The Risks of Workplace Ageism for an Ageing Labour Force

by

Jonathan James Lai

A thesis submitted in partial fulfillment of the requirements for the degree of

Master of Science

in

Aging

Department of Human Ecology
University of Alberta

Abstract

As the Canadian population ages, the labour force will also become older. Over the next decade, the contributions of older workers who are aged 55 and older will become more important to the overall productivity of the Canadian economy. The prolonged working life of older workers is viewed by policymakers as a way to retain skills in the labour force and sustain contributions to government programs in Canada. Older workers, however, can face barriers to their participation in the labour force. Ageism has been recognized as a significant barrier to the employability of older workers. The experience of workplace age discrimination can also have a negative effect on the well-being of workers. Previous studies have demonstrated the detrimental effects that workplace age discrimination can have on worker engagement, a positive psychological state wherein individuals experience high levels of energy, absorption in their tasks, and dedication to the work they do while in their job role. Overall, engaged workers tend to be more productive and experience better health than disengaged workers. In the context of an ageing labour force, workplace ageism represents a potential productivity risk for the Canadian labour force. This exploratory research study provided insight into this important issue by asking the following three questions:

- What percentage of workers in Canada experience workplace age discrimination?
- Do positive psychosocial job factors that contribute to worker engagement vary by worker age?
- Is the experience of workplace age discrimination having a negative effect on worker engagement in Canada?

Using a nationally representative sample of 6,956 Canadian workers, this study examined the state of reported workplace age discrimination, positive psychosocial job factors, and worker engagement among young, mid-life, and older workers. Overall, 2% of all part-time and full-time workers aged 25 and older experienced at least one instance of workplace age discrimination in the past 12 months, but the actual prevalence of age discrimination may be underreported. All three age categories of workers experienced similar levels of positive psychosocial job factors associated with work engagement. Older workers reported the highest mean levels of worker engagement. Participation in decision-making for individual workers and social support from colleagues, managers, and supervisors contributed to higher levels of worker engagement. Findings indicate that workplace age discrimination was not having a negative impact on worker engagement in Canada. Ageism remains a persistent barrier to the labour force participation of older workers. As older workers will continue to comprise a greater proportion of the labour force, future research will want to better monitor trends on age discrimination in the workplace. The actual prevalence of workplace age discrimination in Canada is likely higher than the proportion estimated in this study.

Acknowledgements

There are many persons I would like to thank for their contributions in my graduate studies journey. I am grateful for the mentorship, guidance, and patience of my supervisor Dr. Janet Fast as I worked through the process of this research. I am grateful for the independent study course on retirement and later life well-being we undertook together which resulted in the conceptualization of this thesis research study. Thanks to my committee members, Dr. Matthew Johnson and Dr. Sheree Kwong-See, for their input into the design of this research and for their feedback that informed my revision process.

As a lifelong Edmontontian, I am appreciative for all the support I have received over the years from the University of Alberta community. I am thankful for all my friends and colleagues who shared details of their own academic journeys, which helped inform my own decision to pursue graduate studies. Thank you to the staff, faculty, and students in the Department of Human Ecology, who were always kind and supportive. I would also like to pay homage to Charlene Knudsen, a fellow graduate student in the aging program, who passed away in 2020. She was a changemaker and brilliant colleague whose absence is felt by many.

I am appreciative of the writing communities that I became a part of during the COVID-19 pandemic. The Graduate Writing Café hosted by Dr. Katt Pratt, and the PhD Forum were both instrumental virtual communities that helped nurture the writing habits and habitus I have today. Special thanks to my partner Dayna, whose love supported me throughout this stage of life. Looking forward to what comes next.

Table of Contents

List of Tables

Chapter One – Introduction

The contributions of older workers to the productivity of the national economy are becoming increasingly important. While there is no consist demarcation of when a worker becomes older in the academic literature (Harris et al, 2017), 55 and older is often used as the age to define who is an older worker in Canada (Statistics Canada, 2017a). Over the last 3 decades, the labour force participation (LFP) rate of older adults in Canada has been on the rise. The LFP rate of individuals aged 55 and older reached 38% in 2016, an historical high, up from 24% in 1996 (Statistics Canada, 2017a). There has also been notable growth in the LFP among those aged 55 to 64, which rose from a low of 47.1% in 1996, to a high of 65.8% in 2016 (Federal/Provincial/Territorial (FPT) Ministers Responsible for Seniors, 2018). There has been similar growth in the LFP among people aged 65 and older as well. In 1995, 10.1% of individuals aged 65 and older were labour force participants; that percentage has since risen to 19.8% in 2015, which represents almost 1.1 million workers (Statistics Canada, 2017b). Recent figures indicate that there are almost 4.5 million workers over the age of 55 in the labour force (Statistics Canada, 2022).

In Canada and other high-income countries, increasing and sustaining the LFP of older workers has been recognized as an important policy goal to support economic growth (Eurofound, 2017; FPT Ministers Responsible for Seniors, 2018). While the LFP rate of older workers in Canada is projected to continue rising in the coming years (Bélanger et al., 2016), there are labour market and workplace factors that can limit employment opportunities for older adults. Concerns have been raised about the state of ageist beliefs in Canadian society and the impact that ageism has on the goal of

increasing the LFP rate of older workers (FPT Ministers Responsible for Seniors, 2018; National Seniors Council, 2013; Senate of Canada, 2009).

Rationale

Workplace ageism is a complex phenomenon that encompasses prejudices, acts of age discrimination, and cognitive biases (Oliveira & Cabral-Cardoso, 2018; Solem, 2016) which contribute to differential treatment of workers based on their age. Older workers are often stereotyped as being less productive than their younger counterparts, despite evidence to the contrary (Johnson et al., 2017; Naegele et al., 2018). These stereotypes often result in discrimination against older workers (e.g., exclusion from job opportunities and promotions and unduly poor performance evaluations) which, in turn, negatively affect their mental and physical health and influence older workers to leave the labour force prematurely (Thorsen et al., 2012). While age has been a protected social category under the *Canadian Human Rights Act* (CHRA) since 2006, this does not preclude older workers from experiencing age discrimination in their workplaces.

Through the lens of Social Identity Theory (SIT), workplace age discrimination can be understood as an event that can harm the well-being of older workers. A core component of SIT is that individuals desire to have a positive self-concept and want to be associated with groups that possess positive attributes and qualities (Taylor & Moghaddam, 1994). However, when the social identity of individuals is threatened, their sense of self can be diminished (Abrams & Hogg, 2010). When individuals are subjected to mistreatment and social exclusion in their workplaces based on being older, their well-being can be harmed (Chang et al., 2020). Based on SIT, ageism in the workplace constitutes a psychosocial hazard.

Statement of Problem

Workplace ageism represents a significant productivity risk for the Canadian economy as older workers will comprise an increasing proportion of the labour force. Being a target of age discrimination can harm the health and well-being of an individual worker (Allen, 2016; Rippon et al., 2015; Swift et al., 2017). Not only can poor health have a negative effect on the labour force attachment of older workers (Chen, 2019), but poor health can also affect their productive capabilities (Silverstein, 2008).

In recent decades, the engagement of workers has become an important topic with respect to organizational productivity (Schaufeli, 2014). Worker engagement is an immersive psychological state that a person can experience while performing their job role (Kahn, 1990). Workers who are engaged can be described as energetic, absorbed in their tasks, and dedicated to the work they do (Bakker et al., 2008). Engaged workers will also demonstrate a higher level of productivity in their job role than a worker who is not engaged (Kim et al., 2012). Workers who become disengaged are psychologically detached from their work roles and experience lower levels of overall health (Law et al., 2011; Rastogi et al., 2018). Previous studies have also demonstrated the detrimental effect that age discrimination can have on worker engagement (Bayl-Smith & Griffin 2014; James et al., 2013). At present, there is scant evidence on this topic that emanates from Canada. Moreover, little is known about the proportion of workers in Canada who experience workplace age discrimination.

As governments of high-income countries are focused on further increasing older workers' LFP rates as a labour force sustainability measure (Davey, 2014), more needs to be known in Canada about the state of positive psychosocial job factors that promote

worker engagement. This is an important issue because worker engagement has been recognized as a vital component of psychological health and safety in the workplace (CSA Group, 2013). Within workplaces, job factors such as manager and supervisor support (Jin & MacDonald, 2017), collegial support (MacDonald & Levy, 2016), participation in decision-making (Lee et al., 2020), and opportunities for workplace education and training (Shuck et al., 2011) have been recognized as contributors of worker engagement. In the context of an ageing labour force, it is important to determine whether there are significant differences in the levels of these positive psychosocial job factors experienced by young, mid-life, and older Canadian workers. If older workers are experiencing a lower level of these specific job factors and engagement compared to young and middle-aged workers, this could signify that workplace ageism is having a negative effect on the Canadian labour force. The proposed study will contribute to filling this knowledge gap.

Research Questions

The primary research questions for this study are:

- What percentage of workers in Canada experience workplace age discrimination?
- Do positive psychosocial job factors that contribute to worker engagement vary by worker age?
- Is the experience of workplace age discrimination having a negative effect on worker engagement in Canada?

The next chapter, Review of Literature, introduces the theoretical framework of this study and concludes with the conceptual framework designed to guide investigation of

the proposed research questions. The third chapter, Method, provides an overview of the data set used for secondary analysis and outlines how the variables of interest were operationalized. Results of this study are presented in chapter four which is followed by the fifth and final chapter, Discussion.

Chapter Two – Review of Literature

The purpose of this chapter is to review the key concepts under investigation in this study. This chapter begins with an overview of Social Identity Theory (SIT), which is the theoretical framework that guided this study. Next is an examination of the construct of ageism. When age discrimination occurs, the act takes place in a particular social context. Ageism in the labour market is known to have a negative effect on the employment opportunities of older job seekers (Federal/Provincial/Territorial (FPT) Ministers Responsible for Seniors, 2018). Workplaces are also social contexts where ageist beliefs and stereotypes can manifest as differential treatment towards workers based on their age.

In Canada, with the creation of the Standard for Psychological Health and Safety in the Workplace in 2013, workplaces have become recognized as venues that can support and promote the mental health of individuals (Malachowski et al., 2017). In this respect, ageism in the workplace constitutes a hazard that can harm the well-being of workers. The primary concept under investigation for this study from the psychological health and safety standard is worker engagement, which has been recognized as a positive psychological state that contributes to both the productivity and well-being of workers (Lowe & Graves, 2016; Truss et al., 2014). The conceptual background of worker engagement is reviewed, followed by an examination of key positive psychosocial job factors that contribute to worker engagement.

