers articulate their perspective and
understanding from a position of influence, authority, and reasoned reflection. The findings indicate that the participants perceived themselves as independent thinkers and demonstrated this skill in the performance of their job. How participants perceived themselves as independent thinkers was premised on how they were seen by their peers and senior leaders and their ability to articulate and present knowledge and information. These findings are in line with Belenky et al.’s (1997) construct of independent thinker. Belenky et al.’s (1997) independent thinkers are able to analyze information and develop an understanding and belief for themselves. They look inward for knowledge, which requires self-awareness along with an appreciation for the experiences and knowledge of others. According to Belenky et al. (1997), “They see themselves as investigators searching for truths that cut across the interests and biases that lie within a single disciplinary perspective” (p. 140).

Accessing Information and Knowledge through Senior Leaders

The fifth finding, access to senior leaders provides a source of knowledge and information, highlights the significance of inclusion in agency senior leadership meetings and activities. The literature supports the view that women who exhibit political skills can gain access to individuals who can provide information and resources. The ability to capitalize on powerful coalitions within an inherently political organization helps women navigate and gain access to information and data retained by senior leaders (Watkins & Smith, 2014). The participants perceived that their ability to represent themselves in meetings with senior leaders presented a unique opportunity to gain access to information not normally available to them.

Self-representation provided the ability to observe and learn the political maneuvering of senior leaders while also increasing visibility. According to Watkins and Smith (2014), women who have an awareness of how to interact with people in positions of power, when to advocate
for activities that would be beneficial to their professional development such as being present in meetings with senior leadership, and how to disagree, can have success at work. Political savvy gives women the awareness to understand their environment and how to influence others to achieve their goal of gaining knowledge and insights (Ferris et al., 2007).

Participants described their experience of attending meetings with senior leaders as informative. Senior leadership meetings do not customarily include employees at the participants’ grade level. According to the participants, face-to-face meetings provided the opportunity to observe senior leaders and hear first-hand information concerning their programs and agency strategic priorities and initiatives. The literature supports the findings that women who gain access to leaders in organizations where women are underrepresented can capitalize on these sources of knowledge and resources (Watkins & Smith, 2014).

The data indicated that participants wanted exposure to senior leaders within the agency. Participants perceived that access to leadership provided direct connections to information and facets of senior leadership that would help their programs and careers. For instance, participants described interactions with senior leaders that increased program knowledge, provided examples of political astuteness, and improved decision-making skills. One participant said representing herself at a meeting with SES employees was beneficial in experiencing a high-level perspective of organizational priorities. She described the experience as informing her organizational knowledge. Another participant described gaining valuable knowledge from a female SES leader on how to be present and heard in meetings dominated by men. McAllister, Ellen, and Ferris (2018) argued that individuals who learn from the process of identifying opportunities and capitalizing on those opportunities exhibit a political skill that is a primary driver of informed learning.
**Encouragement by Senior Leaders to Increase Knowledge**

The sixth finding, senior leaders played a role in encouraging women to increase their knowledge, describes how supervisors influenced participants’ desire to participate in learning opportunities through words of encouragement or using their position to create access to opportunities. Encouragement by supervisors increases self-efficacy and participants’ ability to perform in a way that could increase their skillset and knowledge. Knowles (1980) found that employers that supported employee learning increased their confidence. Kelly (2019) found that adults who have a supportive environment develop confidence and a positive motivation to learn. Despite some participants experiencing challenges in pursuing or participating in learning opportunities, these moments of encouragement presented connectedness that gave participants motivation and support in pursuing their learning endeavors. Participants noted that supervisors conveyed words of encouragement by reinforcing characteristics that were conducive to learning or tempering participants’ self-doubt in their ability to succeed in a temporary development opportunity.

**Temporary Development Assignments**

The seventh finding, temporary development opportunities provide a rich source of new knowledge and experiences, provides an understanding of how women perceive different agency opportunities that allow self-directed learning and immediate application. The literature supports the belief that hands-on experiences can increase workplace learning. However, the literature does not address learning experiences that require employees to work in a position as they learn and quickly apply their newly acquired knowledge with minimal direction or input from an expert. Participants expressed a sense of self-assurance, accomplishment, and preparation for
career advancement through their ability to learn and immediately apply knowledge as they worked in a temporary position for an extended period of time.

