Millennial Job Satisfaction and Retention in Technical and Business Professions in the United States

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Millennial Job Satisfaction and Retention in Technical and Business Professions in the United States

Abstract
Millennials have been found to have higher turnover than previous generations, costing organizations and the U.S. economy over $30 billion annually (Adkins, 2016). Higher turnover for millennials has both short-term and long-term implications for organizations. The purpose of this study was to examine the relationships of job satisfaction, demographic characteristics, and retention for millennials working in technical and business professions in the United States. Using a quantitative, postpositivist paradigmatic design, this study employed the Minnesota Satisfaction Questionnaire (MSQ) short form (University of Minnesota, 2016), the Turnover Intention Scale (TIS-6) (Roodt, 2004), and demographic questions that were adapted into an electronic survey. Descriptive statistics, Pearson's correlations, least squares regression analysis, and confidence interval testing were used to analyze and interpret the data. Key findings indicated that marital status, education level, number of children, and annual salary had statistically significant relationships with respect to job satisfaction and retention. Recommendations for improving job satisfaction, retention, and mitigating organizational costs associated with turnover included implementation of employee assistance programs, establishing mentoring programs, increasing base salaries, and offering additional reward and incentive programs. Additionally, suggestions were made for adjustments in organizational budgeting and workforce planning to mitigate turnover and recruiting and replacement costs. Results from this study also provide insight for organization and executive leaders into understanding the influence of demographic characteristics of millennials, for building sustainable, robust process-based business models for long-term sustainability, business performance, and competitive advantage.

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Millennial Job Satisfaction and Retention in
Technical and Business Professions in the United States

By

Amy J. Considine

Submitted in partial fulfillment
of the requirements for the degree
Ed.D. in Executive Leadership

Supervised by

Shannon Cleverley-Thompson, Ed.D.

Committee Member

Drew Marsherall, Ed.D.

Ralph C. Wilson, Jr. School of Education
St. John Fisher College

December 2020
Dedication

My journey to achieving my lifelong goal of earning my doctorate degree has been a team effort, consisting of a diverse and talented group of people. I would like to express deep gratitude to my dissertation chair, Dr. Shannon Cleverley-Thompson, for her guidance, patience, constant encouragement, and her openness to new approaches to committee meetings. I would also like to thank my committee member, Dr. Drew Marsherall, for his gentle and insightful perspectives, as well as for his dislike of adjectives. Both Dr. Cleverley-Thompson and Dr. Marsherall challenged me to grow in ways I did not think were possible and encouraged me to believe in myself. Additionally, I would like to thank the faculty and staff of the Ed.D. Program in Executive Leadership, especially my advisor, Dr. Marie Cianca, who offered me firm, yet constructive encouraging feedback throughout the program. I would also like thank Dr. Bruce Blaine for his expert assistance with my statistical analysis.

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None of this would have been possible without the support, sponsorship, and encouragement from my EnPro family. I sincerely thank Marvin Riley, President and CEO of
EnPro, Dr. Susan Sweeney, CHRO of EnPro, and Dr. George Bovenzi, Director of Quality at Garlock Sealing Technologies. They are the reasons I was able to entertain and continue this journey. I draw so much inspiration from them. Additionally, the support of my coworkers, teammates, and friends was the absolute push that helped me cross the finish line. I wish to thank Dr. Jona Wright, Sara Durkin, Deb Jahnke, Bruce Batten, Jeff Pepin, Gloria Smith-Harris, Anthony Webb, Ray Davis, and Warren Dunston, who were always willing to offer encouragement and to help carry my load when it became too heavy.

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Biographical Sketch

Abstract

Millennials have been found to have higher turnover than previous generations, costing organizations and the U.S. economy over $30 billion annually (Adkins, 2016). Higher turnover for millennials has both short-term and long-term implications for organizations. The purpose of this study was to examine the relationships of job satisfaction, demographic characteristics, and retention for millennials working in technical and business professions in the United States. Using a quantitative, postpositivist paradigmatic design, this study employed the Minnesota Satisfaction Questionnaire (MSQ) short form (University of Minnesota, 2016), the Turnover Intention Scale (TIS-6) (Roodt, 2004), and demographic questions that were adapted into an electronic survey. Descriptive statistics, Pearson’s correlations, least squares regression analysis, and confidence interval testing were used to analyze and interpret the data. Key findings indicated that marital status, education level, number of children, and annual salary had statistically significant relationships with respect to job satisfaction and retention. Recommendations for improving job satisfaction, retention, and mitigating organizational costs associated with turnover included implementation of employee assistance programs, establishing mentoring programs, increasing base salaries, and offering additional reward and incentive programs. Additionally, suggestions were made for adjustments in organizational budgeting and workforce planning to mitigate turnover and recruiting and replacement costs. Results from this study also provide insight for organization and executive leaders into understanding the influence of demographic characteristics of millennials, for building sustainable, robust process-based business models for long-term sustainability, business performance, and competitive advantage.
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Chapter 1: Introduction

Since 2015, millennials have outnumbered baby boomers and Generation X as the largest cohort in the workforce (Brownstone, 2014; Fry, 2018b, 2020). A 2018 Pew Research Center report defines millennials, or Generation Y, as those born in or after 1980 and who began entering the workforce in the early 2000s (Ng, Schweitzer, & Lyons, 2010). Millennials have been noted as being very different from previous generations such as baby boomers and Generation X in their values, personal characteristics, and work expectations (Twenge, 2010). Millennials have been known to expect a greater work-life balance, flexible hours, less hierarchical work environments, and rapid advancement in their careers (Anderson, Baur, Griffith, & Buckley, 2017; Twenge, 2010). As baby boomers are projected to progress into retirement at an estimated rate of 10,000 per day over the next 10 years (Bergman, 2018; Friedberg, 2019), the influx of millennials into the workforce has created a challenge for organizations and business leaders as they seek to attract, develop, and retain millennials (Anderson et al., 2017).

Generational Differences in Personal and Work Characteristics

The baby boomer generation includes Americans born between 1946 and 1964, and Generation X is the generation born between 1965 and 1980 (Dimock, 2019). While each generation has its own social norms, values, and attitudes, those of millennials are more strikingly different from those of previous generations. These differences include how millennials communicate, their job expectations, how they engage with their
coworkers and organizational leaders, and how long they intend to stay in a job (Twenge, 2010). Table 1.1 describes the differences of the generations currently in the workforce.

Table 1.1

*Generational Differences in Personal and Work Characteristics*

<table>
<thead>
<tr>
<th>Variable</th>
<th>Baby Boomers</th>
<th>Generation X</th>
<th>Millennials</th>
</tr>
</thead>
<tbody>
<tr>
<td>Personal</td>
<td>Self-absorbed</td>
<td>Self-reliant</td>
<td>Self-centered</td>
</tr>
<tr>
<td>Characteristics</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Job-Specific</td>
<td>Life-long learning</td>
<td>Distance learning</td>
</tr>
<tr>
<td></td>
<td>Training</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Technically</td>
<td>Technically savvy</td>
<td>“Digital Natives”</td>
</tr>
<tr>
<td></td>
<td>conservative</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Company</td>
<td>Lack of Loyalty</td>
<td>“Contract” Mentality</td>
</tr>
<tr>
<td></td>
<td>Loyalty</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Characteristics</td>
<td>Wary of authority</td>
<td>Career options</td>
<td>Collaborative</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Independent</td>
<td>Crave feedback</td>
</tr>
</tbody>
</table>

*Note.* Adapted from Dimock (2019), Gibson, Greenwood, and Murphy (2009), and Bannon, Ford, and Meltzer (2011).

**Work characteristics.** One generational difference in work characteristics is a trend away from company loyalty. Baby boomers demonstrate the highest level of company loyalty in their work characteristics over Generation X and millennials (Dimock, 2019). Generation X are less loyal and are more inclined to be entrepreneurial in their approach to work (Dimock, 2019). Millennials are the least loyal in their work characteristics and have more of a contract entrepreneurial mindset than either baby boomers or Generation X (Gibson, Greenwood, & Murphy, 2009). In fact, millennials are more likely to participate in *serial entrepreneurship*, which means that they like to start
up new businesses, turn them over to someone else, and repeat the process (Seth, 2019). Millennials also have more of a *contract mentality*, or prefer shorter-term contract work, in contrast to the longer-term employment mentality of baby boomers and Generation X, thus illustrating the growing challenge for organizations (Gibson et al., 2009).

**Personal characteristics.** Like generational differences in work characteristics, there are also generational differences in personal characteristics. A generational trend that has occurred is the influence of changing family structures since the mid-1940s. Baby boomers are much more likely to come from traditional family structures with one primary income earner, whereas many in Generation X grew up in dual-income households (Lyons, Duxbury, & Higgins, 2005). Millennials are the generation most likely to have grown up in a variety of family environments. This shift in family structure may explain millennials’ acceptance of diversity and tendencies toward inclusion (McNamara, 2005). Acceptance of diversity and inclusion may also contribute to millennials’ more collaborative approach to work (Bannon, Ford, & Meltzer, 2011; Dimock, 2019; Gibson et al., 2009; Myers & Sadaghiani, 2010).

Another trend across the generations is a shift away from job-specific training and toward more individualized, on-demand type learning. Research suggests that millennials are more self-focused and digitally savvy than either Generation X or baby boomers (Bannon et al., 2011, Twenge, 2010). This self-focus may be due, in part, to millennials’ comfort with and use of technology. Open and instant access to the Internet may influence millennials’ views of themselves as they relate to the world. Furthermore, research suggests that millennials are equally comfortable with distance learning and traditional classroom delivery methods, as they may be more comfortable than previous
generations with the online format and asynchronous flexibility to fit learning into their schedules (Gibson et al., 2009). In addition to technology availability and interaction with social media, individualized learning programs may contribute to millennials’ focus on the self, versus others (Twenge, 2010).

**Millennial Communication Preferences and Expectations**

Millennials’ comfort with technology has also influenced how they communicate. Studies have suggested that millennials communicate differently than previous generations and that millennials expect instant communication and *communication transparency* due to their unprecedented access to information (Gursoy, Maier, & Chi, 2008; Kilber, Barclay, & Ohmer, 2014; Myers & Sadaghiani, 2010; Weber, 2017). Social media, laptops, smartphones, and texting are technologies popularized during millennials’ youth (Bannon et al., 2011), and millennials are used to having instant access to information through the Internet 24 hours per day (Cekada, 2012). Their familiarity with technology has also affected organizations and society through millennials’ expectation of flattening of communication hierarchies (Kilber et al., 2014; Myers & Sadaghiani, 2010; Weber, 2017). Millennials’ experience with instant communication also contributes to their expectation of communication transparency and inclusion in decision-making, irrespective of their positions in organizations (Weber, 2017).

Furthermore, millennials’ expectation of communication transparency and the flattening of communication hierarchies also applies to organizational structures. Millennials expect to be regarded as equals to longer-tenured employees such as baby boomers and Generation X, and to take on more responsibility early on in their careers (Weber, 2017). This expectation is different from the expectations of their generational
predecessors who espouse a more traditional, work-your-way-up approach to decision making and advancement in organizations (Weber, 2017). Millennials’ expectation of being considered as equals may be due to the egalitarian, inclusive way that millennials were raised in contrast to baby boomers or Generation X (Lapoint & Liprie-Spence, 2017). Unlike baby boomers or Generation X, millennials grew up working on collaborative group projects and presentations in school (Lowe, Levitt, & Wilson, 2008), thus contributing to an expectation for a more democratic and less hierarchical way of working, which has become a point of contention between generations in the workplace in some instances (Weber, 2017).

**Millennial Job Satisfaction**

In addition to differences in communication expectations, millennials also differ from baby boomers and Generation X in their views toward work environment and structure. However, there are differing viewpoints represented in the literature. Some research suggests that millennials demonstrate an individualistic versus community-based attitude toward work (Weber, 2017). However, there is a growing body of evidence suggesting that millennials are more satisfied and more engaged when they work in collaborative environments or team settings (Cekada, 2012; Gursoy et al., 2008; Twenge, 2010). Studies have identified additional motivational factors leading to increased engagement and job satisfaction for millennials including an introduction of new tasks, variety in the workday, and the availability of developmental opportunities (Kultalahti & Viitala, 2015).

Related to their desire for significant responsibility and impact, some millennials also expect frequent promotions and continuous acquisition of new skills. Ng et al.
(2010) suggested that millennials value opportunities for advancement as the most
important work characteristic over others, such as pay and benefits. Previous research
also suggested millennials place a higher value on extrinsic rewards and work-life
balance, frequent promotions, and open communication, rendering them less loyal than
their generational predecessors, and more likely to leave their jobs if their expectations
are not met (Anderson et al., 2017; Ng et al., 2010).

Organizational Impact of Millennial Expectations

As the number of millennials in the workforce continues to increase, so does their
influence (Brownstone, 2014; Fry, 2018a, 2020). Millennials’ expectations may
challenge the traditional, hierarchical organizational models and structures that have
existed for baby boomers and Generation X. Differing from previous generations in both
work and personal characteristics, communication preferences, and motivation factors, millennials have affected organizations in many ways. Some of the most notable ways include millennials’ communication style and expectations for inclusion; propensity for collaboration; expectation of frequent feedback and reassurance, promotions, and opportunities for advancement; emphasis on extrinsic rewards; and a need for work-life balance (Cekada, 2012; Gursoy et al., 2008; Kilber et al., 2014; Myers & Sadaghiani, 2010; Twenge, 2010; Weber, 2017). These differences have impacted organizations and businesses by creating a less stable workforce due to higher turnover, increasing hiring and recruitment costs, and disrupting leadership succession planning (Adkins, 2016; Anderson et al., 2017; Boushey & Glynn, 2012; Frye, 2017; Ng et al., 2010). Millennial turnover negatively impacts organizations because millennials have a lower retention rate than either baby boomers or Generation X (United States Bureau of Labor Statistics,
Table 1.2 illustrates the generational differences in median tenure of length of time in a job. According to a 2016 report by the United States Department of Labor’s Bureau of Labor Statistics, the median tenure for millennials aged 20 to 34 was between 1.3 and 2.8 years, lower than that of previous generational cohorts. Moreover, the average female millennial retention in the workplace is lower than that of their male counterparts (United States Bureau of Labor Statistics, 2016).

Table 1.2

<table>
<thead>
<tr>
<th></th>
<th>Baby Boomers</th>
<th>Generation X</th>
<th>Millennials</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age Range in 2016:</td>
<td>52–71</td>
<td>36–51</td>
<td>20–35</td>
</tr>
<tr>
<td>All</td>
<td>9.4</td>
<td>6.4</td>
<td>2.1</td>
</tr>
<tr>
<td>Male</td>
<td>9.6</td>
<td>6.7</td>
<td>2.1</td>
</tr>
<tr>
<td>Female</td>
<td>9.3</td>
<td>6.2</td>
<td>1.9</td>
</tr>
</tbody>
</table>

*Note. Adapted from the United States Bureau of Labor Statistics, 2016.*

Congruent with the generational differences in personal and work characteristics depicted in Table 1.1, there are distinct generational trends with respect to tenure. Baby boomers have the highest median tenure of all three generational cohorts, consistent with their personal and work characteristics of company loyalty and security orientation. Median tenure declines with Generation X and millennials, with millennial tenure being the lowest of all three generations. It is important to note that these are the numbers at a point in time in 2016 and future comparison will ultimately determine if this trend remains.

Higher turnover trends have short-term and long-term implications for organizations. Recruiting and long-term workforce planning are important for business continuity and long-term organizational success. Therefore, a long-term implication of
millennial turnover is that it costs the U.S. economy over $30.5 billion annually (Adkins, 2016). Additionally, on average, employee replacement costs approximately 21% of an employee’s salary and can cost up to 213% for highly paid executives (Boushey & Glynn, 2012; Frye, 2017). Increasing recruitment and replacement costs is considered a short-term implication for companies as they strive to implement effective methods to engage, develop, and retain millennials long enough to transfer critical business knowledge, experience, and leadership skills possessed by the older generations (Anderson et al., 2017). Another complex challenge for organizations with short-term and long-term implications is the difference of retention rates between males and females. As organizations seek to create work environments that meet the expectations of millennials, they will also need to consider the influence that gender may have on work environment expectations (Desvaux, Devillard-Hoellinger, & Meaney, 2008; Kimball, 2015; Lakshmi & Peter, 2015; Noland, Moran, & Kotschwar, 2016).

**Retention of Female Millennials in Technical and Business Professions**

Organizations may be losing highly skilled and valuable resources based on higher turnover and lower retention of female millennials. Female millennials are considered a highly skilled and educated resource for organizations to attract and retain (Warner, Ellmann, & Boesch, 2018). As of 2018, 43% of millennial females earned a bachelor’s degree or higher compared to 36% of millennial males (Bialik & Fry, 2019).

While higher turnover rates for millennials may be costly to organizations from a recruitment and replacement perspective (Adkins, 2016, Boushey & Glynn, 2012; Frye, 2017), higher turnover for female millennials also may have additional implications. Higher turnover rates for female millennials may limit their upward mobility into
management or senior leadership positions, particularly in technical and business professions. For the purpose of this study, technical and business occupations include but are not limited to areas such as finance, accounting, marketing, general management, supply chain, information technology, engineering, operations and operations management, logistics, planning, human resources (United States Bureau of Labor Statistics, 2001).

Additionally, Roberts and Ayre (2002) found that the percentage of female engineers fell sharply from 51% in the 20-29 age range of millennials to 15% for those over age 40, including Generation X and baby boomers. Furthermore, a more recent comparison of retention in technical and business professions found that female college graduates in technical-related occupations are significantly more likely to leave their occupational field than those in professional or business occupations, particularly earlier in their careers (Glass, Sassler, Levitte, & Michelmore, 2013).

The Glass Ceiling and the Glass Escalator

Higher turnover rates for female millennials may also contribute to the glass ceiling effect (Hymowitz & Schellhardt, 1986). The glass ceiling effect is a phenomenon whereby few women progress beyond certain perceived barriers in organizational hierarchies. The United States Department of Labor formally recognized the concept of the glass ceiling as part of Title II of the Civil Rights act of 1991. As stated in Title II of the Civil Rights act of 1991, the glass ceiling is made up of “artificial barriers based on attitudinal or organizational bias that prevent qualified individuals from advancing upward in their organization into management-level positions” (United States Equal Employment Opportunities Commission, 1991). Baker and Cangemi (2006) also
examined the glass ceiling phenomenon and the lack of women occupying senior and executive leadership positions in U.S.-based business professions. Findings from Baker and Cangemi (2016) suggest several ways for organizations to address the glass ceiling effect. The first way is by identifying causes and removing the obstacles that prevent women from achieving senior leadership positions. The second way is by increasing the number of senior women leaders in organizations. Finally, the third way is by creating or changing organizational policies to consider women for senior and executive leadership positions (Baker & Cangemi, 2016).

Related to the glass ceiling effect, Eagly and Carli (2007) explored a phenomenon known as the “glass escalator,” whereby men rapidly surpass women into leadership positions in fields typically occupied by women. Research has also examined millennials’ expectations for advancement in the context of the glass ceiling. Eisner and Harvey (2009) found that although millennials begin their careers with relatively equal status regardless of gender, opportunities and compensation gaps widen as careers progress, with a clear advantage to males.

