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Abstract

Many popular press articles claim that differences among generations impact key organizational outcomes in the workplace. However, there is little consensus among researchers on whether these differences actual exist. Thus, a meta-analysis was conducted to quantitatively assess the research on generational differences on several work-related outcomes. Electronic databases and journals were searched from primary studies assessing generational differences in the workplace on job satisfaction, organizational commitment, and work centrality, in addition to other inclusion/exclusion criteria. Data from 19 primary studies were collected using a coding manual in order to obtain study descriptors as well as effect size (ES) information. Initial ES adjustments include correcting for small sample bias and computing the inverse variance weight. Additionally, the ES distribution was assessed for outliers, and a homogeneity analysis was conducted using the Q statistic. A random effects model was used when testing for the significant of the average effect when comparing each generational cohort on either job satisfaction, organizational commitment, or work centrality. Mean differences for job satisfaction ranged from .08 to .14, but only one comparison (Boomers vs. Millennials) was significant. Next, mean difference for organizational commitment ranged from .03 to .10, however the results for each comparison were not significant. Lastly, mean differences for work centrality ranged from .11 to .33, though the results for each comparison were found to be not significant. The pattern of results indicates that the relationship between generational membership and work outcomes are moderate to small, and findings suggests that meaningful differences might not exists on work outcomes examined in this study.

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APPROVED BY THE COMMITTEE:

Paul Michael, PhD, Thesis Chair

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Many popular press articles claim that differences among generations impact key organizational outcomes in the workplace. However, there is little consensus among researchers on whether these differences actual exist. Thus, a meta-analysis was conducted to quantitatively assess the research on generational differences on several work-related outcomes. Electronic databases and journals were searched from primary studies assessing generational differences in the workplace on job satisfaction, organizational commitment, and work centrality, in addition to other inclusion/exclusion criteria. Data from 19 primary studies were collected using a coding manual in order to obtain study descriptors as well as effect size (ES) information. Initial ES adjustments include correcting for small sample bias and computing the inverse variance weight.

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Keywords: generational differences, job satisfaction, organizational commitment, work centrality, Baby Boomers, Generation X, Millennials.

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Generational Differences in the Workplace: A Meta-Analysis

There is an increasing amount of interest among researchers, authors, and business managers on whether there is substantial and meaningful evidence that generational differences exist in today's workplaces. Many popular-press articles claim that these differences between generations impact key organizational outcomes, such as commitment, job satisfaction, motivation, leadership style, and work ethic (Costanza, Badger, Fraser, Severt, & Gade, 2012). Today, five generations occupy the workforce, prompting many businesses and organizations to address the challenges of managing a multigenerational workplace (Carpenter & Charon, 2014). The three main generations that dominate the workforce today are Baby Boomers (born between 1945 and 1964), Generation Xers (born between 1965 and 1979), and Millennials (born between 1980 and 1999). As Baby Boomers begin to retire, businesses and organizations are starting to experience a dramatic shift in the labor force as an influx of younger workers are starting to occupy open positions, stressing the importance for businesses and organizations to prepare for the upcoming generational shift in leadership (Twenge, 2010). Differences among generations are often summarized in terms of descriptors based on a set of characteristics that define and also differentiate each generation (Costanza et al., 2012). For example, Baby Boomers are considered to be very competitive in the workplace, which is likely attributed to growing up in a time when resources and jobs were limited. Additionally, Baby Boomers are generally described as workaholics and materialistic while Gen Xers are often depicted as individualistic and cynical (Twenge, 2010). Millennials, the newest members of the workforce, are described as socially conscious, yet highly cynical and narcissistic (Twenge, 2010).

As Baby Boomers retire at a continuous and steady rate, leadership roles are being passed down to Generations Xers and Millennial workers. With Gen Xers being seasoned workers,

recent literature has focused much of its attention on Millennials' work habits, behaviors, and values because they are the least studied cohort due to the majority of the generation being too young to work; but now a majority of the cohort are integrating into the workforce at a steady pace, and by 2024, Millennials will comprise about 64% of the total labor force (Toosi, 2015). With more than 60 years separating the oldest and youngest worker, organizations and businesses not only have to navigate the conflict that arises from a multigenerational workplace, but must also focus on attracting, motivating, and maintaining the newest incoming generation (Carpenter & Charon, 2014). Examining how generational differences affect organizational outcomes (e.g., employee productivity, organizational commitment, job satisfaction, etc.) may potentially help businesses have a better understanding on how to manage and utilize a multi-generational workplace.

Defining Generations

A generation is defined as a group of individuals (i.e., cohort) that are formed based on shared experiences at similar ages. It's the consensus that individuals born between a particular time period share common experiences that create similar characteristics, such as attitudes, values, and beliefs (Abramson & Inglehart, 1995; Becton, Walker, & Jones-Farmer, 2014; Inglehart, 1977, 1990; Inglehart & Norris, 2003). Events like World War II for Baby Boomers, the Civil Rights movement for Gen Xers, or the September 11 terrorist attacks for Millennials are common life experiences that shaped and defined many shared similarities among those in the cohort. It is also important to note that age refers to variations between individuals caused by maturation, life stage, and other developmental factors (Costanza et al., 2012). Moreover, generation and age are computationally connected in that age is often used to define generational membership, in which the concepts are occasionally used interchangeably in the literature

regarding generations (Costanza et al., 2012). However, there have been inconsistencies of birth-year boundaries in prior research, which makes it difficult for researchers to accurately specify clear-cut generational boundaries and cut-off dates (Lyons & Kuron, 2014).

Baby boomers. Baby Boomers were given their title as a result of a high boom of birth rates in America between 1945 and 1964 (Becton et al., 2014; Lyons, Duxbury, & Higgins, 2007). Subsequently, this generation is densely populated and comprises a large segment of society, and as such, Boomers have a strong generational presence in society (Becton et al., 2014). Events like the Vietnam War, the Watergate scandal, the civil rights movement, the Kennedy and King Assassinations, and Woodstock were all significant incidents that shaped the Baby Boomer generation (Adams, 2000; Bradford 1993; Lancaster & Stillman, 2002). Based on statistics from the U.S. Census Bureau, there are currently about 45 million Baby Boomers in the labor force, with the youngest Boomers now 51 years old and the oldest Boomers approaching age 70 (Fry, 2015). However, as more Boomers retire each year, this cohort's presence in the workforce is continuously declining.

In the workplace, Egri and Ralston (2004) found that Boomers rate themselves higher on a 9-point Likert-type scale in self-enhancement values (i.e., achievement and power) compared to their older counterparts and Gen Xers, and received higher ratings in the domains of self-reliance, hard work, and work centrality compared to the younger generations (Meriac, Woehr, & Banister, 2010). Baby Boomers primarily hold senior and high-level positions and are characterized as workaholics that hold the belief that they have earned the right to be in charge (Gibson, Greenwood, & Murphey, 2009). Because of this cohort's large size, Boomers compete for resources and opportunities (Lancaster & Stillman, 2002; Hanson & Leuty, 2012), and tend to measure success materially (Eisner, 2005). Boomers are stereotypically-described as

achievement-oriented, having a strong work ethic, being respectful of authority, being loyal to organizations, and having diligence on the job (Allen, 2004; Becton et al., 2014; Hart, 2006; O'Bannon, 2001; Yu & Miller, 2003). Additionally, Boomers are motivated by money, the possibility of overtime, recognition, as well as praise (Gibson et al., 2009), and are often seen as overachievers that value their career as part of their meaning in life (Strauss & Howe, 1991).

