Suvremena psihologija 14 (2011), 2, 135-151

Izvorni znanstveni članak - UDK 159.922.2

SUBJECTIVE AGE OVER THE ADULT LIFESPAN

Maja Zupančič
Department of Psychology, Faculty of Arts
University of Ljubljana
Aškerčeva 2, 1000 Ljubljana, Slovenia
maja.zupancic@ff.uni-lj.si

Blanka Colnerič
Department of Psychology, Faculty of Arts
University of Ljubljana
Aškerčeva 2, 1000 Ljubljana, Slovenia
blanka.colneric@ff.uni-lj.s

Martina Horvat
Department of Psychology, Faculty of Arts
University of Ljubljana
Aškerčeva 2, 1000 Ljubljana, Slovenia
martina.horvat@ff.uni-lj.si

Abstract

Subjective age – defined as age felt – was measured in a sample of 782 respondents, aged between 18 and 89 years. Adults younger than 20 years had on average somewhat older subjective ages and those older than 20 reported younger subjective ages relative to their chronological age. The discrepancy between subjective age and actual age in years increased over adulthood. Differences for chronological age but not for gender and education were found in respondents reporting positive, negative and no subjective-actual age discrepancy. When the age discrepancy between subjective and actual age was considered as a proportion of chronological age, no increase was noted after the fourth decade of life; the respondents over 37 years felt about 15% younger than their actual age. Gender and education did not account for differences in the proportional age discrepancy with the full sample, whereas with the elderly subsample ($N = 106$) neither demographic variables (marital status, living arrangement and place of residence) nor five robust personality dimensions were linked to the discrepancy significantly. At the facet level, dominance and kindness were related to the proportional age discrepancy but a negligible portion of variance was explained.

Key words: subjective age, felt age-actual age discrepancy, adulthood, elderly, personality

INRODUCTION

Subjective age is a multidimensional construct, capturing dimensions such as, for example, age felt, age of appearance, age of activity, and age of interests (Kastelbaum, Derbin, Sabatini & Artt, 1972). The construct has been conceptualized and measured in different ways (for an overview see Kaliterna, 1998; Montepare, 2009): in terms of decades (Goldsmith & Heienes, 1992), years (Knoll, Rieckman, Scholz & Schwarzer, 2004), separate measures (such as felt age, look age; Rubin & Berntsen, 2006) or compound scores (an average of answers addressing looks, feels, acts etc.; Hubley & Russel, 2009), and as comparative age (reporting whether an individual feels younger, older, or the same as his/her actual age; Rubin & Berntsen, 2006). The present study investigated subjective age (SA) in terms of age felt (in years) among Slovene adults of different chronological ages (CA), from emerging adulthood to old age. It provides an extension of the first investigation of SA in the country (Zupančič, Horvat & Colnerič, 2010) and focuses specifically on age differences in the discrepancy between SA and CA.

The majority of adults think of themselves as younger than their CA, both those from Western and Far East societies (Barak, Mathur, Lee & Zhang, 2001). Research has shown that the discrepancy between SA and CA in adulthood steadily increases into old age (Barak et al., 2001; Kaufman & Elder, 2002; Öberg & Tornstam, 2001; Rubin & Berntsen, 2006; Uotinen, 1998; Zupančič et al., 2010). Although the research findings on developmental patterns of SA are rather consistent, understanding about why adults perceive their age the way they do and why the perceptions change across the lifespan is quite limited (Montepare, 2009). The tendency of adults to feel younger has been explained mainly from two theoretical perspectives, i.e. denial of aging (Barak et al., 2001; Montepare & Lachman, 1989) and the lifespan-developmental view of SA (Galambos, Kolaric, Sears & Maggs, 1999; Montepare, 1996, 2009; Rubin & Berntsen, 2006).

The age-denial view contends that the tendency of adults to feel younger than their actual age is a form of defensive denial which helps them to dissociate themselves from negative representations of aging. Thus, resisting the internalization of negative stereotypes about aging and old age can be viewed as an effective self-enhancing strategy (see Westerhof & Barrett, 2005). A younger SA than CA, especially in late life, may even reflect old adults' ability to adapt to age-related losses (e.g., Levy, 2003; Sneed & Whitbourne, 2005). Consistent with this view, a younger SA has been established as an indicator of successful aging (e.g., Uotinen, Suutama & Ruoppila, 2003), subjective well-being in late life (Barak & Stern, 1986; Kotter-Grühn, Kleinspehn-Ammerlahn, Gersthof & Smith, 2009; Westerhof & Barrett, 2005), and a better predictor of psychological functioning in elderly individuals than their CA (see Montepare, 2009; Montepare & Lachman, 1989). However, little or no relationship has been established between adults' negative stereotypes about aging or fear of aging and their SA (e.g., Montepare, 2009; Montepare & Lachman,

1989; Zupančič et al., 2010). In addition, the negative aging stereotypes and personal fears cannot explain older SA in adolescents and emerging adults (Galambos et al., 1999; Galambos, Turner & Tilton-Weaver, 2005).

The more recent lifespan-developmental view maintains that the SA-CA discrepancy is not primarily due to aging but incorporates changes over adulthood as a consequence of individuals' evaluations of age in relation to particular age markers or reference points (Montepare, 2009). Thus, SA is likely to derive from a process of anchoring and adjusting one's age in relation to distal markers (personal models of development or individuals' implicit models of stages of life) and proximal reference points of age (historic, physical, normative, or interpersonal events that make an individual's age salient). Personal models are proposed to take on a curvilinear shape with gains expected in the future and losses projected thereafter. Thus, the models hold midpoints reflecting optimum age of self-perceived developmental functioning (attractor age). Adults younger than an attractor age – a crossover point between feeling older and feeling younger, which has to be empirically determined and probably varies among populations – tend to feel older and adults older than that age tend to feel younger (e.g., Galambos et al., 2005; Rubin & Berntsen, 2006).