While overall millennial turnover is higher than previous generations, female millennial turnover is even higher, particularly in technical professions such as science, technology, engineering, and mathematics, also known as STEM professions (Glass et al., 2013; Roberts & Ayre, 2002). Additionally, studies have shown that female engineers obtain more advanced degrees than their male counterparts (Roberts & Ayre, 2002) arguably rendering them more qualified for advancement. Despite the rising number of advanced degrees earned by women, as of 1999, women held a mere 10% of professional engineering jobs in the United States (Lal, Yoon, & Carlson, 1999). In 2018, the
percentage of women with professional engineering jobs in the United States was 13% (Rincon, 2018). Studies also suggest that female engineers hold positions of lower status than their male counterparts, and those who are promoted are given less responsibility and earn lower salaries than males (Evetts, 1993; Glover, 2000; Mahony, 1995). In more recent years, the number of females earning advanced degrees in technical fields has increased, and the number of male degree recipients has declined (Glass & Minnotte, 2010; Hahm, 2004; Hoffer et al., 2003; Jacobs, 1996; National Science Foundation, 2007). Women now earn more than half of all bachelor's degrees, half of all professional and doctoral degrees, and nearly 40% of all advanced degrees in science and engineering (Johnson, 2016; American Council on Education, 2010; National Science Foundation, 2007). Figure 1.1 depicts the number of doctoral degrees earned by gender in the United States from 2000 to 2015.

![Earned Science and Engineering Doctoral Degrees by Gender](image)

*Figure 1.1. Earned Science and Engineering Doctoral Degrees by Gender. Adapted from National Science Foundation, Science and Engineering Indicators (2018).*

According to Ng et al. (2010) the increase in earned advanced degrees by women as compared to the lack of women in leadership positions could suggest that female
millennials in technical and business professions may not be afforded the same opportunities for advancement as males. Furthermore, the lack of career advancement for women in the technical and business professions may also contribute to them experiencing lower job satisfaction and more likely to leave their organization, thus reducing the number of available and qualified women for leadership positions.

**Women in Leadership Performance Advantage**

Although there is a lack of women in top leadership positions in some organizations, several studies have indicated that female leaders’ contribution is key to improving business performance (Desvaux et al., 2008). According to the UC Davis Annual Study of California Women Business Leaders, companies with a higher percentage of women in senior leadership positions outperform those with lower percentages (Kimball, 2015). Supporting the findings from UC Davis, Noland et al. (2016) found that companies with higher numbers of women at the executive leadership level outperformed those with all men by 15%. The performance advantage of women in leadership positions has been found across the private and public sectors in the United States (Lakshmi & Peter, 2015).

Moreover, literature indicates that the advantages of having women in senior leadership positions expands beyond the United States. In Indonesia, Triana and Asri (2017) demonstrated that the presence of female directors showed a positive effect on company performance. In China, Ren and Wang (2011) found evidence that the presence of women on top management teams (TMT) led to improved performance. Syed and Murray (2008) also found that TMT perform better when there are more women and when there is more inclusion of feminine values and approaches. Further exploring the
theory of inclusion, Tang, Zheng, and Chen (2017) determined that adopting inclusive practices and policies produces better decision-making, productivity and overall performance improvements. Additional studies have shown that gender diversity in top management is a key performance and sustainability driver (Desvaux et al., 2008; Galbreath, 2011).

**Problem Statement**

With the increasing financial implications and organizational challenges of millennial retention in the workforce, organizations are recognizing the importance of addressing and adapting to the shift in millennial expectations and work styles (Cekada, 2012; Gursoy et al., 2008; Kilber et al., 2014; Myers & Sadaghiani, 2010; Twenge, 2010; Weber, 2017). Additionally, recent literature reviews and research have indicated that flexible work schedules, work-life balance, open communication, teamwork, and mentoring may be key to reducing millennial turnover and thus, positively affecting both male and female millennial job satisfaction and retention (Graen & Uhl-Bien, 1995; Kilber et al., 2014; Meng, Reber, & Rogers, 2017; Myers & Sadaghiani, 2010; Ng et al., 2010).

While some organizations have made attempts to adapt their work environment to meet millennial expectations and work styles, few studies have focused on the job satisfaction and retention across the entire millennial cohort who, in 2020, are between the ages of 23 and 38. There is a need for organizations to better understand if and how they need to adjust policies, structures, and approaches to mitigate the short-term and long-term implications of job satisfaction and retention. While there may be short-term replacement costs associated with lower retention rates for female millennials, there are
also potential long-term organizational and financial implications for companies to consider (Desvaux et al., 2008; Kimball, 2015; Lakshmi & Peter, 2015; Noland et al., 2016). Further analysis is warranted to help businesses better understand generational shifts in intrinsic and extrinsic motivational factors influencing both male and female millennial job satisfaction and retention.

While overall millennial turnover is higher than previous generations, turnover rates for female millennials is even higher, particularly in technical and business professions, which puts organizations at a disadvantage (Glass et al., 2013; United States Bureau of Labor Statistics, 2001). Higher turnover rates for female millennials may limit their upward mobility into and readiness for management or senior leadership positions, contributing to a competitive disadvantage for organizations (Lakshmi & Peter, 2015; Noland et al., 2016). Eagly and Carli (2003) and Helfat et al. (2006) identified this phenomenon as a female leadership “pipeline problem.” The phenomenon of fewer women than men rising through the ranks of companies to become senior leaders (Fitzsimmons & Callan, 2016) is particularly important for companies and business leaders to understand from a short-term cost avoidance perspective and a long-term workforce planning and financial performance view.

**Theoretical Rationale**

In the 1960s, Frederick Herzberg investigated factors influencing worker motivation and satisfaction. As a result of semi-structured interviews with approximately 200 engineers and accountants, Herzberg (1966) developed two-factor theory, also known as motivation-hygiene theory (Herzberg, 2003). These factors were separated into two categories: *intrinsic* motivators and *extrinsic* hygiene factors (Herzberg, 2003).
Intrinsic motivators included the work itself, recognition, achievement, possibility of growth, advancement and responsibility. Extrinsic hygiene factors were identified as salary, interpersonal relationships, supervision, company policy and administration, working conditions, status, and job security (Behling, Labovitz, & Kosmo, 1968).

Motivation-hygiene theory has been used to study how satisfied or dissatisfied workers are in organizations. One of the key assertions of motivation-hygiene theory is that job satisfaction is more influenced by intrinsic motivational factors and that job dissatisfaction is influenced by extrinsic hygiene factors (Behling et al., 1968). Higher job satisfaction is linked to lower turnover whereas higher job dissatisfaction is known to be a contributing factor to higher turnover (Sachau, 2007). As was depicted in Table 1.1, which described generational differences in personal and work characteristics, there may be differences across the generations with respect to intrinsic and extrinsic job satisfaction factors. Studies have suggested that motivation factors may have shifted from intrinsic with the baby boomers to more extrinsic with Generation X and the millennials (Bannon et al., 2011; Dimock, 2019; Gibson et al., 2009).

While motivation-hygiene theory has been cited in scholarly articles and often-used by organizations, it has not been without criticism or controversy. Several researchers have criticized Herzberg’s methodology, and the broad applicability of motivation-hygiene theory. Researchers such as Vroom (1964), Hardin (1965), and Hulin and Smith (1967) challenged Herzberg’s motivational-hygiene theory in that it was “method-bound.” This was due, in part, to the semi-structured nature of the 200 interviews used in Herzberg’s original research including engineers and accountants as participants (Herzberg, 1966). Nearly 50 years after Herzberg developed motivational-
hygiene theory, Bassett-Jones and Lloyd (2005) challenged whether the theory was still applicable and relevant. Administering a survey to over 3,200 participants, Basset-Jones and Lloyd suggested that compensation and recognition were not primary drivers of motivation, indicating that intrinsic motivation was more indicative of employee satisfaction. After nearly 50 years of criticism, Herzberg responded to those who critiqued his theory. Herzberg (2003) conducted an experiment to examine the influence of intrinsic motivation factors and extrinsic hygiene factors. The findings indicated that intrinsic motivators are longer lasting than hygiene or extrinsic factors.

Appendix A depicts intrinsic motivation and extrinsic hygiene factors affecting job attitudes (Herzberg, 2003). In descending order, factors leading to extreme job satisfaction include achievement, recognition work itself, responsibility, advancement, and growth. Factors contributing to low job satisfaction in descending order include company policy and administration, supervision, relationship with supervisor, work conditions, salary, relationship with peers, personal life, relationships with subordinates, status, and security. Herzberg (2003) found that 81% of factors contributing to high job satisfaction were intrinsic motivation factors and 69% of factors contributing to dissatisfaction were noted to be hygiene, or extrinsic factors (Herzberg, 2003).

Motivation-hygiene theory is the framework upon which this study is based to examine millennial job satisfaction and retention. Motivation-hygiene theory addresses both the intrinsic job satisfaction factors as well as the extrinsic job satisfaction factors influencing millennials to leave their jobs. Motivation-hygiene factor theory explains millennials’ intrinsic desire for responsibility, upward mobility, achievement, and recognition (Anderson et al., 2017; Ng et al., 2010; Weber, 2017). Motivation-hygiene
theory provides a framework to facilitate the identification of potential differences in intrinsic job satisfaction between male and female millennials. Furthermore, motivation-hygiene theory provides a context to the organizational factors influencing millennial job satisfaction and retention. The assumptions of motivation-hygiene theory are that if organizations provide environments whereby millennials can be more intrinsically motivated, job satisfaction will be positively impacted leading to increased retention.

**Statement of Purpose**

The purpose of this study was to examine the relationship between job satisfaction, demographic characteristics, and retention of millennials working in the technical and business professions in the United States. The results intend to provide insight into possible gender and other demographic differences in millennial job satisfaction and retention within these professions. Through the lens of Herzberg’s motivation-hygiene theory, this quantitative study examined relationships between intrinsic job satisfaction levels, extrinsic job satisfaction levels, and demographics influencing millennials decision to stay employed in technical and business professions.

**Research Questions**

At the time of this study, research focusing on the retention of millennials in the workplace is limited, and research on retaining female millennials in technical and business professions is even more scarce. This study explored the following research questions:

1. What is the relationship between job satisfaction and retention for millennials in technical and business occupations?
2. What is the relationship between demographic characteristics and millennial job satisfaction in technical and business occupations?

3. What is the relationship between demographic characteristics and millennial retention in technical and business occupations?

Significance of Study

Now that the full millennial cohort is between the ages of 23 and 38, research designed to understand influencing factors on millennial job satisfaction and turnover intention, particularly in technical and business professions, could benefit organizations from both a short-term and long-term perspective. In the short-term, understanding key drivers of millennial turnover rates could assist companies in reducing recruitment and replacement costs. Long-term, research designed to examine the demographic influences on millennial turnover may help organizations improve their performance and increase their competitive advantage. Research from this study also provides insight to organizational leadership. These insights include recommendations for recruiting and retention practices and policies, as well as recommendations for developing highly educated and skilled female millennials into senior and executive leaders (Desvaux et al., 2008). Furthermore, now that the full millennial cohort is of working age, this study contributes to the body of scholarly organizational research by providing understanding on the factors influencing and relationships between job satisfaction and retention of millennials in technical and business professions.

Definition of Terms

*Baby Boomers* – This generation includes Americans born between 1946 and 1964 (Dimock, 2019).
Communication Transparency – An expectation for open organizational communication and the need to be kept in the information distribution channels (Gursoy et al., 2008; Martin, 2005).

Extrinsic Motivators – External factors that control behavior. Job content characteristics, such as salary, job security, working conditions, status, organizational policies and procedures, (Herzberg, 1966).

Intrinsic Motivators – Internal factors that control behavior. These can include job content characteristics, such as achievement, recognition, responsibility, advancement, the work itself, and the possibility of growth, which inspire or motivate the individual to be productive in the work setting (Herzberg, 1966).

Generation X – Generation X is the generation born between 1965 and 1980 (Dimock, 2019).

Glass Ceiling Effect – Defined by Hymowitz and Schellhardt (1986), whereby few women progress beyond certain perceived barriers in organizational hierarchies.

Glass Escalator – Eagly and Carli (2007) explored a related concept, the “glass escalator,” whereby men rapidly surpass women into leadership positions in fields typically occupied by women.

Millennial – Also known as “Generation Y,” are those born in or after 1981 and entered the workforce in the early 2000s (Ng et al., 2010).

Serial Entrepreneurship – The process of starting up a new business, turning it over to someone else to run, and then repeating the process with a new business. (Seth, 2019).
Technical and Business Professions – Professional and technical occupations include areas such as finance, accounting, marketing, general management, supply chain, information technology, engineering, operations and operations management, logistics, planning, human resources (United States Bureau of Labor Statistics, 2001).

STEM – An acronym coined in 2001 at the U.S. National Science Foundation (NSF) by Judith Ramaley for the disciplines of science, technology, engineering, and math (Hallinen, 2017).

Chapter Summary

This chapter has provided a background for this study which examined the relationship between intrinsic job satisfaction, extrinsic job satisfaction, and demographic characteristics influencing millennial retention in technical and business professions in the United States. Generational differences in personal and work characteristics were explored, along with the impacts to organizations. Furthermore, the short-term and long-term effects of female millennial turnover, particularly in the business and technical professions, were reviewed. A historical perspective of motivation-hygiene theory was provided as well as more recent critiques and applications of the theory. This chapter concluded with a discussion on the potential significance of this study and the possible benefits to organizations. The remaining chapters of this dissertation have specific purposes. Chapter 2 will provide a review of the literature regarding millennial job expectations, engagement and retention. Chapter 3 presents the plan for research design and methodology including context, participants, data collection
instruments, and data analysis. Chapter 4 presents an analysis of the results and findings. Finally, Chapter 5 discusses the findings, implications, and recommendations for future research and practice.
Chapter 2: Review of the Literature

Introduction

With the increasing financial implications and organizational challenges of millennial turnover in the workforce, organizations are recognizing the importance of addressing and adapting to the shift caused by millennial expectations and work styles (Cekada, 2012; Gursoy et al., 2008; Kilber et al., 2014; Myers & Sadaghiani, 2010; Twenge, 2010; Weber, 2017). While some organizations have made attempts to adapt their work environment to meet millennial expectations and work styles, few studies have focused on the job satisfaction and retention across the entire millennial cohort who, in 2020, are between the ages of 23 and 38. At the time of this study, research focusing on the retention of millennials in the workplace is limited, and research on retaining female millennials in technical and business professions is even more scarce. This study explored the following research questions:

1. What is the relationship between job satisfaction and retention for millennials in technical and business occupations?
2. What is the relationship between demographic characteristics and millennial job satisfaction in technical and business occupations?
3. What is the relationship between demographic characteristics and millennial retention in technical and business occupations?

This chapter will provide a review and analysis of empirical studies concerning factors influencing millennial job satisfaction and retention. The studies focused on
generational differences in work expectations and attitudes toward work, and their effects on job satisfaction and retention. Industries and disciplines included in the studies for this section spanned retail, hospitality, banking, government, communications, industrial suppliers, and technology (Abate, Schaefer, & Pavone, 2018; Kowske et al., 2010; Lapoint & Liprie-Spence, 2017; Lu & Gursoy, 2016; Meng et al., 2017; Ng et al., 2010; Twenge et al., 2010; Weber, 2017). Also examined in the reviewed literature is the influence of the relationship between millennials and their managers on job satisfaction as well as the paucity of research on female millennial retention. Additionally, gaps in the literature and recommendations for further study will be identified.

Review of the Literature and Study Characteristics

This section provides a review of the characteristics and synthesis of existing studies that have contributed to the literature regarding millennial job satisfaction and retention. This literature review includes 20 peer-reviewed, empirical studies conducted during the years 2009–2019 that appeared in English language, academic journals.

The research studies included in this review were conducted in the United States, in addition to several other countries including Canada, India, and South Africa. These studies covered a range of organizational contexts and industry settings, including graduate and undergraduate students, and high school students. Disciplines included in the studies in this chapter spanned retail, hospitality, banking, government, communications, industrial suppliers, and technology. Furthermore, 14 of the 20 studies included participants in technical and business occupations as defined by the Major Occupational Groups (MOG) A and B in the United States Bureau of Labor Statistics Occupational Classification System Manual (2001). Table 2.1 provides a summary of the
organizational contexts and settings in which the studies took place and the number of studies within each context.

Table 2.1

*Country of Study and Number of Studies From Each*

<table>
<thead>
<tr>
<th>Organizational Context</th>
<th>Number of Studies</th>
<th>Business and Technical Professions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Multiple Disciplines</td>
<td>9</td>
<td>9</td>
</tr>
<tr>
<td>University Students (Undergraduate and Graduate)</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>High School Students</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Banking Industry</td>
<td>1</td>
<td>1</td>
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<tr>
<td>Retail Industry</td>
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<tr>
<td>Hospitality Industry</td>
<td>1</td>
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<tr>
<td>Industrial Supplier</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Communications Industry</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>U.S. Federal Government</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Technology Industry</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>20</strong></td>
<td><strong>14</strong></td>
</tr>
</tbody>
</table>

**Generational Differences in Work Attitudes**

Several of the reviewed studies explored the generational differences in attitudes toward work and expectations (Abate et al., 2018; Kowske et al., 2010; Lapoint & Liprie-Spence, 2017; Ng et al., 2010; Twenge et al., 2010; Weber, 2017). Generational differences in work attitudes, expectations, and retention are not necessarily specific to the industrial sector (Lapoint & Liprie-Spence, 2017). Abate et al. (2018) examined the
relationship between generational identity, job satisfaction, job burnout and turnover intention in banking to learn what factors influences turnover. Abate et al. administered a three-part survey to determine burnout factors (Maslach & Jackson, 1986), turnover intention (Boshoff & Allen, 2000), and job satisfaction (Babin & Boles, 1998). Statistically significant relationships ($p < 0.001$) were found between job satisfaction and turnover intention ($\beta = 0.683$), suggesting that as job dissatisfaction increases, turnover intention also increases, irrespective of age or generation (Abate et al., 2018). Gender differences in retention were not captured in the results of Lapoint and Liprie-Spence (2017), limiting their study’s contribution to understanding gender differences for millennials as well as for baby boomers and Generation X.

Kowske, Rasch, and Wiley (2010) examined the effect of generation on work attitudes and how millennials’ attitudes and expectations toward work differ from those of previous generations. For this study, attitudes toward work included job security, job satisfaction, and intention to leave (Kowske et al., 2010). Participants were from various industries across the United States and were grouped into age ranges from 18 to 65+. Findings from Kowske et al. suggest that age was a significant contributing factor for job satisfaction, turnover intentions, satisfaction with pay, benefits, and career development ($p < 0.05$), suggesting that younger participants of the study were less satisfied. Findings from Kowske et al. also suggest that millennials, having different work attitudes and expectations, seem to have lower job satisfaction and have higher turnover than older generations. One key limitation of Kowske et al. is that at the time of the study, the age range of millennials was 14 to 29, and that millennials comprised less than 28% of their participants. Furthermore, although gender demographics were recorded, results by
gender were not analyzed by age group, leaving a knowledge gap in terms of whether there was a gender difference in work attitudes and expectations. Also, the study was conducted 10 years ago, and work conditions have changed since the time of the study.