Theoretical Framework: Social Identity Theory

Social Identity Theory (SIT) is situated in the field of social psychology and stems from inter-group relations and social comparison theories. Social identity begins with the

self-recognition of the social categories that individuals occupy such as age, sex, race, and ethnicity. It is these demarcations of social categories that allows individuals to make distinctions and attribution comparisons about other individuals and groups within social contexts and environments (Tajfel & Turner, 1986; Taylor & Moghaddam, 1994).

As a social category, age functions in a different way than sex or ethnicity. Ageing is a multidimensional process that occurs over time and that involves biological, psychological, and social factors (Schalk et al., 2010). As a person ages, they become a member of different age groups (Bytheway, 2005). In contrast, individuals tend to remain of the same sex or racial identity throughout their life course.

A key tenet of SIT is that individuals strive for a positive self-concept and want to claim membership with groups associated with positive characteristics (Lev et al., 2018; Taylor & Moghaddam, 1994). Individuals can experience a diminished sense of self when their social identity is marginalized (Abrams & Hogg, 2010). Therefore, negative social interactions can harm the social identity of individuals. Through the theoretical lens of SIT, this leads to the expectation that, workplace age discrimination can have negative consequences for the well-being of older workers.

Ageism

Ageism refers to the beliefs, stereotypes, and prejudices that a person has of an individual or group based on their known or perceived age (Burnes et al., 2019). It includes a contempt for those in certain age groups and a preference for others. The term was first used by Butler (1969; 1975) to describe the marginalization that younger and older individuals experience based on their age. Butler emphasized that, as a

person ages, they will undergo a process of status diminishment and will face mistreatment in public life due to their old age.

Ageism has been recognized as a growing global issue. As older adult populations increase on every continent, there is a concern that the prevalence of ageism may also increase (Wilson et al., 2019). Across the world, one in two people are estimated to hold negative attitudes towards older adults (World Health Organization, 2021). However, countries with larger older adult populations tend to have lower levels of ageist attitudes than countries with younger populations, which suggests increased intergenerational contact between younger and older generations contributes to more positive perceptions of older adults (Officer et al., 2020). With respect to Canada, a study using General Social Survey data found that, among individuals aged 45 and older, 8.7% of respondents had experienced age discrimination at some point over the last 5 years (Browning et al., 2020).

Ageism in the Labour Market

A person's age can affect the outcome of their job search. There is evidence demonstrating that age biases can have a negative influence on the decisions of employers about hiring older job seekers (Abrams et al., 2016). In a scenario-based hiring study, Richardson et al. (2013) demonstrated that, in the process of hiring new workers with similar skill sets, younger and older job seekers are often denied interviews on the basis of their age with those over the age of 54 experiencing the lowest evaluation scores among job candidates. Moreover, when older workers experience a job loss in later life, they tend to have longer periods of unemployment than younger and middle-aged workers (FPT Ministers Responsible for Seniors, 2018;

Harris et al., 2017). This can contribute to what is known as the discouraged worker effect, whereby workers who are unable to secure employment relevant to their skill set abandon their job search and withdraw from the labour market (Lassus et al., 2015; Ranzijn et al., 2006). Therefore, ageist beliefs can have negative implications for the labour force participation rate in Canada as a greater proportion of workers become older.

Ageism in the Workplace

The three ways in which ageist beliefs manifest within workplaces are affective, behavioural, and cognitive in nature (Oliveira & Cabral-Cardoso, 2018; Solem, 2016). Affective ageism is attitudinal in nature and is associated with feelings of prejudice towards a person based on their age. Behavioural ageism pertains to acts of discrimination towards individuals or groups based on their age. Stypinska & Turek (2017) report that behavioural workplace age discrimination can occur in a hard or soft manner. Hard age discrimination is characterized by actions such as being “fired or refused participation in training” (p. 56). Soft age discrimination refers to uncivil actions like age-related jokes and a lack of respect towards individuals based on their age. It appears that middle-aged workers occupy a favourable status relative to their older and younger counterparts. Marchiondo et al. (2016) found that the proportion of behavioural age discrimination experienced follows a u-shaped pattern with respect to the age of a worker. That is, younger and older workers are more likely to experience behavioural age discrimination than do middle-aged workers.

Cognitive aspects of ageism are associated with age stereotypes, which are preconceived notions about a person’s attributes and qualities based on their age.

While age stereotypes can be either positive or negative (Iversen et al., 2009), the majority of age stereotypes about older workers are negative (Ng & Feldman, 2012; Posthuma & Campion, 2009). One pervasive myth that contributes to the exclusion of older workers from workplace education and training is that older adults are poor learners (Findsen, 2015). Another prevalent negative ageist stereotype is that older workers are less productive than younger and middle-aged workers (Barrington, 2015; Van Dalen et al., 2010). The compound effect of so many negative stereotypes is that it culminates in unconscious and implicit biases about the capabilities of older workers (Levy, 2009). This can also contribute to self-ageism, whereby older workers themselves adopt these negative myths as inevitable facts of becoming older (FPT Ministers Responsible for Seniors, 2022). The presence of negative stereotypes in the workplace can be detrimental as they can affect both worker productivity and well-being.

Workplaces are becoming more age-diverse as a growing number of older adults are working further into later life than in previous generations (Raposo & Carstensen, 2015). However, age diversity in the workplace can become a source of conflict and a challenge for managers. Kunze et al. (2011) found that an increase in the age diversity within an organization can contribute to higher levels of perceived age discrimination. While intergenerational contact can promote positive connections among different age categories of workers, individuals may prefer to only identify and associate with others their own age (Naegele et al., 2018). This represents a concern for the well-being of individual workers as instances of age discrimination do not need to have actually happened in order to harm workers, they only need to be perceived to have occurred (James et al., 2013). For organizational leaders, there is an imperative to ensure their

workplaces are free from age discrimination and do not foster negative worker age stereotypes as workforces become more age diverse (von Humboldt et al., 2023).

Psychological Health and Safety in the Workplace

In recent decades, there has been increased recognition of the importance that mental health has for the well-being of individuals. Mental health is one component of a person's overall health and encompasses both emotional and psychological well-being (Government of Canada, 2020). The Mental Health Commission of Canada (MHCC) was established in 2007 to address mental health issues and promote the mental health of Canadians. The work of the MHCC led to the creation of the Standard for Psychological Health and Safety in the Workplace, a technical document first published in 2013, and reaffirmed by its stakeholders in 2018 (CSA Group, 2013). Malachowski et al. (2017) remark that, with the establishment of the mental health standard, the workplace has become recognized "as a venue for mental health recovery and for the prevention of mental health issues" (p. 13). In this respect, ageism in the workplace can be understood as a psychosocial hazard that can affect the mental health and well-being of individual workers.

The impetus for the creation of the standard represents a convergence of the importance of addressing mental health issues and psychological safety in the workplace from both legal and scientific perspectives (Shain et al., 2012). For legal reasons, employers have a responsibility to ensure their workers are protected from workplace hazards that can harm their physical and mental health (Mental Health Commission of Canada, 2011). Moreover, from a management science perspective, employers who support the well-being of their workers will benefit from the increased

productive capabilities of their workforce (Lowe, 2020). Adherence to the psychological health and safety standard is voluntary and employers can make the choice to pursue goals associated with the standard. While the majority of employers in Canada are unaware of the standard (Sheikh et al., 2018), its value has been recognized by some employers as having the potential to improve both worker satisfaction and job performance (Kunyk et al., 2016). The standard is a framework comprising fourteen interrelated factors, listed in *Table 2.1.*, known to influence the psychological health of workers in a workplace (CSA Group, 2013).

Of the fourteen factors in the Standard for Psychological Health and Safety in the Workplace, the main factor of interest for this study is worker engagement, which has been a preeminent topic in the fields of positive psychology and human resource management over the last 30 years (Truss et al., 2014). Within the standard, there are several factors that have been identified in the academic literature that are known to contribute to worker engagement. The next section of the literature review will provide a conceptual overview of worker engagement and the psychosocial job factors that contribute to worker engagement.

Table 2.1.

Fourteen Workplace Factors that affect Psychological Health and Safety (CSA Group, 2013, p. 8)

a) Psychological support
b) Organizational culture
c) Clear leadership and expectations
d) Civility and respect
e) Psychological job demands
f) Growth and Development
g) Recognition and reward
h) Involvement and influence
i) Workload management
j) Engagement
k) Work/life balance
l) Psychological protection from violence, bullying, and harassment
m) Protection of physical safety
n) Other chronic stressors as identified by workers

Worker Engagement

Worker engagement is a positive psychological state in which an individual feels involved in their job tasks and contributes their personal energies to their work role (Bakker et al., 2008; Kahn, 1990). The concept was first described in the seminal work of Kahn (1990) as the physical, cognitive, and emotional efforts that individuals put into their job role. There are three main components comprising the state of worker engagement: vigour, dedication, and absorption (Bakker et al., 2011). Vigour is demonstrated by the time, energy, and effort workers put into accomplishing their tasks. Dedication refers to the meaningfulness of doing and completing work-related tasks. Absorption is linked to the focus and level of concentration workers put into their tasks.

A worker who is engaged will demonstrate a higher level of productivity in their job role than a worker who is not engaged (Kim et al., 2012). Overall, engaged workers experience more positive emotions, better health, and are capable of creating job

resources and transferring their engaged state to others (Bakker & Demerouti, 2008). Thus, engaged workers are much more capable of reaching higher levels of productivity than non-engaged workers. Acute worker performance issues can arise for businesses and organizations when workers become disengaged. These individuals are psychologically detached from their work roles and experience worse overall health (Law et al., 2011; Rastogi et al., 2018). Worker disengagement can, therefore, have negative implications for the productivity of an organization.

Positive Psychosocial Job Factors / Predictors of Worker Engagement

Given the importance of worker engagement as a contributing factor to organizational productivity, it is important to recognize the workplace factors that contribute to worker engagement. The following concepts have been identified in the literature as being key psychosocial job factors that have a positive effect on worker engagement within businesses and organizations. Moreover, it was possible to operationalize these concepts in the data set that was used for secondary analysis in this study. Linkages with the Standard for Psychological Health and Safety in the Workplace listed in *Table 2.1* are: a) psychological support, f) growth and development, and h) involvement and influence. Manager and supervisor support and collegial support corresponds with psychological support, workplace education & training is associated with growth and development, and participation in decision-making represents involvement and influence. Workplace age discrimination is encompassed within l) psychological protection from violence, bullying, and harassment.

