Time Perspective and Psychological Well-Being in Younger and Older Adults

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Abstract

The purpose of the present study was to examine the present fatalistic time perspective as a mechanism that may partially account for age differences in purpose in life and personal growth. An additional purpose of this study was to explore the relations among age, time perspective, and psychological well-being. Seventy-five older adults (M=73.43, SD=7.91) and 77 younger adults (M=19.58, SD=1.19) completed surveys measuring time perspective (past positive, past negative, present fatalistic, present hedonistic, future) and psychological well-being (autonomy, environmental mastery, personal growth, positive relations with others, purpose in life, and self-acceptance). Hierarchical regression analyses revealed that the present fatalistic time perspective predicted purpose in life and personal growth above and beyond age and income. Several significant correlations were found among the time perspective and psychological well-being variables. Results showed that age was positively correlated with the past negative and present fatalistic time perspectives, but negatively correlated with the future time perspective. Results showed that age negatively correlated with purpose in life and personal growth, but positively correlated with autonomy. Results are discussed in light of socioemotional selectivity theory, theory of time perspective, and implications for incorporating time perspective into mental health counseling.

Keywords

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As the population of older adults continues to rapidly expand, it is becoming ever more valuable to understand what factors are involved in psychological well-being in later life. Psychological well-being is a six-dimensional construct that represent wellness in the following areas: autonomy, environmental mastery, personal growth, positive relations with others, purpose in life and self-acceptance. This multidimensional model of well-being is based on multiple theoretical frameworks of positive functioning, such as Erikson's (1959) psychosocial stages, Maslow's (1969) conception of self-actualization, and Rogers' (1961) conception of the fully functioning person, and has been further established through data-based research (Ryff & Keyes, 1995). Past research has shown that older adults experience lower levels of purpose in life and personal growth and higher levels of environmental mastery and autonomy than younger adults (Ryff & Keyes, 1995). The central concern of the present study was to identify a possible factor that may explain why older adults report lower purpose in life and personal growth. More specifically, the present study sought to investigate how the perception of time may be involved in age differences in these two dimensions of psychological well-being.

Time not only exists in the physical realm, but simultaneously exists as a psychological construct that is often overlooked in understanding human behavior and mental health (James, 1890/1950). The way that we perceive time influences our behavior, emotion, and motivation throughout the entire lifespan (Lewin, 1951). Time perspective is the psychological process by which an individual organizes his/her personal experiences into temporal categories, such as that of past, present, and future (Zimbardo & Boyd, 2008). As a cognitive construct, time perspective is formed through the early years of development (Droit-Volet, 2012) and is continuously refined over a person's lifetime (Block, 1990). Therefore, it could be expected that time perspective is modified by age. According to socioemotional selectivity theory (Carstensen, 1995; Carstensen, Isaacowitz & Charles, 1999), our perception of time has important implications for our goals and motivations. The perception of time in many individuals is determined by age, with older adults perceiving less time left in life to accomplish their goals and younger adults perceiving a broader time horizon, leaving more time to accomplish their goals (Carstensen, 1995). As a result, younger adults may be more future-oriented than older adults, and older adults may be more present-oriented than younger adults.

Furthermore, time perspective coupled with an individual's age can have an effect on an individual's well-being. Past research has shown that well-being can differ by age (Charles, Reynolds & Gatz, 2001; Pethtel & Chen, 2010; Ryff & Keyes, 1995). In addition, past research has shown that time perspective relates to our well-being (Desmyter & De Raedt, 2012; Drake, Duncan, Sutherland, Abernethy, & Henry, 2008; Sailer, et al., 2014). An additional purpose of the present study was to gain a better understanding of the relationships between age, time perspective, and psychological well-being by examining these constructs in older adults (over age 60) and younger adults (ages 18-24).

