Toward interventions to reduce internalized ageism

Andrew Steward

Graduate School of Social Work, University of Denver, Denver, Colorado, USA

**ABSTRACT**
Ageism is an insidious form of injustice that is internalized from an early age with accumulating negative health impacts across the life-span. Internalized ageism has been associated with numerous public health outcomes, including physical and mental health, functional impairment, cognition, cardiovascular stress, hospitalizations, and longevity. Research has begun to document how ageism negatively impacts health through psychological, behavioral, and physiological pathways. Yet, limited research has addressed interventions to reduce internalized ageism. This article draws from stereotype embodiment theory and successful aging, presenting a conceptual model which incorporates potential downstream, midstream, and upstream interventions at micro, meso, and macro levels. The need to examine how policy influences health through the three pathways involved in stereotype embodiment theory is discussed. This study provides a working model for scholars and practitioners to use when considering paths toward reducing internalized ageism and optimizing well-being for aging adults.

**KEYWORDS**
Ageism; internalized; conceptual; theory; intervention

Ageism is a pervasive, largely unchallenged form of discrimination in Western society (E. B. Palmore, 1999; Nelson, 2002). The World Health Organization (2016) recently launched a global campaign against ageism, calling it “widespread and an insidious practice which has harmful effects on the health of older adults.” Ageism has been described as a “prejudice against our feared future self” (Nelson, 2005, p. 207). Therefore, ageism is a significantly internalized experience. While research on internalized ageism has been limited until recently, existing literature identifies a significant association between internalized ageism and numerous public health outcomes. These outcomes include physical functioning (Levy et al., 2014a), mental health conditions (Levy et al., 2014b), cognitive decline (Levy et al., 2018), cardiovascular stress (Levy et al., 2002b), likelihood of recovery from disability (Levy et al., 2012), and longevity (Levy et al., 2002b).

Yet, very limited research has addressed which interventions may be effective in reducing internalized ageism for older adults. Drawing from and building upon existing theories and research evidence is an important path forward to developing testable interventions. Therefore, this paper presents a conceptual model which aims to clarify potential pathways toward decreased internalized ageism and enhanced well-being for aging adults.
Ageism

Ageism signifies any bias, stereotype, prejudice, or discrimination toward an individual based solely on that person’s age (Nelson, 2002). Robert Butler first introduced and compared ageism to other forms of discrimination such as racism and sexism (Butler, 1969). Ageism may intersect with ableism (Gibbons, 2016), may be implicit (Levy & Banaji, 2002), and may be considered either positive or negative. Negative ageism demigrates aging as less valuable than youth or presumes an association between aging and disease, decline, or disability. Positive ageism, however, occurs when individuals assign qualities of wisdom and respect toward all older adults unrelated to context, which in turn may cause older people to feel pressure to live up to such expectations (E. B. Palmore, 1999). Positive ageism may come across to older people as paternalistic or even infantilizing rather than empathic in its message (Chonody, 2016).

Internalized and implicit ageism

Internalized ageism has been defined as “a form of ingroup discrimination in which older adults marginalize and discriminate against other older people . . . including denying commonality with others within your own group” (Gendron et al., 2016, p. 998). Levy and colleagues (2000b) detail how some of the unique aspects of ageism relate to the way in-group and out-group preferences arise across the lifespan. The fact that old age seems so distant from childhood may contribute to the development of age stereotypes since aging may not seem relevant to the in-group of young people (Langer, 1989; Levy & Banaji, 2002). In most areas of scholarship on stereotyping based on social groups, a clear preference has been found for in-group over out-group identification (Levy & Banaji, 2002; Tajfel, 1981). However, ageism does not seem to function in the same way because older adults often demonstrate negative attitudes and beliefs toward other older people (Levy & Banaji, 2002). Levy and Banaji (2002) describe how this may be due to the phenomenon of internalized ageism across the lifespan, since by the time individuals reach later life, they have spent decades internalizing negative age stereotypes. Individuals are then confronted with the fact that they are at an age that corresponds with the negative age stereotypes that have already been so repetitively and unconsciously internalized. Therefore, older people may be especially vulnerable to ageism in later life because they may not have developed strategies to cope with or combat the impacts of ageism within their own age group. Levy and Banaji (2002) then describe how a common coping mechanism for older adults may be to simply not identify with their age group and instead continue to identify with the societally-approved preference for younger generations. In contrast to research about in-group identification based on gender or race, similar research based on age shows that older adults overall identify with younger generations to an equal measure as young people themselves (Greenwald et al., 2002; Levy & Banaji, 2002).