**Generational Differences in Work Values**

One of the main differences between millennials and previous generations is their desire for work-life balance and leisure time (Ng et al., 2010; Twenge et al., 2010). In addition to Kowske et al. (2010) and Ng et al. (2010), Twenge et al. (2010) examined how millennial work values differed from those of previous generations concerning work-life balance. Results from these studies indicate that millennials value work-life balance more than do previous generations. As Kowske et al. demonstrated that millennials’ attitudes toward work is different from that of previous generations, other studies, including those by Twenge et al., Weber (2017), and Ng et al., have demonstrated the influence of age, or generation, on job satisfaction and turnover intentions, thereby showing that work values vary according to generation.

Twenge et al. (2010) examined generational differences in work attitudes and values including altruistic, social, leisure, security, and influence to determine differences in motivational factors across the generations in the workplace. Using the Monitoring the Future survey (Johnston, Bachman, & O’Malley, 2006), data were collected from 1976, 1991, and 2006. While there were several research questions tested with respect to work-life balance, data analysis revealed that millennials placed significantly more value on leisure time relative to Generation X ($d = .22$) and baby boomers ($d = .57$). Additionally, results indicated that millennials were less likely to want to work overtime than either Generation X or baby boomers, as they placed a higher value on leisure time and work-
life balance than the two previous generations (Twenge et al., 2010). While emphasis on leisure time and work-life balance was evident in millennials, age and stage of life of the millennials could also have been a reason why millennials placed a higher value on leisure time and work-life balance. Emerging adulthood theory assumes that people have different experiences, priorities, and needs based on their age and stage in life (Arnett, 2000, 2014).

However, unlike Kowske et al. (2010) who surveyed workers ages 18 and over in a variety of industries, Twenge et al. (2010) surveyed a much younger population of the millennial generation, mostly between the ages of 17 and 18 years old. The relatively young age and life stage of the sample population may have influenced the responses regarding preferences for more leisure time and extrinsic rewards. Additionally, the last data sample was taken in 2006, when millennials were just emerging into the workforce, potentially leaving them underrepresented. Finally, gender differences in work values were not analyzed (Abate et al., 2018; Kowske et al., 2010; Lapoint & Liprie-Spence, 2017; Ng et al., 2010; Twenge et al., 2010; Weber, 2017), leaving a research gap which supports the need for my study to better understand if gender influences millennial work attitudes, values, job satisfaction, and retention.

Weber (2017) surveyed a slightly older population than did Twenge et al. (2017): the sample population for Weber’s study consisted of 3rd- and 4th-year college students in the United States to compare differences in work values across generations. Weber employed the Rokeach Value Survey (RVS) (Rokeach, 1968) to measure and compare millennials’ personal value orientation (PVO) with that of Generation X. PVO is a
grouping of empirically tested and weighted values and is accepted as an indicator of an individual’s overall values (Weber, 2017).

Findings indicated that the PVO of millennials and Generation X is significantly different ($z = -2.4356$, $p = 0.014$) in that millennials place higher importance than Generation X on personal over social values. With respect to gender, the results also indicated that females differ from males in their PVO ($\chi^2 = 50.137$, $p < 0.001$), with females exhibiting a stronger social affiliation as compared to the males in the study. Supporting the findings of Twenge et al. (2010), the results of Weber (2017) suggest that millennials, particularly females, differ in their values from previous generations in that they place a higher value on personal versus social values and are more self-focused (Weber, 2017). These value differences may influence female millennial career choices and ultimately, job satisfaction and retention in the workforce. However, while slightly older than the sample population in Twenge et al., the relatively young age and lack of work experience of the student sample population of students is a key gap in Weber. Additionally, Weber did not include millennials in technical or business fields, which marks Weber’s study as different from the study by Twenge et al. To fill in the gaps left by the research of Weber and Twenge et al., this study addressed the age range of participants identified as a gap in Weber by including the full cohort of millennials who are now older and have had the opportunity for more years of work experience in technical and business professions.

Hurst and Good (2009) explored perceptions and work expectations of millennials as they transition from colleges and universities into the workforce. Hurst and Good sought to investigate the relationship between pre-entry job expectations and perceptions
of future job obligations (Hurst & Good, 2009). In 2008 and 2009, the retail industry was one of the largest industries in the United States with over 4.4 million employees (United States Bureau of Labor Statistics, 2008–2009). Consequently, recruiting and retaining qualified and competent employees was an ongoing challenge for retail businesses (Knight, Crutsinger, & Kim, 2006). Hurst and Good (2009) found that some millennials’ pre-entry retail job expectations, perceptions of retail careers, perceptions of employer-employee obligations, and expectations of supervisor support had an influence on perception of future employee obligations. These findings indicated that job expectations and existing career perceptions may significantly contribute to what college students think they will owe future employers (Hurst & Good, 2009), also referred to as a psychological contract (Kultalahti & Viitala, 2015).

While the study by Hurst and Good (2009) had several limitations, due to the age of the participants, the results provide insight to the importance of the relationship between younger millennials and their immediate supervisors. Since Hurst and Good was conducted over 10 years ago, it would be of interest to note whether the subjects in the original cohort have maintained the same work values as they have entered different stages of their careers. In 2020, the participants in Hurst and Good would be between the ages of 31 and 43. Also, Hurst and Good focused on the retail industry, and while most of the participants were female, results were not analyzed by gender, thus providing an opportunity to further examine career expectation differences by gender and in technical and business occupations.
Generational Shifts in Workplace Expectations: The International Experience

Generational shifts in workplace expectations are not limited to organizations in the United States; they span multiple cultures and geographies. Congruent with previous studies on generational differences (Kohut et al., 2010; Philip, Najmi, Orudzheva, & Struckell, 2017; Twenge et al., 2010; Weber, 2017), Ng et al. (2010) investigated generational differences in career expectations and priorities to gain a better understanding of the available and incoming workforce’s expectations. Participants in Ng et al. included Canadian millennial undergraduate students of whom 60.9% were female and 39.1% were male.

Results of the study by Ng et al. (2010) indicated that with respect to pay and advancement, 68.5% of participants expected to be promoted within the first 18 months of their first job, with an average expectation of 15.1 months. Further analysis indicated that millennials’ top five work-related expectations were

- good people to work with and report to,
- good training and development opportunities,
- work-life balance,
- good health and benefits plan,
- and job security (Ng et al., 2010).

Additionally, analysis of the data Ng et al. (2010) collected suggested that millennial males expected to be promoted more rapidly than did females ($\beta = .12, p < 0.01$), and millennial females expected significantly lower salaries after 5 years than did millennial males ($\beta = -0.19, p < 0.01$) (Ng et al., 2010). Ng et al. suggested that fewer
promotions and lower salaries may lead to higher turnover for female millennials, as they may be less satisfied than their male counterparts.

**Generational Differences in Employee Engagement and Job Satisfaction**

Exploring the generational differences in employee engagement and job satisfaction in the United States, Weeks, Weeks, and Long (2017) examined generational perceptions and stereotypes at work. Like Cucina, Byle, Martin, Peyton, & Gast (2018), Weeks et al. employed a two-part study to explore generational differences in the workplace. Weeks et al. first conducted a qualitative study to examine the effects of generational stereotypes, work-life balance, work ethic, and the use of technology on job satisfaction and retention. In this first study, Weeks et al. included 20 participants with five participants each from the baby boomer, Generation X, and millennial generations in the workforce in the southern United States. Analysis of transcripts of semi-structured interview yielded eight workplace topics. These topics included individual values, meaningfulness of work, stress, working in teams, work-life balance, work ethic, technology, and perceptions of other generations.

Results of the first part of the study by Weeks et al. (2017) suggested an overall perception across generations that millennials are better at technology and multitasking. Results also indicated that Generation X and baby boomers have a stronger work ethic, possibly indicating that Generation X and baby boomers have more of a long-term view of job satisfaction, leading to higher retention over millennials. With respect to the eight workplace topics identified from the analysis of the interview transcripts, the older generations responded that millennials feel entitled at work as related to work ethic. Additionally, results suggested that millennials have a stronger preference for work-life
balance than previous generations (Weeks et al., 2017), possibly influencing their job satisfaction and retention rates, which is something that organizations need to better understand as millennials become the majority in the workforce.

Building upon the results from their first study, Weeks et al. (2017) applied a quantitative approach to examining in-group and out-group biases in the workplace. Using stereotypes of technology and multitasking from Weeks et al. as a framework, two questions were posed to a different population of participants and were rated using a six-point Likert-type scale. In Weeks et al., over 250 participants residing in the United States were recruited from Amazon’s online labor market program known as MTurk. The sample population was 57% male and 43% female.

Results from Weeks et al. (2017) indicated that both millennials and Generation X rated millennials as significantly better than the other generations with respect to multitasking and using technology. While millennials rated themselves higher than either Generation X or the baby boomers on multitasking and use of technology, they may have a different opinion of their own abilities. Like the other studies reviewed, Weeks et al. found generational differences between baby boomers, Generation X, and millennials with respect to use of technology and ability to multitask. However, there were no clear distinctions made concerning how gender may have influenced the findings, or if there were any gender differences in the use of technology or multitasking ability. This gap in Weeks et al. suggests a wider gap in the literature and an opportunity for future study on gender differences and generational stereotypes in the workplace as they relate to job satisfaction and retention.
Summary of Literature on Generational Differences in the Workplace

This section focused on several studies addressing generational differences in work attitudes, as well as differences in expectations for leisure time and work-life balance. Findings of Kowske et al. (2010), Twenge et al. (2010), and Ng et al. (2010) indicate that millennials place more value on leisure time and personal pursuits, and less value on social interactions at work, thus potentially contributing to their lower retention rates if their jobs do not allow for the desired amount of leisure time. The next section will focus on the factors influencing millennial engagement, and job satisfaction.

Millennial Work Values and Job Satisfaction

Work-life balance has been observed as a key contributing factor to millennial job satisfaction and retention (Kowske et al., 2010; Ng et al., 2010; Twenge et al., 2017). Preceding and supporting studies such as Kowske et al. (2010), Twenge et al. (2017), Ng et al. (2010), Philip et al. (2017), and Kohut et al. (2010) explored generational differences across several characteristics including work, values, and the influence and use of technology. Data were collected through a series of surveys conducted by phone interviews with over 570 millennials \( (N = 579) \) ages 18 to 25. Kohut et al. (2010) found that 88% of the millennials surveyed, compared to 79% of Generation X and 67% of baby boomers, reported that the increasing prevalence of technology, including email, newer methods of communicating, and automation, improved work overall and had a positive effect on work-life balance. Supporting the finding indicating that millennials view technology as having a positive effect on work-life balance, 56% of millennials surveyed reported that technology enables people to use their time more efficiently, as compared to 52% of Generation X and 54% of baby boomers.
Results from Kohut et al. (2010) also indicated that millennials view technology’s overall impact on society and quality of life much more positively than previous generations, further supporting results presented by Philip et al. (2017), Twenge et al. (2010), and Weber (2017), and suggesting that millennials value work-life balance and lifestyle more so than previous generations. Millennials’ preference for work-life balance may be attributable to the concept that millennials are the first generation in U.S. history who are “always connected” (Kohut et al., 2010). However, due to the timing of the Kohut et al. (2010) study, many millennials were not of working age, thus providing an opportunity for further study now that the full cohort of millennials is now between the ages of 23 and 38. Furthermore, gender differences were not taken into consideration, thus warranting further investigation into whether there are gender differences in how millennials view technology’s role in work-life balance, job satisfaction, and ultimately, retention (Kohut et al., 2010; Philip et al., 2017; Twenge et al., 2010; Weber, 2017).

In addition to the influence of generation on job satisfaction and retention, Philip et al. (2017) explored the role of technology in work-life balance and job satisfaction. Differing from Twenge et al. (2010) and Weber (2017), Philip et al. (2017) surveyed a working graduate and undergraduate student population in a southwestern United States university, ages 18 to 34. The results of Philip et al. (2017) indicated that there is a positive correlation between the use of technology and job satisfaction ($r = 0.24, p < 0.01$), suggesting that for millennials work-life balance was enhanced by technology. Furthermore, the positive work-life overlap correlation indicated that the employment of technology could have a positive effect on millennial retention. Additionally, gender
differences in attitudes about working conditions and work-home overlap (Becton, Walker, & Jones-Farmer, 2014) were not reported as part of the results.

Building upon the research on generational differences in work attitudes and expectations, this section focused on the influence of technology on millennial work-life balance and job satisfaction transitioning from expectations to engagement. The next section will expand the discussion to include several studies focusing on factors influencing millennial engagement, job satisfaction, and turnover intention across various job sectors including retail, hospitality, industrial supply, banking, government, and purchasing.

**Factors Contributing to Millennials’ Turnover Intention**

In addition to research supporting millennials placing a higher value on work-life balance compared to previous generations (Philip et al., 2017; Twenge et al., 2010; Weber, 2017), there is a growing body of research indicating that millennials also differ from previous generations in what drives their job engagement and satisfaction. Lapoint and Liprie-Spence (2017) studied the relationship between age and job engagement. This study was based on a survey by the Society for Human Resource Management (SHRM). Job engagement has been defined as “the passion and energy employees have to give their best to the organization to serve the customer” (Cook, 2008, p. 11). Participants in the study were employees of an industrial materials supplier in Ohio. Millennials comprised 10.1% of the participants, Generation X comprised 30.6% of the participants, and baby boomers comprised 55.6% of the participants. The remaining 3.7% were age 65 and older. Additionally, 72.6% of the participants were male and 27.4% were female (Lapoint & Liprie-Spence, 2017). Lapoint and Liprie-Spence found that baby boomers
had the highest level of job engagement, followed by Generation X and millennials, respectively. While age or generational differences were studied, age-related gender differences in job engagement and satisfaction were not, limiting the study’s generalizability to both male and female millennials. Generalizability was also limited given that the study by Lapoint and Liprie-Spence was conducted at one company in one industry.

Cucina et al. (2018) conducted a two-part study examining generational differences in employee engagement and job satisfaction in large organizations. Cucina et al. included publicly available responses to a United States Federal government-wide employee survey administered in 2004, 2006, 2008, 2010, 2011, and 2012. Cucina et al. suggested that millennials are less satisfied with their jobs as compared with baby boomers and Generation X ($d = 0.11$, $d = 0.10$). However, findings indicated that in comparison to baby boomers and Generation X, millennials may have more respect for leadership and feel that their workload is fair (Cucina et al., 2018).

Continuing their examination and comparison of generational differences in job satisfaction and employee engagement, Cucina et al. (2018) conducted a second study comparing job satisfaction between the 1979 cohort of the National Longitudinal Study of Youth (NLSY), and the children of the female participants in that study. The sample population of the children were millennials and were chosen to compare generational job satisfaction between family-related generations. Cucina et al. demonstrated that the 1979 cohort had higher levels of job satisfaction than did their millennial children. There was a limitation based on the sample size which led to a small effect size, implying that that while there appear to be generational differences with respect to job satisfaction and
employee engagement, the differences are not statistically significant (Cucina et al., 2018). Therefore, although the results indicated that there is a relationship between generational differences, job satisfaction, and engagement, the small effect size suggested that the differences are not necessarily generalizable to the general population. Additionally, Cucina et al. did not report any results related to gender differences in job satisfaction, warranting further study and exploration of whether gender of millennials influences job satisfaction and employee engagement.

Supplementary to the studies examining perceptions of future employee obligations or psychological contracts (Hurst & Good, 2009; Kultalahti & Viitala, 2015), Lu and Gursoy (2016) examined the impact of generational differences between baby boomers, Generation X, and millennials on job satisfaction and turnover intention. Using the Maslach Burnout Inventory - General Survey (MBI-GS) (Schaufeli, Leiter, Maslach, & Jackson, 1996), Lu and Gursoy surveyed over 600 employees from 29 hotels owned by of a midscale chain hotel management company based in North America. The generational distribution of participants was 35% baby boomers, 36.6% Generation X, and 38.4% millennials. The gender distribution of participants was 33.2% male and 65% female. Findings suggested that baby boomers, Generation X, and millennials are not significantly different in terms of gender with respect to turnover intention but demonstrate significant differences in length of tenure (Lu & Gursoy, 2016). Results indicated that generation had a significant impact on turnover intention in that millennials are more likely to quit than Generation X, and Generation X are more likely to quit than baby boomers.
Additionally, results indicated that millennials are more likely to quit than other generations when they are exhausted or experience a higher level of burnout since they place a higher value on their personal life and leisure activities over their job (Lu & Gursoy, 2016). These findings by Lu and Gursoy (2016) align with the overall high turnover rate in the hospitality industry, which has the highest turnover rate of any industry in the United States (Heenan, 2016). However, while Lu and Gursoy collected gender demographics, gender differences were not included as part of the analysis, thus limiting the contribution of their study to understanding how gender may influence millennial burnout, job satisfaction, and turnover intention, particularly in the hospitality industry. Further research is warranted to examine how gender may influence millennial burnout, job satisfaction, and turnover intention across other professions, such as technical and business occupations.

Also investigating the relationship between generational differences and employee engagement and turnover, Hoole and Bonnema (2015) examined the relationship between generational differences in work engagement and meaningful work in South Africa. Participants were selected using non-probability stratified sampling from organizations around Gauteng, South Africa, for a total of 261 (N = 261). Questionnaires consisting of three parts, including demographics, the Utrecht Work Engagement Scale (UWES) (Schaufeli & Bakker, 2003), and the Psychological Meaningfulness Scale (PMS) (Tymon, 1988) were administered. A moderate positive correlation was found ($r = 0.043$, $p = 0.01$), indicating that engagement can be improved with higher levels of meaningful work. Consistent with findings from similar quantitative studies examining the relationship of generation to engagement, the results from Hoole and Bonnema
indicated that baby boomers have the highest level of engagement (70.85), and millennials have the lowest engagement (70.71), with Generation X in the middle (74.13) (Hoole & Bonnema, 2015). However, as with other studies, Hoole and Bonnema did not test for how gender differences may influence engagement, indicating a gap in the literature and opportunity for further study. As Ng et al. (2010) found, it is possible that this study suggested that millennial women expected lower salaries, given that gender roles vary across cultures and societies. Further investigation is recommended to examine the impact of cultural and societal gender roles on millennial women’s salary expectations.

Also seeking to connect generational attributes, leadership development, and employee engagement, Meng et al. (2017) evaluated millennials’ expectations for engagement, integration, and leadership development. Meng et al. conducted in-depth interviews with 39 millennial professionals in the communications industry in the United States. Interviews were categorized into four key themes including effective recruitment and retention, improving engagement, leadership development, and the importance of work-life balance (Meng et al., 2017). With respect to effective recruitment and retention, respondents in the study by Meng et al. emphasized the importance of providing upward mobility, emphasizing the positive influence of the organization on surrounding communities, providing an environment for open communication, valuing technology and creativity, and improving the online presence of the organization and its leaders. To improve millennial engagement in the workplace, respondents indicated several approaches, including offering a diverse work environment, offering professional development opportunities, competitive pay, recognition and positive reinforcement,
mentorship programs, flexibility, and staying current with technology (Meng et al., 2017). Additionally, participants in the study by Meng et al. indicated an appreciation for being challenged, as well as for freedom and flexibility to get their work done without being micromanaged. They also conveyed a desire to be trusted and to be given opportunities to explore new interests and to test their creativity. Concerning the importance and expectations of work-life balance, participants in the Meng et al. study indicated that organizations should offer mentorships with more experienced employees, offer schedule flexibility, provide collaborative and cross-functional work, offer a variety of tasks, trust employees to work away from the office, and provide daily teaching and inspiration. Since 97% of the participants were female millennials, the findings of Meng et al. may offer key insights for further exploration of gender differences regarding engagement, leadership development, and the importance of work-life balance in retention.