Manager and Supervisor Support

Organizational support, in the form of supervisory and managerial support, can contribute to the engagement of workers. When workers feel that they have the trust and support of their managers, they are more engaged (Jin & MacDonald, 2017; Saks, 2006; Sarti, 2014; Wollard & Shuck, 2011). Lack of support from organizational leaders can lead workers to feel insecure and dissatisfied with their job roles.

Collegial Support

Support from peers is an important job resource for workers. Many present-day jobs involve working in teams whereby cooperation and collaboration are important for accomplishing tasks and the overall success of an organization. Social support in the form of good relationships with co-workers can have a positive influence on worker engagement (Kim et al., 2012; MacDonald & Levy 2016; Sarti, 2014). Co-workers can be a source of motivation at work and an important part of the culture in a workplace.

Participation in Decision-Making

Within workplaces, tasks and responsibilities may change for workers over time. For individual workers, being involved in decisions that affect their job roles has been recognized as a factor that contributes to worker engagement (Lee at al., 2020; Sarti, 2014). This leads to the expectation that having opportunities to participate in decision-making will sustain the engagement of workers.

Workplace Education & Training

The ability to access workplace education and training is important for the development and maintenance of a worker's set of skills. Participation in workplace education and training contributes to worker engagement (Shuck et al., 2011; Wollard &

Shuck, 2011). This includes both formal (e.g., instructor-led training, workshops) and informal (e.g., task demonstration, job shadowing) learning activities. It is expected that opportunities for both formal and informal learning in the workplace will increase worker engagement (Lee at al., 2020).

The Present Study

Worker engagement is an important component of psychological health and safety within organizations. Previous research found that age discrimination in the workplace can have negative effects on worker engagement (Bayl-Smith & Griffin, 2014; James et al., 2013). Little of the evidence informing this important issue, however, originates in Canada. Furthermore, nothing is known about the actual prevalence of age discrimination within Canadian workplaces. What this study adds to the literature is an examination of workplace factors that are known to contribute to worker engagement while controlling for workers that are supervised by managers and work as part of a team in Canadian organizations. The proposed study contributes to filling this knowledge gap by answering the following three research questions. What percentage of workers in Canada experience workplace age discrimination? Do positive psychosocial job factors that contribute to worker engagement vary by worker age? Is the experience of workplace age discrimination having a negative effect on worker engagement in Canada?

Chapter Three – Method

Data Set

The research questions were answered using data from the General Social Survey (GSS) Cycle 30: Canadians at Work and Home. The information collected by Statistics Canada for this survey has relevant data on worker attitudes and workplace factors, including experiencing workplace age discrimination. The target population for the GSS Cycle 30 included all persons in Canada aged 15 and older. Residents of the Yukon, Northwest Territories, and Nunavut and full-time residents of institutions (e.g., prisons, long-term care facilities) were excluded from the survey sample (Statistics Canada, 2018). The GSS Cycle 30 data set contains a total of 19,609 cases.

The data collection period for this survey was from August 2 to December 23, 2016 (Statistics Canada, 2018). Two modes of data collection were used: self-completed electronic questionnaires (EQs) and computer-assisted telephone interviews (CATI). The option for the self-completed electronic questionnaires was available until September 30, 2016, at which point the online portal closed. All other respondents and respondents with incomplete electronic questionnaires were contacted by interviewers to complete the survey via CATI (Statistics Canada, 2018). Respondents had the choice to complete the survey in either English or French. Of the 19,609 total cases, 13,520 were completed through CATI and 6,089 were completed by EQs (Statistics Canada, 2018).

Age Categories of Workers

There is no consistent and agreed upon definition of when a worker becomes older. In a scoping review on ageism and older workers, Harris et al., (2017) found that

previous studies have defined older workers as those age 40 and older, to as high as age 65 and older. In the GSS Cycle 30 public use microdata files (PUMF), the age of respondents is categorized into seven age groups: 15 to 24; 25 to 34; 35 to 44; 45 to 54; 55 to 64; 65 to 74; and 75 years and older. Statistics Canada (2017a) defines older workers as those who are aged 55 and older. This is the criterion that was used to define older workers for this study. Statistics Canada (2017a) defines core-age workers as those who are between the ages of 25 and 54 and reports that they have the highest labour force participation (LFP) rate in Canada. Younger workers in this study comprise those aged 25 to 34 and mid-life workers are those between the ages of 35 and 54. Workers who are between the ages of 15 and 24 were excluded from this study as their current employment status at the time of the survey may not be representative of the jobs they will be employed in over the long-term.

Sample

The GSS Cycle 30 PUMF data set contains a sample of 6,956 respondents who were aged 25 and older, were employed part- or full-time, worked as part of a team and had a manager or supervisor. Participants needed to work as part of a team in order to be asked survey questions associated with manager and supervisor support and collegial support. For that reason, respondents who were self-employed at the time of the survey were excluded from the sample in order to capture the experience of individuals working in team settings who have co-workers, managers, and supervisors. More information on the variables that were examined in this study are listed in *Appendix A.*

Measures

Reported Age Discrimination

One item was used to assess whether a respondent experienced age discrimination while at work. Respondents were first asked: “In the past 12 months, have you experienced unfair treatment or discrimination while at work?” Response options were 0 = *no* and 1 = *yes*. If the respondent answered *yes*, they were then asked a series of questions pertaining to what the unfair treatment or discrimination was based on (e.g., age, sex, ethnicity, or culture). Respondents were able to select multiple forms of discrimination. The following item, “was this unfair treatment or discrimination based on age?” was used to determine whether a respondent reported any instances of age discrimination in the past 12 months. Response options to this item were 0 = *no* and 1 = *yes*.

Positive Psychosocial Job Factors

The following five variables are categorized as positive psychosocial job factors for this study. The items that comprise each construct are as follows:

Manager and Supervisor Support

One item assessed manager and supervisor support: “How often does your manager or supervisor help and support you?” Response options ranged from 1 = *never* to 5 = *always*.

Collegial Support

One item assessed collegial support: “How often do your colleagues help and support you?” Response options ranged from 1 = *never* to 5 = *always*.

Participation in Decision-Making

One item assessed participation in decision-making: To what extent do you agree or disagree with the following statement, “I have opportunities to provide input into decisions that affect my work.” Response options ranged from 1 = *strongly disagree* to 5 = *strongly agree*.

Formal Workplace Education and Training

One item assessed access to formal workplace education and training: “In the past 12 months, have you had formal training paid for by your employer?” Response options for this item were 0 = *no* and 1 = *yes*.

Informal Workplace Education and Training

One item assessed access to informal workplace education and training: “In the past 12 months, have you had informal or on-the-job training from co-workers or supervisors?” Response options for this item were 0 = *no* and 1 = *yes*.

Worker Engagement

One item assessed worker engagement: “I take pride in the work that I do.” Response options for this statement ranged from 0 = *completely disagree* to 10 = *completely agree*.

Analyses

SPSS version 28 was used to prepare the data set and conduct the analysis for this study. The first stage of the analysis produced descriptive statistics on the variables of interest in this study. The frequencies for workers who experienced age discrimination were tabulated. The proportions of reported age discrimination by each worker age category were also calculated. As age discrimination is a dichotomous

variable, a chi-square test of homogeneity was conducted to determine whether there were statistically significant differences in the proportions of respondents who reported age discrimination across worker age category. A Bonferroni post-hoc test was conducted to determine where the significant differences of workplace age discrimination were among the three age categories of workers (IBM, 2021). Cramer's *V* was used to estimate the effect size in differences in the proportions of reported age discrimination as the reason of unfair treatment or discrimination while at work (Durlak, 2009).

The proportions of formal and informal workplace education and training by each worker age category were also calculated. As both variables were measured as dichotomous, chi-square tests of homogeneity were conducted to determine whether there were statistically significant differences in the reported levels of these two variables across worker age categories. Bonferroni post-hoc tests were conducted to determine where the significant differences in these two types of workplace education and training were among the three age categories of worker (IBM, 2021). Cramer's *V* was used to estimate the effect size of differences in the proportions of both formal and informal training and education received by respondents (Durlak, 2009).

Cross-tabulations and histograms for the responses to questions about manager and supervisor support, collegial support, participation in decision-making, and worker engagement variables were produced. The calculation of these figures provided a visual representation of the response distributions for those variables. This was done to determine whether responses were normally distributed as the analysis of variance (ANOVA) test assumes a normal distribution of responses (Pek et al., 2018). For

analysis purposes, these four variables were treated as continuous. This assumes that the distances between each level of response are equal and that these predictor variables have linear effects of association with the dependent variable (Williams, 2020). Skewness and kurtosis statistics were also estimated to describe any characteristics of data non-normality (Cain et al., 2017). ANOVA tests were then conducted for these four variables to determine whether there were any significant differences in the reported level of these variables among the three age categories of workers. For any statistically significant differences among the reported levels of these four variables, Scheffé post-hoc tests were conducted to determine where the significant difference were among age categories of workers (IBM, 2023). For all ANOVA tests, the eta-squared (η^2) was reported to describe the effect size of the mean differences among worker age categories (Sheskin, 2011).

Bivariate correlation analysis was conducted to assess the strength of association and direction (e.g., positive or negative) among the independent and dependent variables of interest. Reported age discrimination, formal workplace education and training, and informal workplace education and training were measured as dichotomous variables. To estimate the correlations among these three variables and worker engagement, which is measured at the ordinal level, Spearman's rho correlation coefficient was estimated (Khamis, 2008). The variables for manager and supervisor support, collegial support, and participation in decision-making were measured at the ordinal level and the bivariate correlations with worker engagement were tested using Kendall's tau-b (Laerd Statistics, 2018). Given the large sample size of almost 7,000 respondents in this study, correlation values that are greater than -.1

and less than .1 were considered to be not statistically significant (Cohen, 1988). All variables associated with positive psychosocial job factors were assessed for multicollinearity using variance inflation factor (VIF) tests (Sheskin, 2011). This was done to ensure that there were no measurement issues due to strong correlations among the predictor variables.