In contrast to other research, which explored the developmental pattern of SA-CA discrepancy in terms of exact years, Rubin and Berntsen (2006) used proportional SA-CA discrepancy in their study, i.e. (SA-CA)/CA, as a more reasonable measure for an entire lifespan. According to the lifespan-developmental view, the two authors assumed that young adults will have an SA that is closer to the attractor age and that with moving away from that age the proportional discrepancy will increase to a certain amount, which can be determined empirically. Indeed, the attractor age in a large and representative Danish sample was established at 25 years, whereas the proportional SA-CA increased to a maximum amount of 20% at the age of 40 years with no increase thereafter. Following the suggestions of Rubin and Berntsen (2006), we expected to replicate the basic findings of their study in a large sample of Slovene adults but with a different attractor age and the maximum SA-CA proportional discrepancy, as those parameters could vary in different cultures.

As our sample of Slovene adults of different ages was large and demographically diverse we also explored the relations of several available demographic variables with SA. Demographic characteristics of individuals may roughly indicate proximal age markers consisting of different kinds of events that make age salient (e.g., age-graded biological and social events). For example, women tend to marry, have children, and retire earlier than men and are also expected to live longer than their male counterparts; better educated adults start a full time job, marry, become parents and retire later than their less educated peers (SURS, 2010). However, findings on relations between SA and demographic measures such as gender, education, income, and marital status have been inconclusive with differing results attributable to methodological and/or sample differences. Some authors have found a negative

association of SA with education and income (see Barak & Stern, 1986; Barrett, 2003), while others have not (Henderson, Goldsmith & Flynn, 1995; Rubin & Berntsen, 2006). Some studies have shown that women perceive themselves as younger more often than men (Montepare & Lachman, 1989) but most studies do not support gender differences in felt age (Barak et al., 2001; Goldsmith & Heienes, 1992; Rubin & Berntsen, 2006; Uotinen, 1998). The question of whether marital status affects the discrepancy between SA and CA has seldom been addressed. Married respondents tended to report an older SA than the unmarried ones in the study conducted by Henderson and his colleagues (1995). Wilkes (1992) found that married women had a younger SA than unmarried ones, while Barak and Stern (1986) reported the opposite. By summing up the results of different studies they suggested no status differences. Due to a lack of consistent data regarding the relations between marital status and SA, we postulated null-hypothesis in this study.

Another interest in our study revolved around the elderly adults' felt age in relation to their self-reported personality traits, as represented by the Big Five Model. A few specific studies suggested that conscientiousness might be related to SA. More conscientious elderly felt younger before and after cataract surgery than their less conscientious counterparts (Knoll et al., 2004). The trait has also been linked to predictors of SA such as health (Brickman, Yount & Blaney, 1996), functional status, and small complaints about difficulties with everyday activities due to sensory impairments (Casten, Rovner & Edmonds, 2001). Barak and Stern (1986) summed up studies suggesting that self-confidence (a trait indicative of emotional stability), venturesomeness (describing an individual's interest in experimenting with new ideas or products, which closely resembles openness to experience), and opinion leadership, a tendency to informally influence the actions or attitudes of others (an expression of dominance, a marker trait of extraversion) are inversely associated with SA. Hubley and Hultsch (1994) also found that extraversion and openness to experience are related to middle aged and older adults' feeling younger. A recent study with a small sample of age heterogeneous and well-educated Canadian adults (Launeanu & Hubley, 2009) supported the predictive relation of openness to experience but not extraversion with SA. Furthermore, this study was the first one to evaluate the role of personality facets in SA. The results suggested that individuals who appreciate art and beauty tend to report younger SA than those low on aesthetics (a facet of openness to experience). Taken together, the role of personality traits in SA has been subject to surprisingly few studies, with facet level analysis especially lacking. To fill this gap we explored the role of robust personality traits and their specific constituents in elderly adults' SA which was, in extension to the extant research, conceptualized in terms of proportional SA-CA discrepancy. Based on previous scarce findings we expected that higher levels of extraversion, openness, and conscientiousness (and any of their constituents) would contribute to a greater discrepancy.

Problem

Our study examined the distribution of SA over adulthood in three ways: with regard to (a) the proportions of adults feeling younger, older, and of the same age than their CA; (b) the discrepancy between SA and CA in years; and (c) the proportional discrepancy between SA and CA. Then, we explored whether differences in SA-CA discrepancy (feeling younger, older or of the same age than actual age) are related to CA, gender, and education of the participants. We further examined whether those demographics are related to the proportional discrepancy between SA and CA, i.e. (SA-CA)/CA. In addition, effects of demographic factors (chronological age, gender, education, marital status, living arrangement and place of residence) and personality traits on the proportional discrepancy between SA and CA were tested within the subsample of elderly participants.

METHOD

Sample

A sample of 782 adults (age range from 18 to 89 years; 43% males), covering developmental periods of emerging adulthood (18 to 24 years; $N = 224$), young adulthood (25 to 44 years; $N = 193$), mid-adulthood (45 to 64 years; $N = 173$) and late adulthood (65 years and older; $N = 192$), and coming from different regions of the country participated in our survey. The participants completed from 7 to 20 years of schooling ($M = 13.0$, $SD = 2.3$; 43 participants did not indicate their education) and were classified into three groups for the purposes of statistical analyses: Low education (completed at least 7 years of compulsory or vocational schooling; $N = 101$), middle education (finished a four year secondary school, technical school or high school; $N = 357$), and high education (graduated an upper secondary school or university; $N = 281$).