Generation X. Generation X, whose members are commonly known as Gen Xers, are born between 1965 and 1979 and are children of compulsive workers, defined by life experiences such as economic uncertainty, recessions, high unemployment rates, downsizing, and high divorce rates among parents (Becton et al., 2014; Lyons et al., 2007; Kupperschmidt, 2000). As a result of having compulsive working parents, Gen Xers were often left at home unsupervised as school-age children, which had a dramatic impact on their attitudes and values (Becton et al., 2014). Therefore, Gen Xers are often depicted as being individualistic, distrustful of corporations, lacking loyalty, concerned about a balance of work and personal life, financially self-reliant, and entrepreneurial risk-takers (Becton et al., 2014; de Meuse, Bergmann, & Lester, 2001; Eisner, 2005; Tulgan, 1995). Additionally, Gen Xers were revolutionized by television and media, which provided this generation more exposure to world events and pop culture compared to the previous generations (Lancaster & Stillman, 2002).

Ergi and Ralston (2004) found that in the workplace, Gen Xers rated openness to change values (i.e., self-direction and stimulation) significantly higher in importance, but rated self-enhancement values lower in importance compared to Boomers. Meriac et al. (2010) also found that Gen Xers rated themselves lower on measures of work centrality compared to Boomers. Stereotypes associated with Gen Xers include that they are likely to leave an employer for more challenging work, higher pay, or better benefits because they grew up in an era where job

security wasn't always rewarded to those based on organizational loyalty and commitment (Becton et al., 2014; Hays, 1999; Loomis, 2000). Growing up unsupervised allowed Gen Xers to develop strong skills related to independence, adaptability, and resilience (Thielfoldt & Scheef, 2004), which most organizations look for in their employees. Additionally, Gen Xers place a high value on the balance between work and family more than previous generations and are motivated by having a work environment that is fun yet meaningful (Gibson et al., 2009).

Millennials. Millennials are the most recent addition to the workforce, born between 1980 and 2000, and are considered the first “high-tech” generation (Becton et al., 2014). Born into an era where cell phones, laptops, and ATMs are commonplace, the globalization of society and the marketplace have had a tremendous impact on Millennial values (Becton et al., 2014; Howe, Strauss, & Matson, 2000; Mitchell, 1998; Ryan, 2000). Additionally, Millennials are considered to be the most racially and ethnically diverse of all the generations, and because of that, they value diversity and progressive change (Becton et al., 2014; Mitchell, 1998; Patterson, 2005). Common stereotypes in the workplace include being distrustful of organizations, having a strong desire for meaningful work, prioritizing lifelong learning, and holding a view that family is the key to happiness (Mitchell, 1998; Ryan, 2000). Similar to the Boomers, Millennials have a strong desire to succeed and measure their success by the meaningfulness of work (Becton et al., 2014). Meriac et al. (2010) found that Millennials value leisure more than the other generations and work harder than Gen Xers.

Generational Cohort Theory

Generations have been a topic of recurring discussion among researchers in anthropology, sociology, and social psychology (Hung, Gu, & Yim, 2007). These cohorts of people are said to share similar age and location, in addition to similar social, historical, and life

experiences (Becton et al., 2014). The generational cohort theory proposes that these shared experiences formulate a generation's collective identity in three ways: the first is that significant events (e.g., disasters, wars) lay the foundation on how new generations emerge; the second suggests that these events have a stronger effect on the older age groups because their values have already formed; and lastly, shared values and goals are supported by peers in the same generation and continues throughout adulthood (Becton et al., 2014; McCrae et al., 2002). Twenge, Campbell, Hoffman, and Lance (2010) along with many other academic researchers concluded that generational differences in work-related values are best explained by the generational cohort theory, and birth-year-cohort theorists conclude that differences in work-related values can cause conflict in the workplace (Hillman, 2014). Moreover, work-related values refer to the evaluative standard an individual places on what they think is right or wrong, and what they feel they should attain in the work environment (Hillman, 2014; Smola & Sutton, 2002). Examples of work values include honesty, self-respect, and respect for others in the workplace, being accountable, and being able to work independently. For instance, Twenge et al. (2010) conducted a study using a time-lag design in order to analyze differences in work-values between 16,507 Boomers, Gen Xers, and Millennial workers. The study was able to successfully isolate generational cohort differences from age-related life stages and found that Millennial workers value leisure time significantly more than Boomers and Gen Xers, while Gen Xers view work as less meaningful in their lives compared to Boomers (Hillman, 2014; Twenge et al., 2010). Another time-lag study examining generations work values conducted by Smola and Sutton (2002) found that the formation of work values is a result of shared generational experiences more so than age-related life stages, in that each generational cohort develops a

unique common values system that is formed by distinct life experiences, but can often create conflict between generations in the workplace (Hillman, 2014; Smola & Sutton, 2012).

Differences in the Workplace

As three generations work alongside each other, managers are encouraged to deal with the clash of generational differences because failure to do so may cause misunderstandings and miscommunications that affect productivity in the workplace (Fyock, 1990; Smola & Sutton, 2012). Popular literature suggests these challenges arise due to each generation's differences in work values, attitudes, and expectations. Kupperschmidt (2000) suggests that managers who take an initiative in better understanding these generational differences may be the key to enhancing employee productivity, innovation, and organizational commitment. As the workplace continues to change, so has the meaning and value of work. Work values are defined as a worker's attitudes toward workplace expectations, and how they should go about reaching those expectations and they perceive the importance of reaching the company's goals (George & Jones, 1999). It's clear that today's workforce consists of employees with a broad range of age and generational membership, and these variations raise questions about the nature, characteristics, and the consequences generational differences have on work-related outcomes (Costanza et al., 2012). The modern workplace requires their employees to be proficient in decision-making, problem-solving, and managing their day-to-day workload (Smola & Sutton, 2002). Differences in work values across the generations are important in today's organizational environment because they have major repercussions on job satisfaction, organizational commitment, and intentions to stay or quit.