The final stage of analysis was a two-stage hierarchical regression analysis. All predictors of worker engagement were entered into an ordinary least squares (OLS) regression model to determine whether and how they were related to the dependent variable, worker engagement. The unstandardized beta, standard error, and standardized beta estimations were reported. The next stage was to then add reported age discrimination to the positive psychological job factors to determine whether reported age discrimination had a significant additional effect on worker engagement. Any changes to the standardized betas of the predictors of worker engagement in the first stage of the model and the adjusted R-squared were used to interpret the relationship between age discrimination and worker engagement in the second stage. A P-P plot and scatterplot were generated to examine the regression standardized residuals of worker engagement. This was done to determine whether the residuals of the model were homoscedastic or heteroskedastic as the distribution of residuals can affect the standard error of the regression model. The significance level of $p \leq 0.05$ was used to determine results that were statistically significant in this study. This level of significance was chosen as the predictor variables included in the regression model were likely to be associated with worker engagement based on previous academic research (Arkes, 2019).

Chapter Four – Results

Sample Description

An overview of the study sample is presented in *Table 4.1.* There were slightly more women than men in the sample. About half of the respondents were middle-aged workers. Three-quarters of respondents had education levels above a high school education. Over half of the respondents were employed by small size organizations and the majority of respondents had full-time positions at the time of the survey.

Reported Workplace Age Discrimination

To answer my first research question (what percentage of workers in Canada experience workplace age discrimination?), I first computed the proportions of total workers who reported experiencing workplace discrimination. In total, 591 respondents (220 men and 371 women), reported experiencing discrimination or unfair treatment in their workplace at least once in the past 12 months. This represents 8.5% of the study sample. Among the 591 individuals who reported an instance of discriminatory behaviour, 139 stated that the unfair treatment or discrimination they experienced was based on their age. Overall, this translates to 2% of the study sample, or one in every 50 individuals, who experienced at least one instance of workplace age discrimination in the past 12 months.

Table 4.1.

Descriptive Statistics of the Study Sample (n=6,956)

Sample Characteristics	*n*	%
Worker Age Category		
Younger (25 to 34)	1,537	22.1
Middle (35 to 54)	3,676	52.8
Older (55 and older)	1,743	25.1
Gender		
Men	3,345	48.1
Women	3,611	51.9
Region		
British Columbia	881	12.7
Prairie provinces (Alberta, Saskatchewan, Manitoba)	1,633	23.9
Ontario	1,847	26.6
Quebec	1,028	14.8
Maritime provinces (New Brunswick, Nova Scotia, Prince Edward Island, Newfoundland and Labrador)	1,567	22.5
Education Level		
Less than a high school diploma or high school diploma or equivalent certificate	1,726	25.1
Trade certificate or diploma, a college or other non-university certificate or diploma, or a university certificate below the bachelor's level	2,720	39.5
Bachelor's degree or a university certificate, diploma, or degree above the bachelor's level	2,443	35.5
Working status		
Full-time (30 hours or more per week)	6,277	90.2
Part-time (1 to 29 hours per week)	679	9.8
Workplace Size		
Small (between 1 and 99 workers)	3,897	56.7
Midsize (between 100 and 499 workers)	1,617	23.5
Large (500 or more workers)	1,358	19.8

Note. Percentages for each category may not add up to 100% due to rounding.

Among the 591 respondents who reported experiencing discriminatory behaviour in the workplace, a chi-square test for proportional homogeneity showed that there were statistically significant differences in the proportions of workplace age discrimination reported by worker age category, $x^2(2) = 54.84$, $p < .001$, Cramer's $V = .31$. The results of the Bonferroni post-hoc test shown in *Table 4.2.,* revealed that a significantly greater

proportion of younger and older workers experienced age discrimination than did middle-aged workers. The effect size of the difference in these proportions based on the value of Cramer's *V* was of moderate strength (IBM, 2021). This means that the proportional differences of reported age discrimination for both younger and older workers compared to middle-aged workers were somewhat substantial. However, the proportions of younger and older workers who reported age discrimination were not significantly different from each other.

Table 4.2.

Proportion of Reported Age Discrimination by Worker Age Category

Reported Age Discrimination	Younger		Middle		Older		Total	
	n	%	n	%	n	%	n	%
Yes	50	31.1[a]	33	11.4[b]	56	42.7[a]	139	23.9
No	111	68.9[a]	256	88.6[b]	75	57.3[a]	442	76.1

Note. Superscript letters denote Bonferroni post-hoc results. Columns that have different letters are statistically significant from each other while columns with the same letter are not significantly different.

Positive Psychosocial Job Factors

To address my second research question (do positive psychosocial job factors that contribute to worker engagement vary by worker age?), I computed the proportions of formal and informal workplace education and training received by each of the three worker age categories. A chi-square test of proportional homogeneity showed that there were statistically significant differences in the proportion of respondents that received formal workplace education and training in the past 12 months across worker age categories, $x^2(2) = 52.41$, $p < .001$, Cramer's $V = .09$. The results of the Bonferroni post-

hoc test shown in *Table 4.3* indicated that the proportions of younger and middle-aged workers who received formal education and training were statistically greater than the proportion of older workers who received education and training. The effect size of the difference in these proportions based on the Cramer's *V* value level of association is weak (IBM, 2021). This means the differences in the proportion older workers who received formal education and training was relatively low compared to younger and middle-aged workers. The difference in the proportions of younger and middle-aged workers who received formal education and training was not statistically different.

Table 4.3.

Proportion of Formal Workplace Education and Training Received in the Past 12 Months by Worker Age Category

Formal Workplace Education and Training	Younger		Middle		Older		Total	
	n	%	n	%	n	%	n	%
Yes	714	46.5[a]	2,072	43.5[a]	606	34.8[b]	2,915	42.0
No	823	53.5[a]	1,595	56.5[a]	113	65.2[b]	4,028	58.0

Note. Superscript letters denote Bonferroni post-hoc results. Columns that have different letters are statistically significant from each other while columns with the same letter are not significantly different.

A chi-square test of proportional homogeneity was also conducted to determine whether there were differences in the proportions of workers who received informal workplace education and training in the past 12 months. The result of this test showed that there were statistically significant differences in the proportions among the three worker age categories receiving such training, $x^2(2) = 60.05$, $p < .001$, Cramer's $V = .09$. The Bonferroni post-hoc test shown in *Table 4.4* revealed that the proportion of younger workers who received informal education and training was statistically greater than that

of both middle-aged workers and older workers. In addition, a statistically greater proportion of middle-aged workers than older workers received informal education and training. However, the difference in these proportions is weak, based on the Cramer's *V* value (IBM, 2021), meaning that, while the proportions are statistically different among the three groups, the magnitude of that difference is relatively small.

Table 4.4.

Proportion of Informal Workplace Education and Training Received in the Past 12 Months by Worker Age Category

Informal Workplace Education and Training	Younger		Middle		Older		Total	
	n	%	n	%	n	%	n	%
Yes	960	62.5 [a]	2,107	57.4 [b]	859	49.4 [c]	3,926	56.5
No	575	37.5 [a]	1,563	42.6 [b]	881	50.6 [c]	3,019	43.5

Note. Superscript letters denote Bonferroni post-hoc results. Columns that have different letters are statistically significant from each other while columns with the same letter are not significantly different.

To further address my second research question, I produced cross-tabulations and histograms for the responses to questions about collegial support, manager and supervisor support, and participation in decision-making. This allowed me to inspect the response distributions of these three variables. After a visual inspection, I determined that these three variables all had non-normal distributions and were negatively skewed for workers of all ages. This violates the assumption of data normality for analysis of variance (ANOVA) tests (Pek et al., 2018). To further assess the data non-normality for these three variables, I conducted skewness and kurtosis tests.

The skewness statistic values for collegial support, manager and supervisor support, and participation in decision-making were -.79, -.68, and -1.08 respectively.

These skewness values confirm the negative skew in the distribution of responses to questions about these three factors. The kurtosis statistic values for collegial support, manager and supervisor support, and participation in decision-making were .49, -.20, and 1.15 respectively. Based on these skewness and kurtosis values and sample sizes for each worker age category, I decided to not transform these variables in any manner to retain the current response variance. A transformation and combining of response categories would have shrunk the variance among these job factors.

I analyzed the reported levels of collegial support, manager and supervisor support, and participation in decision-making with one-way ANOVA tests. This was to determine whether there were significant differences in the levels of positive psychosocial job factors reported by worker age category. The results of these tests are presented in *Table 4.5*. There were no significant differences in the levels of manager and supervisor support and participation in decision-making among younger, middle-aged, and older workers.

Table 4.5.

Level of Collegial Support, Manager and Supervisor Support, and Participation in Decision-Making by Worker Age Category

Measure	Younger		Middle		Older		*F*	*η2*
	M	*SD*	*M*	*SD*	*M*	*SD*		
Collegial Support	4.16	0.80	4.10	0.82	4.14	0.86	$F(2,6941) = 3.23$	0
Manager and Supervisor Support	3.91	1.01	3.85	1.03	3.87	1.08	$F(2,6953) = 2.10$	0
Participation in Decision-Making	3.91	0.92	3.87	0.93	3.9	0.97	$F(2,6941) = 0.68$	0

Note. The one-way ANOVA test for collegial support was significant at the $p < .05$ level and the Scheffé post-hoc test indicated the mean difference between younger and middle-aged workers was significant at the $p < .10$ level. The ANOVA test for collegial support was not accepted as being statistically significant.

Worker Engagement

A crosstabulation and histogram was produced to inspect the response distribution for worker engagement. A visual inspection of the response distributions for worker engagement revealed that they were non-normal and were negatively skewed for all three age categories of workers. To further assess the data non-normality for this variable, I conducted skewness and kurtosis statistic tests. The results indicated that worker engagement had a skewness of -2.9 and a kurtosis of 11.9. Given that worker engagement is measured on scale of zero to ten, the range of responses could vary widely. Overall, 93% of respondents rated their engagement an eight or higher—with 67.6% of respondents rating their engagement at 10—while 7% of respondents responded with a 7 or less. This response distribution accounts for the high kurtosis value and the negative skewness value. I decided to not transform the worker

engagement variable in any manner in order to retain the response variance. A reduction of response categories would have shrunk the variance of this measure.