For the analyses shown in Figures 1, 2, and 3, the respondents were sorted into groups of five years up to the age of 75 years and into one group for older ages, for which fewer participants provided responses. The number of respondents in each group, along with other demographic characteristics (mean age in years, proportion of females, mean years of completed schooling), and the proportion of the total sample are given in Table 1.

Additional personality data were collected from a subsample of 106 individuals (50.9% males) older than 64 years ($M = 72.65$, $SD = 5.67$). All of the elderly were relatively healthy, led an independent life and had completed on average 12 years of schooling ($SD = 2.49$; range from 7 to 16 years). The vast majority of the elderly subsample were married (70.8%) or widowed (23.6%); the respondents lived with a spouse (51.9%), in an extended family (26.4%) or alone (17.9%) and the remain-

Table 1. Respondents by age, gender, education, and proportion in the total sample.

Group	Age	*N*	Mean Age	% Females	Education	% of the Sample
1	18-20	120	19.73	60.8	11.99	15.3
2	21-25	134	22.72	47.0	12.39	17.1
3	26-30	62	27.95	54.8	14.33	7.9
4	31-35	29	33.04	51.7	15.89	3.7
5	36-40	35	38.14	48.6	15.10	4.5
6	41-45	48	43.31	68.8	13.84	6.1
7	46-50	70	48.03	57.1	13.95	8.9
8	51-55	33	53.00	39.4	13.96	4.2
9	56-60	38	58.00	63.2	13.75	4.8
10	61-65	43	63.49	79.1	13.08	5.5
11	66-70	62	67.97	64.5	12.54	7.9
12	71-75	50	73.26	60.0	11.98	6.4
13	76-89	58	80.04	58.6	11.30	7.4

Note. Age and mean age are given in years. Education = years of completed schooling.

ing had other living arrangements; 57.5% of the participants lived in urban areas (big or small cities).

Instruments

As a part of a broader study exploring the misconceptions about old age, all of the participants were asked about their chronological age, gender, education (years of completed schooling), and age felt ("How old do you, yourself, feel? Please reply in years."). The adults over 64 years also reported on their marital status (married or in a long-term intimate relationship, divorced, widowed, and single), living arrangement (with a spouse/partner, alone, in an extended family, institution, and other), and place of residence (rural, small town, and city).

With the subsample of elderly, the Big Five factors of personality were assessed by the Slovene standardized self-report version (132 items) of the *Big Five Questionnaire (BFQ)* (Caprara, Barbaranelli, Borgogni, Bucik & Boben, 1997). Each of the factors is represented by two facet scales: Emotional Stability (Control of Emotion and Impulse Control), Extraversion (Activity and Dominance), Openness (Openness to Experience and Openness to Culture), Agreeableness (Cooperativeness and Kindness), and Conscientiousness (Preciseness and Persistence). A few items were adjusted to life circumstances of the targets (e.g., words related to job, career and the like were replaced with words related to everyday activities of the retired persons). The mean α across the five robust domain scales in our elderly sample was 0.72 (ranging from 0.65 to 0.81).

Procedure

The respondents were recruited according to a snowball sampling procedure. The data were collected via face-to-face interviews at the participants' home, faculty or at work. After the elderly participants had responded to the demographic questions and the age felt, they filled-in the BFQ with an interviewer present to assist if necessary.

RESULTS

The proportion of respondents claiming their subjective age (SA in exact years) was younger, the same, or older than their chronological age (CA) is displayed in Figure 1. With increasing age up to the age of 30, the proportion of older SA responses dropped to about 10% and varied from 0 to 10% thereafter. On the contrary, the proportion of younger SA responses increased from about 20 to 45% over the third decade of life with a further increase in the next decades, varying from 70 to 80%. The proportion of respondents who reported their SA as equal to their CA was highest for the youngest group of respondents (18-20 years); half of them felt as old as they actually are, the rest felt younger (about 20%) or older (about 30%). At older

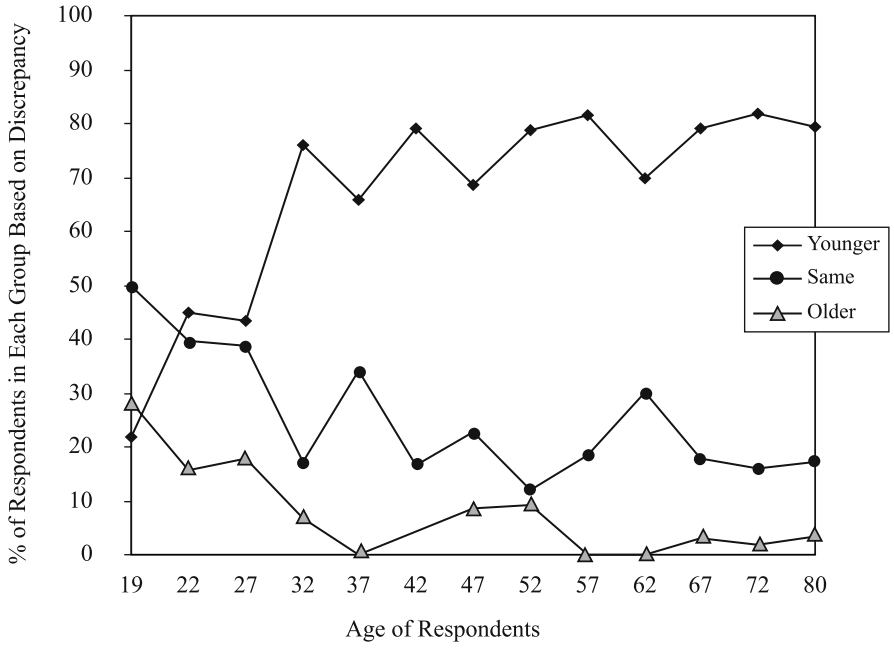

Figure 1. The proportion of respondents who reported that they felt younger, the same, or older than their actual age.