Levy and Banaji (2002) have also described how “one of the most insidious aspects of ageism is that it can operate without conscious awareness, control, or intention to harm” (p. 50). Prejudice toward individuals based on age has been described as different from prejudice based on race or gender because there is little explicit, public hatred toward older people in public discourse (i.e., historically there are no known hate groups toward older people), yet widespread acceptance of negative feelings and beliefs about older people has also been clearly documented (Levy & Banaji, 2002; Williams & Giles, 1998). Due to the critical
way ageism operates at an implicit, rather than explicit, level, Levy and Banaji initially used the term *implicit ageism* to describe both implicit age stereotypes and implicit attitudes toward aging. Implicit age stereotypes were defined as “thoughts about the attributes and behaviors of the elderly that exist and operate without conscious control” (Levy & Banaji, 2002, p. 51), while implicit age attitudes were defined as “feelings toward the elderly that exist and operate without conscious awareness, intention, or control” (Levy & Banaji, 2002, p. 51). Levy and Banaji (2002) described how implicit ageism may be especially harmful because it occurs without conscious awareness, and individuals are not likely to change their behavior if they are unaware of its influence or that it is even occurring. Furthermore, these scholars discussed how implicit ageism can occur toward individuals of another age group, toward individuals of the same age group, and toward oneself (Levy & Banaji, 2002, pp. 59–61). There is also a complex interaction between societal-level messaging and implicit ageism, as older adults may assume negative health outcomes are due to their advanced age (based on commonly held assumptions between aging and decline), when in reality a negative health outcome may actually be caused by the implicit, negative age stereotype itself (Levy & Banaji, 2002, p. 61).

**Ageism and health**

Our rapidly aging society reinforces the demand to better understand the nature and health impacts of internalized ageism for older adults. A recent report funded by the National Institute of Aging (NIA) found that 8.5% of people across the world (617 million) were 65 or older, while the percentage was estimated to rise to almost 17% of the world population (1.6 billion) by 2050 (He et al., 2016).

A recent systematic review about the impacts of ageism on health detailed the most information on this topic to date (Chang et al., 2020). This study reviewed 638 articles covering seven million participants from 45 countries over 25 years. Effects of ageism on health were found in all 45 countries, with the prevalence of significant health impacts increasing over time (Chang et al., 2020). Health impacts were found at both the structural and individual levels of ageism across 11 health domains:

- exclusion from health research, devalued lives of older persons, lack-of-work-opportunities, denied access to healthcare and treatments, reduced longevity, poor quality-of-life and well-being, risky health behaviors, poor social relationships, physical illness, mental illness, and cognitive impairment. (Chang et al., 2020, p. 7)

At the individual level of health, ageism was shown to be associated with seven of these domains: longevity, poor quality of life, poor social relationships, risky health behavior, mental illness, cognitive impairment, and physical illness (Chang et al., 2020, pp. 8–9). In four of the domains (longevity, poor quality of life, poor social relationships, and risky health behavior), 100% of studies found that ageism was associated with these outcomes. These impacts were documented across various countries as well. For example, ageism was associated with reduced longevity from nationally representative studies in China, Australia, the United States, and Germany (Chang et al., 2020, p. 8). Additionally, negative self-perceptions of aging among older Turkish women with low socioeconomic status led to a lower quality of life (Top et al., 2013). Other research conducted in Germany found that age stereotypes better predicted health than the reverse (Wurm et al., 2007).
In terms of poor social relationships, ageism led to decreased social support, decreased social engagement, and increased social isolation (Chang et al., 2020, p. 9). When it comes to risky health behavior, ageism has been associated with poor diet, lower likelihood of taking medication as prescribed, unhealthy drinking, and smoking (Chang et al., 2020; Freeman et al., 2016). As ageism relates to mental health, depression has been the most commonly evaluated outcome. Studies indicate an association between ageism and onset of depression, increased depression over time, and lifetime depression (Bai et al., 2016; Chang et al., 2020, p. 9; Gum & Ayalon, 2018; Han, 2018; Han & Richardson, 2015; H. Kim, 2016; Kwak et al., 2014; O’Shea et al., 2017). Associations between ageism and cognitive impairment have been demonstrated in two meta-analyses (Chang et al., 2020; Horton et al., 2008; Lamont et al., 2015), experimental research (Chang et al., 2020; Lee & Lee, 2018; B. R. Levy, 1996), and in studies conducted in the United States, Germany, Ireland, and China (Chang et al., 2020; Gu et al., 2017; Levy et al., 2012; Robertson et al., 2016; Seidler & Wolff, 2017; Sutin et al., 2015). Specifically, worsened memory has been documented up to 38 years after the initial influence of ageism (Chang et al., 2020; Levy et al., 2012). In terms of physical health, ageism has been shown to predict functional impairment, chronic health conditions, the number of acute medical events, and hospitalizations (Chang et al., 2020, p. 9; Sun, 2017). An association between ageism and functional decline has been documented in studies conducted across Australia, Israel, and the United States (Chang et al., 2020; Levy et al., 2002a; Sargent-Cox et al., 2012; Tovel et al., 2019).