The data suggests that participants perceived hands-on experience or engagement with experts outside of their profession to be a valuable component of their learning approach. The researcher interpreted the participants’ ability to quickly process information and apply this knowledge or engage in intellectual dialogue with various experts across the agency as a critical skillset in the federal environment. At the onset, some participants experienced apprehension before engaging in the development assignment. However, the researcher found that participation in temporary development assignments increased their confidence in their ability to learn from their own experiences. MacKay (2017) noted that professional development is critical in individual growth as it helps fulfill individuals’ learning potential through increased empowerment and optimism in their abilities. Hayward et al. (2013) stated that individuals who participate in professional development had increased confidence and trust in their ability to analyze information and used experiences in the formulation of new knowledge.

Temporary development opportunities provide women with the flexibility and agency to address their individual learning needs. The data indicated that participants received opportunities to address their learning needs in three ways:

- offers from senior leaders to fill a position for a defined amount of time,
- a formal competitive application process to participate on committees or temporary employment assignment, and
- informal connections and relationships that allowed the participants to design an opportunity to address an immediate learning need.
The assortment of options provides women with several avenues for addressing their learning needs. Although half of the participants took advantage of a formal process to participate in a development activity, the ability to self-advocate and solicit for development opportunities that best met individual needs was forward-thinking by the agency and beneficial to women.

**Self-Imposed Gender Stereotypes**

The eighth finding, women may opt out of learning opportunities due to familial responsibilities and other priorities, is a self-imposed barrier to participation in learning opportunities by the participants. The literature supports this finding. Women expressed feeling a sense of responsibility and priority towards their families. For instance, the participants reported delaying learning opportunities or prioritizing family responsibilities over learning opportunities. These opportunities were perceived to be incidental to their required work at times. Work-life balance was challenging for participants with children. Participants discussed self-imposed gender stereotypes as they articulated the challenges faced in balancing learning opportunities and family responsibilities.

The data described how participants grappled with competing priorities, balancing work opportunities with family responsibilities. When training commitments conflicted with family obligations, participants rationalized that there would be other learning opportunities. The literature sheds light on how women perceive individual barriers that affect their ability to participate in work opportunities (Bombuwela & Alwis, 2013; Wright et al., 2014). According to Heilman (2012), internalized gender stereotypes led to self-directed bias by women. For instance, three participants recalled declining learning opportunities so they could attend to family responsibilities. Furthermore, two participants perceived that they would have more time to participate in learning opportunities as their parental responsibilities decreased. The
participants did not perceive that this temporary delay in participating in learning opportunities would affect their career. Novakovic and Gnilka (2014) suggested that how individuals cope with perceived barriers moderates the effect. Women who have a balanced understanding and assessment of perceived barriers exhibit better coping mechanisms and strategies for overcoming barriers (Novakovic and Gnilka, 2014).

**Perceived Organizational Barriers**

The ninth finding, perceived organizational barriers may hinder or create self-directed barriers to learning, demonstrates how past organizational biases against women can lead to perceived and actual inequities within the agency. The agency has tried to encourage women to participate in various opportunities that would assist in professional development and career advancement. However, there continues to inequality in hiring and advancing women in the GS 14 through GS 15 and senior pay levels (Choi, 2010; Clark et al., 2013). Historically, women have been marginalized in the federal government through lack of access to development opportunities that would prepare them for career advancement and employment in fields traditionally held by men. These disparities were perceived by the participants as barriers to learning opportunities that position women to advance in their careers. Although the agency hires all disciplines, there was a perception that the agency favored more technical disciplines. Participants perceived that competitive learning opportunities were biased against women who did not have technical backgrounds. One participant perceived that women did not have the same opportunities as men because they were not engineers. The lack of diversity on selection panels for competitive development opportunities furthered these perceptions of barriers. Another participant described selection panels for competitive development opportunities as overwhelmingly male-dominated. The lack of representation of women on selection panels may
lead to self-directed bias by women (Diekman & Steinberg, 2013). Dolan (2004) suggested active representation of women and minorities help in shaping decisions made within organizations.