ages (fourth decade and over) the proportion of individuals feeling equally old as their CA dropped, and it ranged from about 20% to 30%. The attractor age, which is indicated by the crossover where the same proportion of people feel younger and older, was empirically determined at about the age of 20 years.

The individual-difference analyses were conducted to examine whether the participants who responded that they felt an age other than their CA differ in age, gender and education from those who did not. The respondents were divided into those who reported SAs equal to their actual age ($N = 231$) and those who reported either younger or older SAs ($N = 551$). The chi-square for gender was not significant ($\chi^2(1, N = 782) = 1.21, p > 0.05$). ANOVA performed using this split with the dependent variable of education was also not significant ($F(1,737) = 0.148, p > 0.05$). There was a significant effect for CA ($F(1,780) = 42.04, p < 0.001, \eta^2 = 0.051$). The participants with no SA-CA discrepancy were on average younger ($M = 36.35$ years; $SD = 19.45$) than those with the discrepancy between chronological and felt age ($M = 46.61$ years; $SD = 20.50$). As shown in Figure 1, the latter was due to the fact that the proportion of people who reported SA equal to their CA decreased with actual age.

Further, we examined the differences in gender, age and education level among participants who reported a positive ($N = 84$), negative ($N = 467$) or no ($N = 231$) discrepancy between SA and CA. The chi-square for dichotomous gender and the three-level group variables was not significant (χ^2 (2, $N = 782$) = 1.22, $p > 0.05$). Prior to investigating the differences in education and CA, Leven's test was conducted to check for equality of variance in these two dependent variables among the groups with positive, negative and zero SA-CA discrepancy. Because the variances were significantly different for education ($F(2,736) = 11.53, p < 0.001$) and CA ($F(2,779) = 14.22, p < 0.001$), the nonparametric Kruskal-Wallis test for independent samples was performed. No significant differences in education were obtained among the three groups ($p > 0.05$), but there were significant differences in age ($p < 0.001$). Further, the distribution of education did not differ significantly between pair-wise comparisons of the three groups, i.e. those with a positive discrepancy (+) feeling older than their CA, negative discrepancy (-) feeling younger than they actually were, or no discrepancy (0) feeling as old as they were (Mann Whitney $U_{+/0} = 7975.00, p > 0.05$; $U_{0/-} = 48153.00, p > 0.05$; $U_{+/-} = 15109.00, p > 0.05$). However, there were significant differences in the distribution of CA across all of the paired comparisons (Mann Whitney $U_{+/0} = 7191.00, p < 0.001$; $U_{0/-} = 32346.00, p < 0.001$; $U_{+/-} = 7257.50, p < 0.001$). Members of the group with positive discrepancy were the youngest, whereas those with negative discrepancy were on average the oldest.

The discrepancy in years and proportional discrepancy between subjective and chronological age

Figure 2 shows the mean felt age as a function of the respondents' actual age. The dotted line represents a theoretical line of felt age equal to chronological age.

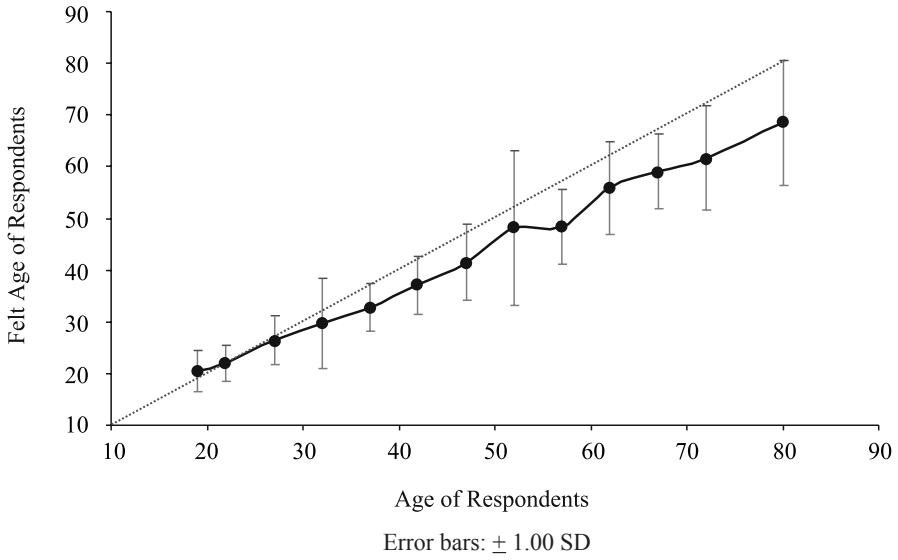

Figure 2. Felt age of respondents as a function of their actual age.