Internalized ageism and health

Recently, scholars have begun to study both “other-directed” and “self-directed” determinants of ageism (Marques et al., 2020, p. 1). It is important to note that self-directed and internalized ageism are conceptualized as essentially identical in this article. Determinants of both self-directed and other-directed ageism were assessed for whether they were found at the intrapersonal, interpersonal/inter-group, or institutional levels (Marques et al., 2020). Self-directed ageism was found only at the intrapersonal level, not the interpersonal/inter-group or institutional levels. 13 other-directed determinants and one self-directed determinant were identified. The one self-directed determinant of ageism was physical and mental health status (Marques et al., 2020), suggesting a possible cyclical relationship between internalized ageism and health. It is important to note that race/ethnicity, sex, socioeconomic status, education, employment, and marital status were not found to be determinants of self-directed ageism (Marques et al., 2020, p. 14). However, other studies have acknowledged and explored the double standard imposed by the combined influence of ageism and sexism (De Beauvoir, 1970; Stypińska & Nikander, 2018, p. 95).

One branch of scholarship on internalized ageism has focused on the measurement of subjective age. Subjective age incorporates multiple constructs, including felt age (i.e., what age someone feels they are), desired age (i.e., what age someone would like to be), and self-perceived age (i.e., what age someone thinks they look) (Kotter-Grühn & Hess, 2012, p. 468). Studies indicate that middle-aged and older adults prefer a younger subjective age for each of these constructs (Kleinspehn-Ammerlahn et al., 2008; Kotter-Grühn & Hess, 2012; Montepare & Lachman, 1989). A younger subjective age has been associated with a number of health outcomes, including good physical and mental health (Bergland et al., 2014). In particular, younger subjective age was associated with less symptoms of depression (Xiao et al., 2019) as well as better episodic memory and executive functioning.
(Stephan et al., 2014). Furthermore, a recent study found that younger subjective age predicted increased gray matter volume and decreased brain deterioration (Kwak et al., 2018). In contrast, research indicates that older subjective age contributed toward an increased likelihood of hospitalization (Stephan et al., 2016), dementia (Stephan et al., 2018a), and mortality risk (Stephan et al., 2018b).

In terms of prevention, Levy and her colleagues found that older adults with more positive self-perceptions of aging engaged in more preventive health behaviors over the course of twenty years. These preventive health behaviors included alcohol/tobacco use, diet, exercise, consistent use of medication, seatbelt use, and regular attendance at doctor appointments (Levy & Myers, 2004). In two longitudinal studies following older adults over twenty years, positive self-perceptions of aging were associated with more positive functional health and increased longevity by an average of 7.5 years (Levy et al., 2002a, 2002b). Research has also demonstrated a stereotype-matching effect, such that older adults exposed to positive physical age stereotypes were more likely to have good physical balance (Levy & Leifheit-Limson, 2009). In another study, older adults were presented with positive age stereotypes both implicitly and explicitly. These positive age stereotypes increased participants’ positive self-perceptions of aging, which then contributed to enhanced physical functioning. Furthermore, the researchers found that the implicit intervention was more effective than the explicit intervention (Levy et al., 2014a). Another of Levy’s studies found that older veterans who were able to resist negative age stereotypes had significantly less mental health problems, such as suicidal ideation, anxiety, and PTSD, than veterans who embraced negative age stereotypes (Levy et al., 2014b). Furthermore, negative age stereotypes have been shown to increase cardiovascular stress measured by systolic and diastolic blood pressure, heart rate, and skin conductance (Levy et al., 2002b). In fact, younger people who embraced more negative age stereotypes were significantly more likely to experience a cardiovascular event over the following 38 years (Levy et al., 2009). Research also found that individuals who embraced more positive self-perceptions of aging were 44% more likely to recover from severe disability (Levy et al., 2012). In more recent work, Levy and colleagues have demonstrated that older adults with positive age beliefs were significantly less likely to develop dementia, even finding that positive age beliefs reduced the risk of dementia by 49.8% for individuals at higher risk due to carrying the ε4 variant of the APOE gene (Levy et al., 2018).

Overall, scholars have discussed the impact of negative attitudes and beliefs about older adults in contexts including everyday conversations (Hummert & Ryan, 1996; Williams & Giles, 1998), politics and voting behavior (Sigelman & Sigelman, 1982), the workplace (Butler, 1980; Finkelstein et al., 1995), and healthcare settings (Chang et al., 2020). The wide-ranging public health impacts of internalized ageism validate the need to explore this issue further.