Time perspective

As human beings, we have an advanced cognitive capacity for understanding time. We are able to reflect deeply upon our past, focus on the present, and imagine future events. Extending from Kurt

Lewin's life space model (1951), which acknowledges the influence of the past and the future on current behavior, Zimbardo and Boyd (1999) created a theory of time perspective (TP) that conceptualizes TP as "situationally determined and as a relatively stable individual difference process" (Zimbardo & Boyd, 1999, p.1272). This theory proposes that our motivational, emotional, behavioral, cognitive, and social processes are influenced by the way we perceive the past, present and future, and defines TP as "the often nonconscious process whereby the continual flows of personal and social experiences are assigned to temporal categories, or time frames, that help give order, coherence, and meaning to those events" (Zimbardo & Boyd, 1999, p.1271). Time perspective is learned and determined by multiple factors such as culture, education, social class, age and more. According to Zimbardo and Boyd (1999), individuals develop an overreliance on a particular time frame that operates, most of the time, below one's awareness and influences much of our judgments, decisions, and actions. For example, people who over-rely on the future temporal frame are more likely to be risk-aversive, have higher grades, and make healthier choices than those who are more present-oriented because they are thinking about the future consequences of their decisions (Zimbardo & Boyd, 2008).

Table 1. Definitions of temporal frames of time perspective

Temporal Frame	Definition	Example item
Past negative	A generally aversive view of the past.	I often think of what I should have done differently in my life.
Past positive	A sincere, sentimental attitude toward the past	I get nostalgic about my childhood.
Present hedonistic	A pleasure-seeking, risk-taking, "live in the moment" attitude toward time and life.	I do things impulsively.
Present fatalistic	A helpless, discouraged, and hopeless attitude about life.	My life path is controlled by forces I cannot influence.
Future	An orientation towards the future; involving planning and anticipating consequences.	I complete projects on time by making steady progress.

Note. From Zimbardo, P. & Boyd, J. (1999). Putting time in perspective: A valid, reliable individual-differences metric. *Journal of Personality and Social Psychology, 77,* 1271-1288.

Based on theory, interviews, focus groups, repeated factor analysis, feedback from experiment participants, and repeated iterations of scale construction, Zimbardo and Boyd (1999) created a valid and reliable scale of time perspective with a five-factor structure. The empirical construction of this scale started with just the present and future orientations (Gonzales & Zimbardo, 1985), but has since been refined with further studies as well as exploratory and confirmatory factor analyses to ultimately form a scale that contains 5 domains. Tested through correlational and experimental

research, this scale has shown acceptable internal and test-retest reliability as well as convergent, divergent, discriminant, and predictive validity (Zimbardo & Boyd, 1999).

The five factors each represent a temporal frame and are represented by the following subscales: past negative, past positive, present hedonism, present fatalism, and future time perspectives. See Table 1 for definitions and example items of each temporal frame.

Zimbardo and Boyd (1999) investigated age in relation to time perspective in a sample of participants aged 16-62 ($M = 21.4$) and found that age was positively correlated with a future time perspective, and negatively correlated with present hedonistic and present fatalistic time perspectives. This sample, however, was heavily represented with younger adults and did not investigate individuals over age 62. Despite the negative correlation between age and present fatalism in the previously mentioned study, it is suspected that adults over age 60 may show higher levels of present fatalism than younger adults due to the increased likelihood of experiencing inevitable, uncontrollable physical and cognitive decline with increasing age in late adulthood. Subsequent studies have demonstrated that present fatalism appears to increase from young adulthood to older adulthood (Guthrie, Butler, & Ward 2009; Chen, Liu, Cui, Chen, & Wang , 2016; Rönnlund, Åström, & Carelli, 2017). It is also suspected that adults over age 60 would show lower levels of future time perspective than younger adults due to a perception of less time left in life (Carstensen, et al., 1999). Fingerman and Perlmutter (1995) found that older adults (aged 60-75) show less future orientation than younger adults (aged 17-25). One meta-analysis of 407 papers identified negative relationships between age and the present hedonistic TP, as well as age and the past negative TP (Laureiro-Martinex, Trujillo, & Unda, 2017). According to research and theory, age seems to be an important factor in determining an individual's time perspective, which also appears to be the case for psychological well-being.

Psychological Well-being

Psychologists have long attempted to understand positive functioning from various perspectives and derived several definitions of well-being, which include subjective well-being (comprised of life satisfaction, positive affect, and negative affect) and psychological well-being. After reviewing several conceptualizations of mental health and well-being, Ryff converged elements of their ideas into a multidimensional construct of psychological well-being (PWB; Ryff, 1989b). Confirmatory factor analysis indicated a 6-factor structure consisting of the following subscales: autonomy, environmental mastery, personal growth, positive relations with others, purpose in life, and self-acceptance (Ryff & Keyes, 1995). *Autonomy* is characterized as being an independent thinker, able to regulate behavior from within and according to one's own personal standards. This is opposed to someone who over-relies on the expectations and evaluations of others.