Supporting the findings of Campione (2015) and Meng et al. (2017), Kilber et al. (2014) found that millennials were reported as responding better to mentoring or coaching than baby boomers or Generation X. Mentoring sessions, which are inherently dyadic in nature (Graen & Uhl-Bien, 1995), also can provide informal development and the frequent feedback to which millennials are accustomed (Myers & Sadaghiani, 2010; Ng et al., 2010).

**Millennial Motivation**

Examining millennial motivation, both intrinsic and extrinsic, Patil (2017) conducted a quantitative study to investigate the job expectations of millennials in India. Analysis of the survey results indicated that millennials are more intrinsically than
extrinsically motivated, countering the findings of Anderson et al. (2017) and Ng et al. (2010). Additionally, the results indicated with a positive correlation \((r = 0.6)\) that some millennials in India reported preferring to work independently and wanting to be challenged with complex tasks. Results also suggested that millennials expect recognition for taking on challenging tasks \((r = 0.7)\). The strongest correlation was found between worthiness of a task and responsibility and independence \((r = 0.9)\). These findings are consistent with other studies measuring millennial job expectations with respect to their desire for responsibility, independence, and recognition, and may indicate that they may be more intrinsically than extrinsically motivated (Patil, 2017).

Also, in India, Mishra and Mishra (2017) investigated the relationship between millennial job expectations, work preferences, and intrinsic and extrinsic motivation. Their study was different from the study of Patil (2017) in approach and methodology: Mishra and Mishra conducted structured interviews with 50 participants from a company in Bhubaneswar, India. Analysis of the responses resulted in the emergence of 25 main themes or key areas that millennials expect in a workplace. Several examples of millennial expectations from the survey include job enrichment, job involvement, employee empowerment, challenging work, recognition, sense of choice, sense of competence, career opportunities, leadership opportunities, and work-life balance. These intrinsic motivational themes are congruent with those uncovered in other studies and support findings of Patil, Philip et al. (2017), Twenge et al. (2010), Weber (2017), and Ng et al. (2010), in that millennials are motivated by intrinsic, rather than extrinsic factors. However, a limitation of the studies by Mishra and Mishra and Patil is that they did not examine possible gender differences in millennial workplace expectations,
suggesting that further exploration of the relationship between gender, motivation, and job expectations is warranted. Another limitation of the study by Mishra and Mishra is that it was conducted at one company in India, indicating that additional research is merited.

**Millennials and Leadership**

Comparable to Hurst and Good (2009), Kultalahti and Viitala (2015) also explored the concept of psychological contracts as they relate to millennials and their expectations in the workplace. To better understand the motivating factors of psychological contracts, and to inform organizational leadership on how to best lead and manage millennials, Kultalahti and Viitala conducted a study using the method of empathy-based stories (MEBS) (Eskola, 1991). Using snowball sampling, an online survey was administered to over 250 millennials via Facebook. The sample population consisted of over 250 millennials ranging in age from 17 to 35 at the time of the study; 32% were male and 68% were female. Participants provided narrative responses to the two questions in the survey. NVivo analysis revealed that many respondents (92) used the term “project” instead of continuous work and several (31) mentioned developmental opportunities, new tasks, and variety in the day as motivating. Additionally, schedule flexibility was mentioned often (27 responses) and determining their own schedule was motivating, as well. Other motivational factors leading to increased engagement and job satisfaction included the importance of the relationship with the supervisor, social relations, and work-life balance (Kultalahti & Viitala, 2015).

Also investigating the relationship of millennials with organizational leadership and its effect on job satisfaction and engagement, Campione (2015) explored the impact
of supervisor demographics (age, race, and gender) and relational demographics (how a supervisor’s race or gender differs from that of a subordinate) on millennial employee job satisfaction. The sample population consisted of 1,000 millennial employees in the United States from the National Longitudinal Survey of Youth (NLSY97) for the year 2007 (United States Bureau of Labor Statistics, 2007). The sample population was 49% male and 51% female. Three models were tested in this study. Model 1 tested the traditional model of employee job satisfaction which includes pay and benefits, job, and work environment characteristics. Model 2a tested for supervisor demographics, and Model 2b tested for relational demographics. While regular schedule and use of flex time were positively associated with millennial job satisfaction, results indicated that millennials’ relationship with their immediate supervisors was critical to their job satisfaction. The results of Models 2a and 2b indicate that younger employees prefer having a supervisor who is older than they are ($\beta = 0.020; \ p < 0.01$), and that millennials prefer to be supervised by the same gender. Additionally, findings from Campione (2015) suggested that having an immediate supervisor of a different gender negatively affects millennial employee job satisfaction ($\beta = -0.244; \ p < 0.01$), which may be a contributing factor to higher female millennial turnover in technical and business professions, where the workforce and leadership are predominantly male (Warner et al., 2018).

Also taking a quantitative approach to examining the relationship between manager characteristics and millennials’ job satisfaction, Gilley, Waddell, Hall, Jackson, and Gilley (2015) explored perceived managerial behaviors and millennial employees’ perceptions of their managers’ abilities to support work-life balance. Gilley et al. (2015) surveyed a slightly older population including MBA and PhD students from four 4-year
universities across the United States. Gilley et al. (2015) administered a Managerial Practices Survey (Gilley, Dixon, & Gilley, 2008) to determine how perceptions of work-life balance differ across generations in the workplace among baby boomers, Generation X, and millennials in an organizational development program. The survey was administered over nine semesters, concluding in the fall of 2013. For each of the managerial age groups, results suggested that employees’ perceptions of managerial support for work-life balance are highest in the under 36 (millennial) age group (\(M = 3.36\)) and in the over 60 (baby boomer) age group. While Generation X and baby boomers under 60 were not perceived as supportive of work-life balance, treating others fairly had a strong influence on employees’ perception of their support of work-life balance. Additionally, for the younger managers in the millennial group, the encouragement of “growth and development” was the most influential determinant of work-life balance (Gilley et al., 2015).

**Substantive Gaps and Need for Additional Study**

A review of the current literature on millennial job expectations, engagement, and satisfaction underscores the importance of organizations understanding their changing workforce. While the reviewed studies included descriptive statistics for gender, gender differences were not the focus of the research when comparing generational differences. Lacking in the research was the effect gender may have on millennial expectations, engagement and turnover, particularly in technical and business professions. Although a few of the reviewed studies included gender differences in their statistical analyses, gender differences were not highlighted in the results comparing generational differences.
between baby boomers, Generation X, and millennials in engagement, job satisfaction, and intent to quit.

Gender differences in work-related attitudes, values, and expectations are of growing importance for organizations, as millennials are now the largest cohort in the workforce. Female participation in the workforce is high (Brownstone, 2014), and baby boomers retire at an estimated rate of 10,000 per day in the United States (Bergman, 2018). Although the reviewed studies indicate that overall millennial job satisfaction and retention are lower than those of previous generations, female millennial job satisfaction and retention are reportedly even lower and may be more impactful to organizations (Bialik & Fry, 2019; Eagly & Carli, 2003; Helfat et al., 2006). The average female millennial retention in the workplace is lower than that of their male counterparts (United States Bureau of Labor Statistics, 2016), and yet female millennials are earning more advanced degrees than their male counterparts (Bialik & Fry, 2019). Lower job satisfaction and retention rates for female millennials may limit their upward mobility and readiness for management or senior leadership positions. Along with the gaps in how millennials perceive job satisfaction and retention, lower job satisfaction and retention may also lead to a female leadership “pipeline problem” as identified by Eagly and Carli (2003) and Helfat et al. (2006).

Recent literature reviews and research have indicated that flexible work schedules, work-life balance, open communication, teamwork, and mentoring may be key to improving millennial job satisfaction and retention. However, due to a large portion of the research having been conducted in the early 2000s, opportunities exist for further study due to the maturation of the oldest millennials and the emergence of the youngest
millennials into the workforce. The studies also have drawn from a primarily United States-based population except for one Canadian, one South African, and two Indian studies. The relative geographic homogeneity of participants may have implications of limited generalizability to other geographies and cultures. Understanding the expectations of the full millennial cohort, now between the ages of 23 and 38, would be informative to organizations as they adjust to the large number of baby boomers retiring (Bergman, 2018). Millennial job satisfaction and retention information could help organizations to adjust policies, structures, and leadership approaches to mitigate growing recruiting and replacement costs (Boushey & Glynn, 2012; Frye, 2017). Understanding the expectations of the full millennial cohort may also assist organizations in engaging, developing, and retaining millennials long enough to transfer critical business knowledge, experience, and leadership skills possessed by previous generations (Anderson et al., 2017). Another potential benefit of better understanding millennials and how they interact in the workplace could be supporting them in improving their ability to work with individuals from other generations.

Building upon the opportunities for further study to understand the full millennial cohort and their expectations for the workplace, it is important to note that a better understanding of millennial women’s values and expectations is warranted. Studies focused on investigating gender differences in millennial expectations could offer organizations insight into longer-term workforce planning and possible performance advantages. Further research is warranted to help businesses better understand how to bridge organizational generation gaps to meet changing workforce expectations and
improve female millennial job satisfaction retention rates in technical and business professions.

Chapter Summary

This chapter provided a review and analysis of empirical studies concerning factors influencing millennial job satisfaction and retention. The studies focused on generational differences in work expectations and attitudes toward work, job engagement, and their effects on job satisfaction and retention. Also examined in the reviewed literature was the influence of the relationship between millennials and their managers on job satisfaction as well as the lack of focus on female millennial retention. Additionally, gaps in the literature and recommendations for further study were identified. Chapter 3 will explain the research methodology used for this study.
Chapter 3: Research Design Methodology

Introduction

With the increasing financial implications and organizational challenges of millennial turnover in the workforce, organizations are recognizing the importance of addressing and adapting to the shift in millennial expectations to mitigate those implications. Studies have shown that there are differences in personal and professional characteristics across generations (Cekada, 2012; Gursoy et al., 2008; Kilber et al., 2014; Myers & Sadaghiani, 2010; Twenge, 2010; Weber, 2017). Generational differences are important for organizations to understand as millennials are the largest generation in the workforce as of 2015 (Brownstone, 2014; Fry, 2018a, 2020). Previous research has indicated that flexible work schedules, work-life balance, open communication, teamwork, and mentoring may be key to improving millennial job satisfaction and retention (Anderson et al., 2017; Ng et al., 2010; Weber, 2017). However, due to a large portion of the research having been conducted in the early 2000s, opportunities exist for further study due to the maturation of the oldest millennials and the emergence of the youngest millennials into the workforce. At the time of this study, research focusing on the retention of millennials in the workplace is limited, and research on retaining female millennials in technical and business professions is even more scarce.

This quantitative study examined millennial job satisfaction and turnover intention in technical and business occupations through the lens of Herzberg’s motivation-hygiene theory.
The research questions for this study were as follows:

1. What is the relationship between job satisfaction and retention for millennials in technical and business occupations?
2. What is the relationship between demographic characteristics and millennial job satisfaction in technical and business occupations?
3. What is the relationship between demographic characteristics and millennial retention in technical and business occupations?

Research Design

The research design of this quantitative study was grounded in the postpositivist paradigmatic framework (Phillips & Burbules, 2000). This quantitative study examined the relationship between job satisfaction, demographic characteristics, and turnover intention for millennials in professional and technical occupations through the lens of Herzberg’s motivation-hygiene theory (Herzberg, 2003). The design used validated survey instruments, including the Minnesota Satisfaction Questionnaire (MSQ) short form, which measures overall job satisfaction, intrinsic job satisfaction, and extrinsic job satisfaction. The research design also included an adaptation of the Turnover Intention Scale-6 (TIS-6) survey instrument, which is a shortened version of the Turnover Intention Scale (Roodt, 2004). The TIS-6 measures intention to turn over or to leave a job.

Research Context and Participants

The participants in this study included millennials age 23 to 38 with active email addresses and Amazon Mechanical Turk (MTurk) worker accounts, working full-time in technical or business-related occupations in the United States. For the purpose of this study, technical and business occupations included but were not limited to finance,
accounting, marketing, general management, supply chain, information technology, engineering, operations and operations management, logistics, planning, and human resources, as defined by Major Occupational Groups (MOG) A and B in the U.S. Bureau of Labor Statistics *Occupational Classification System Manual* (2001). With an estimated 72.1 million millennials in the workforce as of 2019 (Fry, 2018a, 2020), the calculated target sample size was 1,000 with a 95% confidence level and 3% margin of error. Response rate was calculated by the number of completed surveys completed out of the number sent.

**Instruments for Data Collection**

The instruments used in the data collection procedures for the current study were the demographic survey (Appendix B), the MSQ short form (University of Minnesota, 2016) and the TIS-6 (Roodt, 2004). The demographic survey was created by the author for the purpose of gathering participant information. The demographic survey consisted of seven questions about participants’ age, gender, marital status, number of children, attained education level, occupation, and annual salary. For gender, the options provided were male, female, with a write-in response option for other. Occupation was categorized as technical or business, with five examples and a write-in option given for each category based on the MOG A and B in the U. S. Bureau of Labor Statistics *Occupational Classification System Manual* (2001). Technical occupation response options included engineering, math and computer science, natural sciences, health-related sciences, and educators. Business occupation response options included executive and general management, finance and accounting, human resources and personnel, purchasing, and marketing.
The second instrument used in this study was the MSQ short form. The MSQ short form is a 20-question survey measuring the level of job satisfaction and dissatisfaction in the form of general job satisfaction, intrinsic job satisfaction, and extrinsic job satisfaction (University of Minnesota, 2016). The MSQ short form response scale is a Likert-type scale with five responses ranging from the lowest rating of very dissatisfied to the highest rating of very satisfied. There are three scores for the MSQ short form for general job satisfaction, intrinsic job satisfaction, and extrinsic job satisfaction. General job satisfaction scores were determined by the responses to all 20 survey questions. Intrinsic job satisfaction scores were determined by responses to 11 survey questions referring to characteristics of work that the participant experienced internally, such as sense of challenge, achievement, and level of independence. Extrinsic job satisfaction scores were determined by nine survey questions that refer to external conditions of work that the participant experienced, such as compensation, job security, and working conditions. Higher scores indicated higher job satisfaction level. The MSQ short form has been used to analyze job satisfaction in studies across a multitude of disciplines ranging from health care and nursing (Sharp, 2008), to law enforcement (Fry & Greenfield, 1980), to information technology (Ghazzawi, 2011). Permission to use the shortened version of the MSQ was provided by the University of Minnesota Department of Psychology, Vocational Psychology Research, via the Creative Commons Attribution-Non Commercial 4.0 License (University of Minnesota, 2016). A copy of the Creative Commons Attribution-Non Commercial 4.0 License can be found in Appendix C.

The third instrument used in the adapted survey was the six-question TIS-6 (Bothma & Roodt, 2013; Roodt, 2004) which measures retention through turnover
intention. For this study, the TIS-6 was shortened from the original 15-question survey. The TIS-6 has been used to measure turnover intention across several industries including healthcare (Alfred, 2018), higher education (GuiXia & Rashid, 2019), and information technology (Asih & Zamralita, 2018). Like the MSQ short form, the TIS-6 response scale is comprised of a 5-point Likert-type scale with response options ranging from never to always. Scores from the TIS-6 questions were added together for a turnover intention score. A lower turnover intention score indicated that a participant was less likely to leave a job and have higher retention. A higher turnover intention score indicated that a participant was more likely to leave a job and have lower retention. The highest possible score for the TIS-6 is 30, which indicates the highest turnover intention and the lowest possible score for the TIS-6 is 5, indicating the lowest turnover intention. Permission to use the TIS-6 was obtained from Professor Gert Roodt at the University of Johannesburg, South Africa (Appendix D).

**Data Collection Procedures**

The demographic survey, the MSQ short form and the TIS-6 survey instrument were adapted and combined into one electronic survey using Qualtrics, which is an online survey platform. Upon receipt of the St. John Fisher College Institutional Review Board (IRB) approval, a Qualtrics survey link was enabled in MTurk and was available to MTurk workers who met the criteria of being between 23 and 38 years old and working full-time in the United States. MTurk is an online crowdsourcing platform that is used to recruit participants, also known as Workers, to complete various tasks referred to as human intelligence tasks (HITs) (Buhrmester, Kwang, & Gosling, 2011; McDuffie, 2019). Individuals clicked on the hyperlink that opened an informed consent form
describing the nature of the survey (Appendix E), the Qualtrics survey link, and the researcher’s contact information. Respondents who consented to participate in the study were directed to the online shortened version of the MSQ, combined with the TIS-6 and demographic questions, with the option to opt out, or discontinue the survey at any time. The survey was disabled 2 weeks after the initial release and distribution in MTurk.

Several measures were taken to safeguard participant anonymity through a series of controls. Access to the survey and the survey results were password protected and all analyses were stored on the researcher’s password-protected computer and external storage drive. All data were kept on the researcher’s password-protected laptop computer, which is backed up on the St. John Fisher College network. Once all data collection steps were completed, survey responses from Qualtrics were imported into IBM SPSS Statistics for Windows (Version 25).

**Procedures for Data Analysis**

The data analysis process began by formatting, cleaning, and categorizing the data in SPSS. Incomplete survey responses were discarded. Data were exported from SPSS to Microsoft Excel where descriptive statistics such as frequencies, means, and standard deviations were calculated to summarize the demographic variables.

**Descriptive data analysis.** Demographic variables for this study included age, gender, marital status, number of children, education level, occupation, and annual salary. Differences in responses to the demographic questions, the MSQ short form, and the TIS-6 were also analyzed by gender and by age using Microsoft Excel. Survey participants were categorized into age groups based upon the principles of emerging adulthood theory. Emerging adulthood theory assumes that people have different experiences,
priorities, and needs based on their age and stage in life (Arnett, 2000, 2014). Using emerging adulthood theory principles, the author classified the participants into the following three age groups: participants age 23 to 27 were classified as Younger Millennials, participants age 28 to 32 were classified as Middle Millennials, and participants age 33 to 38 were classified as Older Millennials.

**Preliminary data analysis.** Following the descriptive data analysis, intrinsic job satisfaction, extrinsic job satisfaction, and turnover intention scores were calculated by multiplying the participant responses by the weights assigned to the five possible responses for each survey question. The response scales for both the MSQ and the TIS-6 were numerically weighted from 1 to 5 with 1s at the lowest end of the job satisfaction and turnover scales and 5s at the highest. For the MSQ, scoring for general job satisfaction, intrinsic and extrinsic job satisfaction were informed by the Manual for the MSQ (Weiss, Dawis, England, & Lofquist, 1967, p. 4). Scores for the TIS-6 questions were calculated by summing the responses of the questions to obtain a total turnover intention score for each participant. Means and standard deviations were then calculated for general job satisfaction, for intrinsic and extrinsic job satisfaction from the MSQ short form survey questions, and for turnover intention from the TIS-6 portion of the survey.