**Participant Description**

The study participants included eight women employed with a federal agency for at least five years as a GS 14 or GS 15. The participants were purposively selected to participate in this study because of the relevance and personal significance of how women learn to women who have the desire and are positioned to advance to more senior level positions within the agency. All participants have expressed a desire to advance their careers with the agency and continue to pursue learning opportunities that may benefit this pursuit. Their unique professional backgrounds and experiences shape who they are as learners and how they learn. Through examining the findings of this research, the descriptions of the participants provide the researcher’s perspective of their learning experience in the federal environment.

**Nikco**

Nikco is a married mother of two who has been employed with the federal government for 22 years, of which 17 have been with the agency. She loves her job but states her current priority is to her children and family. Although Nikco has declined some learning opportunities, she plans to take full advantage of these opportunities sometime in the future as her familial responsibilities lessen. Nikco’s years of employment with the agency has afforded her some learning opportunities which she credits with helping her gain valuable knowledge. Nikco is adept at addressing her knowledge gaps through her relationships with colleagues, association with senior leaders, and independent research and analysis. She perceives establishing good
relationships with senior leaders is a key component of gaining new perspectives, information, and knowledge.

**Heather**

Heather is a married mother of two who has been employed with the federal government for 15 years, of which 10 have been with the agency. Heather perceives participating in temporary learning opportunities will increase her knowledge and eventually assist in career advancement. Heather describes critical thinking and inquiry as fundamental to gaining the knowledge needed to successfully perform her job. Her professional network and relationships have been beneficial in addressing knowledge gaps and providing different perspectives to address immediate workplace challenges. Heather perceives leadership has not provided equal opportunities in her office to participate in learning opportunities.

**Natalie**

Natalie is a single mother of three who has been employed with the federal government and the agency for seven years. Natalie perceives learning opportunities have been beneficial in preparing her for career advancement. Her professional network and relationships have been beneficial in addressing immediate knowledge needs. Natalie is resourceful in independently assessing information and conducting in-depth inquiry to increase knowledge and develop her own perspective. Her supervisor has actively participated in helping Natalie address her knowledge gaps through facilitating access to senior leaders. Although Natalie has participated in numerous learning opportunities, she acknowledges prioritizing the needs of her family over learning opportunities.
Sandra

Sandra is a single mother of two who has been employed with the federal government and the agency for 11 years. Sandra has exploited her relationships with colleagues and leaders to gain access to information and knowledge that has provided her with new perspectives and strategic agency information. Her ability to independently address her knowledge gaps through research and inquiry gives her colleagues the awareness that she is very capable of formulating new perspectives addressing knowledge gaps. She perceives her experience in temporary development opportunities provided access to the perspectives and knowledge of senior leaders in the agency. Although Sandra has participated in some learning opportunities, she perceives her ability to participate in competitive learning opportunities may be impeded by organizational barriers.

Jennie

Jennie is a married mother of two who has been employed with the federal government 20 years, of which 15 have been with the agency. Jennie acknowledges her reliance on others for knowledge and information. She relies on her relationship with colleagues and professional network to gain access to knowledge and information. She recognizes the importance of using her critical thinking skills and inquiry to inform new perspectives and understanding in her decision-making process. As she consults with her colleagues, the ability to share and explain these new perspectives and knowledge gains is effective in creating a positive work outcome. Jennie’s access to senior leaders in the organization and temporary development assignments has provided her with strategic information beneficial to her work. Self-imposed barriers to participating in learning opportunities for Jennie are the result of prioritizing familial responsibilities over learning opportunities.
Jessie

Jessie is a married mother of two who has been employed with the federal government and the agency 14 years. Jessie has a core group of trusted colleagues that she exchanges information and different perspectives. She perceives relationships are instrumental in creating a network of colleagues that provide continuous access to knowledge and information. It’s important for her to stay abreast of new information and knowledge which is created through critical thinking and inquiry. As a team leader, her direct reports consider her a source of knowledge and information to assist in completing tasks. Jessies perceives the support and encouragement provided by her supervisor has given her the confidence to pursue learning opportunities to increase her knowledge. Temporary development assignments have been instrumental in Jessie’s learning growth as she seeks to advance in her career. Jessie perceives her gender and race may affect her ability to access learning opportunities in the agency.