Environmental Mastery is characterized by having a sense of competence in managing one's environment, as opposed to having a hard time maintaining control over one's external surroundings and managing everyday affairs. *Personal growth*, on one end, is characterized by a feeling of continued development, of realizing one's own potential, and embracing change in order to improve upon oneself. On the other end, it's characterized by having a sense of personal stagnation and a lack of interest in pursuing improvement in life. *Positive relations with others* is characterized by having warm, trusting relationships and having the social competence to maintain those relationships, which entails the feeling of empathy, affection and intimacy. A low level of positive relations is reflected in having difficulty in interpersonal relationships. *Purpose in life* is characterized by a sense of direction in life and feeling a sense of meaning in life with goals and objectives for living, as opposed to not holding beliefs or aims that give life meaning. Lastly, *self-acceptance* is characterized by accepting the good and bad qualities about oneself and possessing a positive attitude towards oneself. The low end of self-acceptance is characterized by a general dissatisfaction and disappointment in oneself with low confidence in one's personal qualities (Ryff & Keyes, 1995).

Cross-sectional studies have shown consistent findings that older adults report higher levels of autonomy and environmental mastery and lower levels of purpose in life and personal growth than younger adults (Ryff, 1995), however, the mechanisms to explain these age differences are not well understood. The present study is particularly concerned with explaining the age differences in purpose in life and personal growth. What may account for older adults feeling a lower sense of meaning in life and a lower interest in pursuing improvement in life? It is possible that one's time perspective, in particular, the present fatalistic time perspective, could partially account for the relationship between age and these two dimensions of PWB. The more that individuals view their lives and futures as out of their control, the less likely they would be invested in their purpose in life and personal growth.

Time Perspective and Well-Being

According to the theory of time perspective, the subtle cognitive process of constructing our past, present, and future may underlie more visible constructs such as achievement, goal setting, addiction, rumination, and well-being. Time perspective is an individual-difference construct that has been shown to influence well-being more so than the Big Five personality factors (Zhang & Howell, 2011). Although Ryff's construct of psychological well-being has not been explored in relation to time perspective, other measures of well-being have been shown to be influenced by time perspective in individuals across cultures and across adulthood (Desmyter & De Raedt, 2012; Drake, et al., 2008). Zimbardo and Boyd (1999) examined the five dimensions of time perspective in relation to well-being

using measures of depression and self-esteem. Their results revealed that depression positively correlated with the past negative, present hedonistic, and present fatalistic time perspectives and negatively correlated with the past positive and future time perspectives. They also found that self-esteem positively correlated with the past positive and future time perspectives and negatively correlated with the past negative and present fatalistic time perspectives.

In a Scottish sample ranging in age from 16 to 83, present hedonism and past positive time perspectives were positively related to subjective happiness, while past negative was negatively related to subjective happiness (Drake, et al., 2008). Bolotova and Hachaturova (2013) surveyed time perspective in relation to coping strategies in a Russian sample and found that higher levels of future orientation were linked to more adaptive coping strategies, whereas higher levels of a past negative orientation and a present fatalistic orientation were linked to a wide range of maladaptive coping strategies. Desmyter and De Raedt (2012) examined time perspective in relation to subjective well-being in an older adult sample in Belgium, ranging in age from 65 to 96. Their results revealed positive correlations between the future TP and positive affect; past-positive TP and satisfaction with life; hedonism and positive affect; past negative TP and negative affect and depression; and present fatalism and depressive symptoms. In sum, the past positive and future time perspectives tend to be consistently positively related to well-being, whereas the past negative and present fatalistic time perspectives tend to be consistently negatively related to well-being. Present hedonism's relationship with well-being is less consistent.

Present fatalism may be particularly relevant to the well-being of older adults as they may feel their personal control slipping with age. This dimension of time perspective is characterized by living day by day with hopelessness and with a belief that there is little to nothing one can do to determine one's own future. (Gonzales & Zimbardo, 1985). The lack of perceived control inherent in the present fatalistic time perspective is likely to be associated with the inevitable, uncontrollable physical and cognitive declines that come with aging. According to longitudinal research, older age was associated with lower perceived control and steeper rates of decline in perceived control (Drewelies, Wagner, Tesch-Römer, & Heckhausen, 2017). Furthermore, the present fatalistic view has been shown to have a direct negative effect on life satisfaction (Gana, Klein, Saada, & Trouillet, 2013). Therefore, individuals with higher levels of present fatalism will experience lower levels of well-being.