The one-way ANOVA test of the mean comparisons for worker engagement, shown in *Table 4.6,* was significant. The Scheffé post-hoc test (*Table 4.6*) revealed that there were significant differences between younger and middle-aged workers, younger and older workers, and middle-aged and older workers. Older workers had the highest level of worker engagement, followed by middle and younger workers. Overall, all three age categories of workers reported high levels of engagement. The eta squared value of .01 indicates that the effect size was low (Sheskin, 2011), meaning the magnitude of mean differences in engagement among the three age categories of workers were small.

Table 4.6.

Level of Worker Engagement by Worker Age Category

Measure	Younger		Middle		Older		*F*	η^2
	M	*SD*	*M*	*SD*	*M*	*SD*		
Worker Engagement	9.19[a]	1.42	9.34[b]	1.24	9.46[c]	1.17	$F(2,6949) = 18.77^{**}$	.01

$^{**}p < .01$

Note. Superscript letters denote one-way ANOVA with Scheffé post-hoc test results. Columns that have different letters are statistically significant from each other while columns with the same letter are not significantly different.

The bivariate correlation matrix for the variables of interest in this study are shown in *Table 4.7.* Overall, three of the five positive psychosocial job factors had a statistically significant positive correlation with worker engagement. The correlation analysis implies that respondents who are able to participate in decisions that affect

their job, receive collegial support, as well as managerial and supervisory support, were likely to report higher levels of engagement. However, because the level of association is below .1, this is not a statistically meaningful result with a large sample size of almost 7,000 respondents (Cohen, 1988). That is, reported age discrimination was not associated with any of the job factors.

Table 4.7

Correlation Matrix – Reported Age Discrimination, Positive Psychosocial Job Factors, and Worker Engagement

Measure	*n*	*M*	*SD*	(1)	(2)	(3)	(4)	(5)	(6)	(7)
(1) Reported Age Discrimination	6,925	.02	.14	-						
(2) Collegial Support	6,944	4.13	0.82	-.09	-					
(3) Manager and Supervisor Support	6,956	3.87	1.04	-.08	.46**	-				
(4) Participation in Decision-Making	6,944	3.91	0.94	-.08	.27**	.32**	-			
(5) Formal Workplace Education and Training	6,943	.42	.49	-.01	.07	.07	.10	-		
(6) Informal Workplace Education and Training	6,945	.57	.50	.02	.06	.08	.05	.25**	-	
(7) Worker Engagement	6,952	9.33	1.27	-.02	.16**	.15**	.18**	.04	.01	-

***p ≤ .01.*

Note. Values between -0.1 and 0.1 are not statistically meaningful with a sample size this large, even if they are calculated as being statistically significant (Cohen, 1988).

To address my third and final research question, the last stage of analysis was to determine whether reported age discrimination contributes to lower engagement among workers in Canada. This was accomplished using a two-stage ordinary least squares (OLS) hierarchical regression model. The first stage was to test the relationships between positive psychosocial job factors and worker engagement. The second phase

was to then add reported age discrimination into the predictive model to determine whether it added any additional explanatory power to the regression model. Variance inflation factor (VIF) tests were conducted to determine whether there was any multicollinearity among the predictor variables, which would have depressed the calculated significance levels. All VIF values were greater than one and less than two—a range which indicates no multicollinearity among predictor variables in the model (Sheskin, 2011). Results of this two-stage hierarchical regression model are shown in *Table 4.8*.

Table 4.8.

Results of Two-Stage Hierarchical Regression Model for Worker Engagement

	Phase 1			Phase 2		
Measure	*B*	*SE B*	*β*	*B*	*SE B*	*β*
Collegial Support	.14	.02	.09**	.14	.02	.09**
Manager and Supervisor Support	.07	.02	.06**	.07	.02	.06**
Participation in Decision-Making	.19	.02	.14**	.19	.02	.14**
Formal Workplace Education and Training	.08	.03	.03	.08	.03	.03
Informal Workplace Education and Training	.02	.03	.01	.02	.03	.01
Reported Age Discrimination				-.04	.11	0
Adjusted R^2		.05			.05	
Adjusted R^2 Change					0	
F		78.47			65.41	

$^{**}p \leq .01$.

Based on the statistically significant standardized betas (β), the strongest predictor of worker engagement is participation in decision-making, followed by collegial support, manager and supervisor support respectively. Formal and informal workplace education and training were not associated with worker engagement. To better understand the standardized residuals of the two-stage regression model, I inspected the P-P plot and scatterplot generated in SPSS 28.

There were significant deviations away from the lines of best fit among the standardized residuals of the P-P plot. The standardized residuals were also quite dispersed in the scatterplot with no apparent symmetry. Based on these plot inspections, I determined that my residuals were not normally distributed and were heteroscedastic, which can contribute to bias among reported standard errors among predictor variables (Arkes, 2019). However, the response distributions for collegial support, manager and supervisor support, and participation in decision-making variables were all negatively skewed, as was worker engagement. While the standardized residuals are heteroscedastic, there is consistency in the shape of response distributions among the predictor and outcome variables, which makes the measure of the reported standard errors more reliable.

Overall, the regression results remained consistent between stage one and stage two. That is, reported age discrimination did not have a statistically significant relationship with worker engagement when the variable was added as a predictor in the regression model. Moreover, the addition of the reported age discrimination variable did not change the significance of other predictor variables in the model. If reported age discrimination was significant, and the standardized beta values of the predictors of

worker engagement were reduced, this would have been evidence of a significance negative relationship between reported age discrimination and worker engagement. Furthermore, the introduction of reported age discrimination into the regression model did not contribute to any change in the adjusted R-squared value of .05. This means the addition of reported age discrimination did not explain additional variance in worker engagement regression model.

Chapter Five – Discussion

The health and well-being of workers is essential to the performance of businesses and organizations and the overall productivity of the labour force. The purpose of this study was to explore the state of age discrimination in Canadian workplaces, examine the state of positive psychosocial job factors that contribute to worker engagement, and determine whether reported workplace age discrimination had a negative effect on the engagement of workers in Canada. This study was guided by the theoretical lens of Social Identity Theory (SIT). Key tenets of SIT posit that individuals strive to maintain a positive self-identity (Lev et al., 2018) and want to be associated with groups that have positive attributes and qualities (Taylor & Moghaddam, 1994). As we move through the life course, ageism and age discrimination can be perceived as a threat to an individual's sense of identity, which can have a negative impact on a person's health and well-being.

Through examination of a nationally representative sample of almost 7,000 Canadian workers aged 25 and older, results showed that 2% of the study sample, or one in every 50 workers, reported experiencing at least one instance of workplace age discrimination in the past 12 months. Recent labour force statistics estimate that there are over 17 million full-time and part-time workers aged 25 and older in Canada (Statistics Canada, 2022). The 2% statistic identified in this study translates to over 340,000 workers who would experience workplace age discrimination in a year. With the absence of historic data, this statistic provides a baseline on the state of reported workplace age discrimination in Canada that can inform future research on this topic. An

increase in this proportion could signify that workplace age discrimination is on the rise in the country.

The reported prevalence rate of 2% in this study, however, is lower in comparison to studies from other countries. In a recent US study of workers between the ages of 40 and 70, almost 7% of respondents felt they were discriminated against at work due to their older age (Roscigno et al., 2022). Moreover, survey research conducted by the Australian Human Right Commission (2015) found that more than one in four workers aged 50 and older experienced at least one instance of workplace age discrimination over a 2-year period. Thus, the reported age discrimination statistic found in this study is likely an underestimation of the actual prevalence of workplace age discrimination in Canada. A recent report by the Federal/Provincial/Territorial (FPT) Ministers Responsible for Seniors (2023) found that in a national survey on ageism of almost 3,000 Canadians, that around 40% of respondents have personally seen or experienced ageism in workplace settings in their lifetime. Therefore, hundreds of thousands of workers in Canada, many of them older adults, are likely experiencing workplace age discrimination every year that is not being identified. The FPT Ministers Responsible for Seniors (2023) report also indicated that nearly half of the survey respondents have personally experienced ageism in Canadian society. This aligns with a report by the World Health Organization (2021) which estimates that, globally, half of all people possess negative attitudes towards older adults.

One of the strengths of this research is the inclusion of both younger and middle-aged workers in the study sample. This allowed for comparisons among age categories of workers with respect to the variables of interest. Among respondents who reported

age discrimination, a significantly higher proportion of younger and older workers than middle-aged workers experienced age discrimination. This finding of a u-shaped pattern, whereby more younger and older workers experience age discrimination than middle-aged workers, is similar to other research on reported workplace age discrimination (Marchiondo et al., 2016). This demonstrates that younger workers are also susceptible to workplace age discrimination, with the second highest proportion of workplace age discrimination in this study.

The measurement and operationalization of workplace age discrimination could be improved in future research through use of normed and validated instruments. The nine-item Workplace Age Discrimination Scale (WADS) developed by Marchiondo and colleagues (2016) is one such tool. This scale asks more explicit questions about the nature of workplace age discrimination experienced, such as “I have been passed over for a work role/task due to my age” and “I have been treated as though I am less capable due to my age” (Marchiondo et al., 2016, p. 499). This would provide more detail on the frequency and type of workplace age discrimination that have occurred. Moreover, this instrument may have detected more incidences of behavioural ageism in this study, had respondents been asked more specific questions associated with how age discrimination manifests in the workplace. The other two dimensions of workplace ageism, affective and cognitive, were not addressed in this study. Different survey questions and instruments would have been needed to measure these aspects of workplace ageism.

With respect to the positive psychosocial job factors (as predictors of engagement) examined in this study, there was some variation among the three age

categories of workers. Overall, older workers reported receiving the lowest proportions of formal and informal workplace education and training. This finding is consistent with other research on this topic (Statistics Canada, 2012). However, the General Social Survey (GSS) Cycle 30 public use microdata files (PUMF) used for this study, does not specify whether respondents expressed the need for any workplace education or training. Both formal and informal education and training were not associated with worker engagement.

There were no significant differences in the level of collegial support, manager and supervisor support, or participation in decision-making by age group. Through the lens of social identity theory, a disparity in the levels of these job factors might have indicated that a particular age category of workers was being subjected to ageism in the workplace through a lack of social support and involvement in decision-making. However, the findings from this study indicate that older workers were not experiencing a lack of social support or involvement in their jobs and that this aspect of behavioural workplace ageism was not pervasive in the sample.

