

The belief in a just world's impact on subjective well-being in old age

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Running title: Impact of belief in a just world in old age

Dzuka, J. & Dalbert, C. (2006). The belief in a just world's impact on subjective well-being in old age. *Aging and Mental Health*, 10, 439-444.

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Abstract

This article investigates the relationship between the belief in a just world (BJW) and subjective well-being in old age. On the basis of just world theory, the authors argue that strong BJW should be associated with well-being in old age. Two questionnaire studies with Slovakian senior citizens are reported. Both studies found seniors' well-being to be associated with better subjective health, more social contacts, a better subjective financial situation, less neuroticism, and a stronger endorsement of the belief in a personally just world. Religiosity and well-being were unrelated, however. The positive relationship between strong BJW and subjective well-being persisted when controlled for other significant predictors of well-being, and these relationships held for all participants, whether they lived independently in the community or in senior citizens' homes. The overall pattern of results reveals the belief in a personal just world to have a unique association with positive subjective well-being.

Key words: just world belief; old age; well-being; personality; religion

The belief in a just world's impact on subjective well-being in old age

As the world's population ages and people live longer, it is becoming increasingly important to ensure that older people enjoy quality of life and subjective well-being. In recent years, several studies have investigated the predictors of subjective well-being in old age (for a review, see Stanley & Cheek, 2003). These studies have distinguished three groups of predictor variables: (a) socio-demographic variables (e.g., age, sex, race, marital status, education, financial status, religious membership, religious attendance), (b) attitudinal variables including social support (satisfaction with neighborhood, hobbies, family life, friendship, health and physical condition, financial situation) and (c) personality variables.

Socio-demographic status, attitudes and personality as predictors of well-being

The subjective well-being of older people is at least as good as that of younger cohorts (e.g., Baltes & Baltes, 1990, Brandtstädter & Greve, 1994, Filipp, 1996), and differences in the subjective well-being of male and female seniors seem to be relatively small (Goodstein, Zautra, & Goodhart, 1982; Olsen, 1980). Some authors have even observed increasing well-being in old age, at least up until a certain age limit (Carstensen, 1991, 1995, Labouvie-Vief & Blanchard-Fields, 1982; Lawton, 1989, 1996). Several explanations for this phenomenon have been proposed. Diener and Suh (1997) assume life satisfaction to be a personality disposition that remains relatively stable, despite objective decreases in life quality. Campbell, Converse, and Rodgers (1976) reason that aspiration levels decrease in old age and that seniors are thus satisfied with less. Carstensen (1991, 1995) argues that, because of their shorter life expectancy, seniors focus more strongly on regulating their emotions. Lawton (1996) also discusses the idea that seniors are better able to cope with their emotions and to adapt to given life situations. In sum, age and gender are not important predictors of subjective well-being in old age.

Poor health, loneliness, and financial problems have, on the other hand, been identified as valid predictors of lower well-being in old age (Doyle & Forhand, 1984; Larson, 1978). Social contacts, in particular, seem to play a major role (Campbell, Converse, & Rodgers, 1976; McMullin, 1996; Robbins, Lee, & Wan, 1994). The importance of social contacts may increase in old age because, overall, the number of social contacts decreases with age (Carstensen, 1993). However, it is important for old people to have a feeling of control over their social contacts (Bisconti & Bergeman, 1999). Most older adults prefer to live independently, in their own homes, but not far from their family (Bengtson & Treas, 1980). Financial strain is a particularly important predictor of subjective well-being in economically less developed countries (Diener & Diener, 1995; Diener, Suh, & Oishi, 1997). Krause, Jay, and Liang (1991) argue that financial strain may reduce self-esteem and, in turn, lead to the onset of depressive symptoms. A study by Mroczek and Kolarz (1998) found that a good education seems to be associated with decreased subjective well-being in males, but not in females. In sum, socio-economic status is an important predictor of subjective well-being in old age, but explains less than 20% of the overall variance (Argyle, 1999; Campbell, Converse, & Rodgers 1976).

In a recent meta-analysis, Pinquart and Sörensen (2000) found that socio-economic status (income, occupational status, and education), the social network (frequency and quality of relationships), and competence were positively associated with well-being among adults aged 65 and above. Socioeconomic status (SES) and the social network proved to be of particular importance. Only studies conducted in Western societies were included in their meta-analysis, however. Thus, one aim of the present study was to test the hypothesis that the financial situation, education, and the number of social contacts are positively associated with the well-being of seniors in post-communist societies as well. To this end, we conducted two studies in

Slovakia shortly before the country's admittance to the European Union.