In addition, family income is a worthwhile variable to investigate in relation to age, time perspective, and well-being. Financial status plays a significant role in determining subjective well-being, with lower income being associated with lower life satisfaction and emotional well-being (Kahneman & Deaton, 2010). Economic status has also been shown to relate to time perspective, negatively correlating with the present fatalistic and past

negative TP's, and positively correlating with the past positive TP (Chen, Liu, Cui, Chen, & Wang , 2016). Another reason income was examined is because it may also co-vary with age. According to the U.S. census (2014), income declines significantly in those 65 and older. In 2014, older adults age 65 and older had a median income of $36,895, whereas adults aged 55-64 had median of $60,580, adults aged 45-54 had a median of $70,832, and adults aged 35-44 had a median of $66,693. It was expected that older adults would have lower family income than younger adults, particularly college students in the present study, who were mostly still financially dependent on their parents. Because age and income are both implicated in well-being, the present study sought to investigate the contribution of present fatalism in determining elements of well-being (purpose in life and personal growth) beyond that of age and income.

Present Study

The purpose of the present study was to gain a better understanding of PWB as a function of age with two aims. The main aim was to investigate how the present fatalistic TP may predict purpose in life and personal growth on top of age and income. It was hypothesized that the present fatalistic TP will predict purpose in life and personal growth above and beyond age and income. In order to extend past findings on TP and well-being (Desmyter & De Raedt, 2012; Drake, et al., 2014; Zimbardo & Boyd, 1999), the second aim was to explore the correlations between the five dimensions of time perspective and the six dimensions of psychological well-being, as well as how these measures relate to age and income. Previous studies have not examined Ryff's (1989b) conception of psychological well-being in relation to TP.

The relations between PWB, TP, age, and income are exploratory, as the literature calls for more direct analyses of age and time perspective: "In spite of age being frequently included as a covariate in regression analyses… its relationship with time perspective is rarely reported" (Laureiro-Martinez, Trujillo, & Unda, 2017, p. 3). Concerning age and time perspective, it was hypothesized that increasing age would relate to lower levels of past negative TP and future TP, and higher levels of past positive TP, present hedonistic TP, and present fatalistic TP. Concerning age and PWB, it was hypothesized that increasing age would relate to lower purpose in life and personal growth, and higher autonomy.

Method

Participants
A total of 168 adults participated in the study; however, data for 16 participants were excluded due to a failure to complete one or more of the measures. The analysis included 152 participants, consisting of 75 older adults (female n= 45, male n= 30) and 77 younger

adults (female *n*=62, male *n*=15). The older adults' ages ranged from 60 to 92 years (*M*=73.43, *SD*=7.91) with a median family income of $14,000-$25,000. The younger adults' ages ranged from 19 to 24 years (*M*=19.58, *SD*=1.19) with a median family income of $75,000-$99,000. The older adults were recruited from local senior activity centers in the central Pennsylvania area and were given $5.00 as compensation for taking part in the study. The younger adults were recruited from a small, liberal arts 4-year university and were given extra credit as compensation for participation in the study.

Measures

Time Perspective. The Zimbardo Time Perspective Inventory (ZTPI) contains 56 items, all of which were assessed using a 5-point Likert scale ranging from *very uncharacteristic (1)* to *very characteristic (5)*. This scale has shown acceptable internal and test-retest reliability as well as convergent, divergent, discriminant, and predictive validity (Zimbardo & Boyd, 1999). In the present study, the internal consistencies for all subscales, except for past positive, were adequate. The Cronbach's alpha for each of the subscales were: past positive (8 items), α= .52[1]; past negative (10 items), α= .84; present hedonistic (15 items), α= .73; present fatalistic (9 items), α= .80; future (13 items), α= .70. See Table 1 for example items.