**Stereotype embodiment theory**

Stereotype embodiment theory (SET) is a useful theory for conceptualizing how internalized ageism affects older adults. Becca Levy developed SET through research on the health impacts of ageism. Levy describes how this theory “has four components: The stereotypes a) become internalized across the lifespan, b) can operate unconsciously, c) gain salience from self-relevance, and d) utilize multiple pathways” (Levy, 2009, p. 332).

In terms of how people internalize age stereotypes across the lifespan, Levy and colleagues describe how age stereotypes are often maintained or even strengthened across the life course
E. Furthermore, 1989 categorized p. saving impacts (Levy, stereotypes, because are an exposure (Levy, & 2002; Levy et al., 2002b; Murphy et al., 1995). Even when an individual witnesses an example that stands in contrast to an age stereotype, this may be seen as “an exception” which only further strengthens the stereotype (Levy & Banaji, 2002, p. 65). Research has also demonstrated how people are unconsciously and automatically categorized into social groups based on age, race, and gender (Banaji & Hardin, 1996; Devine, 1989; Hamilton & Sherman, 1994; Levy & Banaji, 2002; Perdue & Gurtman, 1990). Furthermore, studies indicate that during an initial encounter with another person, an immediate appraisal of “good or bad” occurs within a quarter second (Levy & Banaji, 2002, p. 65; Zajonc, 1980). While this process may in some ways have served as an adaptive function from an evolutionary standpoint, it may also lead to avoidance and ultimately decreased meaningful interactions with older people (Bargh, 1997; Levy & Banaji, 2002; Lewin, 1935; E. Palmore, 1998). Levy describes how young people “may have an incentive for holding negative age stereotypes, insofar as such stereotypes provide them with a short-term benefit” (Levy, 2009, p. 333). However, an interesting quality of internalized ageism is that it negatively impacts the health of the same individual over the long-term. Therefore, negative age stereotypes held by youth will eventually impact these same individuals over time as they age.

Levy’s research also demonstrates the unconscious aspects of internalized ageism by showing that when older adults are subliminally primed with negative age stereotypes, they are more likely to write slower when given a handwriting task (Levy, 2000a and reject life-saving measures when presented with hypothetical crisis scenarios (Levy et al., 2000a).

Levy explains how internalized ageism functions to “gain salience from self-relevance” because old age is a social construct distinguished by certain arbitrary dates, such as when older adults start receiving Social Security (Levy, 2009). Another example is fixing the retirement age at 60 or 65 years. While the practice of setting a fixed retirement age not only increases ageism at an institutional level, it also contributes toward the societal notion that the social and economic value of people past a certain age reduces drastically (Breda & Schoenmaekers, 2006; Stypińska & Nikander, 2018). Levy also illustrates the impact of “cues” from society which send the message that people are old and no longer needed (Levy, 2009). This may, in turn, contribute toward a loss of autonomy or control in terms of whether older adults feel they have power to make a difference in life outcomes through their own choices (Bytheway, 1995; Stypińska & Nikander, 2018).

Levy breaks down ageism into three components: age discrimination, negative age stereotypes, and negative self-perceptions of aging (Chang et al., 2020; Levy, 2009). In terms of the “utilization of multiple pathways,” Levy describes three primary pathways between ageism and health: psychological, behavioral, and physiological. The psychological pathway relates to self-fulfilling prophecies of what older adults believe they should expect
about the aging process. The behavioral pathway involves older adults not engaging in healthy lifestyle behaviors because they may assume these are not worth the effort. Finally, the physiological pathway relates to an increased stress response for older adults who experience negative age stereotypes (Levy, 2009).

**Successful aging**

Drawing from successful aging is an appropriate way to continue this discussion because it can help to better understand how healthy pathways influence outcomes for older adults. During the 1970’s and 1980’s, many gerontologists, as well as the public, became increasingly concerned about the health care consequences of America’s rapidly growing aging population. Many gerontologists sought to focus on a more holistic view of aging beyond the biomedical model; a model that would embrace the biological, psychological, as well as social components of aging. There was also a feeling that prevailing perspectives on aging focused heavily on disability, disease, and chronological age while seriously neglecting lifestyle and other psychosocial factors (Rowe & Kahn, 1998).

The theory of successful aging was tested in the 1990’s during a ten-year longitudinal study by the MacArthur foundation, showing that 70% of overall health outcomes in aging are related to lifestyle compared with only 30% being related to genes (for cognitive health, the study showed about a 50%: 50% ratio) (Rowe & Kahn, 1998). Overall, three major components were identified as comprising successful aging: 1) low risk of disease and disease-related disability, 2) high mental and physical function, and 3) active engagement with life (Rowe & Kahn, 1998, p. 38). Successful aging is currently operationalized in retirement communities and home settings across the U.S. where older adults take an annual “lifestyle review” and engage in programs based on physical, intellectual, social, and spiritual wellness through an initiative called “Masterpiece Living” (see [www.mymasterpieceliving.com](http://www.mymasterpieceliving.com)).