**Research Questions**

**Research Question 1.** Research Question 1 examined the relationship between job satisfaction and retention in millennials in technical and business occupations. To answer this question, data were first exported from SPSS to R Statistical software (R Core Team, 2015). Then, with the assistance of a certified statistician, Pearson correlation coefficients were calculated to examine the relationships between intrinsic job satisfaction and turnover intention.
satisfaction, mean extrinsic job satisfaction, and mean turnover intention scores. A least squares regression model was estimated with the two job satisfaction measures as predictors of retention score. The regression coefficients and their significance tests were interpreted to address the relationship between each satisfaction predictor’s relationship to retention, controlling for the other predictor. The model $R^2$ and F test were interpreted to address the combined contribution of both satisfaction predictors to retention.

**Research Question 2.** Research Question 2 examined the relationship between demographic characteristics and millennial job satisfaction in technical and business occupations. This was done by generating means for job satisfaction within levels of a number of demographic variables, as well as 95% confidence intervals (CIs). Inferences regarding differences between means (at different levels of the demographic variable) were made by comparing the two groups’ CIs. Nonoverlapping 95% CIs constitute a strong test (i.e., a significance test that controls for inflated Type I error rates associated with repeated significance testing) of the difference between those means. Means that were significantly different (by the nonoverlapping CIs test) were cautiously interpreted.

**Research Question 3.** Research Question 3 examined the relationship between demographic characteristics and millennial retention in technical and business occupations. This was done by generating means for turnover intention within levels of a number of demographic variables, as well as 95% confidence intervals. Inferences regarding differences between means (at different levels of the demographic variable) were made by comparing the two groups’ CIs. Nonoverlapping 95% CIs constitute a strong test (i.e., a significance test that controls for inflated Type I error rates associated
with repeated significance testing) of the difference between those means. Means that were significantly different (by the nonoverlapping CIs test) were cautiously interpreted.

**Chapter Summary**

Millennials are the largest generation in today’s workforce (Brownstone, 2014) and have higher turnover than previous generations (Anderson et al., 2017). Through the lens of Herzberg’s motivation-hygiene theory, this quantitative study examined the relationship between intrinsic job satisfaction, extrinsic job satisfaction, demographic characteristics, and turnover intention of millennials in technical and business occupations. The population of interest included millennials in professional and technical occupations in the United States ranging in age between 23 and 38. The MSQ short form and the TIS-6, along with seven additional demographic questions were adapted into an online survey using Qualtrics. Surveys were distributed to the target population via MTurk over a period of 2 weeks in the spring of 2020. Data were collected and analyzed via IBM SPSS, R statistical software (R Core Team, 2015), and Microsoft Excel using least squares regression and correlational analysis. Chapter 4 will present the findings from this study.
Chapter 4: Results

Introduction

In 2019 the number of millennials in the workforce was estimated at 72.1 million, and it continues to grow, with millennials outnumbering all other generations in the workforce combined (Brownstone, 2014; Fry, 2018b, 2020). Millennials have higher turnover rates than previous generations, which can be expensive to many organizations. As of 2016, millennial turnover costs the U.S. economy over $30.5 billion annually (Adkins, 2016). With the increasing financial implications of millennial turnover in the workforce, it is important for organizations to understand the factors influencing millennial turnover intention to mitigate the costs and improve business performance. Such factors include job satisfaction and demographic characteristics, with the premise that improved job satisfaction leads to improved retention (Herzberg, 2003).

The purpose of this study was to explore the relationships between job satisfaction and turnover intention for millennials in technical and business professions in the United States. This study also sought to examine the demographic differences influencing millennial job satisfaction and retention in technical and business professions across the full cohort. The results for this study add to body of knowledge about millennial job satisfaction and retention in the workplace because many of the studies on millennials’ job satisfaction and retention were conducted when many millennials were either underage or just entering the workforce in the early 2000s. At the time of this study, research focusing on the retention of millennials in the workplace is limited, and research
on retaining female millennials in technical and business professions is even more scarce. Furthermore, this study served to benefit organizational leadership by providing insight on differences in demographics, intrinsic job satisfaction, and extrinsic job satisfaction levels influencing millennial retention in technical and business professions.

The research questions for this study were as follows:

1. What is the relationship between job satisfaction and retention for millennials in technical and business occupations?
2. What is the relationship between demographic characteristics and millennial job satisfaction in technical and business occupations?
3. What is the relationship between demographic characteristics and millennial retention in technical and business occupations?

This chapter has three sections. First, it presents the demographics of the research participants. Next, the research questions, data analysis and findings of the study are reviewed. Finally, the chapter concludes with a summary of the results.

**Research Participants**

The survey was distributed to 1,000 MTurk millennial workers in business and technical professions working in the United States. A total of 530 participants responded to the survey; however, 112 surveys were incomplete. Therefore, 418 (n = 418) participants completed the survey, which represented a 41.8% response rate.

The demographic portion of the survey showed that the sample was made up of 47.70% female (n = 197), 52.30% male (n = 216), and 0.7% (n = 3) for other or non-binary participants. The mean age of the participants was 31.5 years. The demographic portion of the survey indicated the sample consisted of 51.9% (n = 217) participants who
identified as married, 47.37% \( (n = 198) \) participants who identified as single or divorced, and 0.72% \( (n = 3) \) participants declined to answer the question. Fifty-six percent \( (n = 235) \) reported having no children, whereas 22.97% \( (n = 96) \) reported as having one child, 15.31% \( (n = 64) \) reported having two children, and 5.50% \( (n = 23) \) reported having three or more children. Data from the demographic survey also indicated that the education level of participants in the study included 17.59% with an associate or 2-year degree, 60.80% with a bachelor’s or a 4-year degree equivalent, and 21.61% with a master’s degree. The income range between $50,000 and $75,000 USD included 69.86% of participants. Twenty percent reported having an annual income of $75,000 or higher.

Occupation was divided into two categories: technical, categorized with a (T), and business, categorized with a (B) at the end of the selection. Finance and accounting-related occupations were the highest reported occupations at 18.90% and purchasing or supply chain occupations were the lowest at 2.63%. Business occupations comprised 50.96% of survey responses, and 49.02% of reported occupations classified as technical.

In summary, the seven demographic variables collected by the survey instrument in this study revealed the following key points about the participants’ demographics: Fifty-two percent of the survey participants were male, and 47.13% were female. With respect to occupation type, 49.04% of survey participants reported holding technical occupations, and 50.96% of participants reported holding business occupations. Fifty-eight percent of participants held a bachelor’s degree or 4-year equivalent. Finally, 69.86% of participants reported annual income levels of $75,000 USD and below. The following sections will cover data analysis and findings with respect to the research questions.
**Demographics by age group.** Participants were categorized into three age groups based on the principles of emerging adulthood theory. Emerging adulthood theory assumes that people have different experiences, priorities, and needs based on their age and stage in life (Arnett, 2000, 2014). For the purposes of reporting the results and analysis of this study, participants age 23 to 27 were classified as Younger Millennials, participants age 28 to 32 were classified as Middle Millennials, and participants age 33 to 38 were classified as Older Millennials. For this study, Older Millennials were 46.2% of the responses, Middle Millennials were 32.5% of responses, and Younger Millennials were 20.1% of the responses. Table 4.1 depicts the demographic differences between male and female participants reported across the demographic variables.

In the Younger Millennials age 23 to 27, there was a higher percentage of female participants (12.83%) than males (7.51%). Conversely, in the Older group, age 33 to 38, there was a higher percentage of male participants (28.09%) than females (18.64%). The Middle Millennials, age 28 to 32, had nearly an equal percentage of male and female participants, 16.71% and 16.22%, respectively. Table 4.2 illustrates the participant demographics including age range, marital status, number of children, education, occupation, and income level by age group.
<table>
<thead>
<tr>
<th>Demographic</th>
<th>Total</th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>%</td>
<td>N</td>
</tr>
<tr>
<td><strong>Age Group</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Younger (23–27)</td>
<td>84</td>
<td>20.10%</td>
<td>31</td>
</tr>
<tr>
<td>Middle (28–32)</td>
<td>136</td>
<td>32.50%</td>
<td>69</td>
</tr>
<tr>
<td>Older (33–38)</td>
<td>193</td>
<td>46.20%</td>
<td>116</td>
</tr>
<tr>
<td><strong>Marital Status</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Single / Divorced</td>
<td>198</td>
<td>47.37%</td>
<td>100</td>
</tr>
<tr>
<td>Married / Domestic Partner</td>
<td>217</td>
<td>51.91%</td>
<td>107</td>
</tr>
<tr>
<td><strong>Number of Children</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>235</td>
<td>56.22%</td>
<td>123</td>
</tr>
<tr>
<td>1</td>
<td>96</td>
<td>22.97%</td>
<td>50</td>
</tr>
<tr>
<td>2</td>
<td>64</td>
<td>15.31%</td>
<td>33</td>
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<tr>
<td>3+</td>
<td>23</td>
<td>5.50%</td>
<td>13</td>
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<tr>
<td><strong>Education Level</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Associate or 2-Year Degree</td>
<td>70</td>
<td>16.75%</td>
<td>30</td>
</tr>
<tr>
<td>Bachelor’s or 4-Year Degree</td>
<td>242</td>
<td>57.89%</td>
<td>131</td>
</tr>
<tr>
<td>Master’s Degree</td>
<td>86</td>
<td>20.57%</td>
<td>43</td>
</tr>
<tr>
<td><strong>Occupation</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Business-Related</td>
<td>212</td>
<td>50.72%</td>
<td>104</td>
</tr>
<tr>
<td>Technical-Related</td>
<td>202</td>
<td>48.33%</td>
<td>113</td>
</tr>
<tr>
<td><strong>Annual Salary (USD)</strong></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Less than $50,000</td>
<td>145</td>
<td>34.69%</td>
<td>63</td>
</tr>
<tr>
<td>Between $50,000 and $75,000</td>
<td>147</td>
<td>35.17%</td>
<td>76</td>
</tr>
<tr>
<td>Between $75,000 and $100,000</td>
<td>85</td>
<td>20.33%</td>
<td>48</td>
</tr>
<tr>
<td>Between $100,000 and $125,000</td>
<td>22</td>
<td>5.26%</td>
<td>13</td>
</tr>
<tr>
<td>Greater than $125,000</td>
<td>19</td>
<td>4.55%</td>
<td>17</td>
</tr>
</tbody>
</table>
Table 4.2

Participant Demographics by Age Group

<table>
<thead>
<tr>
<th>Demographic</th>
<th>Total</th>
<th>Younger (23–27)</th>
<th>Middle (28–32)</th>
<th>Older (33–38)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age Group</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>413</td>
<td>84</td>
<td>136</td>
<td>193</td>
</tr>
<tr>
<td>%</td>
<td>100.00%</td>
<td>20.34%</td>
<td>32.93%</td>
<td>46.73%</td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>216</td>
<td>31</td>
<td>69</td>
<td>116</td>
</tr>
<tr>
<td>%</td>
<td>52.30%</td>
<td>7.51%</td>
<td>16.71%</td>
<td>28.09%</td>
</tr>
<tr>
<td>Female</td>
<td>197</td>
<td>53</td>
<td>67</td>
<td>77</td>
</tr>
<tr>
<td>%</td>
<td>47.70%</td>
<td>12.83%</td>
<td>16.22%</td>
<td>18.64%</td>
</tr>
<tr>
<td>Marital Status</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Single / Divorced</td>
<td>198</td>
<td>53</td>
<td>67</td>
<td>73</td>
</tr>
<tr>
<td>%</td>
<td>47.71%</td>
<td>12.77%</td>
<td>16.14%</td>
<td>17.59%</td>
</tr>
<tr>
<td>Married / Domestic Partner</td>
<td>217</td>
<td>51</td>
<td>69</td>
<td>120</td>
</tr>
<tr>
<td>%</td>
<td>52.29%</td>
<td>7.47%</td>
<td>16.63%</td>
<td>28.92%</td>
</tr>
<tr>
<td>Number of Children</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>235</td>
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<tr>
<td>%</td>
<td>56.22%</td>
<td>13.64%</td>
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<td>1</td>
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<td>27</td>
<td>47</td>
</tr>
<tr>
<td>%</td>
<td>22.97%</td>
<td>5.26%</td>
<td>6.46%</td>
<td>11.24%</td>
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<tr>
<td>2</td>
<td>64</td>
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<td>14</td>
<td>45</td>
</tr>
<tr>
<td>%</td>
<td>15.31%</td>
<td>3.74%</td>
<td>3.35%</td>
<td>10.77%</td>
</tr>
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<td>3+</td>
<td>23</td>
<td>5</td>
<td>4</td>
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</tr>
<tr>
<td>%</td>
<td>5.50%</td>
<td>0.48%</td>
<td>0.96%</td>
<td>4.07%</td>
</tr>
<tr>
<td>Education Level</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Associate or 2-Year Degree</td>
<td>70</td>
<td>17</td>
<td>21</td>
<td>32</td>
</tr>
<tr>
<td>%</td>
<td>17.59%</td>
<td>4.27%</td>
<td>5.28%</td>
<td>8.04%</td>
</tr>
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<td>Bachelor’s or 4-Year Degree</td>
<td>242</td>
<td>53</td>
<td>78</td>
<td>114</td>
</tr>
<tr>
<td>%</td>
<td>60.80%</td>
<td>13.32%</td>
<td>19.60%</td>
<td>28.64%</td>
</tr>
<tr>
<td>Master’s Degree</td>
<td>86</td>
<td>13</td>
<td>35</td>
<td>38</td>
</tr>
<tr>
<td>%</td>
<td>21.61%</td>
<td>3.27%</td>
<td>8.79%</td>
<td>9.55%</td>
</tr>
<tr>
<td>Occupation</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Business-Related</td>
<td>212</td>
<td>41</td>
<td>74</td>
<td>97</td>
</tr>
<tr>
<td>%</td>
<td>50.84%</td>
<td>9.83%</td>
<td>17.75%</td>
<td>23.26%</td>
</tr>
<tr>
<td>Technical-Related</td>
<td>205</td>
<td>43</td>
<td>63</td>
<td>99</td>
</tr>
<tr>
<td>%</td>
<td>49.16%</td>
<td>10.31%</td>
<td>15.11%</td>
<td>23.74%</td>
</tr>
<tr>
<td>Annual Salary (USD)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Less than $50,000</td>
<td>145</td>
<td>35</td>
<td>53</td>
<td>57</td>
</tr>
<tr>
<td>%</td>
<td>34.69%</td>
<td>8.37%</td>
<td>12.68%</td>
<td>13.64%</td>
</tr>
<tr>
<td>Between $50,000 and $75,000</td>
<td>147</td>
<td>33</td>
<td>48</td>
<td>67</td>
</tr>
<tr>
<td>%</td>
<td>35.17%</td>
<td>7.89%</td>
<td>32.65%</td>
<td>16.03%</td>
</tr>
<tr>
<td>Between $75,000 and $100,000</td>
<td>85</td>
<td>14</td>
<td>21</td>
<td>52</td>
</tr>
<tr>
<td>%</td>
<td>20.33%</td>
<td>3.35%</td>
<td>24.71%</td>
<td>12.44%</td>
</tr>
<tr>
<td>Between $100,000 and $125,000</td>
<td>22</td>
<td>3</td>
<td>10</td>
<td>9</td>
</tr>
<tr>
<td>%</td>
<td>5.26%</td>
<td>0.72%</td>
<td>45.45%</td>
<td>2.15%</td>
</tr>
<tr>
<td>Greater than $125,000</td>
<td>19</td>
<td>1</td>
<td>6</td>
<td>14</td>
</tr>
<tr>
<td>%</td>
<td>4.55%</td>
<td>0.24%</td>
<td>31.58%</td>
<td>3.35%</td>
</tr>
</tbody>
</table>

**Job satisfaction.** Preliminary data analysis was conducted in Microsoft Excel to calculate descriptive statistics for the demographic portion of the survey, which included age, gender, marital status, number of children, education level, occupation, and annual salary. Intrinsic job satisfaction and extrinsic job satisfaction scores from the MSQ short form were calculated by assigning numeric values, whereby 1 represented very
dissatisfied, and 5 represented very satisfied, with 3 representing neutral. Scores from the MSQ short form range from a low of 20, indicating total dissatisfaction, to a high of 100, indicating total satisfaction. Mean scores were then calculated for intrinsic job satisfaction, extrinsic job satisfaction, and turnover intention for the survey responses. A higher mean intrinsic job satisfaction score indicated a higher level of intrinsic job satisfaction. Similarly, a higher mean extrinsic job satisfaction score indicated a higher level of extrinsic job satisfaction. Both intrinsic and extrinsic satisfaction are indicators of general job satisfaction. The mean scores for job satisfaction indicate that the participants in this study had relatively low job satisfaction levels given that the means for general satisfaction ($M = 2.23$), intrinsic job satisfaction ($M = 2.13$), and extrinsic job satisfaction ($M = 2.45$) were all lower than the neutral score of 3 on the MSQ survey. Table 4.3 provides depicts the means and standard deviations for the responses to the MSQ questions. The highest mean job satisfaction scores were for job security ($M = 2.74$), independence ($M = 2.64$), and advancement ($M = 2.58$). Conversely, the lowest mean job satisfaction scores were for how coworkers get along with each other ($M = 1.77$), sense of achievement ($M = 2.06$), the way supervision handles their direct reports ($M = 2.01$), and their compensation for the amount of work done ($M = 2.01$).
Table 4.3

**Mean Scores and Standard Deviations for Job Satisfaction Factors**

<table>
<thead>
<tr>
<th>MSQ Questions</th>
<th>n</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Ability Utilization (I)</td>
<td>418</td>
<td>2.06</td>
<td>0.83</td>
</tr>
<tr>
<td>2. Achievement (I)</td>
<td>417</td>
<td>2.00</td>
<td>0.97</td>
</tr>
<tr>
<td>3. Activity (I)</td>
<td>417</td>
<td>2.10</td>
<td>1.04</td>
</tr>
<tr>
<td>4. Advancement (I)</td>
<td>418</td>
<td>2.58</td>
<td>0.99</td>
</tr>
<tr>
<td>5. Authority (E)</td>
<td>418</td>
<td>2.34</td>
<td>1.25</td>
</tr>
<tr>
<td>6. Company Policies and Practices (E)</td>
<td>418</td>
<td>2.29</td>
<td>1.18</td>
</tr>
<tr>
<td>7. Compensation (E)</td>
<td>417</td>
<td>2.01</td>
<td>1.00</td>
</tr>
<tr>
<td>8. Coworkers (I)</td>
<td>417</td>
<td>1.77</td>
<td>0.97</td>
</tr>
<tr>
<td>9. Creativity (I)</td>
<td>418</td>
<td>2.10</td>
<td>0.93</td>
</tr>
<tr>
<td>10. Independence (I)</td>
<td>416</td>
<td>2.64</td>
<td>0.92</td>
</tr>
<tr>
<td>11. Moral Values (I)</td>
<td>417</td>
<td>2.05</td>
<td>1.00</td>
</tr>
<tr>
<td>12. Recognition (E)</td>
<td>416</td>
<td>2.45</td>
<td>1.07</td>
</tr>
<tr>
<td>13. Responsibility (E)</td>
<td>418</td>
<td>2.61</td>
<td>1.23</td>
</tr>
<tr>
<td>14. Security (E)</td>
<td>418</td>
<td>2.74</td>
<td>1.21</td>
</tr>
<tr>
<td>15. Social Service (I)</td>
<td>418</td>
<td>2.01</td>
<td>1.00</td>
</tr>
<tr>
<td>16. Social Status (I)</td>
<td>418</td>
<td>2.13</td>
<td>1.02</td>
</tr>
<tr>
<td>17. Supervision - Human Relations (G)</td>
<td>418</td>
<td>2.01</td>
<td>0.97</td>
</tr>
<tr>
<td>18. Supervision – Technical (G)</td>
<td>418</td>
<td>2.08</td>
<td>1.00</td>
</tr>
<tr>
<td>19. Variety (E)</td>
<td>417</td>
<td>2.33</td>
<td>1.10</td>
</tr>
<tr>
<td>20. Working Conditions (I)</td>
<td>418</td>
<td>2.16</td>
<td>1.03</td>
</tr>
</tbody>
</table>

*Note:* (I) represents Intrinsic Job Satisfaction, (E) represents Extrinsic Job Satisfaction, and (G) represents General Job Satisfaction.