Overall, the reported levels of worker engagement for all age categories of workers were high. This study found that older workers had the highest mean levels of engagement, followed by middle-aged and younger workers. The high level of worker engagement among older workers, compared to younger workers, has also been found in other workplace studies from Germany (Johnson et al., 2017) and the United States (Kim & Kang, 2017). These two studies attribute the higher levels of engagement of older workers to their emotional regulation abilities, which allows them to better manage workplace stressors.

In both the correlation analysis and two-stage hierarchical regression model, reported age discrimination was not related to worker engagement for workers aged 25 and older. This is consistent with a US study involving a general population sample of younger, middle-aged, and older workers (Macdonald & Levy, 2016). In contrast, other studies involving workers in Australia (Bayl-Smith & Griffin, 2014) and the United States (James et al., 2013) have reported a significant negative effect of age discrimination on worker engagement. This study further informs the body of knowledge on this topic by providing the first examination of this phenomenon in Canada through use of a nationally representative sample of workers. Overall, the evidence on whether workplace age discrimination has a negative impact on worker engagement remains mixed.

The findings of this study provide insight into the strength of predictors of engagement for workers in Canada as well. The strongest predictors of worker engagement identified, in descending order, were participation in decision-making, collegial support, and manager and supervisor support. As shown in *Table 4.7*, these three job factors had the strongest positive correlations with engagement among all variables of interest in this study. This demonstrates an interconnection between two dimensions of the Standard for Psychological Health and Safety (i.e., psychological support and involvement and influence) as predictors of engagement. Future research on worker engagement will want to include these variables among other potential predictors of engagement encompassed in the Standard for Psychological Health and Safety. For example, job factors, such as whether workers perceive their organization's culture as being supportive (Lee, 2020) and recognition for workplace achievements

(Wang et al., 2020) have been identified in the academic literature as contributors to engagement.

For employers, worker engagement is an important construct as engaged workers are highly productive (Lowe & Graves, 2016) and tend to remain attached to their organizations (Shain et al., 2012). Given the number of inter-related dimensions and predictors of engagement in the Standard for Psychological Health and Safety, this study provides evidence for employers to increase their use of the standard as a tool to promote worker engagement within their organizations.

Study Limitations and Delimitations

As previously mentioned, one of the limitations of this study was the way in which worker engagement was measured in the GSS Cycle 30 PUMF data set. A more commonly used instrument to measure worker engagement is the nine-item Utrecht Work Engagement Scale (UWES-9). This scale, which has been normed and validated, contains nine questions, three that represent each of the vigour, absorption, and dedication dimensions that comprise worker engagement (Schaufeli et al., 2006). The single survey question used in this study (i.e., “I take pride in the work that I do”) corresponds with the dedication dimension of the UWES-9. Having a more comprehensive measure of worker engagement that encompasses all of its dimensions would have allowed a more nuanced analysis. Future research should also examine whether there are differences in the strength of predictors of engagement with respect to worker age category using the UWES-9. This potential knowledge could help inform the design of workplace policies and practices that promote the engagement of specific age categories of workers.

Another limitation with the GSS Cycle 30 PUMF data set was that no information was collected on organizational tenure, which is the length of time respondents have been working with their current employer (Ng and Feldman, 2012). There have been calls for research to implement other ways of conceptualizing and operationalizing the age of workers beyond chronological age (North, 2019). Organizational tenure would provide a different perspective on the length of time a worker has been with their current employer and how this may correlate with reported workplace age discrimination. For example, among workers who report workplace age discrimination, does a higher proportion of long-tenured workers report age discrimination compared to workers with shorter organizational tenures? Other conceptualizations of a worker's employment history, in addition to chronological age, should be included in future research on workplace ageism.

With respect to the study sample, participation in the GSS Cycle 30 survey was voluntary, and only included respondents who were currently employed on a part- or full-time basis at the time of the survey. The study sample does not include those who are self-employed, retirees, job seekers, or have abandoned their search for paid employment. The perspectives of these groups and their experiences of ageism and age discrimination while in the labour market were not accounted for.

Ageism in the labour market has been identified as an employment barrier for older workers (FPT Ministers Responsible for Seniors, 2018). When older workers experience a job displacement, a loss of job through no fault of their own, the average job search length is longer compared to both younger and middle-aged workers (FPT Ministers Responsible for Seniors, 2018; Harris at al., 2017). A prolonged and

unsuccessful job search in later-life may also contribute to early labour force exits among older job seekers via the discouraged worker effect (Berger 2021; Lassus et al., 2015). Policymakers and employers both have a role in addressing the state of ageist beliefs in the labour market. Continued awareness-raising about the risks and harms of negative age stereotypes will help support equality in the labour market and help prevent early labour force exits among older workers.

Conclusion

The next decade represents a crucial period with respect to the ageing labour force. By the early 2030's, all persons of the baby boom generation will be over the age of 65 (Denton & Spencer, 2009). The policy goal of increasing the labour force attachment of older workers in Canada is widely viewed as a sustainability measure to fund public programs and as a way to mitigate potential skill shortages. In the context of an ageing labour force, older workers will comprise a greater proportion of the labour force into the future and their paid work contributions for businesses and organizations will be increasingly important. This exploratory study used a psychosocial model of workplace well-being that emphasized the importance of worker engagement. For individual workers, involvement in decision-making that affects their work along with social support from colleagues and managers were associated with higher levels of worker engagement. While there are many concerns that ageist beliefs may be on the rise in Canadian society, this study found that in the social context of workplaces, behavioural ageism did not have a negative impact on the engagement of older workers in Canada. However, the proportion of reported workplace age discrimination found here was lower than a recent survey done in Canada and studies conducted in other

high-income countries. Thus, the actual prevalence of workplace age discrimination in Canada is likely higher than what was estimated here. Ongoing monitoring of ageism in the workplace and labour market will be essential to determine if this issue is becoming more salient. As the labour force will continue to age into the future, ensuring that workplace environments support the well-being of older workers will be integral to the productivity of the overall economy.

References

Abrams, D., & Hogg, M. A. (2010). Social identity and self-categorization. In J. F. Dovidio, M. Hewstone, P. Glick, & V. M. Esses (Eds.), *The SAGE handbook of prejudice, stereotyping and discrimination* (pp. 179–193). SAGE. https://doi.org/10.4135/9781446200919

Abrams, D., Swift, H. J., & Drury, L. (2016). Old and unemployable? How age-based stereotypes affect willingness to hire job candidates. *Journal of Social Issues, 72*(1), 105–121. https://doi.org/10.1111/josi.12158

Australian Human Right Commission. (2015). *National prevalence survey of age discrimination in the workplace*. Retrieved October 12, 2023, from https://humanrights.gov.au/sites/default/files/document/publication/AgePrevalenceReport2015.pdf

Allen, J. O. (2016). Ageism as a risk factor for chronic disease. *The Gerontologist, 56*(4), 610–614. https://doi.org/10.1093/geront/gnu158

Arkes, J. (2019). *Regression analysis: A practical introduction*. Routledge. https://doi.org/10.4324/9781351011099

Bakker, A. B., Albrecht, S. L., & Leiter, M. P. (2011). Key questions regarding work engagement. *European Journal of Work and Organizational Psychology*, *20*(1), 4–28. https://doi.org/10.1080/1359432X.2010.485352

Bakker, A. B., & Demerouti, E. (2008). Towards a model of work engagement. *Career Development International*, *13*(3), 209–223. https://doi.org/10.1108/13620430810870476

Bakker, A. B., Schaufeli, W. B., Leiter, M. P., & Taris, T. W. (2008). Work engagement: An emerging concept in occupational health psychology. *Work & Stress*, *22*(3), 187–200. https://doi.org/10.1080/02678370802393649

Barrington, L. (2015). Ageism and bias in the American workplace. *Generations, 39*(3), 34–38. https://www.ingentaconnect.com/content/asag/gen/2015/00000039/00000003/art00007?crawler=true

Bayl-Smith, P. H., & Griffin, B. (2014). Age discrimination in the workplace: Identifying as a late-career worker and its relationship with engagement and intended retirement age. *Journal of Applied Social Psychology, 44*(9), 588–599. https://doi.org/10.1111/jasp.12251

Berger, E. D. (2021). *Ageism at work: Deconstructing age and gender in the discriminating labour market*. University of Toronto Press.

Bélanger, A., Carrière, Y., & Sabourin, P. (2016). Understanding employment participation of older workers: The Canadian perspective. *Canadian Public Policy, 42*(1), 94–109. https://doi.org/10.3138/cpp.2015-042

Browning, S. D., Penning, M. J., & Wu, Z. (2020). Perceived age discrimination: Implications for mental health and life satisfaction in middle and later life—a research note. *Canadian Studies in Population*, *47*(4), 245–262. https://doi.org/10.1007/s42650-020-00035-7

Burnes, D., Sheppard, C., Henderson Jr, C. R., Wassel, M., Cope, R., Barber, C., & Pillemer, K. (2019). Interventions to reduce ageism against older adults: A

systematic review and meta-analysis. *American Journal of Public Health*, *109*(8), e1–e9. https://doi.org/10.2105/AJPH.2019.305123

Butler, R. N. (1969). Age-ism: Another form of bigotry. *The Gerontologist*, *9*(4), 243–246. https://doi.org/10.1093/geront/9.4_part_1.243

Butler, R. N. (1975). *Why survive? Being old in America*. Harper & Row.