These findings bring a critical perspective to the health needs of older adults because research has shown that older adults are the least likely of any age group to engage in preventive health behaviors, yet people do continue to benefit from healthy behaviors across the lifespan. Research indicates that older adults receive less preventive healthcare than younger people, including cancer screenings, flu shots, and nutrition and exercise interventions (Alliance for Aging Research, 2003). Research has also demonstrated that older adults receive limited treatment for common, treatable conditions such as heart disease (Asch et al., 2000; Bowling, 1999; Giugliano et al., 1998; Hillerbrand & Shaw, 1990; Levy & Banaji, 2002). Perhaps in part due to less care and ageist assumptions in society, research has found that many older adults struggle to maintain a balanced diet (Zulkowski, 2000), and older age is correlated with less physical activity (Burton et al., 1999). It is important to note that research itself is biased by focusing more on preventive health behaviors for young and middle-aged people (Goldberg & Chavin, 1997; Levy & Myers, 2004). This bias may also be due to ageism because a focus on preventive health efforts among younger people may be due to an assumption that health decline is inevitable in later life (Levy & Myers, 2004). This assumption may lead to further assumptions that older adults may not benefit from preventive health behaviors or that changing health behaviors in late life is too challenging (Alliance for Aging Research, 2003; Levy & Myers, 2004).

Despite these barriers, research does indicate that preventive health behaviors make a difference in the lives of older adults. For example, older adults who quit smoking past age 65 can increase their longevity (Taylor et al., 2002). Adults over age 75 who engage in exercise
have also been found to increase muscle mass and mobility (Fiatarone et al., 1994) while slowing functional decline (Gill et al., 2002). Furthermore, four factors (physical activity, regularly eating fruits and vegetables, moderate alcohol consumption, and not smoking) contributed significantly to successful aging over the course of sixteen years, with increased odds of 33% for the addition of each lifestyle behavior (Sabia et al., 2012). Other research has shown that exercise, stress management, cognitive interventions, and social engagement programs contribute toward improved emotional and cognitive health outcomes for older people (Depp et al., 2010). Successful aging has also been approached through strategic and compensatory approaches to memory enhancement (Nyberg & Pudas, 2019). In terms of stress management, reduced allostatic load has been associated with a lower risk of mortality (Karlamangla et al., 2006), while low levels of stress through activities such as exercise may lead to positive changes in the brain as people age (Prolla & Mattson, 2001; Rattan, 2004).

Successful aging has inspired a handful of related terms in the present-day aging industry. Synonymous terms may include active aging and healthy aging. Active or healthy aging programming is building momentum due to the increased longevity and demand of the baby boomer generation.

**Neighboring theories to successful aging**

Successful aging is comparable to several other neighboring theories, including positive psychology, self-efficacy theory, activity theory, disengagement theory, and Erikson’s stages of human development. Leading scholars for positive psychology include Martin Seligman and Mihaly Csikszentmihalyi, and it is relevant to note that the development of positive psychology occurred in the 1990’s, coinciding with the development of Rowe and Kahn’s research on successful aging. It can be argued that successful aging is an offshoot of positive psychology applied more specifically to the aging population. Positive psychology is a reaction against psycho-analysis and a problem-based view of mental illness and draws from the long tradition of humanistic philosophy (Lopez & Snyder, 2011). Alfred Bandura’s self-efficacy theory also influenced both positive psychology and successful aging in its focus on the realization of human motivation and potential (Bandura, 1982). Activity theory and disengagement theory influenced early stages of the development of successful aging as “activity theory stated that aging successfully meant maintaining middle-aged activities and attitudes into later adulthood . . . Disengagement theory, on the other hand, meant that a person aging successfully would want, over time, to disengage from an active life” (Martin et al., 2015, p. 17). Activity and disengagement theories, therefore, helped to construct the concept of successful aging. Erikson’s stages of later life also helped frame the concept of successful aging because during “generativity versus stagnation . . . the challenges involve successful mastery of work life, creative activity, and raising a family” (Martin et al., 2015, p. 17; Erikson, 1950) while “ego integrity is achieved through evaluation of one’s life as having been a fulfilling and satisfying one” (Martin et al., 2015, p. 17; Erikson, 1950).

