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Abstract

The present study examined the perception of aging among a cohort of pre-service teachers undertaking an undergraduate degree in primary school education. Using a self-reported questionnaire adapted from the work of Rubin and Berntsen, 331 undergraduate students were asked a series of questions relating to their perceptions of aging. It was concluded that younger pre-service teachers held a more positive perception of aging than older pre-service teachers. Younger pre-service teachers seemed to display a greater level of optimism toward future life experiences, eager to explore their world and make new relationships, than were older aged students.

Keywords

pre-service teachers, aging, self-perception of aging, subjective age

Introduction

Youthful age is desired by most adults in today's society, and a number of studies have shown that adults in general deny their chronological age, claim to be younger than they are, and see aging negatively (Barak, Mathur, Lee, & Zhang, 2001; Goldsmith & Heiens, 1992; Kastenbaum, Derbin, Sabatini, & Artt, 1972; Montepare & Lachman, 1989; Oberg & Tornstam, 2001; Peters, 1971; Rubin & Berntsen, 2006; Stephan, Caudroit, & Chalabaev, 2011; Ward, 1977; Wilkes, 1992). Furthermore, it is generally claimed that most adults want to remain young and claim to be younger than their biological age and, in particular, see younger years (18-39 years) as the golden years (Rubin & Berntsen, 2006; Stephan et al., 2011). Therefore, the question of why this discrepancy exists in terms of life span of adults wanting to be younger needs to be explored. One way to account for this discrepancy is to explore perceptions around aging within a homogeneous group of adults (i.e., pre-service teachers) with a shared common experience, to provide a qualified, holistic explanation. Thus, exploring how pre-service teachers perceive their own age may provide insights into how they come to document or record their own aging process in terms of their own life trajectory (Henderson, Goldsmith, & Flynn, 1995). The present study will fill a gap in the literature in terms of how adult pre-service teachers come to perceive their own aging. Knowing how pre-service teachers perceive their own aging will provide insight into the discrepancy of why adults want to appear younger than they are biologically.

This notion of wanting to remain young is neither a new nor novel concept, as it stretches back to age old cultures, mythologies, and legends, where individuals over time have

grappled to live longer and younger, and defy the aging process (Eibach, Mock, & Courtney, 2010). A biological understanding of aging argues that aging is an inevitable biological construct that not only involves physical and psychological change but can also neither be turned back nor stopped (Eibach et al., 2010; Peterson, 2010). In addition, significant investment has been made into scientific research to find ways for people to defy the very process of aging (Couteur & Sinclair, 2010; Langer, 2010). For example, advances in biogerontology have led to the discovery of a molecule called Resveratrol, which when consumed claims to improve health and increase longevity; however, while this has not been adequately tested on human beings, many individuals seem to be using this drug to defy aging (Baur et al., 2006). Furthermore, the use of antioxidants to delay aging has not been found to be an effective defense against aging either (Couteur & Sinclair). To this end, medical science or biogerontology, while trying to address the issue of longevity, still appears to have no conclusive answers to preventing aging. Therefore, the answer may not lie in medicine, and given this, perhaps it is better to address aging from an "attitude" point of view in terms of a developmental trajectory perspective around aging, subjective experience, and perceptions of aging in general (Langer, 2010; Stephan et al., 2011).

For this article, the life span is divided into the following stages: infancy, early childhood, middle childhood,

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adolescence, early adulthood (18-39 years), adulthood (midlife, from around 40 to 49 years), later adulthood (50-65 years), and old age (65+ years; Peterson, 2010). From this perspective, it is likely that in adolescence and early adulthood, most people claim to feel *older* than their chronological age, while in midlife, that is, adulthood, they tend to feel *younger* than their chronological age (Eibach et al., 2010; Montepare & Lachman, 1989). It is also claimed that adults above the age of 40 report feeling 20% younger; it is further asserted that the process of discrepancy between actual age and ideal age increases with chronological age (Barak et al., 2001). To this end, a great majority of adults (40+ years) perceive younger age (18-39 years) to be far more exciting, fun, and enjoyable and view aging as a barrier to their quality of life (Farney, Aday, & Breault, 2006; Foos & Clark, 2011; Rubin & Berntsen, 2006). Montepare and Lachman (1989) supported the above by noting that older adults are not only likely to deny their actual age but also see themselves as younger than they are. Monk and Eibach (2011) argued that how a person feels about his or her own age is an important phenomenological concept as it “determines whether people take into account their aging attitudes when evaluating their own lives” (p. 979); thus, exploring how adults perceive and come to see their own age can provide insights into the discrepancy between how they feel about their own age, their actual age, and the aging process in general.