Bytheway, B. (2005) Ageism and age categorization. *Journal of Social Issues, 61*(2), 361–374. https://doi.org/10.1111/j.1540-4560.2005.00410.x

Cain, M. K., Zhang, Z., & Yuan, K.-H. (2017). Univariate and multivariate skewness and kurtosis for measuring nonnormality: Prevalence, influence and estimation. *Behavior Research Methods*, *49*(5), 1716–1735. https://doi.org/10.3758/s13428-016-0814-1

Chang, E.-S., Kannoth, S., Levy, S., Wang, S.-Y., Lee, J. E., & Levy, B. R. (2020). Global reach of ageism on older persons' health: A systematic review. *PloS One*, *15*(1), e0220857. https://doi.org/10.1371/journal.pone.0220857

Chen, W.-H. (2019). Health and transitions into nonemployment and early retirement among older workers in Canada. *Economics and Human Biology*, *35*, 193–206. https://doi.org/10.1016/j.ehb.2019.06.001

CSA Group (2013*). Psychological health and safety in the workplace—prevention, promotion, and guidance to staged implementation.* (CSA Group and BNQ Publication No. CAN/CSA-Z1003-13/BNQ 9700-803/2013 National Standard of Canada). Retrieved from https://www.csagroup.org/article/cancsa-z1003-13-bnq-9700-803-2013-r2018/?utm_referrer=https%3A%2F%2Fstore.csagroup.org%2F

Davey, J. (2014). Age discrimination in the workplace. *Policy Quarterly, 10*(3), 42-48. https://doi.org/10.26686/pq.v10i3.4502

Denton, F. T., & Spencer, B. G. (2009). Population aging, older workers, and Canada's labour force. *Canadian Public Policy. Analyse de Politiques, 35*(4), 481–492. https://www.jstor.org/stable/27759560

Durlak, J. A. (2009). How to select, calculate, and interpret effect sizes. *Journal of Pediatric Psychology*, *34*(9), 917–928. https://doi.org/10.1093/jpepsy/jsp004

Eurofound. (2017). *Towards age-friendly work in Europe: A life-course perspective on work and ageing from EU agencies*. Retrieved November 26, 2021, from https://op.europa.eu/en/publication-detail/-/publication/17130fbc-66ad-11e7-b2f2-01aa75ed71a1/language-en

Federal/Provincial/Territorial Ministers Responsible for Seniors. (2018). *Promoting the labour force participation of older Canadians – Promising initiatives*. Retrieved March 15, 2020, from https://www.canada.ca/en/employment-social-development/corporate/seniors/forum/labour-force-participation.html

Federal/Provincial/Territorial Ministers Responsible for Seniors. (2022). *An examination of the social and economic impacts of ageism*. Retrieved April 12, 2023, from https://www.canada.ca/en/employment-social-development/corporate/seniors/forum/reports/ageism-social-economic-impacts.html

Federal/Provincial/Territorial Ministers Responsible for Seniors. (2023). *Consultations on the social and economic impacts of ageism in Canada: "What we heard" report*. Retrieved January 10, 2024, from https://www.canada.ca/en/employment-

social-development/corporate/seniors/forum/reports/consultation-ageism-what-we-heard.html

Findsen, B. (2015). Older workers' learning within organizations: Issues and challenges. *Educational Gerontology*, *41*(8), 582–589. https://doi.org/10.1080/03601277.2015.1011582

Government of Canada. (2020, June 22). *About mental health*. https://www.canada.ca/en/public-health/services/about-mental-health.html

Harris K, Krygsman S, Waschenko J, & Laliberte Rudman D. Ageism and the older worker: A scoping review. *Gerontologist, 58*(2), e1-e14. https://doi.org/10.1093/geront/gnw194

IBM. (2021, December 7). *Chi-square test for independence: Options*. https://www.ibm.com/docs/en/spss-statistics/beta?topic=independence-chi-square-test-options

IBM. (2023, August 4). *One-way ANOVA post hoc tests*. https://www.ibm.com/docs/en/spss-statistics/saas?topic=anova-one-way-post-hoc-tests

Iversen, T. N., Larsen, L., & Solem, P. E. (2009). A conceptual analysis of ageism. *Nordic Psychology, 61*(3), 4-22. https://doi.org/10.1027/1901-2276.61.3.4

James, J. B., McKechnie, S., Swanberg, J., & Besen, E. (2013). Exploring the workplace impact of intentional/unintentional age discrimination. *Journal of Managerial Psychology, 28*(7/8), 907–927. https://doi.org/10.1108/JMP-06-2013-0179

Jin, M. H., & McDonald, B. (2017). Understanding employee engagement in the public sector: The role of immediate supervisor, perceived organizational support, and learning opportunities. *American Review of Public Administration*, *47*(8), 881–897. https://doi.org/10.1177/0275074016643817

Johnson, S. J., Machowski, S., Holdsworth, L., Kern, M., & Zapf, D. (2017). Age, emotion regulation strategies, burnout, and engagement in the service sector: Advantages of older workers. *Revista de Psicologia Del Trabajo Y de Las Organizaciones, 33*(3), 205–216. https://doi.org/10.1016/j.rpto.2017.09.001

Kahn, W. A. (1990). Psychological conditions of personal engagement and disengagement at work. *Academy of Management Journal, 33*(4), 692-724. https://doi.org/10.5465/256287

Khamis, H. (2008). Measures of association: How to choose? *Journal of Diagnostic Medical Sonography*, *24*(3), 155–162. https://doi.org/10.1177/8756479308317006

Kim, N., & Kang, S.-W. (2017). Older and more engaged: The mediating role of age-linked resources on work engagement. *Human Resource Management*, *56*(5), 731–746. https://doi.org/10.1002/hrm.21802

Kim, W., Kolb, J. A., & Kim, T. (2012). The relationship between work engagement and performance: A review of empirical literature and a proposed research agenda. *Human Resource Development Review*, *12*(3), 248–276. https://doi.org/10.1177/1534484312461635

Kunyk, D., Craig-Broadwith, M., Morris, H., Diaz, R., Reisdorfer, E., & Wang, J. (2016). Employers' perceptions and attitudes toward the Canadian national standard on

psychological health and safety in the workplace: A qualitative study. *International Journal of Law and Psychiatry*, *44*, 41–47. https://doi.org/10.1016/j.ijlp.2015.08.030

Kunze, F., Boehm, S. A., & Bruch, H. (2011). Age diversity, age discrimination climate and performance consequences—a cross organizational study. *Journal of Organizational Behavior*, *32*(2), 264–290. https://doi.org/10.1002/job.698

Laerd Statistics. (2018). *Kendall's tau-b using SPSS statistics*. https://statistics.laerd.com/spss-tutorials/kendalls-tau-b-using-spss-statistics.php

Lassus, L. A. P., Lopez, S., & Roscigno, V. J. (2015). Aging workers and the experience of job loss. *Research in Social Stratification and Mobility*, *41*, 81–91. https://doi.org/10.1016/j.rssm.2015.01.001

Law, R., Dollard, M. F., Tuckey, M. R., & Dormann, C. (2011). Psychosocial safety climate as a lead indicator of workplace bullying and harassment, job resources, psychological health and employee engagement. *Accident Analysis & Prevention, 43*(5), 1782–1793. https://doi.org/10.1016/j.aap.2011.04.010

Lee, J. Y., Rocco, T. S., & Shuck, B. (2020). What is a resource: Toward a taxonomy of resources for employee engagement. *Human Resource Development Review*, *19*(1), 5–38. https://doi.org/10.1177/1534484319853100

Lev, S., Wurm, S., & Ayalon, L. (2018). Origins of ageism at the individual level. In L. Ayalon & C. Tesch-Römer (Eds.), *Contemporary Perspectives on Ageism* (pp. 51-72). Springer. https://doi.org/10.1007/978-3-319-73820-8

Levy, B. (2009). Stereotype embodiment: A psychosocial approach to aging. *Current Directions in Psychological Science*, *18*(6), 332–336. https://doi.org/10.1111/j.1467-8721.2009.01662.x

Lowe, G. (2020). *Creating healthy organizations: Taking action to improve employee well-being, revised and expanded edition* (2nd Ed.). University of Toronto Press.

Lowe, G., & Graves, F. (2016). *Redesigning work: A blueprint for Canada's future well-being and prosperity*. University of Toronto Press.

Macdonald, J. L., & Levy, S. R. (2016). Ageism in the workplace: The role of psychosocial factors in predicting job satisfaction, commitment, and engagement. *Journal of Social Issues, 72*(1), 169–190. https://doi.org/10.1111/josi.12161

Malachowski, C., Kirsh, B., & McEachen, E. (2017). The sociopolitical context of Canada's national standard for psychological health and safety in the workplace: Navigating policy implementation. *Healthcare Policy, 12*(4), 10–17. https://doi.org/10.12927/hcpol.2017.25102

Marchiondo, L. A., Gonzales, E., & Ran, S. (2016). Development and validation of the workplace age discrimination scale. *Journal of Business and Psychology, 31*(4), 493–513. https://doi.org/10.1007/s10869-015-9425-6

Mental Health Commission of Canada. (2011). *The road to psychological safety: Legal, scientific and social foundations for a national standard for psychological safety in the workplace*. Retrieved March 9, 2022, from https://www.mentalhealthcommission.ca/wp-content/uploads/drupal/Workforce_The_Road_to_Psychological_Safety_ENG_0_1.pdf

Naegele, L., De Tavernier, W., & Hess, M. (2018). Work environment and the origin of ageism. In L. Ayalon & C. Tesch-Römer (Eds.), *Contemporary Perspectives on Ageism* (pp. 73–90). Springer. https://doi.org/10.1007/978-3-319-73820-8_5

National Seniors Council. (2013). *Older workers at risk of withdrawing from the labour force or becoming unemployed: Employers' views on how to retain and attract older workers*. Retrieved April 13, 2020, from https://www.canada.ca/en/national-seniors-council/programs/publications-reports/2013/older-workers-risk.html

Ng, T. W. H., & Feldman, D. C. (2012). Evaluating six common stereotypes about older workers with meta-analytical data. *Personnel Psychology, 65*(4), 821–858. https://doi.org/10.1111/peps.12003

North, M. S. (2019). A GATE to understanding "older" workers: Generation, age, tenure, experience. *Academy of Management Annals*, *13*(2), 414–443. https://doi.org/10.5465/annals.2017.0125

Officer, A., Thiyagarajan, J. A., Schneiders, M. L., Nash, P., & de la Fuente-Núñez, V. (2020). Ageism, healthy life expectancy and population ageing: How are they related? *International Journal of Environmental Research and Public Health*, *17*(9). https://doi.org/10.3390/ijerph17093159

Oliveira, E. A. da S., & Cabral-Cardoso, C. J. (2018). Buffers or boosters? The role of HRM practices in older workers' experience of stereotype threat. *The Journal of Psychology*, *152*(1), 36–59. https://doi.org/10.1080/00223980.2017.1405903

Pek, J., Wong, O., & Wong, A. C. M. (2018). How to address non-normality: A taxonomy of approaches, reviewed, and illustrated. *Frontiers in Psychology*, *9*, Article 2104. https://doi.org/10.3389/fpsyg.2018.02104

Posthuma, R. A., & Campion, M. A. (2009). Age stereotypes in the workplace: Common stereotypes, moderators, and future research directions. *Journal of Management, 35*(1), 158–188. https://doi.org/10.1177/0149206308318617