Karen

Karen is single and has been employed with the federal government for 13 years, of which six have been with the agency. Karen perceives relationships have been an important source of information for her in the agency. Relationship trust has allowed a two-way exchange of knowledge and information between Karen and her colleagues. Karen’s ability to independently develop her own understanding and perspective through reviewing information files, articles, memos, and other documents gives her the designation by her colleagues and senior leaders as someone who is knowledgeable and has an informed perspective. Encouragement by senior leaders and temporary development assignments have added to her holistic approach to learning.
Lola

Lola is married and has been employed with the federal government for 11 years, of which nine have been with the agency. Lola has described personal relationships as an expansion of knowledge that is readily available to her. Independent research and analysis to increase knowledge and understanding is a proactive method Lola utilizes to address workplace challenges and decision-making. The support of her senior leaders provided Lola with the confidence to assume the responsibility for her learning and information needs. Although Lola has a desire to participate in learning opportunities, familial responsibilities may create self-imposed barriers.

Contributions to Theory and Practice

Theory

Women at the GS 14 and GS 15 grade levels in a federal agency were studied for the first time in this research. Belenky et al.’s (1997) procedural knowing (connected and separate) was used to understand how they experienced learning. This study contributed to theory in the following areas: knowledge, professional networks, and critical thinking and inquiry.

Knowledge. Knowledge development was experienced as a dualistic, back-and-forth approach that exploited both connected and separate knowing in a beneficial manner. The study highlighted the complexity of how working women experience learning and acknowledged the role of the participants’ environment in the process. Although Belenky et al. (1997) acknowledges the contributions and perspectives of working women is often overlooked, to limit their sample size the researchers decided to exclude this group of women from the study. This inclusion of working women as study participants supports the findings of Schommer-Aikens and Easter (2006) who posited that most people are capable of both ways of knowing but may
prefer one way over another. This contribution does not support Gallotti, Drebus, and Reimer’s (2001) finding that separate and connected knowing were independent and were not significantly correlated.

**Professional networks.** Most participants considered professional networks to be relevant to how they accessed knowledge and information. The participants valued relational connections that contributed to the exchange of ideas, information, and different perspectives. These exchanges assisting in increasing knowledge and giving women confidence in their reasoning and perspective. This contribution supports the findings of Barnes and Beaulieu (2017) and Porter and Woo (2015), that networks were valuable in enabling the exchange of resources in an environment built on trust. Fombrum (1982) supported the concept of transactional networks that promote beneficial exchanges. These contributions support Belenky et al.’s (1997) findings that women can learn through relationships that help them gain confidence in their authority to speak on different subjects.

**Critical thinking and inquiry.** All participants demonstrated a propensity to address knowledge gaps through conducting research and analysis. Participants described having feelings of accomplishment due to their ability to develop their own perspectives and beliefs through the critical thinking and inquiry. Knowledge creation allowed participants to engage in knowledge exchanges from a position of authority. This contribution supports Nonaka (1994), who that theorized that knowledge is an individual cognitive process of continuously formulating and developing one’s own personal beliefs in a search for the “truth,” and Paul (1993), who found that female nursing students demonstrated critical thinking in a disciplined, rational, self-directed manner in the pursuit of knowledge. This individual process is an integral part of the
creation of knowledge. These findings support Belenky et al.’s (1997) perspective on separate knowing.

**Practice**

The study contributes to practice in the areas of professional networks and informal relationships.

**Professional networks.** Professional networks – creating and cultivating relationships for the purpose of exchanging knowledge and information – helped the participants gain knowledge and information. Networks were considered an essential asset for continuous access to knowledge and information, corroborating O’Neil, Hopkins, & Sullivan’s (2011) perspective that networks facilitate the development of professional opportunities and access to resources. Participants experienced professional networks as a beneficial element of expanding their knowledge competencies and capacity, consistent with Gibson, Hardy, and Buckley (2014).