Perhaps then, subjective experience in terms of attitudes show how one comes to process his or her own aging, it may be necessary to consider this as a prelude to explaining the discrepancy of wanting to be younger. Monk and Eibach (2011), in a 10-year longitudinal study, found that when individuals have unfavorable aging attitudes, they are likely to experience negative outcomes in their aging. Data were collected at two different time periods: Wave 1 initial surveys ($n =$ more than 7,000) were collected by MacArthur Midlife Research Network between 1994 and 1995, and the Wave 2 set of data was collected by the Institute on Aging at the University of Wisconsin–Madison between 2004 and 2006. The second survey contained more than 70% of the participants from the original sample. Aging attitudes and life satisfaction questions were posed through a questionnaire, and this measured positive and negative attitudes about the aging process. Subjective age was measured through the difference between reported chronological age and the age participants reported feeling. Monk and Eibach found that participants in Wave 1 (86%) and Wave 2 (83%) reported feeling younger than their chronological age. In terms of positive affect, it was found that better perceived health around aging led to positive affect, and negative perceived health led to negative affect among participants. Based on this finding, Monk and Eibach claimed that subjective age and well-being are dependent on a person’s attitude toward aging. However, equally, how one quantifies and measures subjective age, well-being, and attitudes likely vacillates the findings; hence, consideration must be given to how one comes to experience his or her own aging beyond a later positive and negative affect.

To understand aging, Rubin and Berntsen (2006) closely examined three questions: What is the distribution of subjective age over life span? Does it support the age denial life-span-developmental view? and Are there discrepancies in age denial in early adulthood? All of the participants ($N = 1,470$; with ages ranging from 20 to 97) were from Denmark. There was a 58% response rate to the surveys. All of the questions in the survey were concerned with how one felt about his or her age (e.g., How old do you feel inside?). Results showed that age discrepancy among participants grew exponentially as participants got older until the age of 40, after which there was no significant change. Furthermore, younger participants (up to age 25) reported feeling older than their chronological age, meaning that they were more favorable toward aging. However, 70% participants above the age of 39 reported that they felt younger, while 27% reported they felt exactly the same as their age, and only 2% reported feeling older than their age. Overall, this study found that participants reported that they felt 20% younger than their actual age, and this was more predominant in participants in their 40s and above.

In terms of perceptions around aging, Montepare and Lachman (1989), using a life-span-developmental framework, explained this discrepancy between actual age, ideal age, and felt age by noting that “the tendency of aging adults to maintain younger subjective age identities is a form of defensive denial by which they can dissociate themselves from the stigma attached to growing old” (p. 73). Langer (2010) argued that how one perceived his or her age influenced his or her quality of life, life satisfaction, and how one comes to age. Langer found that there was an increase in quality of life, health, and longevity among elderly when they were encouraged to re-think how they viewed aging, such that those who were able to perceive their aging positively became healthier and more active. Stephan et al. (2011), in support of Langer (2012), noted that younger or youthful subjective age (e.g., the sense of feeling younger than one’s own age) leads to greater life satisfaction and perhaps even longevity.

Montepare and Lachman (1989) explored self-perceptions of age from adolescence to old age alongside life satisfaction among individuals living in Boston ($N = 187$; 81 males and 106 females, age range 14-78). All participants completed a survey that related to how old they felt in terms of their looks, actions, behaviors, and current life satisfaction. Participants were also invited to answer questions about their fears, apprehensions about their own age, and the aging process. Results showed that younger (i.e., 20 years) participants had a more positive outlook on age as they embraced older age identities. Middle-aged (40 years) and older (60 years) participants saw themselves younger than their actual age. Older participants not only rejected their own age identities but viewed aging with reluctance by not positively welcome aging. In terms of gender difference, older woman, although they reported younger age identities, reported less life satisfaction. However, with older men, life satisfaction

was independent of their age. Importantly, Montepare and Lachman (1989) found that younger people not only enjoyed their actual age but also appeared to want to grow older and looked forward to aging with greater optimism. Could these findings be similar for pre-service teachers, where younger pre-service teachers look forward to aging?