**Productive aging**

Another broad and noteworthy area of scholarship neighboring successful aging is that of productive aging. Productive aging focuses on active engagement with life through volunteerism, continued vocational pursuits, and caregiving in particular (Morrow-Howell & Greenfield, 2016). Productive aging was initially developed by Robert Butler and colleagues (Butler & Gleason, 1985). Productive aging arose out of the booming aging population,
Figure 1. A conceptual model toward reducing internalized ageism. Note. This figure conceptualizes potential interventions to reduce ageism through downstream, midstream, and upstream factors. Downstream factors are indicated by “*DF,” midstream factors by “*MF,” and upstream factors by “*UF.” The midstream factor “IG Contact” stands for “intergenerational contact.”

Ageism includes age discrimination, negative age stereotypes, and negative self-perceptions of aging. Self-efficacy is a mediator within the psychological pathway; physical activity is a mediator within the behavioral pathway; and stress biomarkers are a mediator within the physiological pathway in stereotype embodiment theory (Levy, 2009). Physical, social, and cognitive engagement may include exercise, volunteering, and technology use, respectively. Stress management may include mindfulness, meditation, and yoga. Health outcomes may include physical/mental health, functional ability, cognition, less hospitalizations, recovery from disability, less cardiovascular events, and longevity. This model draws from Burnes et al. (2019), Chang et al. (2020), and Levy (2009) in particular.
increased longevity, and an effort to reframe the capacity of older adults to continue contributing their skills and knowledge to society (Butler, 2002). The productive aging movement was also developed to promote a more positive view of aging because, despite the mainstream view, the majority of older adults are active and continue to contribute to their communities (Bass, 2006; Hart, 2002).

**A conceptual model toward reducing internalized ageism**

Figure 1 details a conceptual model proposing factors which may contribute toward decreased internalized ageism. Broadly, this model depicts the relationship between ageism and health outcomes. Based on SET (Levy, 2009), ageism includes age discrimination, negative age stereotypes, and negative self-perceptions of aging. SET also theorizes that ageism influences negative health outcomes through psychological, behavioral, and physiological pathways (Levy, 2009). In the psychological pathway, self-efficacy has the most empirical support to date as a mediator between ageism and health (Chang et al., 2020). Other potential mediators with preliminary evidentiary support include perceived control (Levy et al., 2002a) and purpose in life (H. Kim, 2016). Self-efficacy has mediated the relationship between self-perceptions of aging and physical functioning (Tovel et al., 2019), self-perceptions of aging and healthy eating (Klussmann et al., 2019), stereotypic beliefs about aging and health-promoting behaviors (Yeom, 2014), and self-stereotypes of aging and cardiovascular stress (Levy et al., 2002b). In the behavioral pathway, physical activity has functioned as a mediator between ageism and health (Chang et al., 2020). For example, physical activity mediated the relationship between expectations regarding aging and functional health (Li et al., 2013), self-perceptions of aging and self-rated health (Beyer et al., 2015), and expectations regarding aging and physical and mental health (S. H. Kim, 2009). These studies demonstrated that ageism contributed to less healthy lifestyle behaviors, which in turn led to decreased physical health. In the physiological pathway, biomarkers of inflammation/stress have served as a mediator between ageism and health (Chang et al., 2020). For example, a C-reactive protein partially mediated the relationship between self-perceptions of aging and longevity (Levy & Bavishi, 2018).

Based on successful and productive aging, moderators have been included to disrupt the psychological, behavioral, and physiological pathways proposed by SET (Levy, 2009). Although SET posits that ageism negatively impacts health, Figure 1 proposes that healthy lifestyle and productive engagement may mitigate or potentially even reverse this process at an individual level.

In terms of the psychological pathway, while ageism may negatively impact health through mediators such as self-efficacy, it is also known that active or productive engagement in physical, social, and cognitive pursuits can boost self-efficacy for older adults. For example, physical activity has been shown to have a strong effect on self-efficacy, with self-efficacy mediating the relationship between physical activity and quality of life for older adults (Mudrak et al., 2016). One specific form of exercise shown to increase self-efficacy for older adults is Tai Chi (Tong et al., 2018). In terms of social engagement, self-efficacy has played a prominent role in research on volunteerism (Kossowska & Laguna, 2018; Wang et al., 2011). In particular, studies have indicated that volunteering increases self-efficacy for middle-aged and older adults (Brown et al., 2012). In terms of cognitive engagement, a growing literature has demonstrated the impact of computer use on self-efficacy among older adults. For example, older adults demonstrated increased computer self-efficacy when
using online health information (Hall et al., 2015). Additionally, a recent qualitative study describes self-efficacy as a theme as it relates to technology use in general, in addition to being an outcome of technology use among older veterans (Leone et al., 2018).