**Turnover intention analysis.** Turnover intention scores from the TIS-6 portion of the survey instrument were calculated by assigning numeric values of 1 to 5, with 1 representing never, and 5 representing always. The highest possible score for the TIS-6 is 30, which indicates the highest turnover intention and the lowest possible score for the
TIS-6 is 5, indicating the lowest turnover. A higher mean turnover intention score suggests that a participant is more likely to leave their job, whereas a lower mean turnover intention score suggests a participant is less likely to leave their job. Table 4.4 depicts the mean scores for general job satisfaction, intrinsic job satisfaction, and extrinsic job satisfaction from the MSQ short form and turnover intention from the TIS-6 questions on the survey. The mean score ($M = 12.6$) for turnover intention is slightly higher than the neutral midpoint score of 12.5, indicating a slightly higher desire for the participants in this study to leave their current jobs.

Table 4.4

<table>
<thead>
<tr>
<th>Score</th>
<th>$M$</th>
<th>$SD$</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Job Satisfaction</td>
<td>2.23</td>
<td>0.60</td>
</tr>
<tr>
<td>Intrinsic Job Satisfaction</td>
<td>2.13</td>
<td>0.59</td>
</tr>
<tr>
<td>Extrinsic Job Satisfaction</td>
<td>2.45</td>
<td>0.87</td>
</tr>
<tr>
<td>Turnover Intention</td>
<td>12.6</td>
<td>4.15</td>
</tr>
</tbody>
</table>

*Note.* Preliminary data analysis revealed that one question from the TIS-6 portion of the survey was inadvertently omitted, resulting in calculations based on five questions instead of six, leading to a total possible score range of 5 to 25 and a midpoint score of 12.5.

**Research Questions**

The statistical analyses used to answer the research questions included a Pearson’s $r$ correlation and least squares regression analysis. The Pearson’s $r$ was used to determine the nature of the relationship between job satisfaction levels and turnover intention. The least squares regression analysis was used to determine the predictive
relationship of job satisfaction levels on turnover intention as well as the predictive relationship of the demographic variables for both job satisfaction and turnover intention.

**Research Question 1.** The first research question of this study explored the relationship between millennial job satisfaction and turnover intention. A Pearson’s $r$ was used to assess the relationship between intrinsic job satisfaction and turnover intention, which resulted in a statistically significant positive correlation $[r = 0.51, n = 418, p < .001]$. Therefore, as intrinsic job satisfaction scores increased for participants in this study, their turnover intention scores also increased. A Pearson’s $r$ was also calculated to assess the relationship between extrinsic job satisfaction and turnover intention which resulted in a statistically significant positive correlation $[r = .58, n = 418, p < .001]$. As extrinsic job satisfaction scores increased for participants in this study, their turnover intention scores also increased. Results indicated that there is a statistically significant positive correlation between intrinsic job satisfaction, extrinsic job satisfaction, and turnover intention for the participants in this study, which suggests that both intrinsic and extrinsic job satisfaction factors are indicative of turnover intention for participants in this study. Table 4.5 depicts the Pearson correlation matrix, displaying the relationships and positive correlation between intrinsic and extrinsic job satisfaction and turnover intention.
Table 4.5

Pearson Correlations Between Intrinsic Job Satisfaction, Extrinsic Job Satisfaction, and Turnover Intention

<table>
<thead>
<tr>
<th>Variable</th>
<th>n</th>
<th>M</th>
<th>SD</th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intrinsic Satisfaction</td>
<td>418</td>
<td>2.13</td>
<td>0.59</td>
<td>—</td>
<td>0.62</td>
<td>0.51*</td>
</tr>
<tr>
<td>Extrinsic Satisfaction</td>
<td>418</td>
<td>2.45</td>
<td>0.87</td>
<td>0.62</td>
<td>—</td>
<td>0.58**</td>
</tr>
<tr>
<td>Turnover Intention</td>
<td>418</td>
<td>12.60</td>
<td>4.15</td>
<td>0.51*</td>
<td>0.58**</td>
<td>—</td>
</tr>
</tbody>
</table>

Note. **Correlation is significant at the p < .001 level. * Correlation is significant at the p < .001 level.

Least squares regression analysis was conducted to determine the relationships between job satisfaction predictors and turnover intention. Results of the least squares regression indicate that, despite the moderate correlation between the satisfaction measures, both intrinsic (β = .22, p < .01) and extrinsic (β = .27, p < .01) job satisfaction are significant predictors of turnover intention after controlling for that collinearity.

These coefficients indicate that intrinsic and extrinsic satisfaction have small and roughly equal-sized independent relationships with turnover intention; there is no evidence that one is a more important predictor than the other. At the regression model level there is a significant predictive relationship between job satisfaction and turnover intention, (F(2, 411) = 120.6, p < .001, R² = 0.37), with R² squared statistic indicating that that job satisfaction explains 37% of the variance in turnover intention.

**Research Question 2.** The second research question of this study examined the relationship between demographic characteristics and millennial job satisfaction. Calculated means for intrinsic job satisfaction, extrinsic job satisfaction, and 95% confidence intervals were used to determine the extent to which job satisfaction means...
differed across the demographic characteristics. Calculated means were tested against the confidence intervals. Inferences regarding differences between means (at different levels of the demographic variable) were made by comparing the two groups’ CIs. Nonoverlapping 95% CIs indicated evidence that the means in a pair of categories for a particular demographic variable differed significantly.

Three significant results were found, two for extrinsic job satisfaction and one for intrinsic job satisfaction. For extrinsic job satisfaction, confidence interval testing indicated that participants with an associate degree reported a statistically significant higher mean extrinsic job satisfaction score (2.66, 95% CI [2.42, 2.90]) than those with a bachelor’s degree or 4-year equivalent (2.40, 95% CI [2.29, 2.50]). These results suggest that participants in this study with an associate degree had higher extrinsic job satisfaction than those with a bachelor’s degree or 4-year equivalent.

Confidence interval testing for extrinsic job satisfaction showed a statistically significant difference between single and married millennial females with respect to extrinsic job satisfaction factors. Single females had a mean extrinsic job satisfaction score of (2.72, 95% CI [2.51, 2.92]) compared to married millennial females with a mean extrinsic job satisfaction score of (2.29, 95% CI [2.14, 2.44]). These results suggest that single millennial females in this study have higher extrinsic job satisfaction than married millennial females.
### Table 4.6

**Intrinsic and Extrinsic Job Satisfaction by Demographic Variables**

<table>
<thead>
<tr>
<th>Demographic</th>
<th>Intrinsic Mean</th>
<th>95% CI</th>
<th>Extrinsic Mean</th>
<th>95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Age Group</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Younger (23–27)</td>
<td>2.13</td>
<td>[2.01, 2.25]</td>
<td>2.42</td>
<td>[2.22, 2.61]</td>
</tr>
<tr>
<td>Middle (28–32)</td>
<td>2.22</td>
<td>[2.11, 2.33]</td>
<td>2.54</td>
<td>[2.38, 2.69]</td>
</tr>
<tr>
<td>Older (33–38)</td>
<td>2.07</td>
<td>[2.00, 2.15]</td>
<td>2.41</td>
<td>[2.30, 2.53]</td>
</tr>
<tr>
<td><strong>Gender</strong></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>2.14</td>
<td>[2.06, 2.21]</td>
<td>2.45</td>
<td>[2.33, 2.56]</td>
</tr>
<tr>
<td>Female</td>
<td>2.12</td>
<td>[2.03, 2.21]</td>
<td>2.47</td>
<td>[2.34, 2.59]</td>
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<tr>
<td><strong>Marital Status</strong></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Single</td>
<td>2.17</td>
<td>[2.08, 2.25]</td>
<td>2.58</td>
<td>[2.44, 2.72]</td>
</tr>
<tr>
<td>Married / Domestic Partner</td>
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<td>[2.00, 2.14]</td>
<td>2.33</td>
<td>[2.22, 2.43]</td>
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<tr>
<td>Divorced</td>
<td>2.45*</td>
<td>[2.15, 2.75]</td>
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<td>[2.26, 3.34]</td>
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<td><strong>Number of Children</strong></td>
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<td></td>
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<tr>
<td>0</td>
<td>2.17</td>
<td>[2.10, 2.25]</td>
<td>2.56</td>
<td>[2.45, 2.68]</td>
</tr>
<tr>
<td>1</td>
<td>2.12</td>
<td>[2.01, 2.23]</td>
<td>2.33</td>
<td>[2.17, 2.50]</td>
</tr>
<tr>
<td>2</td>
<td>2.03</td>
<td>[1.91, 2.15]</td>
<td>2.21</td>
<td>[2.04, 2.39]</td>
</tr>
<tr>
<td>3+</td>
<td>2.09</td>
<td>[1.73, 2.44]</td>
<td>2.62</td>
<td>[2.16, 3.08]</td>
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<td><strong>Education Level</strong></td>
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<tr>
<td>Associate or 2-Year Degree</td>
<td>2.21</td>
<td>[2.05, 2.36]</td>
<td>2.66**</td>
<td>[2.42, 2.90]</td>
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<tr>
<td>Bachelor’s or 4-Year Degree</td>
<td>2.12</td>
<td>[2.05, 2.18]</td>
<td>2.40**</td>
<td>[2.29, 2.50]</td>
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<tr>
<td>Master’s Degree</td>
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<td>[1.98, 2.26]</td>
<td>2.49</td>
<td>[2.04, 2.71]</td>
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<td><strong>Occupation</strong></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Finance and Accounting-Related (B)</td>
<td>2.21</td>
<td>[2.08, 2.35]</td>
<td>2.42</td>
<td>[2.21, 2.63]</td>
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<td>Sales and Marketing (B)</td>
<td>2.29</td>
<td>[2.09, 2.49]</td>
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<td>[2.37, 2.96]</td>
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<td>Executive and General Management (B)</td>
<td>2.03</td>
<td>[1.84, 2.22]</td>
<td>2.39</td>
<td>[2.11, 2.67]</td>
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<tr>
<td>Human Resources or Personnel (B)</td>
<td>2.25</td>
<td>[2.08, 2.43]</td>
<td>2.63</td>
<td>[2.35, 2.91]</td>
</tr>
<tr>
<td>Purchasing or Supply Chain (B)</td>
<td>2.05</td>
<td>[1.73, 2.36]</td>
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<td>[1.80, 2.69]</td>
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<tr>
<td>Education (T)</td>
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<td>2.66</td>
<td>[2.41, 2.91]</td>
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<tr>
<td>Health-Related Sciences (T)</td>
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<td>[1.87, 2.19]</td>
<td>2.48</td>
<td>[2.23, 2.73]</td>
</tr>
<tr>
<td>Engineering (T)</td>
<td>2.16</td>
<td>[2.01, 2.30]</td>
<td>2.31</td>
<td>[2.12, 2.51]</td>
</tr>
<tr>
<td>Math and Computer Science (T)</td>
<td>2.07</td>
<td>[1.93, 2.21]</td>
<td>2.13</td>
<td>[1.93, 2.33]</td>
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<tr>
<td>Natural Sciences (T)</td>
<td>1.89</td>
<td>[1.65, 2.14]</td>
<td>2.56</td>
<td>[2.09, 3.02]</td>
</tr>
<tr>
<td><strong>Annual Salary (USD)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Less than $50,000</td>
<td>2.83</td>
<td>[2.73, 2.92]</td>
<td>2.74</td>
<td>[2.57, 2.91]</td>
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<tr>
<td>Between $50,000 and $75,000</td>
<td>2.69</td>
<td>[2.61, 2.77]</td>
<td>2.26</td>
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<tr>
<td>Between $75,000 and $100,000</td>
<td>2.70</td>
<td>[2.59, 2.80]</td>
<td>2.31</td>
<td>[2.16, 2.46]</td>
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<tr>
<td>Between $100,000 and $125,000</td>
<td>2.75</td>
<td>[2.48, 3.03]</td>
<td>2.48</td>
<td>[2.10, 2.87]</td>
</tr>
<tr>
<td>Greater than $125,000</td>
<td>2.74</td>
<td>[2.42, 3.05]</td>
<td>2.55</td>
<td>[2.19, 2.91]</td>
</tr>
</tbody>
</table>

*Note. CI = confidence interval. ** Relationship is significant at \(p < .001\) level. * Relationship is significant at \(p < .001\) level.
For intrinsic job satisfaction, confidence interval testing indicated that marital status was the only demographic variable found to have a statistically significant relationship. Divorced participants had a higher mean intrinsic job satisfaction score (3.06, 95% CI [2.66, 3.46]) than participants who reported being married or having domestic partners (2.69, 95% CI [2.62, 2.76]). These results suggest that divorced millennials in this study have higher intrinsic job satisfaction than their married counterparts. There were no other statistically significant differences found between other demographic variables and job satisfaction. Table 4.6 depicts the means and 95% confidence levels for intrinsic and extrinsic job satisfaction by demographic variables.

**Research Question 3.** The third research question of this study explored the relationship between demographic characteristics and millennial turnover intention. Means and 95% confidence intervals were used to determine the extent to which turnover intention means differed across the demographic characteristics. Calculated means were tested against the confidence intervals. Inferences regarding differences between means (at different levels of the demographic variable) were made by comparing the two groups’ CIs. Nonoverlapping 95% CIs indicated evidence that the means in a pair of categories for a particular demographic variable differed significantly. Based on confidence interval testing, marital status, gender, number of children, and salary were the demographic variables found to have a statistically significant relationship with turnover intention. The mean turnover intention score for divorced participants was significantly higher (3.06, 95% CI [2.66, 3.46]) than for married participants (2.69, 95% CI [2.62, 2.76]), suggesting that divorced millennials in this study had higher turnover intention than their married counterparts. Confidence interval testing also revealed a
statistically significant relationship between single and married millennial females with respect to turnover intention. The mean turnover intention score for single females was (2.82, 95% CI [2.71, 2.94]) and the mean turnover intention score for married females was (2.66, 95% CI [2.56, 2.76]) suggesting that single females in this study had a higher turnover intention than females who are married or have domestic partners.

A statistically significant difference was found between participants with two children and participants who reported having no children. Results suggest that participants who had two children (2.63, 95% CI [2.53, 2.74]) were less likely to turnover than participants who had no children (2.81, 95% CI [2.74, 2.88]). Moreover, survey participants with an annual salary of less than $50,000 USD had a higher mean TIS score (2.83, 95% CI [2.73, 2.92]) than participants reporting an annual income of between $50,000 and $75,000 USD or greater (2.69, 95% CI [2.61, 2.77]). These findings suggest that participants who had an annual salary of less than $50,000 have higher turnover intention than participants with an annual salary of between $50,000 and $75,000. Table 4.7 displays mean turnover intention score by demographic.
Table 4.7

*Mean Turnover Intention Score by Demographic*

<table>
<thead>
<tr>
<th>Demographic</th>
<th>Mean</th>
<th>95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age Group</td>
<td></td>
<td></td>
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<tr>
<td>Younger (23–27)</td>
<td>2.73</td>
<td>[2.62, 2.84]</td>
</tr>
<tr>
<td>Middle (28–32)</td>
<td>2.81</td>
<td>[2.72, 2.91]</td>
</tr>
<tr>
<td>Older (33–38)</td>
<td>2.70</td>
<td>[2.62, 2.77]</td>
</tr>
<tr>
<td>Gender</td>
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<td></td>
</tr>
<tr>
<td>Male</td>
<td>2.75</td>
<td>[2.67, 2.82]</td>
</tr>
<tr>
<td>Female</td>
<td>2.73</td>
<td>[2.66, 2.81]</td>
</tr>
<tr>
<td>Marital Status</td>
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<td></td>
</tr>
<tr>
<td>Single</td>
<td>2.77</td>
<td>[2.69, 2.85]</td>
</tr>
<tr>
<td>Married / Domestic Partner</td>
<td>2.69*</td>
<td>[2.62, 2.76]</td>
</tr>
<tr>
<td>Divorced</td>
<td>3.06*</td>
<td>[2.66, 3.46]</td>
</tr>
<tr>
<td>Number of Children</td>
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<td></td>
</tr>
<tr>
<td>0</td>
<td>2.81**</td>
<td>[2.74, 2.88]</td>
</tr>
<tr>
<td>1</td>
<td>2.66</td>
<td>[2.55, 2.76]</td>
</tr>
<tr>
<td>2</td>
<td>2.63**</td>
<td>[2.53, 2.74]</td>
</tr>
<tr>
<td>3+</td>
<td>2.78</td>
<td>[2.51, 3.05]</td>
</tr>
<tr>
<td>Education Level</td>
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<td></td>
</tr>
<tr>
<td>Associate or 2-Year Degree</td>
<td>2.66</td>
<td>[2.42, 2.90]</td>
</tr>
<tr>
<td>Bachelor’s or 4-Year Degree</td>
<td>2.40</td>
<td>[2.29, 2.50]</td>
</tr>
<tr>
<td>Master’s Degree</td>
<td>2.49</td>
<td>[2.04, 2.71]</td>
</tr>
<tr>
<td>Occupation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Finance and Accounting-Related (B)</td>
<td>2.76</td>
<td>[2.63, 2.89]</td>
</tr>
<tr>
<td>Sales and Marketing (B)</td>
<td>2.86</td>
<td>[2.70, 3.02]</td>
</tr>
<tr>
<td>Executive and General Management (B)</td>
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<td>[2.52, 2.83]</td>
</tr>
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<td>Human Resources or Personnel (B)</td>
<td>2.74</td>
<td>[2.58, 2.90]</td>
</tr>
<tr>
<td>Purchasing or Supply Chain (B)</td>
<td>2.78</td>
<td>[2.45, 3.11]</td>
</tr>
<tr>
<td>Education (T)</td>
<td>2.73</td>
<td>[2.56, 2.90]</td>
</tr>
<tr>
<td>Health-Related Sciences (T)</td>
<td>2.74</td>
<td>[2.59, 2.90]</td>
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<td>[2.62, 2.91]</td>
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<td>[2.47, 2.77]</td>
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<td>Natural Sciences (T)</td>
<td>2.80</td>
<td>[2.53, 3.07]</td>
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<td>Annual Salary (USD)</td>
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</tr>
<tr>
<td>Greater than $125,000</td>
<td>2.74</td>
<td>[2.42, 3.05]</td>
</tr>
</tbody>
</table>

*Note. CI = confidence interval. *** Relationship is significant at \( p < .001 \) level. ** Relationship is significant at \( p < .001 \) level. * Relationship is significant at the \( p < .001 \) level.*
Summary

This study examined the relationships between millennial job satisfaction and turnover intention in technical and business professions. MTurk was used as the online recruiting platform for distribution of the Qualtrics survey consisting of three survey instruments to 1000 potential participants. A total of 530 participants responded to the survey; however, 112 surveys were discarded due to incomplete information. Therefore, 418 (N = 418) surveys were included, representing a 41.8% response rate. This section reviewed the seven demographic variables collected by the survey instrument in this study. Fifty-two percent of the survey participants were male and 47.13% were female. With respect to occupation type, 49.04% of survey participants reported holding technical occupations, and 50.96% of participants reported holding business occupations. Fifty-eight percent of participants held a bachelor’s degree or four-year equivalent. Finally, 69.86% of participants reported annual income levels of $75,000 USD and below.