Another explanation as to why individuals want to remain young could be due to the prevailing societal stereotypes, views, and attitudes that portray being young as more alluring and desirable and equally that old age brings far more difficulties and challenges to everyday life (Eibach et al., 2010; Peterson, 2010). Holladay (2002) supported the above by noting that the discrepancies between actual age, felt age, and ideal age are due to the regular “exposure [of] elderly [on] television, television commercials, movies and print ads . . . [that] heighten. . . awareness of problems of aging, ranging from cognitive difficulties to financial insecurity” (p. 681). It also appears that popular media not only upholds negative stereotypes about aging and enforces them as realities for everyone but also promotes adults to be younger (Holladay, 2002). In addition, although the media presents a few positive messages of aging, the overall message is negative: Older adults are perceived negatively and are more salient within everyday media (Horton, Baker, Cote, & Deakin, 2008). Such views may be influenced by negative stereotypes and perceptions of older adults as less active, not capable of everyday activities, and dependent on others (Farney et al., 2006; Palmore, 1980). Williams, Nowak, and Scobee (2006) believed that misconceptions about the process of aging could be attributed to minimal social encounters across ages.

Negative portrayal of older people is likely to lead to individuals denying their actual age so that they are not labeled dependent and needful (Farney et al., 2006; Foos & Clark, 2011). Recognizing this, Holladay (2002) noted that popular media shapes and maintains our views, as well as cultivates our “conceptions of what later life might hold for aging individuals” (p. 681). Thus, it is important to know whether and to what extent these stereotypes and/or popular media come to influence a person’s perception of his or her own age, especially among pre-service teachers, in an effort to find out to what extent they adhere to such stereotypes. One way to address negative stereotypes in society is to expose individuals to facts and real-life experiences about aging. Gorelik, Damron-Rodriguez, Funderburk, and Solomon (2000) studied undergraduates’ ($n = 189$) interest in aging by comparing them with a random comparison group ($n = 261$). All participants completed a survey on aging interest and found that regular contact with older adults and engaging in aging courses positively influenced undergraduate students to view aging more positively. Gorelik et al. argued that regular exposure to gerontology content and regular contact with the elderly were likely to influence students to view old age positively.

Similarly, Van Dussen and Weaver (2009) conducted a study using university students ($n = 552$) to understand student attitudes toward older people and gerontology education in general. They found that students with greater contact with older adults had a more positive outlook on aging and the elderly. Over the past few decades, much of the interest in aging studies has been influenced by knowledge around aged care and support for the elderly (e.g., 65+), and little focus has been given on how pre-service teachers view or perceive their own age and what meanings and values they attach to their own age. Several studies have been undertaken in the area of gerontology, in terms of women studies and facial decoding of older people, but very few studies have looked at how pre-service teachers, both male and female, perceive themselves in terms of their own age (Gorelik et al., 2000; Van Dussen & Weaver, 2009).

While a number of studies have focused on aging, no study has actually documented real-life accounts of pre-service teachers around their views of aging. The reason for choosing pre-service teachers was to not only capture their perceptions about aging but also because to date no study has documented their experiences and importantly it will assist in their overall assessment of their own aging process as they begin to work school students. Based on the premise of “at what age does the young, middle-aged, and the elderly feel . . . too old” (Farney et al., 2006, p. 215), the present study aimed to capture how pre-service teachers come to experience their own age and aging process

Method

Pre-service teachers at a university in Tasmania enrolled in a human development unit were invited to participate in the study. Although sampling occurred mainly on the basis of convenience, care was taken to ensure that participation was voluntary without any academic credit, incentives, or monetary reward. Furthermore, no identifiable information was collected from participants. Information and consent for the study were presented to students online through the units online home page using Blackboard.