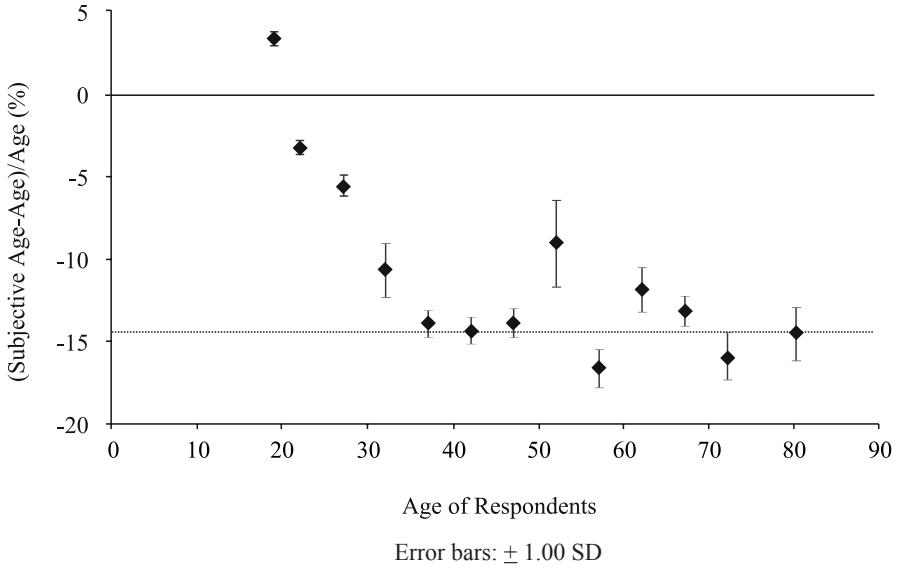

Figure 3. Age discrepancy as a proportion of chronological age.

Consistent with the lifespan-developmental view (see also Figure 1), average felt age is older than CA up to the age 20 years, after which point the felt age becomes younger than the chronological one. Measured in years, it appears that the

discrepancy between SA and CA increases as the respondents grow older (indicated by the line of felt age which increasingly deviates from the theoretical line of the same CA and SA in Figure 2).

Next, we examined what happens with proportional discrepancy [(SA-CA)/CA] over the respondents' age. As illustrated in Figure 3, no increase in discrepancy was observed after the age of 37 when proportional discrepancy was plotted. After that age, the participants across all age groups reported that they feel roughly 15% younger than their actual age.

Relations of the proportional discrepancy between subjective and chronological age with demographics and personality

In further analyses we focused on associations of proportional SA-CA discrepancy with demographic variables and, in the subsample of the elderly, also with their personality traits. In order to evaluate the respective links, the following analyses were conducted: (a) with the full adult sample, differences in the proportional SA-CA discrepancy were calculated by a 4 × 2 × 3 ANOVA accounting for the respondents' age group (emerging adulthood, early, mid-, and late adulthood), gender and education (low, middle, high); (b) with the elderly subsample, CA in years was taken as a covariate, whereas gender, education, marital status (married, currently without an intimate partner), living arrangement (alone, with a partner, with others) and place of residence (city, town, rural) were treated as independent variables in exploring the differences in proportional SA-CA discrepancy; (c) relations of the five robust personality traits and 10 personality facets with the proportional SA-CA discrepancy in the elderly subsample were explored by two separate multiple regression analyses.

The ANOVA using data for the full sample revealed a significant effect of the age group on the proportional SA-CA discrepancy (F (3,716) = 5.42, $p < 0.01$) but non-significant effects of gender (F (1,716) = 2.08, $p > 0.05$) and the level of education (F (2,716) = 0.21, $p > 0.05$). Post hoc analyses showed that the emerging adults (aged 18 to 24 years) reported a significantly smaller discrepancy than young adults ($p < 0.001$; mean difference: MD = 9.38%, SE = 1.56), mid-adults ($p < 0.001$; MD = 14.32%, SE = 1.63), and old adults ($p < 0.001$; MD = 14.78%, SE = 1.55). The proportional discrepancy in young adults (25- to 44-year-olds) was also significantly lower than that of mid-aged adults ($p < 0.05$; MD = 4.95%, SE = 1.71) and old adults ($p < 0.01$; MD = 5.40%, SE = 1.61). Nevertheless, the proportional discrepancy in mid-adults (45- to 64-year-olds) was not significantly different than that in older adults ($p > 0.05$; MD = 0.45%, SE = 1.70).

With the elderly subsample, the results of the ANCOVA with the alpha set at 0.05 indicated that none of the demographic variables significantly contributed to the proportional discrepancy between SA and CA. Also, the multiple regression

analysis at the trait level showed no significant relation of any of the five personality traits with the proportional age discrepancy (F (5,100) = 0.60, $p > 0.05$, R^2 = 0.03, *Adj.* R^2 = -0.02). It suggests that the robust personality traits are irrelevant in predicting the SA-CA discrepancy in our relatively small sample of the elderly. The regression analysis at the facet level showed a similar overall result (F (10, 95) = 1.22, $p > 0.05$, $R^2 = 0.11$, *Adj.* $R^2 = 0.02$). However, dominance ($\beta = 0.27$, $p < 0.05$) and kindness ($\beta = 0.25$, $p < 0.05$) were predictive of proportional discrepancy, indicating that more dominant and/or kind elderly report feeling relatively closer to the CA than their less dominant and less kind peers.