Descriptive statistics such as frequencies, means, and standard deviations were used to understand the sample population of millennials included in this study. A Pearson’s correlation to determine the relationships between job satisfaction and turnover intention. Additionally, least squares regression analysis was used to determine the predictive relationship between job satisfaction and turnover intention, as well as the predictive nature of demographic characteristics on job satisfaction and turnover intention.

Confidence interval testing revealed several statistically significant relationships between job satisfaction and turnover intention of millennials in the technical and business professions. Least squares regression analysis for this study revealed that both intrinsic and extrinsic job satisfaction was predictive of turnover intention 37% of the
time, suggesting that millennials are likely to leave a job even if they are satisfied.
Additionally, analysis suggested that education level and marital status had statistically
significant relationships with respect to extrinsic job satisfaction. Marital status also
showed a statistically significant relationship with intrinsic job satisfaction, suggesting
that divorced millennials had higher intrinsic job satisfaction than married millennials.
With respect to turnover intention, marital status, the number of children, and income
level were found to have statistically significant relationships. For marital status, analysis
suggested that divorced millennials had a higher likelihood for turnover than their
married counterparts. Similarly, analysis suggested that single female millennials had a
higher likelihood for turnover than married female millennials. Furthermore, analysis
suggested that millennials with no children had a higher likelihood for turnover than
those with two children. Finally, analysis suggested that millennials earning an annual
salary of less than $50,000 had a higher turnover intention than millennials earning an
annual salary of between $50,000 and $75,000. While analysis suggested that some
demographic variables were statistically significant, it also showed that other
demographic variables were not in relationship to job satisfaction or turnover intention.
Analysis did not find significant relationships between gender and job satisfaction or
turnover intention. Age was also not found to have a significant relationship with either
job satisfaction or turnover intention, nor was occupation type. Chapter 5 provides a
discussion and interpretation of the findings in this study, as well as implications and
recommendations for future research.
Chapter 5: Discussion

Introduction

The focus of this study was to examine the relationships between job satisfaction, demographic characteristics, and retention for millennials in technical and business professions in the United States. A literature review revealed a gap in the research whereby few studies have focused on job satisfaction and retention across the entire millennial cohort. Low millennial job satisfaction and retention is problematic and expensive to organizations (Adkins, 2016; Boushey & Glynn, 2012; Frye, 2017). By better understanding the factors influencing job satisfaction across the entire millennial generation, organizations may be able to reduce the recruitment and replacement costs associated with turnover.

Furthermore, millennial women have historically had higher turnover and lower retention than their male counterparts (Bialik & Fry, 2019; Warner et al., 2018). Higher turnover rates for millennials, especially female millennials, puts some organizations at a competitive disadvantage in that organizations with higher percentages of women in senior and executive positions financially outperform those with lower percentages (Eagly & Carli, 2003; Helfat et al., 2006; Lakshmi & Peter, 2015; Noland et al., 2016). Therefore, the purpose of this study was to learn more about the extent to which intrinsic job satisfaction factors, extrinsic job satisfaction factors, and demographic characteristics affect millennial job turnover intention.
This study explored the following research questions:

1. What is the relationship between job satisfaction and retention for millennials in technical and business occupations?
2. What is the relationship between demographic characteristics and millennial job satisfaction in technical and business occupations?
3. What is the relationship between demographic characteristics and millennial retention in technical and business occupations?

There were several statistically significant relationship findings resulting from this study. First, job satisfaction was found to be a moderate predictor of turnover, suggesting that even though participants were satisfied with their jobs, they were still likely to leave for other opportunities approximately 37% of the time. The findings for marital status suggested that divorced participants had higher intrinsic job satisfaction and turnover intention than married participants, and single female participants had higher extrinsic job satisfaction and turnover intention than married females. Results from this study also suggested that education level was statistically significant for extrinsic job satisfaction because participants with an associate degree had higher extrinsic job satisfaction than participants with a bachelor’s degree or 4-year equivalent. Furthermore, results from this study found a statistically significant relationship with parental status because participants with no children had higher turnover intention than those with two children. Finally, income level was found to have a statistically significant relationship with turnover intention, whereby participants earning less than $50,000 per year were more likely to leave their jobs than participants earning between $50,000 and $75,000.
Chapter 5 presents a discussion and interpretation of the results of this study. The interpretation and results will be divided into four sections. The first section discusses implications of the findings. The second section discusses the limitations of the study. The third section includes recommendations for further research, professional practice, and executive leaders in technical and business professions. The final section provides a summary of the study.

**Implications of Findings**

The results from this study provide several implications related to millennial job satisfaction and retention in technical and business professions in the United States. The implications for the body of knowledge for millennial job satisfaction and retention as well as for professional practice are discussed in this section. This section also reviews the findings of the study in the context of implications for gender differences in millennial job satisfaction and retention. The last subsection of this section concentrates on the findings of the study and implications with respect to organizational and executive leadership in technical and business professions.

**Implications for research.** Results from Research Question 1 in this study, which explored the relationship between job satisfaction and retention for millennials in technical and business occupations, supported findings from earlier studies indicating that millennials may be more likely to leave their jobs than previous generations (Anderson et al., 2017; Kowske et al., 2010; Lu & Gursoy, 2016; Ng et al., 2010; Twenge, 2010). However, the results from this study add to the body of knowledge about millennials in the workforce because many of the previous studies did not examine the influence of gender and other demographic variables that may influence millennial job satisfaction.
and retention. Additionally, results from this study contribute to the body of knowledge about millennial job satisfaction and retention by examining job satisfaction and turnover intention in specific technical and business occupations not included in prior research (Anderson et al., 2017; Kowske et al., 2010; Lu & Gursoy, 2016; Ng et al., 2010; Twenge, 2010). Furthermore, earlier studies conducted did not include the full millennial cohort, many of whom were too young to be in the workforce during the times when those studies were conducted. With the full millennial cohort now eligible to be in the workforce, results of this study build upon the existing research by examining job satisfaction across all ages within the millennial generation (Anderson et al., 2017; Kowske et al., 2010; Lu & Gursoy, 2016; Ng et al., 2010; Twenge, 2010).

A goal of this study was to examine job satisfaction and turnover intention for millennial participants, age 23 to 38 working in technical and business occupations, whereas previous research focused on other subsets of the millennial population. Results from this study found no significant differences in turnover intention with age. These results contrast with the findings of Kowske et al. (2010) and Twenge et al. (2010), which suggested that age was a determining factor in both job satisfaction and turnover intention, with younger millennials having lower job satisfaction and higher turnover than older millennials.

Results from this study add to previous studies that examined millennial job satisfaction (Anderson et al., 2017; Kowske et al., 2010; Lu & Gursoy, 2016; Ng et al., 2010; Twenge, 2010) by examining job satisfaction across the full cohort of millennials in technical and business occupations. The results of this study also add to the body of knowledge about millennial job satisfaction and retention by examining the influence of
demographic variables on job satisfaction that were not considered by previous studies (Anderson et al., 2017; Lu & Gursoy, 2016; Ng et al., 2010). Demographic variables included in this study were gender, age, education level, marital status, number of children, job classification, and income level. Results of this study indicate that of the demographic variables, marital status and education level were most influential in determining job satisfaction for participants in this study. Results from this study contribute to the body of knowledge on millennial job satisfaction in that previous studies such as Anderson et al. (2017) and Ng et al. (2010) did not examine intrinsic or extrinsic job satisfaction as related to marital status or educational level across the full millennial cohort.

Further adding to the body of knowledge of millennial retention, the results of this study included the influence of different demographic characteristics on turnover intention, which was not previously studied. Results of this study suggest that marital status, number of children, and income level influence the likelihood to leave a job. Demographics such as marital status, number of children, and income levels may not have been a possibility for earlier research due to the timing of the studies, when millennials may have been too young for these factors to have been in play.

Implications for theory. Motivation-hygiene theory (Herzberg, 2003) is the framework used to build upon to support this study. One of the main claims of motivation-hygiene theory is that job satisfaction and dissatisfaction are affected by intrinsic and extrinsic motivation factors (Behling et al., 1968). One of the key assertions of motivation-hygiene theory is that job satisfaction is influenced by intrinsic factors and that job dissatisfaction is influenced by extrinsic factors. Intrinsic factors include the
work itself, recognition, achievement, possibility of growth, advancement, and responsibility, and extrinsic factors include salary, interpersonal relationships, supervision, working conditions, company policies, status, and job security (Behling et al., 1968). According to motivation-hygiene theory, higher job satisfaction is linked to lower turnover, whereas higher job dissatisfaction is known to be a contributing factor to higher turnover (Sachau, 2007). Findings from this study indicate that as both intrinsic and extrinsic job satisfaction increase, so does the likelihood of millennials to leave their jobs for other opportunities approximately 37% of the time. This may imply that millennials in technical and business occupations are different from millennials in other occupations with respect to intrinsic and extrinsic job satisfaction. Furthermore, findings from this study suggest that motivation-hygiene theory may not be an appropriate framework upon which to examine job satisfaction for millennials in technical and business occupations (Herzberg, 1966, 2003) and that perhaps another theoretical framework would be more applicable for future study of millennial job satisfaction.

**Implications for gender differences.** Findings from earlier studies suggest that female millennials have had historically higher turnover rates than their male counterparts, contributing to the female leadership pipeline problem (Eagly & Carli, 2003; Helfat et al., 2006). However, results from this study suggest that female millennials have similar job satisfaction and turnover intention to their male counterparts in technical and business occupations. Therefore, the results from this study are different than the findings of Eagly and Carli (2003), Helfat et al. (2006), and Lu and Gursoy
(2016), which found that female millennials have higher turnover rates than male millennials.

Additionally, while gender differences may not be a factor in turnover intention based on the results of this study, marital status influences female millennial turnover intention more so than it does for millennial males. Specifically, results from this study suggest that single women in technical and business occupations have a higher turnover intention than married women, which may indicate that marital status may be influential in women’s job satisfaction, retention, and career choices. Conversely, results from this study also suggest that there is no difference in turnover intention between both single and married males. Thus, based on the results of this study, marital status may be more of an influence on turnover intention than gender in technical and business industries. While gender remains a significant factor in turnover intention, the results of this study suggest that the combination of the two factors of gender and marital status reveals more clearly the potential for turnover intention among millennials. Understanding the significant role that marital status plays in job satisfaction and retention may have implications for organizational workforce planning, mitigating recruiting and replacement costs.

In this study, education and annual salary also differed between male and female participants, and these differences may influence job satisfaction and retention. Previous studies have shown that women continue to outpace men in earning advanced degrees in technical fields such as science and engineering (Johnson, 2016; National Science Foundation, 2007; U.S. Bureau of Labor Statistics, 2016). Results from this study showed that female participants earned more associate or 2-year degrees than male participants. Male participants earned more bachelor’s or 4-year degrees than female participants. At
the master’s degree level, male and female participants in this study were equally matched with respect to education level, with 50% of males and 50% of females earning master’s degrees. However, as annual salary levels increased, the disparity between male and female participants increased.

There were fewer female participants than male participants in this study who earned $75,000 or more per year while reporting similar education levels. These results imply evidence of the glass ceiling effect (Hymowitz & Schellhardt, 1986), whereby few women advance beyond artificial barriers based on attitudes and organizational biases, preventing qualified individuals from upward advancement into management level positions (United States Equal Employment Opportunities Commission, 1991). Important to note is that this study focused on participants in technical and business occupations, and the findings consonant with the glass ceiling effect may not be replicated in occupations outside this industry. Eisner and Harvey (2009) found that although millennials begin their careers with relatively equal status regardless of gender, opportunities and compensation gaps widen as careers progress, with a clear advantage to males. While Eisner and Harvey’s study was conducted 11 years ago, the results of this research provide supporting evidence that the glass ceiling effect may still exist in technical and business occupations in 2020.

**Implications for organizational and executive leadership.** In addition to having implications for research, gender differences, and theory, the results of this study are also significant for organizational and executive leadership. This subsection will discuss
implications for organizational planning, compensation, and the importance of the intersectionality of demographics.

**Organizational planning and compensation.** Based on past research, millennials tend to be more satisfied when their jobs are collaborative and matrix-managed, providing flexibility, variety, and work-life balance (Cekada, 2010; Gursoy et al., 2008; Kilber et al., 2014; Kultalahti & Viitala, 2015; Lowe et al., 2008; Myers & Sadaghiani, 2010; Twenge et al., 2010). Given the results of this study, job satisfaction seems to be a modest predictor of turnover intention for millennials approximately 37% of the time. These results imply that even some millennials in technical and business occupations who are relatively satisfied with their jobs, and whose jobs are collaborative, flexible, and provide work-life balance, may still be likely to leave for other opportunities. This may imply that organizations that do not plan or somehow attempt to mitigate millennial turnover may be at a disadvantage due to the high cost of organizational churn, recruitment, and replacement efforts.

Results from this study add to the body of knowledge about millennial retention, in that previous studies have not examined turnover intention based on income levels. Results from this study suggest that income level has an influence on turnover intention. Participants who earn an annual salary of less than $50,000 USD indicated a higher likelihood of leaving a job than those earning between $50,000 and $75,000. Additionally, higher turnover intention at lower income levels may indicate a need or desire for millennials to earn more money. An income level of below $50,000 USD may indicate lower extrinsic job satisfaction and higher turnover intention in technical and business professions. These findings imply that compensation and the salary range of
millennials in business and technical fields could impact their desire to leave, thus resulting in higher turnover for millennials earning less than $50,000 in technical and business organizations.

Moreover, results from this study indicate that education level had a significant relationship with millennial job satisfaction. Participants with an associate degree or a two-year equivalent reported higher extrinsic job satisfaction levels than participants with a bachelor’s degree or four-year equivalent. This finding may have implications for organizational leaders in that education level could impact millennials’ turnover intention. Education level may be a consideration for organizational leaders when planning for extrinsic benefits that may lead to improved job satisfaction and retention. For example, organizations that provide incentives based on education could experience higher retention with employees with a bachelor’s degree or higher.

**The intersectionality of demographics.** The results of this research provide supporting evidence that there are multiple demographics affecting millennial job satisfaction and retention in technical and business occupations. Results suggest that demographic combinations, or intersectionality of gender, marital status, education, number of children, and annual salary, may be influential on job satisfaction and retention of millennials. Having more extrinsically influenced employees with higher turnover intentions may have organizational implications with respect to extrinsic job satisfaction factors such as salary, interpersonal relationships, supervision, company policy and administration, working conditions, status, and job security (Behling et al., 1968). When employees are not focused on their next opportunity to leave the organization but are motivated to stay within and advance in their organization, the
performance of the organization as a whole improves. Therefore, organizations and executive leaders need to understand that variables like education and marital status should be considered as important and part of organizational and workforce planning.

Limitations

There are at least three possible limitations concerning the results of this study. Limitations were related to the low response rate, point-in-time survey design, and adaptation of the survey instrument. The first limitation is the low response rate. The survey was launched in June of 2020, which was at the beginning of the COVID-19 pandemic in the United States. COVID-19 is the name given to the novel coronavirus that caused over one million deaths globally and over 200,000 deaths in the United States as of October 2020 (Johns Hopkins University, 2020). During this time, much of the everyday commerce and the economy shut down or slowed dramatically in the United States (Miller, 2020). Many businesses furloughed or laid off workers during this time, which may have affected the target millennial population’s eligibility to participate in this study due to unemployment. Unemployment rates were 11.2% in June 2020 as compared to 3.8% in June of 2019 (United States Bureau of Labor Statistics, 2020), which may have contributed to the 41.8% response rate.

The second limitation is how COVID-19 may have impacted the responses to job satisfaction given how work conditions across the country were changing in response to the pandemic. The survey did not include any questions related to the work environment, which may have influenced responses to both the MSQ short form and TIS-6 portions of the survey in this study. For example, there were no survey questions to address if participants’ work environment had changed due to the pandemic.
Third, the adaptation of the survey instrument is another limitation due to an unintended omission of a question from the TIS-6 portion of the survey. The omitted question resulted in five questions versus six from the TIS-6 being included in the survey directly indicating turnover intention. The question that was omitted was question number four of the TIS-6, which asked: “How often do you dream about getting another job that will better suit your personal needs?” To account for this omission, mean turnover intention scores were calculated from the five questions present in the survey. The limitation for this study is that results cannot be accurately compared to prior research using the TIS-6.

**Recommendations**

The findings of this study and the review of literature lead to several recommendations for future research, and for organizational and executive leaders in technical and business professions. This section provides insights to organizational and executive leaders for practices, policy, and compensation changes that may be essential to improve millennial job satisfaction and retention.

**Future research.** To improve the response rate in future quantitative studies and to reach a wider population, a recommendation would be to expand the MTurk recruitment strategy by lengthening the time to recruit participants as well as by increasing the number of surveys distributed and the compensation rate for survey completions. Future studies investigating millennials could use other social media and professional networking platforms such as LinkedIn or Facebook. Expansion to social media platforms or using other methods such as going direct to employers or distributing the survey through professional organizations may yield a better response rate, providing
more reliability and validity to the study results. Given the 41.8% response rate of this study, another recommendation for future study would be to repeat it after the COVID-19 pandemic has subsided. A repeat of the study post COVID-19 could yield a higher response rate, and thus provide more statistically and reliable results.

Based on the finding that participants earning a salary of less than $50,000 per year had a higher likelihood of leaving than participants earning above $50,000 per year, another suggestion for further study would be to examine the relationship among salary, student debt, and turnover intention for millennials in technical and business professions. The higher likelihood of turnover for millennials earning less than $50,000 may indicate inability to pay their bills, which may include student loan payments. As of 2019, Federal student loan debt in the United States has reached $1.5 trillion, with approximately one third of adults ages 25 to 34 having a student loan (Miller, Campbell, Cohen, & Hancock, 2019). In nearly one third of the cases, monthly loan repayment plans are income-based, making repayment challenging (United States Department of Education Office of Federal Student Aid, 2019). Understanding the relationship among salary, student debt, and turnover intention could help inform leaders in organizations as they approach compensation planning and could potentially improve millennial retention rates while mitigating recruitment and replacement costs.

Studies have shown that women continue to outpace men in earning advanced degrees in technical fields such as science and engineering (Johnson, 2016; National Science Foundation, 2007; U.S. Bureau of Labor Statistics, 2016). While not statistically significant, results from this study showed that the male and female participants were equally matched with respect to education level, with 50% of males and 50% of females
earning master’s degrees. However, in this study, as salaries increased, the disparity between males and females increased, with males earning higher salaries than females. These results may suggest the existence of the glass ceiling effect (Hymowitz & Schellhardt, 1986). A future study could examine the intersectionality of relationships among gender, education, salary, job satisfaction, and turnover intention for millennials, shedding more light on the glass ceiling effect in technical and business occupations.