Instrument

Pre-service teachers were invited to complete a questionnaire constructed to capture perceptions of age adapted from the work of Rubin and Berntsen (2006). This questionnaire had eight questions: Three were demographic (e.g., age, gender, and ethnicity), three were forced responses related to perception of age (with a provision to make qualitative descriptions for their response), and two were qualitative questions directed at determining what factors influence one’s perception of one’s own age. Furthermore, the questionnaire was used to collect preliminary demographic information (age, gender, and ethnicity) and information relating

to perceptions of age. Questions relating to age were presented in multiple-choice format (e.g., Are you happy with your age?—*yes, no, or neither*) with the provision of open-ended responses to describe the reason for the participants' response/choice.

Participants

All participants ($N = 331$) were pre-service teachers enrolled in a first-year pre-requisite unit on human development at a university in Tasmania. The majority of participants were female (76%), and the age range of participants was from 18 to 56 ($M = 26$ years); 73% were below the age of 30 and just more than 50% of the participants below the age of 20.

Design

This study used a survey design. Overall, this activity took approximately 5 min for participants to complete. The survey questionnaire was completed online through Blackboard as part of a weekly learning activity within the unit.

Method of Analysis

Given that the focus of the study was mainly qualitative, data analysis aimed to explore and identify broad and unique themes from within the data. Data from Blackboard were exported to an Excel spreadsheet, each row of the Excel spreadsheet clearly showing each participant's response, respectively, against his or her demographic information (e.g., age, gender, etc.). The three forced responses related to perception of age were used to assess overall percentages of responses in terms of *yes* or *no*, and quantitative data around demographic details were presented through simple descriptive statistics. All qualitative descriptions were thematically coded. In this, qualitative data were obtained by comparing all specific descriptions to develop a common theme, which was directly validated by the participant's description. Hence, qualitative analysis occurred on a thematic level to show how participants perceived their own age.

Results

Each qualitative response in the "Results" section of this article is followed by the age and gender of the participant; this is shown in parentheses. Further qualitative responses are shown in line with main themes. Results are presented for each question asked.

Q1. Are you happy with your current age? (Actual Age)

A majority (83%) of the participants reported that they were happy with their current age. Both younger (18-39) and older (40+) participants reported that they were happy with their current age.

Younger participants reported a greater sense of cheerfulness and independence entering their adulthood years; this is best summed up by one participant reporting, "I feel I have many possibilities and opportunities awaiting my life" (F19). Another participant (F18) reported, ". . . I am young, healthy, and legal! . . .," and yet another (F18) reported, "I am happy because as an 18 . . . you can do what you want." Another participant (M18) said, "I'm enjoying the responsibilities and freedom associated with adulthood," indicating a sense of optimism and cheerfulness about his own age. Another major theme was optimism toward the future. This was best expressed by a participant (M18) who described an eagerness toward future prospects:

I am happy with my age because I have a whole future of prospects ahead of me such as completing university, getting married to my fiancée, traveling, becoming a psychologist and having children. Although it is frightening to be growing up so quickly I have many things in my future to look forward to.

It also appears that this sense of optimism leading to a sense of identity was felt by another participant (F18) who stated, "I am happy with my age as I feel I am at the age where I am respected as an adult but still can enjoy life as a kid sometimes."

Older participants reported a sense of contentment, freedom, enjoyment, and accomplishment with their current age as one participant described, "I am happy because I have some freedom to do what I please, I am old enough to be taken seriously and I still aspire to do many things before I die" (F56). Another participant reported,

I am happy because this is where I am, I am starting a new part of my life and it is fun to experience what is happening in my life now. I do not wish to be 18-25 because I have been there and it's not as much fun. It is a hard life struggling to keep a roof over your head and food on the table . . . life is good now and full. (F45)

Yet another participant reported, "I have been able to enjoy lots of different experience . . ." (M47). There was also a great level of contentment in how participants came to see their own age; participants appeared not to count their age by year but in how they came to accept themselves. One participant stated,

I feel content within myself and comfortable within my own skin. I am learning new things with the added benefit of life experience and hindsight. I have overcome conflicts from my youth and am now free from the anxieties and unhappiness they used to cause me. I am very happy with the age I am at now and would not wish to go back in time. (M43)

Q2. Do you feel younger or older? (Felt Age)

Less than half (41%) of the participants reported that they felt neither older nor younger. More specifically, more than a

quarter (26%) of the participants reported feeling older, and just over one third (31%) reported feeling younger than their own age.