Ranzijn, R., Carson, E., Winefield, A. H., & Price, D. (2006). On the scrap-heap at 45: The human impact of mature-aged unemployment. *Journal of Occupational and Organizational Psychology*, *79*(3), 467–479. https://doi.org/10.1348/096317905X66828

Raposo, S., & Carstensen, L. L. (2015). Developing a research agenda to combat ageism. *Generations*, *39*(3), 79–85. https://www.ingentaconnect.com/contentone/asag/gen/2015/00000039/00000003/art00014

Rastogi, A., Pati, S. P., Krishnan, T. N., & Krishnan, S. (2018). Causes, contingencies, and consequences of disengagement at work: An integrative literature review. *Human Resource Development Review*, *17*(1), 62–94. https://doi.org/10.1177/1534484317754160

Richardson, B., Webb, J., Webber, L., & Smith, K. (2013). Age discrimination in the evaluation of job applicants. *Journal of Applied Social Psychology*, *43*(1), 35–44. https://doi.org/10.1111/j.1559-1816.2012.00979.x

Rippon, I., Zaninotto, P., & Steptoe, A. (2015). Greater perceived age discrimination in England than the United States: Results from HRS and ELSA. *The Journals of Gerontology: Series B, 70*(6), 925-933. https://doi.org/10.1093/geronb/gbv040

Roscigno, V. J., Zheng, H., & Crowley, M. (2022). Workplace age discrimination and social-psychological well-being. *Society and Mental Health*, *12*(3), 195–214. https://doi.org/10.1177/21568693221116139

Saks, A. M. (2006). Antecedents and consequences of employee engagement. *Journal of Managerial Psychology, 21*(7), 600–619. https://doi.org/10.1108/02683940610690169

Sarti, D. (2014). Job resources as antecedents of engagement at work: Evidence from a long-term care setting. *Human Resource Development Quarterly*, *25*(2), 213–237. https://doi.org/10.1002/hrdq.21189

Schalk, R., van Veldhoven, M., de Lange, A. H., De Witte, H., Kraus, K., Stamov-Roßnagel, C., Tordera, N., van der Heijden, B., Zappalà, S., Bal, M., Bertrand, F., Claes, R., Crego, A., Dorenbosch, L., de Jonge, J., Desmette, D., Gellert, F. J., Hansez, I., Iller, C., … Zacher, H. (2010). Moving European research on work and ageing forward: Overview and agenda. *European Journal of Work and Organizational Psychology*, *19*(1), 76–101. https://doi.org/10.1080/13594320802674629

Schaufeli, W. B. (2014). What is engagement? In C. Truss, R. Delbridge, K. Alfes, A. Shantz, A, & E. Soane. (Eds.). *Employee engagement in theory and practice* (pp.15-35). Routledge. https://doi.org/10.4324/9780203076965

Schaufeli, W. B., Bakker, A. B., & Salanova, M. (2006). The measurement of work engagement with a short questionnaire: A cross-national study. *Educational and Psychological Measurement*, *66*(4), 701–716. https://doi.org/10.1177/0013164405282471

Senate of Canada. (2009). *Canada's aging population: Seizing the opportunity*. Retrieved November 19, 2018, from http://www.publications.gc.ca/site/eng/359907/publication.html

Shain, M., Arnold, I., & GermAnn, K. (2012). The road to psychological safety: Legal, scientific, and social foundations for a Canadian national standard on psychological safety in the workplace. *Bulletin of Science, Technology & Society*, *32*(2), 142–162. https://doi.org/10.1177/0270467612455737

Sheikh, M. S., Smail-Crevier, R., & Wang, J. (2018). A cross-sectional study of the awareness and implementation of the national standard of Canada for psychological health and safety in the workplace in Canadian employers. *Canadian Journal of Psychiatry, 63*(12), 842–850. https://doi.org/10.1177/0706743718772524

Sheskin, D. J. (2011). *Handbook of parametric and nonparametric statistical procedures* (5th ed.). CRC Press. https://doi.org/10.1201/9780429186196

Shuck, M. B., Rocco, T. S., & Albornoz, C. A. (2011). Exploring employee engagement from the employee perspective: Implications for HRD. *Journal of European Industrial Training, 35*(4), 300–325. https://doi.org/10.1108/03090591111128306

Silverstein, M. (2008). Meeting the challenges of an aging workforce. *American Journal of Industrial Medicine*, *51*(4), 269–280. https://doi.org/10.1002/ajim.20569

Solem, P. E. (2016). Ageism and age discrimination in working life. *Nordic Psychology*, *68*(3), 160–175. https://doi.org/10.1080/19012276.2015.1095650

Statistics Canada. (2012). *Job-related training of older workers*. (Catalogue no. 75-001-X). Retrieved February 10, 2021, from

https://www150.statcan.gc.ca/n1/en/pub/75-001-x/2012002/article/11652-eng.pdf?st=DjOdB3y6

Statistics Canada. (2017a). *The impact of aging on labour market participation rates*. (Catalogue no. 75-006-X). Retrieved March 19, 2018, from http://www.statcan.gc.ca/pub/75-006-x/2017001/article/14826-eng.htm

Statistics Canada. (2017b). *Census in brief: Working seniors in Canada*. (Catalogue no. 98-200-X2016027). Retrieved December 14, 2020, from https://www12.statcan.gc.ca/census-recensement/2016/as-sa/98-200-x/2016027/98-200-x2016027-eng.cfm

Statistics Canada. (2018). *General social survey cycle 30: Canadians at work and home public use microdata file documentation and user's guide*. (Catalogue no. 12M0030X). Retrieved September 1, 2023, from https://datalib.usask.ca/dli/social/gss/gss30/doc/GSSC30ENgid.pdf

Statistics Canada. (2022). *Labour force survey, November 2022*. Retrieved January 11, 2023, from https://www150.statcan.gc.ca/n1/daily-quotidien/221202/dq221202a-eng.htm

Stypinska, J., & Turek, K. (2017). Hard and soft age discrimination: The dual nature of workplace discrimination. *European Journal of Ageing, 14*(1), 49–61. https://doi.org/10.1007/s10433-016-0407-y

Swift, H. J., Abrams, D., Lamont, R. A., & Drury, L. (2017). The risks of ageism model: How ageism and negative attitudes toward age can be a barrier to active aging. *Social Issues and Policy Review, 11*(1), 195-231. https://doi.org/10.1111/sipr.12031

Tajfel, H, & Turner, J. C. (1986). The social identity theory of intergroup behavior. In Worchel, S. & Austin, W. G. (Eds.), *Psychology of intergroup relations* (pp. 7-24). Nelson-Hall Publishers.

Taylor, D. M., & Moghaddam, F. M. (1994). *Theories of intergroup relations: International social psychological perspectives* (2nd ed.). Praeger Publishers/Greenwood Publishing Group.

Thorsen, S., Rugulies, R., Løngaard, K., Borg, V., Thielen, K., & Bjorner, J. B. (2012). The association between psychosocial work environment, attitudes towards older workers (ageism) and planned retirement. *International Archives of Occupational and Environmental Health, 85*(4), 437–445. https://doi.org/10.1007/s00420-011-0689-5

Truss, C., Delbridge, R., Alfes, K., Shantz, A., & Soane, E. (Eds.). (2014). *Employee engagement in theory and practice*. Routledge. https://doi.org/10.4324/9780203076965

Van Dalen, H. P., Henkens, K., & Schippers, J. (2010). Productivity of older workers: Perceptions of employers and employees. *Population and Development Review*, *36*(2), 309–330. https://doi.org/10.1111/j.1728-4457.2010.00331.x

von Humboldt, S., Miguel, I., Valentim, J. P., Costa, A., Low, G., & Leal, I. (2023). Is age an issue? Psychosocial differences in perceived older workers' work (un)adaptability, effectiveness, and workplace age discrimination. *Educational Gerontology*, *49*(8), 687–699. https://doi.org/10.1080/03601277.2022.2156657

Wang, N., Zhu, J., Dormann, C., Song, Z., & Bakker, A. B. (2020). The daily motivators: Positive work events, psychological needs satisfaction, and work

engagement. *Applied Psychology: An International Review*, *69*(2), 508–537. https://doi.org/10.1111/apps.12182

Williams, R. A. (2020). Ordinal independent variables, In P. Atkinson, S. Delamont, A. Cernat, J. W. Sakshaug, & R. A. Williams (Eds.), *SAGE Research Methods Foundations.* SAGE Publications Ltd. https://doi.org/10.4135/9781526421036938055

Wilson, D. M., Errasti-Ibarrondo, B., & Low, G. (2019). Where are we now in relation to determining the prevalence of ageism in this era of escalating population ageing? *Ageing Research Reviews*, *51*, 78–84. https://doi.org/10.1016/j.arr.2019.03.001

Wollard, K. K., & Shuck, B. (2011). Antecedents to employee engagement: A structured review of the literature. *Advances in Developing Human Resources, 13*(4), 429–446. https://doi.org/10.1177/1523422311431220

World Health Organization. (2021) *Global report on ageism*. Retrieved August 30, 2021, from https://www.who.int/publications/i/item/9789240016866

Appendix A – General Social Survey (GSS) Cycle 30: Canadian at Work and Home Variables of Interest

Descriptive variables:
AGEGR10: Age group of respondent (groups of 10)
CUREMPLO: Respondent currently employed
EHG3_01: Education - Highest certificate, diploma or degree
PRV: Province of residence
SEX: Sex of respondent
WHW120GR: Number of hours worked per week at job
WORKSIZE: Workplace size

Reported age discrimination – (Discrimination, Bullying and Harassment/Discrimination (DBH)):
DBH_01: Unfair treatment/Discrimination - Past 12 months
DBH_03A: Unfair treatment/Discrimination - Based on age

Manager and supervisor support (Work Distribution (WDR)):
WDR_07: Help and support from manager or supervisor

Collegial support (Work Distribution (WDR)):
WDR_01: Works in a team
WDR_06: Help and support from colleagues

Participation in decision-making (Work Distribution (WDR)):
WDR_10: Opportunities to provide input into decisions

Workplace education & training (Skills, Training and Job Security (STJ)):
STJ_09: Formal training paid for by employer - Past 12 months
STJ_11: Informal training from co-workers/supervisors - Past 12 months

Worker engagement (Work Ethic (WER)):
WER_05: Take pride in own work