Empirical research on work values has found that job satisfaction, organizational commitment, and turnover intentions can be predicted by a person's work values (Dawis, 2002;

Hanson & Leuty, 2012; Round, 1990). Job satisfaction is the degree to which employees feel positively or negatively about their jobs, or the extent of how much they enjoy their job (Agho, Price, & Mueller, 1993). The concept of job satisfaction is multi-faced that includes satisfaction of pay, working conditions, or promotional prospects (Benson & Brown, 2011; Falkenburg & Schyns, 2007). Moreover, organizational commitment refers to how much employees feel connected or committed to their organization. Commitment can be characterized by three factors: Having a strong understanding of the organization's goals and values (continuous commitment), exhibiting a willingness to work (normative commitment), and a desire to maintain organizational membership (affective commitment; Benson & Brown, 2011; Porter, Steers, Mowday, & Boulian, 1974). Lastly, intention to stay simply refers to an individual's willingness to continuing working for the organization, while turnover intention refers to the probability that an individual will leave the organization (Youcef, Ahmed, & Ahmed, 2016). Costanza et al. (2012) conducted a meta-analysis of generational differences on three work-related outcomes: job satisfaction, organizational commitment, and intent to turnover. Results of the study found that effect sizes for the relationships between generational membership and work-related outcomes are moderate to small, and zero in most cases, suggesting that meaningful differences among generations do not exist on the work-related variables examined in the study. For job satisfaction, the corrected *ds* ranged from .02 to .25, indicating that older generations were slightly more satisfied than the younger generations. However, the effect sizes are considered "small", suggesting that generational membership has little impact on job satisfaction. Moreover, for organizational commitment, the results were similar to job satisfaction in that the corrected *d* (.51) indicates that Boomers and Gen Xers are more likely to commit, but there was no discernable pattern in the results. Lastly, intent to quit revealed slightly larger differences

indicating that compared to Boomers and Gen Xers, Millennials are more inclined to leave the organization. Furthermore, any differences that did appear are likely attributed to other factors besides generational membership. Likewise, Real, Mitnick, and Maloney (2010) found that Millennials workers are more similar than different compared to their older counterparts, and argue that differences result from experience, position, or age rather than generational membership.

As organizations continue to experience a generational divide at work, the popular press has shifted its focus on how Millennials are surviving the “psychological battlefield” known as the workplace (Kowske, Rasch, & Wiley, 2010). In order to assess the sparse literature, Kowske et al. (2010) conducted an analysis of generational differences in the workplace by examining work attitudes such as job satisfaction, job security, and turnover intentions to see whether Millennials’ work attitudes differ from prior generations. Empirical research on generational differences at work suggests, with regard to work-related values, that generations are more similar than they are different. For instance, a cross-sectional study comparing Boomers and Gen Xers found rankings of work-related values are similar and found there are differences in that Boomers value learning new things and freedom from conformity more than Generations Xers, but Gen Xers highly value independence and want more freedom from supervision, unlike Boomers who want more supervision (Jurkiewicz, 2000; Kowske et al., 2010). Findings from another cross-sectional study found that Boomers value personal growth more than Gen Xers and Millennials, and found that Millennials value the work environment more so than Boomers and Generations Xers; but found that the three generations all value comfort, security, and professional growth (Chen & Choi, 2007). Moreover, research suggests that important ramifications for work attitudes and other work-related outcomes are the result of personality

differences among the generations (Barrick, Mount, & Judge, 2001; Kowske et al., 2010). For example, external locus of control or a person's tendency to center themselves on instances that are outside of their power, like luck or fate, is a mannerism that been passed down from older generations to Boomers and Gen Xers, whereas narcissism is a trait that has extended from Gen Xers to Millennials (Kowske et al., 2010; Twenge, Zhang, & Im, 2001; Twenge et al., 2008). When it comes to generational differences in work-attitudes, research has found that Boomers exhibit lower job involvement and normative commitment than Gen Xers (Davis, Pawlowski, & Houston, 2006), and Millennials exhibit higher turnover rates compared to Boomers and Generations Xers (Cassidy & Berube, 2009). Furthermore, when controlling for age and time period, Kowske et al.'s (2010) findings revealed that work attitudes differed across generations, but effect sizes were relatively moderate to small. Additionally, compared to their older counterparts, Millennials report higher levels of overall company and job satisfaction, satisfaction with job security, recognition, and career development and advancement, but had similar levels of satisfaction with pay benefits, work responsibilities, and turnover intentions.

Moore, Grunberg, and Krause (2014) found evidence that generational differences do exists in workplace expectations among professional (i.e., white collar) college-educated workers and production (i.e., blue collar) non-college educated workers. However, those differences were more salient among professional workers, and the data suggest that other factors (e.g., workplace experiences, maturation effects, etc.) may impact workplace expectations more than differences among generations, and yield that generational differences may only be specific to subgroups of employees. Moreover, the term "work ethic" is defined as a set of moral principles, attitudes, and beliefs that employees practice while on the job in order to get their work done effectively and efficiently. Work centrality refers to the extent to how much importance an employee places on

work interfering with their personal life. Leisure time is spent away from business and work, and generally refers to the degree in which an individual's values freedom from work duties. Similar to Kowske et al.'s (2010) study, Twenge (2010) compiled several time-lag studies and found that generational differences do exist in work ethic, work centrality, and leisure. Results of the study found that Gen Xers and Millennials rate work as less central to their lives, and value their leisure time more in that Gen Xers and Millennials seek more freedom and work-life balance more than Boomers. Findings also suggests that Gen Xers and Millennials display poorer work ethic in comparison to Baby Boomers and Traditionalists, and found extrinsic work values (i.e., salary, recognition and job security), were rated higher in Millennials and Gen Xers, but found no generational differences in altruistic values (e.g., like wanting to help others). Additionally, conflict between the generations appeared mostly in a desire for job stability, intrinsic values, and social/ affiliation values.

Literature on generational differences in the workplace show mixed results, with many suggesting that there are little to no differences. As the workplace continues to change, it's important for businesses and organizations to understand each generation's needs, values, and attitudes in order to capitalize on each of their strengths (Twenge & Campbell, 2012). Overall, research on generational differences has a solid theoretical foundation underpinning the concepts of generations, but there is limited support for hypotheses about specific differences among the generations and the impact those differences have in the workplace (Costanza et al., 2012). However, it is important to recognize that there are some distinctions between older and younger workers, in which researchers in organizational and social psychology and sociology found evidence of gradual changes over time in work-related variables such as job satisfaction, organizational commitment, and turnover intentions (Costanza & Finkelstein, 2015; Kacmar &

Ferris, 1989; Ng & Feldman, 2009; Ng & Feldman, 2010). Additionally, there are some limitations in researching generational difference in the workplace. For one, there is little agreement on which birth year ranges define each generation, as well as a lack of consensus on what significant shared experiences shaped generational behavior. There is also little empirical evidence on what differences actually exist, how big or those differences are, or what they have on various outcomes, resulting in generalizations being largely unsupported (Costanza et al., 2012). Moreover, Costanza et al. (2012) identifies that there needs to be more data collected on all generations in the workplace, and examine other work-related variables that may influence workplace behavior in order to draw more comparisons across generational cohorts.

Additionally, a better understanding of what a generation is will allow future research to fully define each generation in order to determine if generational membership even exists, and if so, how does that affect work-related outcomes. Moreover, much of the existing research examining Millennials within the last 5 to 7 years is sparse due to most Millennials not being old enough to obtain a job. Now that some time has passed, the millennial population has matured allowing researchers to study millennial work behaviors more closely. Lastly, a major gap in the literature is that most of the research mainly focuses on college-educated participants (Moore et al., 2014). According to the U.S. Census Bureau, 47% of workers have an associate's degree or higher (Carnevale, Smith, & Strohl, 2014), which leaves 53% of the workforce underrepresented in the literature. That being said, types of employment usually targeted in most research studies are upper level, college-educated jobs (e.g., nurses, IT technicians), which are mainly employed by college-educated workers. Including non-college educated workers in research could yield significant results, and make findings more generalizable and also give us a better understanding of work-related trends among each generation.