DISCUSSION

Chronological age (CA) is a fundamental variable along which developmental studies explore, describe and explain human behavior. Nevertheless, understanding of development over the adult years could be enhanced by investigating alternative age-related constructs such as how old individuals experience themselves to be, i.e. the subjective age (SA). Empirical research supports this alternative view by indicating that self-perceptions of age appear to be better predictors of aging adults' psychological and physical functioning than is their CA (Kotter-Grühn et al., 2009; Montepare & Lachman, 1989; Montepare, 2009; Westerhof & Barrett, 2005). SA is actually a multidimensional construct (Goldsmith & Heiens, 1992; Kastelbeum et al., 1972; see also Kaliterna, 1998) but only one of its facets, the felt age or psychological age, was the focus of our research.

In the present cross-sectional study we explored the distribution of subjective age (SA) over the adult lifespan in different ways and we examined the relationships of CA, gender, and education with SA (specifically, felt age). Furthermore, the relations of proportional discrepancy between SA and CA with other demographic variables (marital status, living arrangement, and place of residence) and personality traits were investigated in a subsample of independent and relatively healthy older adults. Data provided by a large sample of Slovene adults, representing developmental periods from emerging adulthood into old age, yielded several main findings.

Accounting for three different approaches to investigate the distribution of SA over adulthood (SA-CA discrepancy in exact years, proportional discrepancy, and proportions of adults feeling older, younger and equal to their actual age), our findings seem to better support the lifespan developmental view on the discrepancy between SA and CA than the age-denial view. The latter would predict no discrepancy in emerging and young adulthood but an accelerating increase over mid- and late adult years. First, the SA-CA discrepancy does not simply increase as a function of CA. The chronologically youngest respondents feel older or equal to their CA (80% of participants aged 18 to 20 years), most of the adults in their twenties feel younger or the same age, whereas a vast majority of the participants over 30 years

of age feel younger than they actually are. The empirical attractor age (a crossover point between feeling older and feeling younger) in our sample was established at respondents' age around 20 years which is five years younger than the attractor age found in a large Danish sample (Rubin & Berntsen, 2006) and among the US students (Galambos, Albrecht & Jansson, 2009). Second, a considerable proportion of adults over 20 years of age report zero SA-CA discrepancy (40% of those in their twenties and from 15% to 35% of the participants in any of the remaining older age group). Third, a vast majority of studies found an increasing SA-CA discrepancy across adulthood when the discrepancy was measured in years (e.g., Kaufman & Elder, 2002; Öberg & Tornstam, 2001) or as comparative age (e.g., Galambos et al., 2005; Kaliterna, Prizmić Larsen & Brkljajčić, 2002). The responses of our participants aged over 20 years also demonstrated this pattern clearly. However, when the discrepancy between felt age and CA in years is normalized by dividing the discrepancy by CA (referred to as proportional discrepancy), a different developmental pattern of SA-CA discrepancy is obtained (Rubin & Berntsen, 2006) as also shown with data of the present study. An increase in proportional discrepancy was observed in our respondents during their twenties and thirties but after the age of 37 no further increase was noticed. All of the older age groups felt on average 15% younger than their actual age. In comparison to a very similar study in Denmark (Rubin & Berntsen, 2006), the Slovene participants exhibited a somewhat smaller proportional discrepancy between SA and CA, and an earlier leveling off of the proportional SA-CA discrepancy. These variations may be due to cultural factors (e.g., different timing of the expected age-graded normative life events, differences in conceptualizations of human development), including the cultural response-bias. A more youthful definition of self in terms of age has been, for example, explained as a self-enhancing strategy that is characteristic in relatively more individualistic and youth-oriented cultures (Westerhof & Barret, 2005).

Comparisons between the groups of participants with positive, negative or no SA-CA discrepancy (in years) suggested no differences by gender and education nor did any of the two demographic variables account for the proportional discrepancy between SA and CA. Additional demographic variables (marital status, living arrangement and residential area) considered with the elderly subsample also showed no significant effect on the proportional SA-CA discrepancy. Although our findings are limited to the demographic variables examined, and to one type of SA measure (the felt age), they do contribute to the suggestion that SA is based on variables other than demographics (Rubin & Bernsten, 2006; Barak et al., 2001; Henderson et al., 1995) and provide empirical support from a country, which is under-represented in the psychological literature. In general, research evidence implies that further research should mainly pay attention to other types of potential explanatory variables, for example, health status (especially in the elderly subsample; Hubley & Russel, 2009), life-style (Henderson et al., 1995), experiences and expectations of individuals about the path of adult development (personal models of the stages of life against which people evaluate their age; Montepare, 2009).

The developmental course of SA found in the present study may be explained within the lifespan developmental framework. It views changes and individual variations in SA as a consequence of individuals' evaluation of age in relation to specific distal and proximal reference points or age markers that make age salient (see Montepare, 2009). People hold implicit personal models (distal reference points of age evaluation) of development. The models possess midpoints (crossover points or attractor age) reflecting optimum stages of self-perceived developmental functioning. The individuals refer to those stages to evaluate their age: Across adolescence and emerging adulthood, most of them assert older SA, whereas adults more often adopt younger SA given the desirability of attaining and sustaining the self-perceived optimum developmental stages. The further they move from the attractor age, the larger the SA-CA discrepancy, although the increase is observed only to a certain extent when measured proportionally. Galambos et al. (2009) described another possible reference mechanism in accordance with the conception of distal reference point. When emerging adults move from one age-related developmental context to another, they change reference groups for comparison. Therefore emerging adults no longer see themselves at the top of the adolescent group (feeling older) but rather as having moved into a more mature group of adults. Referencing this older group may result in experience of a younger SA. It has also been suggested that variations in SA derive from individuals' adjustments to information provided by age-related proximal cues, such as emerging adults' involvement in specific behaviors (Galambos et al., 2009), closeness of older adults' birthday (Montepare, 2009), retirement (Barak & Stern, 1986), and change in health status (Hubley & Hultsch, 1994). However, no data about possible proximal cues that could contribute to age-related differences and individual differences in SA or different types of SA-CA discrepancy was gathered in our study. In our opinion, a detailed investigation of personal models and proximal reference points as predictors of SA over the lifespan offers a promising avenue for future research.