**Informal relationships.** Relationships built on a foundation of trust that allowed for the safe exchange of information and analysis of different perspectives were experienced as helping participants gain new knowledge and develop their individual perspective and beliefs. These informal relationships have been found to be helpful to women in their learning journeys (Gilligan, 1982; Miller, 1986).

Professional networks and informal relationships were equally helpful to participants in their pursuit of knowledge, information, and different perspectives. Each area was considered beneficial to women in their work environment.

**Implications for Practice**

These findings will be useful to various stakeholders in some government institutions in the United States. The findings may be relevant at more senior levels of government and would
assist in creating learning opportunities and highlighting behaviors and activities that would help women gain knowledge. Women in government, senior leaders, and executive decision makers may benefit from these recommendations.

The first recommendation for practice is to promote a process for customizing temporary development assignments. Participants perceived that temporary development assignments generated firsthand experiences that increased knowledge. The current temporary development program requires applicants to participate in a competitive process. This formal process can only accommodate a limited number of people and may not address the applicants’ identified learning needs. The organization has an informal process that is not advertised and is not readily known by most employees. This informal process is initiated by employees and can be designed to address individual learning needs. The non-competitive informal process allows employees to negotiate the terms and desired goals and outcomes of the development assignment.

To advance the informal temporary development practice, the agency should modify the website used to promote temporary development assignments to include information about informal temporary development assignments. The modification should address the benefits to employees of designing a development assignment:

- Addresses the specific goals and learning outcomes of the individual,
- design it around the individual’s availability,
- promotes the natural development of self-confidence, perseverance, initiative, and professional satisfaction, and
- provides opportunities to pursue a far wider range of interests than is possible in the formal process.
The second recommendation is to encourage women to establish and grow their network of professionals that can be consulted for information, knowledge, and diverse perspectives. The agency’s executive senior leadership hosts several events throughout the year to recognize agency accomplishments and share its future strategic goals. These events are open to all employees and are especially well-attended by senior leaders within the organization. The events give individuals an opportunity to meet with senior executive leaders and ask them questions that directly relate to the individual’s role in accomplishing the agency’s strategic vision. They provide an opportunity to exchange perspectives on agency initiatives or direction. Other events throughout the year provide opportunities for women to connect with people from different professional backgrounds and experiences. Although the agency encourages all employees in the agency to attend these events, more effort should be placed on highlighting the ancillary benefits of attendance, such as establishing connections. This could be accomplished by incorporating the benefits of building a network in the employee development training given to the senior leaders who have a responsibility to help develop their employees. This also aligns with the agency’s core value of collaboration, which identifies building relationships and mutual exchanges to support the agency’s mission.

According to these findings, women perceived networks as a continuous source of information and knowledge. Participants used networks to provide a diverse source of information and agency expertise that is valuable when leading multi-discipline projects. Furthermore, networks provide an opportunity for participants to expand their access to information and agency expertise through primary and secondary connections.

The third implication for practice is to provide training on how to conduct research and analysis. Research and analysis help develop the critical thinking and analytical skills used to
increase knowledge, gain valuable perspectives, and hone abstract reasoning skills. As part of the training, all participants should be provided access to scholarly research engines and technical databases. The training would be led by staff in the agency’s research office who have experience with conducting research and analysis. Making sure all employees have the tools to effectively research information and data for analysis and evaluation is an important component of promoting the critical thinking and inquiry and the formulation of individual perspectives. Findings demonstrated that women gained a sense of accomplishment from their ability to analyze and process information, increase knowledge, and develop their perspective prior to consulting with others. Demonstrating their ability to speak from a position of understanding and knowledge was important to the participants. Participants reported conducting literature reviews, reading correspondence, emails, and regulations, and attending webinars in their analysis of information.