The significance of the current study is to extend the literature on generational difference on work-related outcomes by quantitatively assessing research that examined generational differences among different work-related variables within the last 5 years. This will serve to provide businesses and organizations guidance on how to manage a multigenerational workplace. With the workplace becoming more diverse in age (Cogin, 2012), it is important to understand how that age dynamic will affect how workers engage with one another, and whether that positively or negatively affects work outcomes. Therefore, one aim to is to quantify the effects of generational difference on various work-related outcomes using a meta-analytical approach. I hypothesize that there will be evidence of generational differences in the workplace, in that the average effect across primary studies will demonstrate differences between Boomers, Gen Xers, and Millennials on all organizational outcomes examined (i.e., job satisfaction, organizational commitment, and work centrality). It is expected that Boomers will on average have greater job satisfaction, organizational commitment, and work centrality when compared to Gen Xers and Millennials. Additionally, Gen Xers and Millennials will not differ in job satisfaction and organizational commitment, and Gen Xers will exhibit lower work centrality compared to Boomers and Millennials

Method

Selection of Primary Studies

Search procedures. In order to find all possible studies examining generational differences in work-related outcomes (i.e., job satisfaction, organizational commitment, intent to stay, and work centrality), a variety of resources were searched (see list below). When electronic databases (i.e., Google Scholar, JSTOR, EBSCO Host, and Proquest) were utilized, the search included a combination of key terms for generation (i.e., generation, generational differences,

generational cohort, baby boomer, generation X, and millennials) and work-related outcomes (i.e., job satisfaction, organizational commitment, intent to stay, work values, work attitudes, work ethic, and work centrality). A search for prior research was conducted for the years 2009-2017 for job satisfaction, organizational commitment, and intent to quit. That date range was chosen due to the last meta-analysis examining these variables was done in 2012, and included research up to 2009. For work centrality, a search for prior literature was conducted for the years 2000-2017. That date range was chosen because researchers began examining work centrality around 2000, and no prior meta-analysis was found that included work centrality as key variable. The following resources were explored to locate primary studies:

1. *Review Articles*. The primary investigator searched the reference lists from prior review articles (i.e., qualitative reviews) and meta-analyses to find relevant primary studies for the present review.
2. *References in Studies*. In addition to the reference lists of previous reviews, the reference lists of identified relevant primary studies were also searched for additional studies that met inclusion criteria.
3. *Computerized Bibliographic Databases*. The search parameters included a review of electronic databases and resources, such as Google Scholar, ProQuest, and JSTOR.
4. *Relevant Journals*. The primary investigator searched the table of contents of journals that have previously published relevant studies for the current review. This involved an electronic search through journals including: *Journal of Business Psychology* and *Journal of Applied Psychology*.
5. *Conference Programs and Proceedings*. The primary investigator searched published programs and proceedings of conferences to identify possibly relevant research

presented. The following conference program was reviewed: SHRM conference: When Boomers, Millennials, GenYs, GenZs & Other Generations Meet in the Workplace.

Inclusion and exclusion criteria. Effect sizes and other data (i.e., study descriptors) for this meta-analysis were derived from studies that met general criteria (i.e., include effect sizes or quantitative information to compute effect sizes) as well as specific criteria. Specific inclusion/exclusion criteria were based on the following seven categories:

1. *Distinguishing Features.* Eligible studies needed to explore generational differences across in regard to at least one work-related outcomes Further, primary studies needed to compare at least two generational cohorts (i.e., Boomers vs. Gen X, Boomers vs. Millennials, Gen X vs. Millennials).
2. *Research Respondents.* Eligible studies included participants that belonged to either the Baby Boomer cohort, Generation X cohort, or Millennial cohort. The goal of the current review to examine whether generational differences impact productivity in the workplace, thus research done on employees in organizations was preferable although primary studies with other types of samples (e.g., university students) were also included.
3. *Key Variables.* Studies needed to include at least one quantitative outcome measure of job satisfaction, organizational commitment, intent to quit, or work centrality across the three generations.
4. *Research Designs.* Studies included in the current review utilized either experimental, quasi-experimental, or observational designs. The studies also needed to contain between-group comparisons.
5. *Cultural and Linguistic Range.* Eligible studies were written in English and were conducted within the United States.

6. *Time Frame.* Studies included in the present review ranged from 2009 to 2017 for job satisfaction, organizational commitment, and intent to quit. Additionally, studies included in the present studies ranged from 2000-2017 for work centrality.

7. *Publication Type.* The current review included both published and unpublished studies, including several dissertations. Eligible published studies were from peer-reviewed journals.

Over 90 abstracts were found via journal articles, books, and dissertations. After reviewing all abstracts collected, 70 articles were eliminated because they were unrelated to the workplace, did not include empirical quantitative data, did not include a comparison of at least two generational cohorts, and did not examine work-related criteria needed for meta-analysis. For the remaining 20 research efforts, the full text was reviewed to ensure that each met the criteria for inclusion. Each article had to fall under several inclusionary rules. First, the research had to empirically and quantitatively test hypotheses on generational differences. Second, the articles had to examine at least one of the central criteria (e.g., job satisfaction, organizational commitment, turnover intentions, work centrality). Third, the study had to examine work outcomes using measures capable of being meta-analyzed. Lastly, there needed to be enough articles within each work outcome to include the outcome in the study (e.g., $k = 4$ for each comparison). Based on the selection criteria, there was a sufficient number of primary studies to be meta-analyzed for job satisfaction, organizational commitment, and work centrality. However, there were not enough studies that examined turnover intentions so that outcome was taken out from further analysis. Additionally, one study was removed because there was enough information to calculate effect sizes.

Primary Study Coding

Coding manual. A total of 19 primary studies were coded based on a variety of study descriptors. The coding manual contained a variety of both continuous and nominal study descriptors (see Appendix A). For each primary study, general identification data was recorded, which included authors, year of publication, abstract, and source (e.g., journal, technical report, etc.). Furthermore, each study was assigned an identification number.

Sample descriptors included four variables recorded with the coding manual. This includes the education level of participants (e.g., college educated, non-college educate, mixed), work setting (e.g., business, healthcare, education, etc.), generational cohort (e.g., Baby Boomers, Generation Xers, Millennials), and outcome type (e.g., job satisfaction, organizational commitment, work centrality).

Research design descriptors included numerous categories. This included the sampling method (e.g., random or non-random sampling); scope of sampling (e.g., local, regional, national); type of design (e.g., experimental, observational, etc.), recruitment method (e.g., online, flyer, database), and the method of collecting data (e.g., quantitative, qualitative, mixed). Effect sizes were recoded and additional data were coded including the type of data the effect size was based upon (e.g., means and standard deviations, *t*-value or *F*-value, etc.), and each generational cohort size was recorded.