Psychological Well-Being. Ryff's (1989b) Psychological Wellbeing Questionnaire (PWBQ) consists of 54 items, each of which were assessed using a 6-point Likert scale ranging from *strongly disagree (1)* to *strongly agree (6)*. The PWBQ consists of 6 dimensions: autonomy (e.g. "I have confidence in my opinions, even if they are contrary to the general consensus"), environmental mastery (e.g. "In general, I feel I am in charge of the situation in which I live"), personal growth (e.g. "I gave up trying to make big improvements or changes in my life a long time ago") positive relations with others (e.g. "I know that I can trust my friends, and they know they can trust me"), purpose in life (e.g. "I used to set goals for myself, but that now seems a waste of time"), and self-acceptance (e.g. "I like most aspects of my personality"). Evidence of validity of the 6-factor structure have come from studies of factorial validity, psychological correlates, sociodemographic correlates, biological correlates, and intervention (Ryff & Singer, 2006). Prior research has also shown that this scale has acceptable reliability (Ryff, 1989b). The subscales, consisting of 9 items in each, also showed adequate internal reliability in the present study. In the present study, the Cronbach's alpha for each of the subscales were: autonomy, α= .76; environmental mastery, α= .77; personal growth, α= .78; positive relations with others, α= .82; purpose in life, α= .72; self-acceptance, α= .84.

Design and Procedure

The present study utilized a correlational, cross-sectional design. Participants first read over and signed an informed consent form before participating in the study. Participation involved

completing a pen-and-paper survey, including a background questionnaire (asking to provide age, sex, and family income), followed by the ZTPI and PWBQ.

Data Analyses

Zero-order Pearson's r correlations were run to examine the relationships between the time perspective and psychological well-being variables. To examine the differential predictive power of age, income, and present fatalism on PWB, two hierarchical regression analyses were conducted with purpose in life as the dependent variable in one analysis, and personal growth as the dependent variable in the other analysis. Age was entered on the first step (i.e. Model 1). To see if economic status partially accounted for the relationship between age and the dependent variables, family income was added into the second step of the equation (i.e. Model 2). To see if present fatalism accounted for additional variance above age and income, this variable was entered on the third step (Model 3).

Results

Descriptive statistics for each subscale in the ZTPI and the PWBQ are presented in Table 2. Skewness scores ranged from -.748 to .211, and kurtosis scores ranged from -.516 to 1.168, which are in an acceptable range for a normal distribution (Gravetter & Wallnau, 2014).

Table 2. Descriptive statistics of ZTPI and PWBQ subscales

Subscales	Mean	SD	Skewness	Kurtosis
Past Negative	3.01	.75	.10	-.35
Past Positive	3.83	.49	-.16	-.27
Present Hedonistic	3.48	.48	-.17	.06
Present Fatalistic	2.74	.71	.21	-.31
Future	3.64	.48	-.19	.91
Autonomy	4.21	.70	-.61	1.17
Mastery	4.41	.68	-.31	-.37
Personal Growth	4.45	.70	-.35	-.19
Positive Relations	4.59	.78	-.73	.24
Purpose in Life	4.46	.66	-.23	-.52
Self-Acceptance	4.42	.79	-.75	.65

Correlational Analyses

Table 3 displays the correlations between the dimensions of time perspective, psychological well-being, age, and income. The past negative time perspective was significantly negatively correlated with autonomy, environmental mastery, personal growth, positive relations, purpose in life, self-acceptance, and income, and positively correlated with age. The past positive time perspective was significantly positively correlated with environmental mastery, personal growth, positive relations,

purpose in life, and self-acceptance. The present hedonistic time perspective did not significantly correlate with any of the psychological well-being dimensions. The present fatalistic time perspective significantly negatively correlated with environmental mastery, personal growth, positive relations, purpose in life, self-acceptance, and income, and positively correlated with age. The future time perspective had significant negative correlations with autonomy and age, and significant positive correlations with personal growth and purpose in life. There was a strong negative correlation between age and family income, r (152)= -.75, as income significantly decreased with age.