The fourth recommendation for practice is to encourage women to be assertive in advocating for their professional needs and interests. Self-advocacy requires individuals to have knowledge of their professional needs and have the political savvy to articulate those needs. The findings revealed that supervisors played a significant role in the inclusion of women at meetings or activities that included senior leaders within the agency. The participants found that interaction with senior leaders provided opportunities for observing and understanding political maneuvering, gaining access to strategic information, and representing themselves in scholarly exchanges. Engagement with senior leaders created a learning experience that was beneficial in addressing knowledge gaps and increasing political skill while also allowing women to represent themselves. Participants revealed the role supervisors had in facilitating their engagement with senior leaders. Women should advocate with their supervisor or senior leadership to attend,
observe, and participate in senior-level meetings to promote their professional growth. Belenky et al.’s (1997) WWK acknowledges the importance of women’s voices in scholarly discourse. For this to happen, women must be in attendance.

The fifth and final recommendation for practice addresses the challenges that some women may face balancing career with the traditional duties in the home or caring for aging parents. The agency is keenly aware of the importance of family and the struggles that some individuals face in balancing career and family. In acknowledgement of this challenge, the agency included the support and care of the needs of employees’ families as one of its core values. To champion this core value, the agency revised the telework policy to include more flexibility and consistency in how it is administered across the agency. The telework policy allows individuals to work from a home office or change their work times to accommodate personal responsibilities. This gives individuals who have the primary responsibility of caring for their family the flexibility of balancing the needs of their family with the needs of the agency without negative repercussions. Currently, the telework policy and flexible work schedule are not being administered consistently across the agency. While some individuals enjoy maximum flexibility, others are not afforded the same flexibilities or considerations. The agency should continue to educate leadership and employees of the agency’s commitment to supporting employees and their families through the telework and flexible work schedule initiatives.

**Limitations of the Study**

The small study population of eight women make the findings of this research not generalizable. Small sample sizes are typical of IPA studies that focus on individual perspectives. A wider selection of women across multiple federal agencies would be a next step in researching this phenomena. The study might have benefitted from including more
participants from different federal agencies. Although there is some consistency across the federal government related to employee development, women in other federal agencies may experience different learning opportunities or perceived barriers. Also, the study was geographically concentrated in the Washington, DC area. The learning environment in field offices around the country may be different.

Since the participants were purposively selected, they may not represent women in other public or private organizations. Participants may differ in other industries and organizations based on their socio-economic status, educational achievements, and culture.

**Recommendations for Future Research**

The study revealed important information about women’s learning experiences in a federal agency. The role supervisors have in facilitating learning experiences and access to senior leaders in the agency was discussed. How women led self-directed learning in the pursuit of knowledge and new perspectives was revealed. Extant literature on women’s learning experience in federal agencies is limited. Below are some recommendations for future research that would further assist women who work for the government.

The federal agency selected to conduct this research represents a small sector of highly skilled employees who operate in a government environment. Further investigation of women in other industries and sectors would provide a more robust understanding of how women learn. Women in different industries may have varying educational requirements and barriers that affect how they learn. The characteristics of private industry versus public industry and the difference in governmental oversight may also affect how women learn or their perception of their ability to participate in learning opportunities.
The researcher endorses additional investigation to comprehend the role race and ethnicity have on learning in a federal agency. More research should be done to assess the needs of African Americans and Hispanic women in the federal government. It would be interesting to incorporate a comparative analysis between historically marginalized women and women in the majority. Investigating these differences within the federal government could be insightful. A comprehensive assessment across multiple agencies would also be beneficial, albeit difficult to pursue given the scope of this population and lack of diversity at certain levels in government.

The researcher also recommends that future research investigate the role that learning experiences have on career advancement. Given the participants’ disagreement about the correlation between learning experiences and career advancement in the federal government, further study is warranted to generate additional data about this issue. Thus, a longitudinal IPA qualitative study should explore the correlation between learning experiences and career advancement within the federal government. This research would also examine formal and informal learning experiences.