Younger participants reported feeling young, and a small percent reported feeling older; such views seemed to be intrinsic for some and extrinsic for others with one participant reporting, "I feel immature for my age [as in I am not] emotional wise, I feel childish and often stupid. I look physically younger than my age too, and that doesn't help" (F18). Equally, some participants claimed that they felt old and young at the same time with one participant (M19) reporting, "I do not feel older or younger than my age." Another reported feeling both:

I feel younger because a lot of people assume I am a lot younger, thus they treat me like a child. But I have recently felt older too, because of a fall-out with a friendship group made me realize how immature they were and how I have different goals and aspirations to them. I also feel older because I have had to move out of home to study this course and it has put more responsibility on me. On the other hand, moving out of home has made me feel younger too, because I find it very difficult to cope without my parents. (F18)

However, when participants had responsibilities such as jobs and family commitments, and were involved in study, they reported feeling older. One participant reported, "I feel a little older than my age because I am always so tired with doing Uni full time and working two jobs along with teaching a martial art. I am too busy feel about 30 years old" (M20). Another reports, "I feel around 30 I would say it is most likely that this is because I have had a child and feel the pressure and responsibility that usually comes with age" (F20).

Older participants reported that they felt younger than their chronological age; they claimed to feel younger through relationships or associations. One participant reported,

My children make me feel younger. I have a close relationship with them both, very

strong bonds. I remain interested in their lives which keeps me informed of the changes society is going through and how it affects them, not just me. My husband is 13 years older than me (I am 40, he is 53). He has always referred to me as his young wife, and after 17 years together, he must have conditioned me to believe this. I try to keep as healthy as I can, my mind as active as I can, so I don't feel older than 40. I suppose some days I feel my age, but mostly I feel mid's. (F40)

Another participant reported, "In many ways I still feel like I did when I married (at 19yrs), or when my children were young. I am still very much the same person, with a lot more wisdom and life experience" (F40). In other cases, although participants recognized biological aging, they still claimed to be younger either in how they looked, acted, and behaved or in how they perceived experiences. In relation to

this, one participant reported, "I still feel the same as I did 20 years ago. My body would contradict that as I am not as fit or active as I used to be" (F50). Another participant reported,

I act younger than my age. I refuse to conform to what a 42-year-old should wear for example. I am active and have a positive outlook on life, which makes me feel younger. My kids keep me young. (F42)

Q3. Do you wish you were younger or older? (Ideal Age)

More than half of the participants (68%) reported wishing to be neither younger nor older. Around a quarter (25%) of the participants reported wishing to be younger, while a small (5%) group reported wanting to be older.

Younger participants (only a small group) reported they were older in terms of responsibility due to wanting life stability and maturity. One participant reported,

I wish that I was in my early 20s between 20 and 25 because then I would no longer be in Uni and I would be old enough to get married and start having a family. I am very anxious about how my life will turn out (e.g. who I will marry, where I will work/live, etc.) so I would like to be a little bit older so that I can start to think about these things. (F18)

Another reports, "I wish I was 22 years of age, so as I am not looked upon as young; according to my age rather than my maturity" (F19). However, a great majority of participants reported that they did not wish to be younger or older suggesting that they were comfortable with their current age. One participant reported, "I do not wish that I were older or younger than the age I am now" (M19); another reported, "I am very happy with the age I am at now!" (F18). Yet another reported,

I feel happy at my current age (18) as it is the first time in my life where I have gained a sense of independence and no one is dependent on me (i.e. I have no children to worry about, etc.). I am looked upon as young, which seems to have nothing but positive things associated with it, that is, don't have to worry about the signs of aging. Therefore I am happy with my age. (M18)

Another participant reported,

I am happy being 32. I do not wish to be younger again, as I LOVED my teenage/early 20s, but I have no desire to return to them. I love being a Mum and concentrating on my family time. I also do not wish to be any older. (F32)

Older participants reported that they were younger and denied their chronological age: "I wish I was younger, although I don't look or feel 48, I am not comfortable being close to 50" (F48). Another participant reported, "I feel younger, because I don't look 50. I have a young son who keeps me young" (F50). Others wished they were younger

due to inherent physical benefits, and to this end, one participant reported, "I'd like to be in my 30s with the physical energy and looks I had then" (F53). Another participant simply reported, "younger to be more mobile and fit" (F49). Yet another reported, "I'd like to be in my 30s with the physical energy and looks I had then, but the knowledge about life that I have now" (F53). However, similar to younger participants, a majority of older participants also did not wish to be either younger or older suggesting perhaps that they were comfortable with their age. One participant reported, "I am happy being the age I am now. I would not want to change it" (F40). Another participant reported, "I like my age and don't wish to be younger or older" (F40).