Based on the extant research reports, SA may even play a more significant role in late adulthood than in earlier adult periods (Barak & Stern, 1986; Kotter-Grühn et al., 2009; Uotinen et al., 2003; Westerhof & Barrett, 2005). Given that SA reflects age identity which is an important aspect of self-concept we supposed that personality variables such as personality traits would be likely to contribute to the proportional SA-CA discrepancy in a subsample of the elderly. As there are surprisingly few studies concerning personality traits within the Five-factor framework in predicting elderly adults' SA and these studies are also very specific (e.g., Hubley & Hultsch, 1994; Knoll et al., 2004) we only formulated a tentative hypothesis. In contrast to the proposed associations none of the five robust personality traits appeared to significantly contribute to individual differences in the proportional SA-CA discrepancy. At the facet level analysis which provides a more comprehensive examination of the role of personality traits in the width of the proportional discrepancy between SA and CA, the participants' self-reported higher scores on dominance and

kindness tended to decrease the discrepancy. In general, personality traits played an almost negligible role in explaining the proportional SA-CA discrepancy in the elderly participants. Our tentative hypothesis was supported only with regard to one of the constituent traits of extraversion which significantly predicted the proportional SA-CA discrepancy. However, the link between the two was observed in the opposite direction. It has to be noted that our subsample was relatively small and it included relatively well-educated, "young" (73 years in average), healthy and functional individuals aged over 65 years. In comparison with related studies, we used a different measure of personality traits (the BFQ, Caprara et al., 1997), one specific measure of SA (age felt in exact years) and relied on proportional SA-CA discrepancy which is a more reasonable measure of the discrepancy than comparative age or the discrepancy in years (Rubin & Berntsen, 2006).

Given the diverse results across samples and methodological limitations of previous research and the current study, future inquiry calls for more systematic investigation of the links of personality with SA in adults over the entire lifespan, using the same measures and analyses in order to replicate and validate the extant findings. It is also plausible to surmise that personality traits do not necessarily have a direct effect on SA but rather their contribution may be mediated or moderated by variables such as age, other demographic variables, proximal age-graded life events, and psychological variables previously shown to be associated with SA, e.g. fear of aging (Montepare & Lachman, 1989), satisfaction with aging (Kleinspehn-Ammerlahn, Kotter-Grühn & Smith, 2008), vitality, subjective and functional health (Brickman et al., 1996; Casten et al., 2001; Hubley & Hultsch, 2009), subjective well-being (Barak & Stern, 1986; Westerhof & Barrett, 2005), life-style, cognitive fitness, and social integration (see also Knoll et al., 2004).

REFERENCES

Barak, B., Mathur, A., Lee, K. Zhang, Y. (2001). Perceptions of age-identity: A cross-cultural inner-age exploration. *Psychology & Marketing, 18*, 1003-1029.

Barak, B.B., Stern, B. (1986). Subjective age correlates: A research note. *Gerontologist, 26*, 571-578.

Barrett, A.E. (2003). Socioeconomic status and age identity: The role of dimensions of health in the subjective construction of age. *Journals of Gerontology, Series B: Psychological Sciences and Social Sciences, 58B*, 101-109.

Brickman, A.L., Yount, S.E., Blaney, N.T. (1996). Personality traits and long-term health status: The influence of neuroticism and conscientiousness on renal deterioration in Type-1 diabetes. *Psychosomatics: Journal of Consultation Liasison Psychiatry, 37*, 459-468.

Caprara, G.V., Barbaranelli, C., Borgogni, L., Bucik, V., Boben, D. (1997). *Model "Velikh pet". Priročnik.* [The Big five model. Manual. Ljubljana: Produktivnost, Center za psihodiagnostična sredstva.

Casten, R.J., Rovner, B.W., Edmonds, S.E. (2001). The relationships among personality and vision-specific function among older people with impaired vision. *Journal of Mental Health & Aging, 7*, 325-334.

Galambos, N.L., Albrecht, A.K., Jansson, S.M. (2009). Dating, sex, and substance use predict increases in adolescents' subjective age across two years. *International Journal of Behavioral Develepment, 33*, 32-41.

Galambos, N.L., Kolaric, G.C., Sears, H.A., Maggs, J.L. (1999). Adolescents' subjective age: An indicator of perceived maturity. *Journal of Research on Adolescence, 9*, 309-337.

Galambos, N.L., Turner, P.K., Tilton-Weaver, L.C. (2005). Chronological and subjective age in emerging adulthood: The cross-over effect. *Journal of Adolescent Research, 20*, 338-555.

Goldsmith, R.E., Heiens, B.A. (1992). Subjective age: A test of five hypotheses. *Gerontologist, 32*, 312-317.

Henderson, K.V., Goldsmith, R.E., Flynn, L.R. (1995). Demographic characteristics of subjective age. *Journal of Social Psychology, 135*, 447-457.

Hubley, A.M., Hultsch, D.F. (1994). The relationship of personality trait variables to subjective age identity in older adults. *Research on Aging, 16*, 415-439.

Hubley, A.M., Russel, L.B. (2009). Prediction of subjective age, desired age, and age satisfaction in older adults: Do some health dimensions contribute more than others? *International Journal of Behavioral Development, 33*, 12-21.