The researcher’s final recommendation is to conduct a case study to investigate the learning styles of women in the federal government and the role of environment. Everyone processes and obtains information differently. Understanding individual’s preferred method of processing new material based on how they interpret and make meaning of that material would be useful to the organization. As the federal government continues to address the underrepresentation of women in government, structuring learning opportunities and presentation of material that closely align with diverse learning styles can help the government understand where to focus new learning opportunities and delivery methods. As women face different challenges throughout their career, it is important to provide learning opportunities that closely
align with being a female adult learner in the federal government. Women often juggle multiple responsibilities related to family and career. Taking that into consideration, offering flexibility in learning opportunities to accommodate family responsibilities and learning goals can provide a positive outcome for women and the federal government. It is important to understand this correlation in order to increase the representation of women in senior leadership roles.
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Appendix A
Unsigned Participant Recruitment Email

Hello,

My name is Melonie Barrington and I am a currently a doctoral student at Northeastern University. The purpose of my research project is to explore how women learn through relationships, understanding, empathy, and critical thinking.

I am interested in interviewing women to understand their learning experiences. This would take approximately 45 to 60 minutes and can be conducted in-person at any location you choose or, if you prefer, via phone or conference meeting software.

First, I would like to make sure that you match the criteria for my doctoral thesis. Are you:

1. A female employee currently at the GS-14 or GS-15 grade within the agency
2. Have a minimum of five years of experience in the organization
3. Do not work a full-time remote schedule

If you meet the criteria for participation and would like to volunteer, please e-mail me at my Northeastern email address (Barrington.m@husky.neu.edu), and I will contact you with further information. If you agree to participate, you will be provided with an informed consent document. This will be followed by scheduling an agreed-upon date and location to go over the consent form before beginning the interview.

If you have any further questions, please feel free to contact me via email (Barrington.m@husky.neu.edu) or telephone (407-792-9314). You may also contact Dr. Rashid Mosely, the principal investigator, at r.mosely@northeastern.edu.

Participation is entirely voluntary. You will not be contacted again requesting your participation.

Thank you, and I look forward to hearing from you.

Melonie Barrington
Email: Barrington.m@husky.neu.edu
Phone: 407-792-9314

Principal Investigator:
Dr. Rashid Mosely: r.mosely@northeastern.edu
Appendix B
Interview Questions

1. Please tell me a little bit about yourself.
2. Can you tell me about your current position and your role with Federal Highway Administration?
3. How do you remain up to date on the latest in information or knowledge in your field?
4. Tell me how you get things done in your current position with Federal Highway. How did you come to work for Federal Highway Administration?
5. Tell me about an opportunity (rotation assignment, special project, training) you were provided (or applied for) that you think helped you increase your knowledge or skill set?
6. Why do you think you received the opportunity over others that may have applied or been seeking this opportunity?
7. I want you to think about a person whom you may know who has advanced from a GS 14 to a GS 15 or a senior position. If you had to choose something about their journey that you think most helped their career, what would it be? Please explain why.
8. Federal Highway offers career development opportunities for employees. Please describe what opportunities you have participated in and why. (If not, why)
9. What has been the value of these opportunities to your career aspirations?
10. Tell me a little bit about some of the important work relationships you have at Federal Highway. Why are they important to you? How did you develop these relationships and why?
11. Can you tell me about a time when you had to make a decision or take an action and it was confusing what to do? How did you get through that? What was the outcome?
12. Can you tell me about a time when you were in a situation and your understanding of how to solve the situation was different than what your manager or co-worker was telling you? How did you work through that? Is there anything you would do differently and why?
13. Please tell me about a time that you worked on a project that had high visibility or was critical to your program or office. How would you describe the process of getting the necessary expertise and information to complete the project?
14. Share with me how you assessed the usefulness of that expertise and information.
15. Tell me about a time when you needed to learn something new in your current position. How did you go about that process?
16. What is the value of critical inquiry (gathering and evaluating information, ideas, and assumptions from multiple perspectives)?
17. Please give me an example of when you were involved in a project and you felt you came away having learned a lot. Why do you think you learned a lot working on that project? What was the value of that experience to your career development?
18. Please give me one examples of a key decision you made in your current position. How did you go about making these decisions?
Appendix C

Unsigned Informed Consent Form
Northeastern University College of Professional Studies
Doctor of Education Program.