Table 3. Time perspective, psychological well-being, age, and income correlation table

Well-Being:	Auton.	Mastery	Growth	Relat.	Purpose	Accept.	Age	Income
Time Perspective								
Past Negative	-.25**	-.40**	-.35**	-.50**	-.45**	-.51**	-.19*	-.27**
Past Positive	.09	.34**	.27**	.34**	.26**	.39**	.06	.08
Present Hedonistic	.09	.10	.14	-.12	-.12	.11	.08	-.04
Present Fatalistic	-.05	-.20*	-.49**	-.30**	-.56**	-.23**	.48**	-.44**
Future	-.17*	.13	.19*	.01	.32**	.01	-.23**	.09
Age	.21	.16	-.30**	-.12	-.35**	-.04	–	-.75**
Income	-.22	-.03	.24**	.16	.34**	.11	-.75**	–

Predictors of Purpose in Life

Normality, error variances, and linearity all looked acceptable in the regression models predicting purpose in life and personal growth. All VIF values were between 1.0 and 3.0, which suggests that multicollinearity was not a problem (Bowerman & O' Connell, 1990).

The first model, including age, was a significant predictor of purpose in life, F (1, 143) = 15.97, p < .001, explaining 10% of the variance. Age was a significant predictor of purpose in life, β = -.32, p< .001. The second model, adding family income, was also significant, F (2, 142) = 9.92, p < .001, but did not bring a significant F change. The coefficients for both age and income were not significant. The third model, adding present fatalism, significantly predicted purpose in life, F (3, 141) = 33.87, p < .001, explaining 42% of the variance. A significant F-ratio was obtained when comparing the amount of variance explained in Model 3(ΔR^2 = .30) with the amount of unique variance explained in Model 2 (ΔR^2 = .02) and Model 1 (ΔR^2 = .10). Adding present fatalism into the equation rendered age and income to non-significance, so that only present fatalism remained as a significant predictor of purpose in life in Model 3 (Table 4).

Table 4. Hierarchical regression analysis for variables predicting purpose in life

| | Model 1 | | | Model 2 | | | Model 3 | | |
Variable	B	SE(B)	β	B	SE(B)	β	B	SE(B)	β
Age	-.008	.002	-.32***	-.003	.003	-.15	.001	.002	.05
Income				.09	.05	.23	.04	.04	.10
Present Fatalism							-.57	.07	-.62***
R^2	.10 (SE= .62)			.12 (SE= .62)			.42 (SE= .51)		
F for change in R^2	15.97***			3.58			71.87***		

Note. ***$p < .001$.

Predictors of Personal Growth

The first model, including age, was a significant predictor of personal growth, $F (1, 143) = 12.60$, $p < .01$, explaining 8% of the variance. Age was a significant predictor of personal growth, β = -.28, p< .01. The second model, adding family income, was also significant, $F (2, 142) = 6.36$, $p < .01$, but did not bring a significant F change. The coefficient for age was significant, β = -.24, p< .05. The coefficient for income was not significant. The third model, adding present fatalism, significantly predicted personal growth, $F (3, 141) = 14.64$, $p < .001$, explaining 22% of the variance. A significant F-ratio was obtained when comparing the amount of variance explained in Model 3 ($\Delta R^2 = .16$) with the amount of unique variance explained in Model 2 ($\Delta R^2 = .001$) and Model 1 ($\Delta R^2 = .08$). Adding present fatalism into the equation rendered age and income to non-significance, so that only present fatalism remained as a significant predictor of personal growth in Model 3 (Table 5).

Table 5. Hierarchical regression analysis for variables predicting personal growth

| | Model 1 | | | Model 2 | | | Model 3 | | |
Variable	B	SE(B)	β	B	SE(B)	β	B	SE(B)	β
Age	-.007	.002	-.29**	-.006	.003	-.24*	-.003	.003	.10
Income				.02	.05	.05	-.01	.05	-.05
Present Fatalism							-.44	.08	-.45***
R^2	.08 (SE= .68)			.08 (SE= .61)			.24 (SE= .62)		
F for change in R^2	12.60***			.19			28.71***		

Note. *$p < .05$. **$p < .01$. ***$p < .001$.