Figure 1 proposes that education and narrative reframing are potential moderators which may disrupt the behavioral pathway in SET. The behavioral pathway in SET posits that ageism negatively impacts health because older adults may assume that engaging in healthy lifestyle behaviors may not be worth the effort (Levy, 2009). It seems plausible that education and narrative reframing may assist older adults in shifting their thinking to better understand the benefits of healthy lifestyle behaviors into later life, leading to behavior change. Education and narrative reframing interventions have already been tested and shown to reduce ageism directly (Burnes et al., 2019; Busso et al., 2019; Sweetland et al., 2017). Figure 1 indicates that education and narrative reframing interventions can both be applied to combat ageism directly and to serve as a moderator within the behavioral pathway of stereotype embodiment.

In terms of the physiological pathway, Figure 1 posits that stress management interventions may be applied to disrupt the negative impacts of ageism on health through this pathway. For example, mindfulness (Sharma & Rush, 2014; Szanton et al., 2011), meditation (Goyal et al., 2014; Hersoug et al., 2018), and yoga (Sharma, 2013) are particular approaches which have been shown to reduce stress, providing justification to investigate whether these forms of engagement may disrupt the negative influence of ageism on health through the physiological pathway. Overall, the moderators incorporated into the three pathways in SET may be seen as downstream factors, since these moderators are posited to function after ageism has already begun to influence health through psychological, behavioral, and physiological pathways.

This model also highlights midstream factors which may more directly impact ageism itself. These include intergenerational contact, education, and narrative reframing. Therefore, education and narrative reframing may function as both downstream and midstream factors. A recent systematic review and meta-analysis found that a combination of education and intergenerational contact showed the strongest effect toward reducing multiple dimensions of ageism (Burnes et al., 2019). These dimensions of ageism included knowledge about aging, attitudes toward older adults, anxiety regarding one’s own aging, and interest in working with older adults (Burnes et al., 2019). An intergenerational, lifelong learning initiative was also shown to reduce age stereotypes in MSW students (Steward et al., 2020). Furthermore, the Frameworks Institute (https://www.frameworksinstitute.org/) has developed educational, narrative interventions to reframe how people think about aging and impact a variety of ageism-related outcomes (e.g., attitudes toward aging, collective efficacy toward aging, implicit age bias, us vs. them thinking, knowledge of systemic aging supports, etc.) (Busso et al., 2019; Sweetland et al., 2017).

Finally, anti-ageism policy has been included in this model as an upstream, preventive factor. To this author’s knowledge, limited research directly addresses the impact of anti-ageism policy on older adults’ health. However, perceived age discrimination is an important component of SET (Levy, 2009), and research does describe the impacts of perceived age discrimination in the workplace on health outcomes such as lower self-rated health and increased depressive symptoms (Marchiondo et al., 2017). Anti-ageism policy has been included to ensure this model provides recommendations for interventions at multiple levels (i.e., micro, meso, and macro). One specific policy that could be evaluated in terms of its impact on internalized ageism and health among older adults is the Age Discrimination in Employment Act (ADEA, 1968). This act was enacted in 1967 and has three primary aims: “(1) to promote the employment of older persons based on their ability rather than age, partly
through reeducating employers; (2) to prohibit ‘arbitrary’ age discrimination in employment; (3) to help employers and workers find ways of solving problems arising from the impact of age on employment” (House Report No. 805, 1967, 74–76, Macnicol, 2006, pp. 235).

Although SET is primarily conceptualized from a micro-level perspective, it is important that scholars address interventions across the micro, meso, and macro levels, which are all important in influencing how ageism is embodied and impacts the health of older adults. However, gaps in research connecting macro-level interventions to internalized ageism and health, along with the preventive and potentially more widespread impacts of macro-level interventions, make interventions at the macro level critical for future researchers to explore.

**Discussion**

The conceptual model presented in this article may be useful for scholars and practitioners when considering paths toward interventions to reduce internalized ageism and promote well-being for aging adults. Drawing from recent systematic reviews (e.g., Burnes et al., 2019; Chang et al., 2020), this model utilizes three pathways within SET (psychological, behavioral, and physiological) (Levy, 2009) and incorporates downstream, midstream, and upstream factors, pointing toward potential interventions at micro, meso, and macro levels. Micro-level interventions via successful and productive aging pursuits such as physical activity, volunteering, technology use, and stress management may serve as downstream factors to mitigate or perhaps reverse negative health impacts of ageism already occurring at an internalized level. Meso-level interventions such as education, intergenerational contact, and narrative reframing may serve as midstream factors which more directly combat ageism, while in some cases also functioning as downstream factors. Finally, scholars and practitioners should test whether anti-ageism policies may serve as upstream, preventive factors to combat ageism before it begins to have deleterious effects on health through the three pathways of stereotype embodiment.