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<th>Northeastern University, College of Professional Studies</th>
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<tr>
<td>Name of Investigator(s): Dr. Rashid Mosely, Principal Investigator</td>
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<td>Melonie Barrington, Student</td>
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Title of Project:

How Do Women Know What They Know: An Interpretive Phenomenological Analysis Research Study
Exploring How Mid-Career Women Share Their Career Development Journey

Informed Consent to Participate in a Research Study

We are inviting you to take part in a research study. This form will tell you about the study, but the researcher will explain it to you first. You may ask this person any questions that you have. When you are ready to make a decision, you may tell the researcher if you want to participate or not. You do not have to participate if you do not want to. If you decide to participate, the researcher will ask you to sign this statement and will give you a copy to keep.

Why am I being asked to take part in this research study?

I am asking you to participate in this study because you are a female employee with the Federal agency who meets the following criteria:
- Female employee who currently holds a position of GS-14 or GS-15 grade
- Have a minimum of five years of experience in the Federal Highway Administration
- Does not work a full-time remote schedule

Why is this research study being done?

The purpose of this research is to explore how women experience learning in their pursuit of senior positions.

What will I be asked to do?

If you decide to take part in this study, we will ask you to participate in an interview regarding your learning experiences.

Where will this take place and how much of my time will it take?

The interview will last approximately 45-60 minutes and can be conducted in person at any location you choose or, if you prefer, via phone or conference meeting software. Interviews will be digitally recorded and shared with the participant following transcription in order to verify responses.

Will there be any risk or discomfort to me?
There is no foreseeable risk or discomfort.

**Will I benefit by being in this research?**
There will be no direct benefit to you for taking part in this study. However, potential benefits to others include increased knowledge and understanding of how women learn for practitioners, scholars, and organizations.

**Who will see the information about me?**
Your part in this study will be confidential. Only the researchers on this study will see the information about you. No reports or publications will use information that can identify you in any way or any individual as being of this project.

Each participant will be assigned a pseudonym prior to the arranged interview and will be identified by the pseudonym in all subsequent references. The participant will be asked to use only first names regarding any persons mentioned over the course of the interview and will be instructed not to identify the research site by name. Any portion of the interview used in the research will contain a pseudonym for persons mentioned by the participant. Locations will be identified by general characteristics rather than by name. With the exception of a professional transcriber, the researcher will be the only person to have access to the data.

All participant interview sessions will be audio taped and transcribed. Transcription will be completed by a professional transcription service (Rev.com) that will follow industry standards regarding data security. All other nonelectronic transcript copies, signed consent forms, and other hard copy information and documentation will be stored in a safe, private secure location. Signed consent documents will be stored for 3 years following the conclusion of the study and maintained in a locked, secure file cabinet in a private residence with access limited to the researcher. Electronic data will be stored on a password-protected computer, with all files backed up on a portable storage device stored in a separate, secure location.

**What will happen if I suffer any harm from this research?**
This study includes minimal risk to participants. There is minimal risk associated with participants describing their experiences.

No special arrangements will be made for compensation or for payment for treatment solely because of my participation in this research.

**Can I stop my participation in this study?**
Your participation in this research is completely voluntary. You do not have to participate if you do not want to and you can refuse to answer any question. Even if you begin the study, you may quit at any time. If you do not participate or if you decide to quit, you will not lose any rights, benefits, or services that you would otherwise have at [Name].

**Who can I contact if I have questions or problems?**
If you have any questions about this study, please feel free to contact Melonie Barrington, Barrington.m@husky.neu.edu, (407) 792-9314. You can also contact Dr. Rashid Mosely, R.Mosley@northeastern.edu, the Principal Investigator.

If you have any questions about your rights in this research, you may contact Nan C. Regina, Director, Human Subject Research Protection, Mail Stop: 560-177, 360 Huntington Avenue, Northeastern University, Boston, MA 02115. Tel: 617.373.4588, Email: n.regina@neu.edu. You may call anonymously if you wish.

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Signature of person agreeing to take part

Printed name of person above

Signature of person who explained the study

Signature of person who explained the study to the participant above and obtained consent date

Printed name of person above

Signature of person agreeing to take part

Date

I agree to take part in this research.

Date

Printed name of person above