With the youngest millennials are now workforce eligible, another suggestion for future study would be to examine the job satisfaction and turnover intention for the full millennial cohort over time. A longitudinal study could bring greater understanding of the relationships between job satisfaction, demographics, and retention as millennials mature into middle and later adulthood. A longitudinal study could also augment the body of knowledge about millennial job satisfaction and could provide greater insight to organizational leadership for workforce planning, cost control, and performance advantages. Furthermore, examining the relationship among job satisfaction, demographics, and retention in millennials working in occupations other than technical or business-related industries could also provide the opportunity to compare results and to determine what may be unique about the sample population in this study.

With respect to theory, one recommendation for future study would be to use motivation-hygiene theory (Herzberg 1966, 2003) as the theoretical framework through which to further analyze each question on the MSQ to learn more about which specific factors may be more impactful on job satisfaction than others. Another suggestion for future study would be to examine differences in millennial job satisfaction and retention by applying other theories, such as transformational leadership theory (Bass, 1985).
Transformational leadership theory would be appropriate to examine millennial job satisfaction and retention because of its focus on intrinsic motivation and connection between leadership employees or followers (Bass & Riggio, 2006).

**Professional practice.** Based on the results of this study, organizational and executive leaders in technical and business organizations should understand the influence that demographics such as marital status, education level, number of children, and salary may have on job satisfaction and retention. To improve millennial job satisfaction and retention in technical and business occupations, there are several ways in which organizational leadership can address the intersectionality of demographic influences. First, to mitigate the organizational cost and impact of higher turnover for divorced millennials, leaders in organization should consider offering employee programs that support employees facing the life challenges of divorce. Such support could come in the form of online employee assistance programs, establishing peer support groups, and providing flexible work schedule options that could be helpful for the employees as they navigate the complexities, stress, and cost of divorce.

The cost of divorce is experienced by both the employee and the organization. According to Frank (2014), approximately 10% of the workforce will divorce in any given year and the negative productivity impacts can last for seven years, eroding performance and ultimately organizational profits. While estimates of productivity and profit loss vary, it has been estimated that the annual organizational cost of divorce is nearly $50 billion (Grigg, 2016). Organizations that offer employee assistance programs and schedule flexibility may improve job satisfaction and retention for employees going through a divorce and may also mitigate the potential cost of lost productivity. This
recommendation is also supported by prior research which suggests that providing flexible schedules may be beneficial for improving job satisfaction and reducing turnover in millennials (Graen & Uhl-Bien, 1995; Kilber et al., 2014; Meng et al., 2017; Myers & Sadaghiani, 2010; Ng et al., 2010). Ultimately, organizational and executive leadership need to determine what the unique needs of their divorced workers are and then formulate a response to assist them.

In addition to providing support for employees going through divorce, organizational and executive leadership should consider focusing on addressing the unique concerns of single females that negatively impact extrinsic job satisfaction. Like divorced millennials in this study, single female millennials may also benefit from initiatives such as peer support groups and flexible schedules. Peer support groups and flexible schedules could be beneficial to improving job satisfaction for all employees as well (Kossek, Hammer, Thompson, & Burke, 2014). Results of this study suggest that single females have higher extrinsic job satisfaction and turnover intention than married females. Implementing mentoring programs to connect female millennials with senior leadership could improve job satisfaction and retention. Mentoring relationships could help organizational leadership get to know their millennial employees better in terms of their marital status, parental status, education, professional goals, and life needs. As previous research has suggested, millennials’ relationship with their immediate supervisor or manager is critical to their job satisfaction and retention (Campione, 2015; Kultalahti & Viitala, 2015).

The supervisor-employee relationship may be especially important for female millennial employees. Previous research has indicated that millennials prefer same-
gender immediate supervisors and that having an immediate supervisor or mentor of the same gender was effective in improving job satisfaction and reducing turnover (Campione, 2015). Previous research has also suggested that lower single female millennial job satisfaction and retention in technical and business professions may be affected by a predominantly male workforce and leadership (Campione, 2015; Warner et al., 2018). Hence, to improve job satisfaction and retention for female millennials in technical and business occupations, executive and organizational leaders should consider establishing and structuring mentoring initiatives accordingly.

In conjunction with implementing employee assistance and mentoring programs to improve job satisfaction and retention for divorced millennials and single female millennials, organizational leadership should consider examining and adjusting reward and incentive programs to be more attractive for millennials. This study found that annual salaries below $50,000 contributed to a higher turnover intention for participants. Salaries below $50,000 may be unsustainable, particularly for those who are newly college graduates. As of 2019, the average starting annual salary was $50,944 for college graduates (Miller, 2019). College graduates with technical or business degrees could expect average starting salaries between $52,000 and $71,000 (Indeed, 2020). Therefore, organizational leaders should consider adjusting entry-level salaries for technical and business professions to range from at least $50,000 to $75,000 USD to be attractive to millennials and to be competitive with other prospective employers.

Additionally, offering reward and incentive programs such as student loan repayment assistance, particularly for recent college graduates, may be helpful in improving job satisfaction and retention for millennials. Examples of companies that
offer student loan repayment assistance include Aetna, Carhartt, Estee-Lauder, Honeywell, Peloton, and the U.S. Government (Hagen, 2020). Approximately one third of adults ages 25 to 34 was responsible for repaying student loans in 2019 (Miller et al., 2019). Furthermore, while average pay has continued to increase, purchasing power has remained relatively stagnant for nearly 40 years, with wages in 2018 having the same purchasing power as they did in 1978 (Desilver, 2018). This wage stagnation can also make it challenging for millennials to cover monthly expenses or to save for future home purchases and retirement. Organizations that offer assistance with student loan repayment and other means of financial support to millennial employees may benefit from higher employee satisfaction and retention by addressing millennials’ desire for security.

This study also found that education level was a significant influence on millennial job satisfaction, and that participants who had an associate or 2-year degree had higher extrinsic job satisfaction than those with a bachelor’s or 4-year degree. Higher extrinsic job satisfaction may indicate that millennials with a 2-year degree are more incentivized by extrinsic factors such as salary, benefits, status, and security, as supported by previous research (Behling et al., 1968; Sachau, 2007). Therefore, in order to improve job satisfaction and retention for millennial employees with an associate or 2-year degree, organizational and executive leaders should consider offering extrinsically motivating initiatives such as additional education benefits, additional paid time off (PTO), and financial incentives or retention bonuses. These types of offerings may increase job satisfaction and retention of some millennials by expanding on the concept of psychological contracts. Psychological contracts are job expectations and career perceptions regarding employee obligations to an employer (Hurst & Good, 2009;
Kultalahti & Viitala, 2015; Rousseau, 1989). Previous research has found that psychological contracts influence job satisfaction, in that the stronger the psychological contract between an employee and employer, the higher the employee’s job satisfaction will be (Rousseau, 1989).

Given that the findings of this study suggest a higher turnover intention for single females and a lower percentage of female participants earning $75,000 or more, organizational and executive leaders in technical and business professions should increase focus on recruiting and hiring millennial females with bachelor’s degrees or higher, along with offering an annual starting salary between $50,000 and $75,000. Additionally, providing childcare benefits and flexible work scheduling could help to mitigate the higher turnover intention and possibly incentivize millennials without children to stay in their jobs longer. Consequently, an organizational focus on hiring and retaining female millennials could have immediate and longer lasting benefits for organizations. In the near-term, recruitment costs would be lowered because organizations would not have to recruit as frequently, and organizations would benefit from the highly skilled, highly educated female millennial workforce (Bialik & Fry, 2019; United States Bureau of Labor Statistics, 2020; Warner et al., 2018). Longer-term, by focusing on developing their female millennial employees’ capabilities and leadership potential, organizations would gain sustainable competitive and financial performance advantage (Desvaux et al., 2008; Kimball, 2015; Lakshmi & Peter, 2015; Noland et al., 2016).

As this study suggests, job satisfaction, both intrinsic and extrinsic, seems to be a modest predictor of turnover intention for millennials approximately 37% of the time.
While the implementation of initiatives such as employee assistance programs, flexible schedules, mentoring programs, and increase salaries may improve job satisfaction and retention for millennials in technical and business occupations, results from this study indicate that millennials may leave their jobs anyway. Organizations that do not plan for or mitigate millennial turnover may be at a disadvantage due to the high cost of organizational churn, recruitment, and replacement efforts, which costs up to 213% of an employee’s salary and costs the U.S. over $30 billion annually (Adkins, 2016; Boushey & Glynn, 2012; Frye, 2017). Therefore, a recommendation for organization and executive leaders is to develop robust business models where organizational performance and profits are more dependent on processes than on people, thus mitigating the effect of costs and organizational churn associated with recruitment and replacement. Such business models could include estimating and budgeting for the expected turnover for millennial employees to minimize the financial impact, as well as establishing an organizational framework that includes cross-training and job rotation programs to mitigate the cost and impact of resulting organizational churn.

Business models geared toward retaining millennial employees could include incentives that offer employees security and development opportunities. Employment agreements or contracts could incentivize millennials to stay longer in their positions. Results from this study show that security, independence, and advancement were of higher importance to participants than other job satisfaction factors. Employment contracts could offer security, independence, and advancement in return for an agreed-upon period of service. Recommended business models could also include cross-training opportunities and rotational job assignments, which could appeal to millennial workers’
desire for developmental opportunities (Kultalahti & Viitala, 2015). Cross-training and rotational job assignments could also serve to mitigate the costs and disruption of organizational churn resulting from millennial turnover. An example of a company that has implemented this type of system in business model is Zappos, an online shoe company. Zappos provides mentorship and training for advancement into senior leadership positions within 5 to 7 years. Zappos also provides a system that allows employees to get certified in certain skill sets and receive pay increases as each skill set is achieved (Heathfield, 2019). Organizations that establish and maintain such programs, in addition to providing cross-training and job rotation initiatives for key positions, can reap the added benefits of achieving improved workforce stabilization, business continuity, and millennial job satisfaction and retention.

**Conclusion**

The purpose of this study was to examine the relationships of job satisfaction factors, demographic variables, and turnover intention of millennials working in technical and business occupations in the United States. The results of this study provide insight into possible differences across demographics in millennial job satisfaction and retention in these occupations. Previous research focusing on job satisfaction and retention for the full millennial cohort in technical and business occupations has been limited, and research focusing on the influence and intersection of demographics has been even more scarce (Abate et al., 2018; Kowske et al., 2010; Lapoint & Liprie-Spence, 2017; Lu & Gursoy, 2016; Meng et al., 2017; Ng et al., 2010; Twenge et al., 2010; Weber, 2017).

The research paradigm of this study was a postpositivist paradigmatic quantitative design using least squares regression modeling to examine the relationships between job
satisfaction, demographic variables, and turnover intention. The design used a combination of validated survey instruments including the MSQ Short Form (University of Minnesota, 2006), which measures general job satisfaction, intrinsic job satisfaction, and extrinsic job satisfaction. This study also included the TIS-6, which is a shortened version of the Turnover Intention Scale (Roodt, 2004). The TIS-6 measures turnover intention. Also included in the study design was a seven-question demographic survey developed by the author. Key findings from this study indicated that job satisfaction can be a moderate predictor of turnover intention for millennials. Additionally, results suggested that demographics such as gender, marital status, number of children, education level, and annual salary may also be predictors of turnover intention of millennials.

For the participants in this study, both intrinsic and extrinsic job satisfaction were predictive of turnover intention approximately 37% of the time. This suggests that even if millennials in business and technical professions are satisfied with their jobs, some may still leave for other opportunities. Other key findings of this study included (a) divorced millennials have higher intrinsic job satisfaction and also have a higher likelihood of leaving their jobs; (b) millennials with an associate degree exhibit higher extrinsic job satisfaction than those with a bachelor’s degree; (c) single millennial females have higher extrinsic job satisfaction and are more likely to leave their jobs than married female millennials; (d) millennials without children are more likely to leave their jobs than those with two children; and (e) millennials with annual salaries of $50,000 USD or less are more likely to leave their jobs than their counterparts with annual salaries between $50,000 and $75,000. These results imply that the influence of intersectionality of
demographics on job satisfaction and retention is important for organizational and executive leadership to consider now that millennials are the largest generational cohort in the workplace (Brownstone, 2014). The results from this study support and expand research on millennials by focusing on the entire millennial cohort, now between the ages of 23 and 38 (Abate et al., 2018; Kowske et al., 2010; Lapoint & Liprie-Spence, 2017; Lu & Gursoy, 2016; Meng et al., 2017; Ng et al., 2010; Twenge et al., 2010; Weber, 2017).

Recommendations were offered to assist organizational and executive leadership in business and technical organizations to improve job satisfaction and retention rates of millennials by changing compensation structures and organizational hierarchies and systems. The findings and recommendations in this study provide information that may be helpful to organizational and executive leadership in recruiting and retaining millennials for short-term and long-term benefit. Short-term, recruiting and replacement costs would be mitigated by stabilizing business functions through improved millennial job satisfaction and retention. Long-term, organizations would gain competitive performance advantage by developing highly educated and skilled female millennials into senior and executive leaders (Kimball, 2015; Lakshmi & Peter, 2015, Noland et al., 2016).

Based on the findings of this study, to improve millennial job satisfaction and job retention and to improve organizational performance, organizational leaders should consider implementing a hybrid model of all the provided recommendations. Such a model would include but not be limited to changing recruiting and retention practices by implementing employment contracts and pay-for-skill advancement opportunities. Also, increasing base salaries, providing flexible schedules, and establishing mentoring
programs with organizational leaders could improve millennial job satisfaction and retention. Furthermore, the establishment and implementation of robust business models focusing on process rather than people were suggested to improve job satisfaction and retention, and to provide workforce stabilization and improved business continuity.
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Appendix A

Factors Affecting Job Attitudes
Appendix B
Demographic Survey Questions

Q1.2 What is your education level?

▼ Associates or 2-Year Degree (1) ... None of the above (5)

Q1.3 What is your age?

▼ 23 (1) ... 38 (16)

Q1.4 What is your gender?

  o Male (1)
  o Female (2)
  o Other (Optional) (3) ________________________________________________

Q1.5 What is your occupation classification (T = Technical, B = Business)?

▼ Finance and Accounting-Related (B) (1) ... Education (T) (10)

Q1.6 What is your marital status?

▼ Single (1) ... Prefer not to answer (4)

Q1.7 How many children do you have?

▼ 0 (1) ... 3+ (4)

Q1.9 What is your annual income?

▼ Less than $50,000 USD (1) ... Greater than $125,000 USD (5)
Appendix C

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Appendix D

Permission to Use Turnover Intention Scale (TIS-6)

From: roodtg8@gmail.com
Date: February 4, 2020 at 3:15:32 AM EST
To: "Considine, Amy" <ajc02284@sjfc.edu>
Subject: RE: Permission Request to use the TIS-6

Dear Amy,

You are welcome to use the TIS for your research. For this purpose, please find the TIS-15 attached for your convenience. This TIS-6 (version 4) consists of the first six items highlighted in yellow. You may use any one of these two versions. The TIS is based on the Theory of Planned Behaviour.

The only two conditions for using the TIS are that it may not be used for commercial purposes and second that it should be properly referenced (Roodt, 2004) as in the article by Bothma & Roodt (2013) you referred to.

It is easy to score the TIS-6. Merely add the item scores to get a total score. The midpoint of the scale is 18 (3 x 6). If the total score is below 18 then the it indicates a desire to stay. If the scores are above 18 it indicates a desire to leave the organisation. The minimum a person can get is 6 (6 x 1) and the maximum is 30 (5 x 6). No item scores need to be reflected (reverse scored).

It is recommended that you conduct a CFA on the item scores to assess the dimensionality of the scale. We found that participants with a matric (grade 12) tertiary school qualification tend to understand the items better and consequently an uni-dimensional factor structure is obtained.

If you wish to translate the TIS in a local language, you are welcome to do so. It is recommended that a language expert is used in the translate – back translate method.

I wish you all the best with your research!

Best regards

Prof Gert Roodt
Appendix E

Statement of Informed Consent for Adult Participants

St. John Fisher College Institutional Review Board

Statement of Informed Consent for Adult Participants

An Examination of Influences Affecting Millennial Retention in Technical and Business Professions

SUMMARY OF KEY INFORMATION:

- You are being asked to be in a research study to examine factors influencing job satisfaction and retention of millennials, age 23-38 in technical and business professions in for-profit organizations in the United States. As with all research studies, participation is voluntary.
- The purpose of this study is to examine the motivational factors influencing job satisfaction and retention of millennials working in the technical and business professions in the United States. The results are intended to provide insight into possible gender differences in millennial job satisfaction and retention within these professions.
- Approximately 1000 people will take part in this study. The results will be used for completion of a doctoral dissertation and to inform scholarship regarding factors influencing job satisfaction and retention of millennials in technical and business professions in the United States.
- If you agree to take part in this study, you will be involved in this study for approximately 5-7 minutes.
- If you agree to participate, you will be asked to complete a single, online survey containing a total of 33 questions. There will be 26 content-related questions and 7 demographic questions. You are free to skip any question that is asked. The survey may be completed at a time of your choosing during the 2-week period the survey is open, beginning in the spring of...
2020.
• We believe this study has no more than minimal risk.
• You may benefit monetarily at a rate of $0.50 per completed survey as part of this research. We hope that your participation in this study can inform organizations and leaders regarding the factors influencing job satisfaction and retention of millennials to shape the organizations of the future.

DETAILED STUDY INFORMATION (some information may be repeated from the summary above):

You are being asked to be in a research study examining factors influencing job satisfaction and retention of millennials, age 23-38 in technical and business professions in the United States. As with all research studies, participation is voluntary. This study is being conducted online via Qualtrics and Amazon Mechanical Turk (MTurk). This study is being conducted by: Amy J. Considine, supervised by Dr. Shannon Cleverley-Thompson in the Ralph C. Wilson, Jr. School of Education at St. John Fisher College.

You were selected as a possible participant because of your age, occupation, and employment in the United States.

PROCEDURES:

If you agree to be in this study, you will be asked to do the following:

Complete a single, online survey containing a total of 33 questions. There will be 26 content-related questions, and seven demographic questions. The survey will take approximately 5 to 7 minutes to complete.

COMPENSATION/INCENTIVES:

You will receive compensation of $0.50 to participate in the study.

CONFIDENTIALITY:

VOLUNTARY NATURE OF THE STUDY:

Participation in this study is voluntary and requires your informed consent. Your decision whether to participate will not affect your current or future relations with St. John Fisher College. If you decide to participate, you are free to skip any question that is asked. You may also withdraw from this study at any time without penalty.
CONTACTS, REFERRALS AND QUESTIONS:

The researchers(s) conducting this study: Amy J. Considine. If you have questions, you are encouraged to contact the researcher(s) at ajc02284@sjfc.edu. You may also contact Amy Considine’s Dissertation Committee Chair, Shannon Cleverley-Thompson, at scleverley-thompson@sjfc.edu or 585.385.5227.

STATEMENT OF CONSENT:

Electronic Consent: Clicking on the “Agree” button below indicates that:

- I have read the above information.
- I voluntarily agree to participate.
- I am at least 18 years of age.

If you do not wish to participate in the study, please decline participation by clicking on the “Disagree” button below.

AGREE    DISAGREE

*Please keep a copy of this informed consent for your records.*