Interventions to reduce internalized ageism are in their infancy, and the current literature exists primarily at the midstream level. This midstream research highlights how intergenerational contact, education, and narrative reframing interventions may be effective in reducing ageism (Burnes et al., 2019; Busso et al., 2019; Steward et al., 2020; Sweetland et al., 2017). Figure 1 also highlights how one path toward interventions at the downstream level may involve combining approaches to successful or productive aging with SET. Figure 1 also makes clear the need for many more interventions to be tested at the structural, upstream level. The Chang et al. (2020) systematic review does discuss how ageism in the workplace may lead to workplace-related outcomes such as early retirement, but the present study is focused on health, rather than work-related, outcomes.

At the structural level, one potentially fruitful area of scholarship to push the field forward would be to test the impact of policies on internalized ageism and health among older adults. As previously mentioned, one specific policy that may be beneficial to explore is the Age Discrimination in Employment Act (ADEA). The House of Representatives recently passed an amendment to this act called the Protecting Older Workers Against Discrimination Act (2020). This amendment to the ADEA would 1) allow complaining parties to use any type of evidence to support their claims, and 2) ensure that complaining parties do not need to prove that age was the only reason for an unlawful employment practice. This amendment still needs to pass through the Senate and receive presidential approval. Therefore, should this legislation pass, scholars could compare older adults’ internalized age stereotypes, perceived age
discrimination, or self-perceptions of aging through large, nationally representative data sets before and after implementation of the amendment. Future research could also examine differences across countries by comparing other policies or laws with the ADEA or investigate period effects by analyzing the impact of various changes in legal precedent or approaches to implementation at different time periods.

Relevance to social work

Internalized ageism and its impact on the health of older adults is a critical issue for social workers, as this issue directly influences the health, basic needs, and social justice concerns of the growing aging population. The demand for competent social workers to support the rapidly growing number of older adults is greater than ever. Social work values such as the dignity and worth of a person, clients’ right to self-determination, and the profession’s commitment to social justice (National Association of Social Workers, 2017) fit well as a response to the complex and critical social justice issue presented by internalized ageism and its impact on older adults’ health.

Social workers are uniquely able to respond to the needs of the rapidly aging population through a multi-level, social justice framework. One of the grand challenges of the social work profession is to “advance long and productive lives” (American Academy of Social Work and Social Welfare, 2021). Clear evidentiary support exists for a wide range of positive health outcomes, even longevity, for older adults who experience less internalized ageism. Therefore, efforts to better understand and reduce internalized ageism should be given attention within social work practice, particularly given the rapidly growing aging population. The prevalence and epidemiology of the impacts of internalized ageism on older adults’ health also make clear that this issue needs to be understood and addressed across micro, meso, and macro levels. Social workers are trained to practice at each of these levels and therefore should be competent to approach this issue from a variety of impactful perspectives. Furthermore, one of the core values of the social work profession is social justice (National Association of Social Workers, 2017). Ageism is a critical social justice issue which has many layers of complexity. Much more attention should be given to the social justice implications of internalized ageism and health among older adults, particularly through a critical lens which will support increased collaboration and social change within practice.

The present article may also be useful in the classroom by promoting in-depth, critical discussions about ageism with social work students. The proposed model is a practical tool which can be discussed with students who may benefit from exploring the pathways and potential interventions to reduce internalized ageism. Students and instructors/practitioners should also apply their knowledge and field work experience to brainstorm other relevant applications of this working model within their practice. As this is the first model proposed on interventions to reduce internalized ageism, it is the author’s hope that students and practitioners alike will feel comfortable applying and adapting the model to their own work, in addition to considering ways this model can be improved.

Conclusion

In regard to potential insights and applications from the proposed conceptual model, it is important to consider how simply encouraging aging adults to choose healthy lifestyle
behaviors (e.g., exercise or mindfulness at the downstream level) may not be as effective or preventive as focusing on upstream factors (e.g., changing policy), since ageism has in itself been shown to decrease healthy lifestyle behaviors. Encouraging healthy lifestyle may have minor effects toward reducing internalized ageism in older adults, while the area of most urgent need lies in addressing upstream determinants. In particular, the field would greatly benefit from scholars and practitioners focusing their attention on how policy influences older adults’ experience of internalized ageism and health, as these connections are severely understudied.

Drawing a lesson from a scholar in another critical area of social justice (racism), Jones (2000) described how institutional racism must be addressed first, which should then impact personally-mediated and internalized racism. Similarly, structural interventions are likely to be the most robust in mitigating and preventing the health impacts of internalized ageism. However, social workers contribute and collaborate in invaluable ways to support clients across all levels of practice. The conceptual model offered in this article highlights the current state of the literature and can help scholars, practitioners, and students consider potential paths toward reducing internalized ageism across micro, meso, and macro levels of social work practice.

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