Reliability Study

A reliability analysis was conducted by the primary author. Of the total 19 included studies, a total of seven were selected and re-coded a second time to ensure accuracy and consistency by the primary author. A portion of the variables were selected for the reliability study to ensure the data were correctly coded and reported.

Intra-rater reliability was assessed via the intraclass correlation coefficient (ICC) for continuously-scaled descriptor variables; i.e., publication year ($ICC = 1.00$), group size ($ICC = .94$), and total number of participants ($ICC = 1.00$). The results indicated a high level of agreement between coded variables at the two occasions. Cohen's kappa was used to compute estimated reliability for six categorical variables; i.e., generational cohort ($\kappa = 1.00$), type of outcome descriptor, ($\kappa = .82$), effect size information, ($\kappa = 1.00$), publications status ($\kappa = 1.00$), education level ($\kappa = 1.00$), and work setting ($\kappa = 1.00$).

Overall, the results of the reliability analysis indicate a high level of intra-rater reliability, indicating excellent agreement between categorical variables examined at Time 1 and Time 2. The author reviewed minor variable discrepancies associated with the type of outcome descriptor and group size. After reviewing the coding manual, the author found that discrepancies were due to human error recording information for reliability analysis, and no changes were warranted to the coding manual.

Effect Size Calculation

Effect size estimates (i.e., the standardized mean difference or Cohen's d) were recorded for each between-group comparison for each work-related outcome of interest in the primary studies. When primary studies did not report the effect size, a variety of statistical information within the primary studies was used to compute the effect size (e.g., means and standard deviations, t -values, F -values, etc.). Effect size estimates were considered small, moderate, and large based on Cohen's conventions of 0.2, 0.5, and 0.8.

Effect Size Corrections

First, to address upward bias from small sample sizes among primary studies, Hedges (1981) correction for small sample bias ($ES'_{sm} = \left[1 - \frac{3}{4N-9}\right] ES_{sm}$) was applied to the data. By

utilizing this correction, effect size derived from studies with very small samples were subject to a downward adjustment. Hedges (1981) suggests that correcting the effect size estimates is necessary, as estimates from small samples a potential for upward bias.

Results

The purpose of this research was to examine whether differences exist among average job satisfaction, organizational commitment, and work centrality when the three generations are compared.

Descriptive Results

A total of 19 primary studies were included in the present meta-analysis for review, and the total sample size of participants across all of the studies reviewed was 72,309. Of the primary studies included, 14 studies contained multiple effect sizes (ES) estimates; thus, the total number of ES estimates coded was 67. On average, comparisons between the Baby Boomer cohort and Generation X cohort appeared more frequently ($N = 25$), while Baby Boomer versus Millennial ($N = 21$) and Generation X versus Millennial ($N = 21$) comparisons were the same. Job satisfaction was the most frequently examined across primary studies, ($N = 16$), followed by work centrality ($N = 15$), and then organizational commitment ($N = 14$). Additionally, education level varied across primary studies, with nine studies examining a mix of both college and non-college educated participants, five studies examining college educated participants, and one study examined non-college educated participants. Details about the primary study characterizes are provided in Table 1.

Tests of Average Effect

The effect size estimates were tested to determine if the average mean difference found across primary studies was significantly different than zero. When possible, for each outcome

variable (i.e., job satisfaction, organizational commitment, and work centrality) three different group comparisons were examined, specifically (1) Baby Boomers compared to Generation X, (2) Baby Boomers compared to Millennials, and (3) Generation X compared to Millennials. Descriptive statistics were computed and based on a method developed by Hoaglin, Iglewicz, and Tukey (1986), lower and upper quartiles were used to detect if outliers existed in the distributions. Further, the results of homogeneity tests for each analysis are reported below. It should be noted that when the result of the homogeneity test was significant, indicating a heterogeneous distribution, a random-effects model was utilized and reported.

Job satisfaction.

Baby Boomers versus Generation X. Of central tendency and dispersion were computed to summarize the corrected ES data. The following results were found; $N = 9$, $M = .14$, $Mdn = .16$, $Mode = -.29$, $SD = .24$, $Minimum = -.29$, and $Maximum = .49$. The quartiles for the ES estimates were as follows; the 25th percentile = .01, the 50th percentile = .16, the 75th percentile = .33, and the interquartile range = .32. The distribution of ES estimates for studies that examined job satisfaction did not contain any outliers, with a lower bound of -.47, and an upper bound of .81.

A homogeneity analysis of nine ES estimates was conducted for studies that compared Baby Boomers to Generation X in regard to job satisfaction. The Q statistic was significant, $Q = 29.65$; $df = 8$; $p < .001$, and as such the null hypothesis of homogeneity was rejected. The significance of the Q statistic indicated a heterogeneous distribution, and accordingly, a random effects model was utilized for the analysis of the statistical significance of average ES. The mean effect size for the sample of studies was not significant; $M_{ES} = .08$, $SE = .04$, $z = 1.93$, $p = .05$, 95% CI [-.001, .14]. According to Cohen, the mean effect size of .08 is considered a very small

effect, and can be interpreted as there are as there are some generational differences in regard to job satisfaction between Boomers and Gen Xers but not enough to have a huge impact in the workplace. While the difference was small, Boomers were found to have slightly more job satisfaction, on average, when compared to Gen Xers.

Baby Boomers versus Millennials. Measures of central tendency and dispersion were computed to summaries the data for ES after corrections for small sample size bias. The following results were found; $N = 8$, $M = .18$, $Mdn = .15$, $Mode = -.34$, $SD = .27$, $Minimum = -.34$, and $Maximum = .47$. The quartiles for the ES estimates were as follows; the 25th percentile = .04, the 50th percentile = .15, the 75th percentile = .45, and the interquartile range = .41. The distribution of ES estimates did not contain any outliers, with a lower bound of -.58, and an upper bound of 1.07.

A homogeneity analysis of eight ES estimates was conducted for studies that compared Baby Boomers to Millennials in regard to job satisfaction. The Q statistic was significant, $Q = 28.52$; $df = 7$; $p < .001$, and as such the null hypothesis of homogeneity was rejected. The significance of the Q statistic indicated a heterogeneous distribution, and accordingly, a random effects model was utilized for the analysis of the statistical significance of average ES. The mean effect size for the sample of studies was significant; $M_{ES} = .14$, $SE = .06$, $z = 2.44$, $p = .01$, 95% CI [.03, .25]. According to Cohen, the mean effect size of .14 is considered a small effect size, however this does suggest while the differences was small, Boomers, on average, had more job satisfaction when compared to Millennials.

Generation X versus Millennials. Measures of central tendency and dispersion were computed to summaries the data for ES after corrections for small sample size bias. The following results were found; $N = 9$, $M = .16$, $Mdn = .01$, $Mode = -.06$, $SD = .39$, $Minimum = -.06$,

and Maximum= 1.18. The quartiles for the ES estimates were as follows; the 25th percentile = -.06, the 50th percentile = .01, the 75th percentile = .18, and the interquartile range = .24. The distribution of ES estimates for studies that examined job satisfaction contained one outlier, with a lower bound of -.42, and an upper bound of .54. The outlier was outside of the range by a significant amount so it was trimmed from the dataset.