Discussion and Conclusion

A novel aspect of the study is that the findings reported here are highly consistent with those reported by prior researchers, even with a unique pre-service teacher sample from Tasmania, Australia. The findings of this study revealed that older participants were positive about aging. Older participants seemed content with their age and seemed to be more emotionally positive about their aging while recognizing that they were aging physically; to this end, older participants were also quite comfortable with their actual age. One explanation for this could be due to the fact that they were at the university as students interacting with younger students, which in turn could have possibly reinforced a sense of youthfulness. Attaching positive meaning to aging could have resulted in older participants feeling younger but not wishing to be younger (i.e., ideal), and this is in line with the findings of Monk and Eibach (2011). This finding confirmed Langer's (2010) notion that how one perceives his or her age influences his or her quality of life and life satisfaction. Unlike the findings of Rubin and Berntsen (2006), the present study found only a very small percentage (5%) of older students reporting that they felt younger, where they denied their chronological age. This is in line with Horton et al. (2008) who noted that older people saw themselves far more positively in terms of their own aging compared with negative stereotypes and beliefs about age in society. Furthermore, it was likely that this group of individuals have conceptualized aging in terms of their relationships, associations (e.g., relating to their own children and interacting with students at university who are far younger than themselves), and activities they are involved in rather than in terms of their biological clock or chronologically.

Younger participants seemed to be positive with all aspects of their aging; this was in line with the findings of Montepare and Lachman (1989). Younger participants were more excited coming to terms with their age and having freedom as an adult. Also, given that younger students have begun their first year at university, this may have further led them to experience new found freedom, make new friends, gain independence, and in some cases, experience living

away from home, and, therefore, all these collectives could have led them to appreciate and anticipate several new experiences leading them to appreciate their actual age. Perhaps these shared experiences appeared to be far more salient than other external influences such as media views or societal stereotypes of aging (Farney et al., 2006; Foos & Clark, 2011; Holladay, 2002).

Overall, the results of the current study found that younger students were more positive about their actual age than older students; younger students perceived their age more favorably and with greater optimism than older students. Older participants were content and positive about their current age. These findings also underscore several important issues for future research. First, it would be important to determine whether the study's domains were restrictive or were robust across diverse populations. Qualitative studies would allow more careful exploration of the meaning of specific constructs across diverse groups. Second, research is needed to determine whether specific attributes of aging are missing. Quite possibly, there are other beliefs about aging that have not been captured by the published literature. Finally, there is a need for teacher educators to examine how they teach aging or life-span development in their courses.

This study provided new and important information about aging in tertiary students. Using a survey based on the aging work of Rubin and Berntsen (2006) and the published literature, the study showed that pre-service teachers' perceptions of aging did not differ from the published literature concerning the "main stream" population. This indicated that those entering the teaching profession have attitudes and perceptions relating to aging that are consistent with the general population.

Declaration of Conflicting Interests

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References

- Barak, B., Mathur, A., Lee, K., & Zhang, Y. (2001). Perceptions of age-identity: A cross-cultural inner-age exploration. *Psychology of Marketing, 18*, 1003-1029.
- Baur, J. A., Pearson, K. J., Price, N. L., Jamieson, H. A., Lerin, C., Kalra, A., . . . Sinclair, D. A. (2006). Resveratrol improves health and survival of mice on a high-calorie diet. *Nature, 444*, 337-342.
- Couteur, G. D., & Sinclair, A. D. (2010). A blueprint for developing therapeutic approaches that increase health span and delay death. *Journal Gerontology: A Biological Sciences Medical Science, 65*, 693-694.
- Eibach, P. R., Mock, E. S., & Courtney, A. E. (2010). Having a "senior moment": Induced aging phenomenology,