Kaliterna, L. (1998). Jesmo li stari koliko imamo godina ili koliko se starima osjećamo. *Društvena istraživanja, 6*, 873-883.

Kaliterna, L., Prizmić, Larsen, Z., Brkljajčić, T. (2002). Chronological and subjective age in relation to work demands: Survey of Croatian workers. *Experimental Aging Research, 28*, 39-49.

Kastelbaum, R., Derbin, V., Sabatini, P., Arrt, S. (1972). "The ages of me" toward personal and interpersonal definitions of functional aging. *Aging and Human Development, 3*, 197-211.

Kaufman, G., Elder, G.H., Jr. (2002). Revisiting age identity. A research note. *Journal of Aging Studies, 16*, 169-176.

Kleinspehn-Ammerlahn, A., Kotter-Grühn, D., Smith, J. (2008). Self-perceptions of aging: Do subjective age and satisfaction with aging change during old age? *Journal of Gerontology: Psychological Sciences, 63*, 377-385.

Knoll, N., Rieckman, N., Scholz, U., Schwarzer, R. (2004). Predictors of subjective age before and after cataract surgery: Conscientiousness makes a difference. *Psychology and Aging, 19*, 676-688.

Kotter-Grühn, D., Kleinspehn-Ammerlahn, A., Gersthof, D., Smith, J. (2009). Self-perceptions of aging predict mortality and change with approaching death: 16-year longitudinal results from the Berlin Aging Study. *Psychology and Aging, 24*, 654-667.

Launeanu, M.S., Hubley, A.M. (2009). *The role of personality facets in adults' age identity.* Paper presented at the 117th Convention of the American Psychological Association, Toronto, Canada, Aug 6-9.

Levy, B.R. (2003). Mind matters: Cognitive and physical effects of aging self-stereotypes. *Journals of Gerontology, Series B: Psychological Sciences and Social Sciences, 57B*, 409-417.

Montepare, J. M. (2009). Subjective age: Toward a guiding lifespan framework. *International Journal of Behavioral Development, 33*, 42-46.

Montepare, J.M. (1996). Variations in adults' subjective ages in relation to birthday nearness, age, age awareness, and attitudes toward aging. *Journal of Adult Development, 3*, 193-203.

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.

Öberg, P., Tornstam, L. (2001). Youthfulness and fitness – identity ideals for all ages? *Journal of Aging and Identity, 6*, 15-29.

Rubin, D.C., Bernsten, D. (2006). People over forty feel 20% younger than their age: Subjective age across the lifespan. *Psychonomic Bulletin & Review, 13*, 776-780.

Sneed, J.R., Whitbourne, S.K. (2005). Model of aging self. *Journal of Social Issues, 61*, 375-388.

SURS [Statistical office of the Republic of Slovenia]. (2010). Statistical Yearbook 2010. Retrieved on 21. 4. 2011, from: http://www.stat.si/letopis/

Uotinen, V. (1998). Age identification: A comparison between Finnish and North-American cultures. *International Journal of Aging & Human Development, 46*, 109-124.

Uotinen, V., Suutama, T., Ruoppila, I. (2003). Age identification in the framework of successful aging: A study of older Finnish people. *International Journal of Aging & Human Development, 56*, 173-195.

Westerhof, G.J., Barrett, A.E. (2005). Age identity and subjective well-being: A comparison of the United States and Germany. *Journals of Gerontology, Series B: Psychological Sciences and Social Sciences, 60B*, 129-136.

Wilkes, R.E. (1992). A structural modeling approach to the measurement and meaning of cognitive age. *Journal of Consumer Research, 19,* 292-301.

Zupančič, M., Horvat, M., Colnerič, B. (2010). Kronološka in zaznana starost pri starejših: koliko let se vidijo, počutijo in bi si želeli biti stari. *Kakovostna starost, 13*, 44-55.

SUBJEKTIVNA DOB TIJEKOM ODRASLE DOBI

Sažetak

Subjektivna dob – definirana kao osjećaj dobi – mjerenja je na uzorku od 782 ispitanika u dobi od 18 do 89 godina. Odrasle osobe mlađe od 20 godina imale su, u prosjeku, nešto stariju subjektivnu dob, a oni stariji od 20 godina mlađu subjektivnu dob u skladu s kronološkom dobi. Razlika između subjektivne i stvarne dobi u godinama se povećala tijekom odrasle dobi. Razlike po kronološkoj dobi, ali ne po spolu i

obrazovanju nađene su kod ispitanika koji su prijavili pozitivnu, negativnu ili nikakvu razliku između subjektivne i stvarne dobi. Kada se razmatrala razlika između subjektivne i stvarne dobi kao postotak kronološke dobi, nije uočeno povećanje nakon 4. desetljeća života, ispitanici stariji od 37 godina osjećali su se 15% mlađe od stvarne dobi. Spol i obrazovanje nisu utjecali na razlike u proporcionalnoj dobnoj razlici na punom uzorku, dok kod starijeg poduzorka (N = 106), ni demografske varijable (bračni status, životne okolnosti i mjesto stanovanja) ni pet osnovnih obilježja ličnosti nisu značajno povezani s razlikom. Na razini faceta, dominacija i ljubaznost povezane su s proporcionalnom dobnom razlikom, ali je objašnjen samo zanemariv dio varijance.

Ključne riječi: subjektivna dob, razlika između osjećaja dobi i stvarne dobi, odrasla dob, starije osobe, ličnost

Primljeno: 09. 09. 2011.