Discussion

The main objective of this study was to investigate how the present fatalistic TP may predict purpose in life and personal growth on top of age and income. Just like previous studies (Ryff, 1995), the present study also found that older adults have lower levels of purpose in life and personal growth, as age was negatively correlated with both of these subscales. The most notable result of the present study, supporting our hypothesis, was the finding that the present fatalistic TP negatively predicted purpose in life and personal growth above and beyond age and income. This may suggest that the present fatalistic TP, defined as a helpless and hopeless attitude towards life and the future, is more important in determining one's purpose in life and personal growth than age and family income. As indicated by the significant negative correlation between age and present fatalism in the present study, it seems that this pessimistic time perspective seems to increase with age, possibly due to an increased likelihood of experiencing deficits in cognitive functioning and physical health (Rönnlund, Åström, & Carelli, 2017). This was expected because longitudinal research has shown that perceived control decreases in late life (Drewelies, et al., 2017). The results also suggest that holding the belief that there is nothing one can do to make a difference in life may partially explain why older adults (especially of lower income) are less likely to have a sense of meaning in life and a feeling of continued development when compared to younger adults. The detrimental effects that present fatalism can have on purpose in life and personal growth are concerning throughout later life when considering that the present fatalistic TP has been shown to increase between ages 60 and 90 (Rönnlund, Åström, & Carelli, 2017).

Previous studies have found that the negative correlation between the present fatalistic TP and life satisfaction (the cognitive component of subjective well-being) were not present in older adults, but only for younger adults (Chen, et al., 2016). This finding may suggest that although older adults increase in this hopeless time perspective, it does not affect their well-being. The present study, however, with the use of a more faceted measure of well-being, demonstrates that present fatalism does influence certain components of psychological well-being, even in older adulthood. Within age group correlations, although not a purpose of this study, indicated that the present fatalistic TP was significantly negatively correlated with purpose in life and personal growth in both the younger and older age groups separately. Therefore, it is useful to approach the understanding of well-being from multiple angles in order to assess the complexity of this construct and how it is influenced throughout the lifespan.

According to Erikson, Erikson, and Kivnick (1986), older adults are faced with the developmental task of achieving ego integrity during the final stage of development. To achieve ego integrity, one must feel like he/she has lived a meaningful, productive life. It is critical for the older adult to review their past while keeping engaged with the present in order to achieve ego integrity. If older adults are not able to achieve this, they are left in despair, in which they are dissatisfied with life and feel unproductive and regretful. Purpose in life and personal growth are both components of PWB that are involved in achieving ego integrity. The finding that the present fatalistic time perspective predicted purpose in life and personal growth over age and income is critical in understanding mental obstructions to achieving ego integrity.

Results of the present study tell a similar story to what past research has found concerning the relationship between TP and well-being, in which the past negative TP and present fatalistic TP related negatively to well-being, while the past positive TP and future TP related positively to well-being. More specifically, prior research has found that the past negative and present fatalistic time perspectives related to higher depression and maladaptive coping strategies, but lower self-esteem and happiness; whereas the past positive and future time perspectives related to lower depression and maladaptive coping strategies, but higher self-esteem and happiness (Zimbardo & Boyd, 1999; Desmyter & De Raedt, 2012; Drake, et al., 2008; Bolotova & Hachaturova, 2013). The use of the PWB scales in the current study allowed a closer examination of how more specific dimensions of well-being relate to TP.

One unique contribution of the correlational results in relation to age differences in PWB was the finding that the present fatalistic TP was most strongly correlated with purpose in life and personal growth, but not correlated with autonomy. In order to maintain the autonomy aspect of PWB, older adults may mentally separate a sense of lacking control in their lives (present fatalism) from the idea of being a self-determined thinker (autonomy). It may be more beneficial for older adults than younger adults to emphasize their ability to resist social pressure and make judgments according to their own personal standards (autonomy) in maintaining well-being, independent of having more of a present fatalistic perspective. The importance of autonomy in determining successful aging and other aspects of well-being in older adults may be something worth addressing in future studies.

According to Socioemotional Selectivity theory, older adults are inclined towards viewing things in life more positively as they are more focused on maximizing positivity with the little time perceived to be left in life (Carstensen, 1995). Therefore, it was unexpected that older adults reported higher levels of the past negative TP than younger adults in the present study. These results also contrast to previous findings that show that age is negatively related to the past negative TP (Laureiro-Martinez, Trujillo, & Unda, 2017). This result perhaps was due to the strong correlation age had with income, as previous studies as well the present study have shown a negative correlation between economic status and past negative TP (Chen, Liu, Cui, Chen, & Wang , 2016). In addition, age was not significantly correlated with the past positive TP and present hedonistic TP. These results do not align with the proposals of socioemotional selectivity theory and past research that imply that older adults show a positivity effect (Reed & Carstensen, 2012). Past research, however, has shown mixed results in regards of the relationship of age with past positive and present hedonistic TPs. Our results go against Zimbardo and Boyd's (2008) suggestion for successful aging, in which time perspectives should shift towards increasing the present hedonistic and past positive time perspectives, while decreasing the past negative and present fatalistic time perspectives. This may insinuate that achieving successful aging may be difficult for older adults of lower income. Zimbardo and Boyd (2008), however, did not study this notion of time perspective and successful aging in an older adult sample. Do note though, that the current study measured PWB and did not directly measure successful aging.