A homogeneity analysis of nine ES estimates was conducted for studies that compared Generation X to Millennials in regard to job satisfaction. The Q statistic was significant, $Q = 26.87$; $df = 8$; $p = .001$, and as such the null hypothesis of homogeneity was rejected. The significance of the Q statistic indicated a heterogeneous distribution, signifying that a random effects model should be utilized for the analysis of the statistical significance of average ES. The mean effect size for the sample of studies was not significant; $M_{ES} = .08$, $SE = .05$, $z = 1.73$, $p = .08$, 95% CI [-.01, .17]. The results suggest that Gen Xers and Millennials don't appear to differ in average job satisfaction. However, Gen Xers on average, tend to have more organizational commitment when compared to Millennials.

Organizational commitment.

Baby Boomers versus Generation X. Measures of central tendency and dispersion were computed to summarize the data for ES after corrections for small sample size bias. The following results were found; $N = 4$, $M = .07$, $Mdn = -.07$, $Mode = -.24$, $SD = .41$, $Minimum = -.24$, and $Maximum = .68$. The quartiles for the ES estimates were as follows; the 25th percentile = -.20, the 50th percentile = -.07, the 75th percentile = .50, and the interquartile range = .70. The distribution of ES estimates for studies that examined organizational commitment did not contain any outliers, with a lower bound of -1.25, and an upper bound of 1.55.

Next, a homogeneity analysis of four ES estimates was conducted for studies that compared Baby Boomers to Generation X in regard to organizational commitment. The Q statistic was significant, $Q = 103.32$; $df = 3$; $p < .001$, and as such the null hypothesis of homogeneity was rejected. The significance of the Q statistic indicated a heterogeneous distribution, and accordingly, a random effects model was utilized for the analysis of the statistical significance of average ES. The mean effect size for the sample of studies was insignificant; $M_{ES} = .10$, $SE = .27$, $z = .38$, $p = .71$, 95% CI [-.43, .63]. The effect size of .10 is considered a small effect, and the results suggest that Boomers and Gen Xers do not differ in regards to organizational commitment in the work environment. However, Boomers, on average, appeared to have more organizational commitment when compared to Gen Xers.

Baby Boomers versus Millennials. Measures of central tendency and dispersion were computed to summaries the data for ES after corrections for small sample size bias. The following results were found; $N = 4$, $M = .07$, $Mdn = -.11$, $Mode = -.22$, $SD = .21$, $Minimum = -.22$, and $Maximum = .27$. The quartiles for the ES estimates were as follows; the 25th percentile = -.15, the 50th percentile = .11, the 75th percentile = .24, and the interquartile range = .39. The distribution of ES estimates did not contain any outliers, with a lower bound of -.74, and an upper bound of .83.

A homogeneity analysis of four ES estimates was conducted for studies that compared Baby Boomers to Millennials in regard to organizational commitment. The Q statistic was significant, $Q = 12.38$; $df = 3$; $p = .006$, and as such the null hypothesis of homogeneity was rejected. The significance of the Q statistic indicated a heterogeneous distribution, so a random effects model was utilized for the analysis of the statistical significance of average ES. The mean effect size for the sample of studies was not significant; $M_{ES} = .03$, $SE = .27$, $z = .28$, $p = .78$, 95%

CI [-.20, .27]. Similar to Boomers versus Gen Xers, the results of the analysis suggest that Boomers and Millennials do not differ in average organizational commitment.

Generation X versus Millennials. Measures of central tendency and dispersion were computed to summaries the data for ES after corrections for small sample size bias. The following results were found; $N = 4$, $M = .12$, $Mdn = -.08$, $Mode = -.18$, $SD = .30$, $Minimum = -.18$, and $Maximum = .49$. The quartiles for the ES estimates were as follows; the 25th percentile = $-.15$, the 50th percentile = $.08$, the 75th percentile = $.43$, and the interquartile range = $.58$. The distribution of ES estimates for studies that examined organization commitment did not contain any outliers, with a lower bound of -1.02 , and an upper bound of 1.32 .

A homogeneity analysis of four ES estimates was conducted for studies that compared Generation X to Millennials in regard to organizational commitment. The Q statistic was significant, $Q = 15.74$; $df = 3$; $p = .001$, and as such the null hypothesis of homogeneity was rejected. The significance of the Q statistic indicated a heterogeneous distribution, and accordingly, a random effects model was utilized for the analysis of the statistical significance of average ES. The mean effect size for the sample of studies was not significant; $M_{ES} = .06$, $SE = .49$, $z = .12$, $p = .62$, 95% CI [-.18, .30]. The results suggest that Gen Xers and Millennials do not differ in their average organizational commitment.

Work centrality.

Baby Boomers versus Generation X. Measure of central tendency and dispersion were computed to summaries the data for ES after corrections for small sample size bias. The following results were found; $N = 10$, $M = .17$, $Mdn = .13$, $Mode = -.15$, $SD = .33$, $Minimum = -.15$, and $Maximum = .98$. The quartiles for the ES estimates were as follows; the 25th percentile = $-.09$, the 50th percentile = $.18$, the 75th percentile = $.29$, and the interquartile range = $.38$. The

distribution of ES estimates for studies that examined work centrality contained one outlier, with a lower bound of -.66, and an upper bound of .86. The outlier was trimmed from the dataset.

Next, a homogeneity analysis of ten ES estimates was conducted for studies that compared Baby Boomers to Generation X in regard to work centrality. The Q statistic was significant, $Q = 199.73$; $df = 9$; $p < .001$, and as such the null hypothesis of homogeneity was rejected. The significance of the Q statistic indicated a heterogeneous distribution, so a random effects model was utilized for the analysis of the statistical significance of average ES. The mean effect size for the sample of studies was not significant; $M_{ES} = .17$, $SE = .12$, $z = 1.42$, $p = .16$, 95% CI [-.06, .40]. The results can be interpreted such that, according to Cohen, the effect size of .17 is considered a small effect, and the results suggests that while there are some differences in work centrality between Boomers and Gen Xers, the difference is rather small. However, while the difference was small, Boomers, on average, had more work centrality when compared to Gen Xers.

Baby Boomers versus Millennials. Measures of central tendency and dispersion were computed to summaries the data for ES after corrections for small sample size bias. The following results were found; $N = 7$, $M = .34$, $Mdn = .22$, $Mode = -.32$, $SD = .45$, $Minimum = -.32$, and $Maximum = 1.00$. The quartiles for the ES estimates were as follows; the 25th percentile = -.05, the 50th percentile = .22, the 75th percentile = .79, and the interquartile range = .74. The distribution of ES estimates for studies that examined work centrality contained one outlier, with a lower bound of -1.24, and an upper bound of 1.93. The outlier was trimmed from the dataset.