- subjective age, and susceptibility to ageist stereotypes. *Journal of Experimental Social Psychology*, 46, 643-649.
- Farney, L., Aday, H. R., & Breault, D. K. (2006). Age preferences: How old is "too old" for selected service providers among young, middle-aged, and older adults? *Educational Gerontology*, 32, 215-224.
- Foos, W. P., & Clark, C. M. (2011). Adult age and gender differences in perceptions of facial attractiveness: Beauty is in the eye of the older beholder. *The Journal of Genetic Psychology*, 172(92), 162-175.
- Goldsmith, R. E., & Heiens, R. A. (1992). Subjective age: A test of five hypotheses. *Gerontologist*, 32, 312-317.
- Gorelik, Y., Damron-Rodriguez, J., Funderburk, B., & Solomon, H. D. (2000). Undergraduate interest in aging: Is it affected by contact with older adults? *Educational Gerontology*, 26, 623-638.
- Henderson, K. V., Goldsmith, R. E., & Flynn, L. R. (1995). Demographic characteristics of subjective age. *The Journal of Social Psychology*, 135, 447-457.
- Holladay, J. S. (2002). "Have fun while you can," "you're only as old as you feel," and "don't ever get old!" An examination of memorable messages about aging. *Journal of Communication*, 54, 681-697.
- Horton, S., Baker, J., Cote, J., & Deakin, M. J. (2008). Understanding senior's perceptions and stereotypes of aging. *Educational Gerontology*, 34, 997-1017.
- Kastenbaum, R., Derbin, V., Sabatini, P., & Artt, S. (1972). The ages of me: Toward personal and interpersonal definitions of functional aging. *International Journal of Aging & Human Development*, 3, 197-211.
- Langer, E. (2010). If you don't mind, it really does matter: Creative research reveals the power of the mind influence how we age. *Fitness Journal*, 73-75.
- Monk, E. S., & Eibach, P. R. (2011). Aging attitudes moderate the effect of subjective age on psychological well-being: Evidence from a 10 year longitudinal study. *Psychology and Aging*, 26, 979-986. doi:10.1037/a0023877
- Montepare, J. M., & Lachman, M. E. (1989). You are only as old as you feel: Self-perceptions of age, fears of aging, and life satisfaction from adolescence to old age. *Psychology & Aging*, 4, 73-78.
- Oberg, P., & Tornstam, L. (2001). Youthfulness and fitness—Identify ideals for all ages? *Journal of Aging & Identity*, 6, 15-29.
- Palmore, E. B. (1980). Attitudes toward aging shown by humor: A review. In L. Nahenow, K. A. McCluskey-Fawcett, & P. E. McGhee (Eds.), *Humor and aging* (pp. 101-118). San Diego, CA: Academic Press.
- Peters, G. R. (1971). Self conceptions of the aged, age identification, and aging. *Gerontologist*, 11, 69-73.
- Peterson, C. (2010). *Looking forward through the lifespan: Developmental Psychology* (5th ed.). Frenchs Forest: Pearson Australia.
- Rubin, C. D., & Berntsen, D. (2006). People over forty feel 20% younger than their age: Subjective age across the life span. *Psychonomic Bulletin*, 13, 776-780.
- Stephan, Y., Caudroit, J., & Chalabaev, A. (2011). Subjective health and memory self-efficacy as mediators in the relation between subjective age and life satisfaction among older adults. *Aging & Mental Health*, 15, 428-436.
- Van Dussen, J. D., & Weaver, R. R. (2009). Undergraduate student's perceptions and behaviors related to the aged and to aging process. *Educational Gerontology*, 35, 342-357.
- Ward, R. A. (1977). The impact of subjective age and stigma in older persons. *Journal of Gerontology*, 32, 227-232.
- Wilkes, R. E. (1992). A structural modeling approach to measurement and meaning of cognitive age. *Journal of Consumer Research*, 19, 292-301.
- Williams, K. N., Nowak, J., & Scobee, R. L. (2006). Fostering student interest in geriatric nursing: Impact of senior long-term care experiences. *Nursing Education Perspectives*, 27, 190-193I.

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