Older adults had lower levels of the future TP than younger adults, similar to what previous studies have found (Chen, Liu, Cui, Chen, & Wang , 2016; Fingerman & Perlmutter, 1995). This

finding supports socioemotional selectivity theory: as older adults perceive less time left in life, they are less focused on goals concerning the future. In addition, these results aligned with Zimbardo and Boyd's (2008) suggestion towards deemphasizing the future-oriented perspective. Older adults also had higher levels of the present fatalistic time perspective than younger adults, supporting our hypothesis. This was expected because longitudinal research has shown that perceived control decreases in late life (Drewelies, et al., 2017).

Zimbardo and Boyd (2008) state that social class is a contributor and consequence of time perspective. They suspected that people of lower class would be more present oriented and less future oriented. In our study and in prior research (Chen, Liu, Cui, Chen, & Wang , 2016), lower income correlated with higher levels of the present fatalistic time perspective, aligning with Zimbardo & Boyd's (2008) proposition that those in lower classes may feel like they have less control in their everyday lives. Diverging from their proposition, but aligning with previous findings (Chen, Liu, Cui, Chen, & Wang , 2016), our study did not show a correlation between family income and the future TP. Perhaps this is due to the strong negative correlation between age and income and/or the use of college students who are still mainly dependent on family for income.

This study has some limitations. This was a correlational study and thus, causality cannot be implied in any of the findings. In addition, the cross-sectional design of this study restricts our conclusions on age effects. As far as the measures used, the internal consistency for the past positive subscale was not adequate. This is possibly because one item was deleted from this subscale due to an error in construction of the survey. Therefore, the results pertaining to this scale must be interpreted with caution. A major limitation of the present study was that income was a confounding variable with age, as was indicated by the strong negative correlation between age and income. Future research should be mindful of the confound between age and income when recruiting a sample. The results of the present study are also limited in external validity, as convenience sampling was used. The sample in this study consisted of mostly Caucasian, rural-dwelling adults, with older adults of lower family income and younger adults of higher family income. The sample of low-income older adults may be particularly prone to lower PWB. The younger adult sample was very specific, as the younger participants were all students from a small, private, Catholic university in rural Pennsylvania. Future studies should include a more diverse sample to gain a better understanding of the relationship between time perspective and well-being in different age groups.

In conclusion, this study confirmed that older adults have lower personal growth and purpose in life, but additionally offered an avenue for understanding a mechanism underlying this age difference in the form of the present fatalistic TP. This finding has implications for the mental health of adults who may have low well-being, including a lack of a sense of meaning and interest in life, which may be due to an over-reliance on the present fatalistic TP. These findings offer a start towards investigating the use of incorporating time perspective into the mental health practice. For example, a therapist, particularly of the cognitive-behavioral model, can work on changing the cognitive style of a depressed older client with low well-being to a style that consists of a healthier balance of time perspectives, particularly by focusing on decreasing the client's present fatalistic TP. As people retire in late life, Zimbardo and Boyd (2008) recommend that time perspectives

should shift towards deemphasizing the future-oriented perspective, remain low in present fatalism, while increasing the present hedonistic and past positive time perspectives. This profile of time perspectives, in which one would live in the moment with less future concern and more fond recall of the past, could be incorporated into improving the mental health of older adults. Therapies that utilize an approach that incorporates time perspective may be especially helpful for mental health professionals encouraging older adults to engage in life review and achieve ego integrity.

Declaration of Conflicting Interests

Funding

Notes

[1]Due to an error in the construction of the current study's survey, item number 15 from the past positive subscale ("I enjoy stories about how things used to be in the "good old times") was deleted and thus, only 55 items were used for the present study. It is unclear if the low reliability of this scale was due to this accidental item omission or the use of an older sample in the present study as compared to the younger age of the sample in Zimbardo and Boyd's (199) study.

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