A homogeneity analysis of seven ES estimates was conducted for studies that compared Baby Boomers to Millennials in regard to work centrality. The Q statistic was significant, $Q = 227.10$; $df = 6$; $p < .001$, and as such the null hypothesis of homogeneity was rejected. The

significance of the Q statistic indicated a heterogeneous distribution, and accordingly, a random effects model was utilized for the analysis of the statistical significance of average ES. The mean effect size for the sample of studies was not significant; $M_{ES} = .33$, $SE = .17$, $z = 1.90$, $p = .06$, 95% CI [.07, .34]. According to Cohen, the effect size of .33 is considered to be a moderate effect, and the results suggest that there are no difference in work centrality between Boomers and Millennials in the workplace. However, Boomers, on average, had more work centrality when compared to Millennials.

Generation X versus Millennials. Measures of central tendency and dispersion were computed to summaries the data for ES after corrections for small sample size bias. The following results were found; $N = 6$, $M = .12$, $Mdn = .08$, $Mode = -.17$, $SD = .26$, $Minimum = -.17$, and $Maximum = .60$. The quartiles for the ES estimates were as follows; the 25th percentile = -.08, the 50th percentile = .08, the 75th percentile = .29, and the interquartile range = .37. The distribution of ES estimates for studies that examined work centrality did not contain any outliers, with a lower bound of -.64, and an upper bound of .85.

Finally, a homogeneity analysis of six ES estimates was conducted for studies that compared Generation X to Millennials in regard to work centrality. The Q statistic was significant, $Q = 51.41$; $df = 5$; $p < .001$, and as such the null hypothesis of homogeneity was rejected. The significance of the Q statistic indicated a heterogeneous distribution, so a random effects model was utilized for the analysis of the statistical significance of average ES. The mean effect size for the sample of studies was not significant; $M_{ES} = .11$, $SE = .09$, $z = 1.26$, $p = .21$, 95% CI [-.96, .29]. The effect size of .09 is a small effect, and the results suggests that there are little to no differences in work centrality between Gen Xers and Millennials in the workplace.

However, Gen Xers had slightly more work centrality, on average, when compared to Millennials

Discussion

This meta-analysis evaluated the accumulated literature and average effect size regarding the impact generational differences have on several work-related outcomes. The primary goal of this study was to determine whether Baby Boomers, Gen Xers, and Millennials differed in job satisfaction, organizational commitment, and work centrality. In the following discussion, I summarize the results, evaluate the findings in comparison to previous literature, review the limitations of the study, and propose areas for future research.

Review of the Results

Examined altogether, the primary studies examining generational differences in the workplace revealed that there are very small to no differences between the generations on the work variables examined. There was evidence of differences in job satisfaction for Boomers when compared to Gen Xers and Millennials, revealing a small but significant positive average effect. However, the results showed that Boomers, Gen Xers, and Millennials do not differ in organizational commitment and work centrality.

These results partially support the first hypothesis in which I predicted that the average effect across primary studies will demonstrate differences between Boomers, Gen Xers, and Millennials on all organizational outcomes examined (i.e., job satisfaction, organizational commitment, and work centrality). However, that was only apparent for Boomer and Gen Xers, and Boomers and Millennials on job satisfaction; and according to Cohen, the average ES is considered small, suggesting that while there is evidence that while some differences exists, it's not significant enough to have a huge impact on work-related outcomes examined.

The finding is consistent with previous research. Authors of prior research examining generational differences in job satisfaction and organizational commitment found that effect sizes for relationships between generational membership and work-related outcomes are moderate to small, but zero in most cases, further suggesting that meaningful differences among generations may not exist in job satisfaction and organizational commitment (Costanza et al., 2012). Additionally, some argue that generational cohorts are more similar than different, and suggest that differences result from individual characteristics, such as work experience, age, maturity, or position, rather than generational membership (Real et al., 2010).

Secondly, I hypothesized that Boomers will on average have greater job satisfaction, organizational commitment, and work centrality when compared to Gen Xers and Millennials. The results revealed that Boomers did exhibit greater levels of job satisfaction, however the effect sizes were fairly small (i.e., 0.14 - 0.18), suggesting that Boomers have slightly greater levels of job satisfaction, but not enough to have a huge impact in the workplace. Moreover, results for organizational commitment revealed that Boomers, Gen Xers, and Millennials did not differ much in average effect, as effect sizes were roughly the same (i.e., 0.065 - 0.074), suggesting that each generational cohort have similar levels of organizational commitment in the workplace. Similarly, results for work centrality revealed that Boomers, Gen Xers, and Millennial did not differ much in average effect, as effect sizes were roughly the same (i.e., 0.168 - 0.169), suggesting that Boomers, Gen Xers, and Millennials have similar levels of work centrality in the workplace.

This is somewhat inconsistent with previous research. Authors of prior research found that Millennials report higher levels of overall company and job satisfaction, but had similar levels of satisfaction with pay benefits, work responsibilities, and turnover intentions compared

to their older counterparts (Kowske et al., 2010). Moreover, one study found that Boomers and Gen Xers are more likely to commitment, but there is no discernable pattern in those findings (Costanza et al., 2012). Lastly, one study found that generational differences do exist in work centrality, in that Gen Xers and Millennials rate work as less central to their lives, and value their leisure time more such that Gen Xers and Millennials seek more freedom and work-life balance more than Boomers (Twenge, 2010).

In my third hypothesis, I proposed that Gen Xers and Millennials will not differ in job satisfaction and organizational commitment. The results revealed that Gen Xers did exhibit greater job satisfaction ($d = .16$), but the average effect was small and insignificant, suggesting that while Gen Xers might have slightly greater levels of job satisfaction, it's not enough to have a huge impact in the workplace. Additionally, results for organizational commitment revealed that the mean average effect ($d = .12$) was relatively small, suggesting that while there are some differences, Gen Xers and Millennials do not differ much in organizational commitment.

This is fairly consistent with previous literature. Gen Xers have been found to lack organizational commitment, and are always seeking new opportunities elsewhere (Crickenberger, 2010). Additionally, Gen Xers and Millennials tend to look for more challenging jobs that offer better growth opportunities and continuing skill development (Gursoy, Geng-Qing Chi, Karadag, 2013). However, authors of previous research also found that Millennials reported greater organizational commitment compared to Gen Xers and Boomers (Keepnews, Brewer, Kovner, Hyun, 2010).

Limitations

There were several limitations in the primary research. First, there were a limited number of studies available. Only 19 primary studies met the criteria for inclusion. Among the studies,

not all generations were compared to each other on all outcomes. As a result, there were less comparisons for Boomers versus Gen Xers and Gen Xers for Millennials.

It is also worth noting that half of the primary studies were unpublished works. One could argue that the inclusion of these studies raises concerns about the theoretical accuracy and methodological rigor of the work. On the other hand, the use of non-published works reduces the possibility for publication bias. Nevertheless, sampling bias was explored through computing a fail-safe N (Rosenthal, 1979). The computation indicated that 108,131 unpublished studies with null findings would need to exist and be included to reduce the average effect size estimate for this meta-analysis to be non-significant (criterion level of .20). Given that the analysis included 19 primary studies that met the inclusion criteria, it is unlikely publication bias exists.

There were limitations related to characteristics of the included studies that may impact the generalizability of the findings. Out of the 19 primary studies, only one study specifically examined non-college educated individuals. Additionally, majority of the primary studies focused on work settings that are specific to college-educated individuals, which skews results to favor college-educated individuals more, making findings difficult to generalize to individuals that work in settings that don't require a college education (i.e., restaurants, trade, retail, etc.).

Future Directions

There is a need for more scientifically sound research examining generational differences on a variety of work-related outcomes. Future research should also strive to assess more work-related outcomes other than the ones assessed in this study in order to make more comparisons across cohorts. There is also a need for future research to examine the working population that is not college educated in order to better generalize research findings, or compare findings to see if

there are significant implications that warrant more research on generational differences in the workplace.

Conclusion

The present study is aimed at understanding the impact of generational differences in the workplace. In summary, this meta-analytic effort indicates that some generational differences do exist on job satisfaction, however, the effects are relatively small and some findings are inconsistent with previous literature. Although the average effect size across studies was found to be small, the results showed that there is some evidence that differences in generational membership does impact work-related outcomes, and future research should examine other work-related variables as well as individual characteristics (i.e., age, maturity, work experience, etc.) in order to draw more meaningful and significant results.

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Table 1

Primary Study Characteristics

Study	Generational Membership	Work Outcome	Education Level	Work Setting	Design	How the ES was Obtained
Costanza et al., 2012	Boomers vs. Gen Xers; Boomers vs. Millennials; Gen Xers vs. Millennials	Job satisfaction; Organizational commitment	Mixed	Mixed	Meta-analysis	Directly reported
Morris, 2011	Boomers vs. Gen Xers; Boomers vs. Millennials; Gen Xers vs. Millennials	Job satisfaction	Not reported	Business	Quasi-experimental	Means and Standard deviations
Fountain, 2014	Boomers vs. Gen Xers; Boomers vs. Millennials; Gen Xers vs. Millennials	Job satisfaction; Organizational commitment; Work centrality	Mixed	Education	Non-experimental	Means and Standard deviations
Keepnews et al., 2010	Boomers vs. Gen Xers; Boomers vs. Millennials; Gen Xers vs. Millennials	Job satisfaction; Organizational commitment; Work centrality	College educated	Healthcare	Experimental	Means and Standard deviations
Crickenberger, 2010	Boomers vs. Gen Xers	Job satisfaction	Not reported	Mixed	Non-experimental	Directly reported
	Boomers vs. Gen Xers; Boomers vs. Millennials;	Job satisfaction; Work centrality	Mixed	Mixed	Non-experimental	Means and Standard deviations

Shragay & Tziner, 2011	Gen Xers vs. Millennials					
Attebery, 2017	Boomers vs. Gen Xers; Boomers vs. Millennials; Gen Xers vs. Millennials	Job satisfaction	Not Reported	Education	Non-experimental	Means and Standard deviations
Gursoy et al., 2013	Boomers vs. Gen Xers; Boomers vs. Millennials; Gen Xers vs. Millennials	Work centrality	Mixed	Other	Experimental	Means and Standard deviations
Meriac et al., 2010	Boomers vs. Gen Xers; Boomers vs. Millennials		Mixed	Mixed	Not reported	Directly reported
Fenzel, 2013	Boomers vs. Gen Xers; Boomers vs. Millennials; Gen Xers vs. Millennials	Job satisfaction	Mixed	Mixed	Non-experimental	Means and Standard deviations
Wilms, 2015	Gen Xers vs. Millennials	Job satisfaction	Mixed	Other	Other	Means and Standard deviations
Real et al., 2010	Boomers vs. Gen Xers; Boomers vs. Millennials; Gen Xers vs. Millennials	Work centrality	Non-college educated	Trade	Other	Means and Standard deviations

Seipert & Baghurst, 2014	Boomers vs. Gen Xers	Organizational commitment	College educated	Education	Not reported	Means and Standard deviations
Bennett et al., 2016	Boomers vs. Gen Xers; Boomers vs. Millennials; Gen Xers vs. Millennials	Work centrality	College educate	Other	Not reported	Means and Standard deviations
Coburn & Hall, 2014	Boomers vs. Gen Xers; Boomers vs. Millennials; Gen Xers vs. Millennials	Job satisfaction	College educated	Healthcare	Other	Directly reported
Engelman, 2009	Boomers vs. Millennials	Organizational commitment	Mixed	Business	Other	Means and Standard deviations
King, 2017	Gen Xers vs. Millennials	Organizational commitment	Not reported	Other	Non-experimental	Means and Standard deviations
Eaton, 2008	Boomers vs. Gen Xers; Boomers vs. Millennials; Gen Xers vs. Millennials	Job satisfaction	Mixed	Other	Not reported	Means and Standard deviations
Jones, 2014	Boomers vs. Gen Xers; Boomers vs. Millennials; Gen Xers vs. Millennials	Organizational commitment	College educated	Healthcare	Non-experimental	Means and Standard deviations

Appendix

Coding Manual

Bibliographic Reference:

1. Study ID number [Study_ID]
2. Publication Year (All four digits) [PubYear]
3. Publication Status
 1. Published
 2. Unpublished (e.g., dissertation)

Sample Descriptors

1. Education Level [EDU]
 1. College educated
 2. Non-college educated
 3. Mixed (both college and non-college educated)
 999. Not reported
2. Work Setting [WORSET]
 1. Business
 2. Healthcare
 3. Education
 4. Computer and technology
 5. Trade
 6. Mixed
 7. Other
 999. Not Reported

Research Design Descriptors

1. Recruitment Method
 1. Online
 2. Flyer
 3. Data base
 4. Archival
 5. Other
 999. Not reported
2. Sampling Method
 1. Random sampling
 2. Stratification sampling
 3. Cluster sampling

4. Systematic sampling
 5. Snowball sampling
 6. Convenient sampling
 7. Other
 999. Not reported
3. Scope of Sampling
 1. Local
 2. Regional
 3. National
 999. Not Reported/Missing
 4. Type of Design
 1. Experimental
 2. Quasi-experimental
 3. Non-experimental
 4. Can't tell
 5. Meta-analysis
 6. other
 999. Not reported
 5. Method of Data Collection
 1. Quantitative
 2. Qualitative
 3. Mixed
 999. Not reported
 6. Measurement Tool

Independent Variable Descriptors

1. Generational Membership [IV]
 1. Boomers vs. Gen X
 2. Boomers vs. Millennials
 3. Gen X vs. Millennials
 4. All comparisons (Boomers v. Gen X, Boomers v. Millennials, Gen X v. Millennials)

Dependent Measure Descriptors

1. Work Outcome [DV]
 1. Job satisfaction
 2. Organizational commitment
 3. Work centrality
 4. all DVs
2. Outcome Mode

1. Self-report
2. Rating by other
3. Other
999. Not reported

Effect Size Data

1. Type of data effect size based on [ES_Info]
 1. Directly Reported
 2. Calculate (using means and standard deviations)