There is much empirical evidence to show that neuroticism and extraversion are closely connected to well-being. Extraversion has proved to be positively related to adaptation in old age (Costa & McCrae, 1980), particularly where positive emotions are concerned (Costa, McCrae, & Norris, 1981). Baker, Cesa, Gatz, and Mellins (1992) and Diener and Suh (1997) consider negative emotions to be genetically determined and positive emotions to be more situation driven. Thus, positive emotions may decrease in old age, while negative emotions may remain more stable across the life-span. In our study, we tested the hypothesis that neuroticism is negatively associated with well-being in old age while extraversion is positively associated. Moreover, we differentiated between the emotional and the cognitive dimensions of well-being by measuring life satisfaction (Diener, 1984).

The belief in a just world and subjective well-being

The 'belief in a just world' hypothesis formulated by Melvin J. Lerner (e.g., Lerner, 1980; for a review, see Furnham, 2003) states that people need to believe in a just world (BJW) in which everyone gets what they deserve. This belief enables them to deal with their physical and social environment as though it were stable and orderly. Because observed or experienced injustices threaten these adaptive functions, individuals suffer greatly when confronted with injustice, and do their best to avoid it. Numerous studies have shown that the belief in a just world serves as buffer that protects subjective well-being (e.g., Correia & Vala, in press; Dalbert, 1997, 1998, 2002; Dalbert & Dzuka, in press; Dzuka & Dalbert, 2002a; Libow & Doty, 1979; Lipkus, Dalbert, & Siegler, 1996). None of these studies involved senior citizens, however. Our study thus tested the hypothesis that BJW is positively associated with well-being in old age as well.

Three main functions of the BJW have been identified (Dalbert, 2001): (a) It is indicative of the personal contract and the obligation to behave justly, (b) it provides a conceptual framework that helps individuals to interpret the events of their personal life in a meaningful way, and consequently (c) it gives individuals the assurance that they will be treated justly by others and will not fall victim to unexpected disaster. We assume that the second function is particularly important when it comes to maintaining subjective well-being in old age.

Confrontations with injustice, either observed or experienced, threaten the belief that the world is just. Individuals high in BJW respond to this threat by trying to restore justice either in reality or psychologically. If the injustice cannot feasibly be resolved in reality, they try to assimilate the experience to their BJW. This can be done by reasoning that the injustice was at least partly self-inflicted (Bulman & Wortman, 1977; Comer & Laird, 1975; Lupfer, Doan, & Houston, 1998), by playing down the injustice (Dalbert, 1996), and by avoiding self-focused rumination (Dalbert, 1997). In line with Carstensen, Isaacowitz, and Charles (1999), we believe that older adults are more concerned with emotion-focused coping and with finding meaning in their lives than younger cohorts, who are more involved in problem-solving tasks. Thus, we expect BJW to be more action-oriented in youth, and more related to evaluating one's life and integrating one's experiences into a single conceptual framework in old age. Indeed, BJW has been shown to correlate positively with the maxim of working hard for a living and identifying with one's work in young adulthood, whereas in old age, it seems to be positively associated with mental health and self-esteem (Maes & Schmitt, in press).

The relationship between BJW and well-being in old age seems to be the result of cognitive coping efforts to find meaning in one's life. For example, Lipkus and Siegler (1993) found that seniors high in BJW felt less victimized during their life than seniors low in BJW. In

Slovakia, the lives of today's senior citizens are characterized by severe restrictions. Their income is low, usually under the minimum wage, but living costs have increased dramatically over the past decade. Their situation can be considered unjust for several reasons. Today's senior citizens spent a lifetime working to build up resources that they expected to support them in old age, but that have now been privatized. Their income is thus insufficient, and their living conditions are often poor. This reality and the injustice of the situation can be expected to impair their overall sense of well-being. This prompts the question of how these senior citizens who can be considered victims of the changes in post-communist Slovak society might be able to bolster their well-being. We expect the BJW to function as a buffer protecting the mental health of elderly people. Thus, although older Slovakian adults no longer have the resources to improve their socio-economic situation in reality, a strong BJW may help them to assimilate this unjust situation by means of cognitive coping. We therefore expect a strong BJW to be positively associated with well-being in Slovakian senior citizens.

In response to suggestions originating from earlier research (Furnham & Procter, 1989; Lerner & Miller, 1978), recent investigations have shown that it is necessary to distinguish the belief in a personal just world from the belief in a general just world (Dalbert, 1999; Lipkus et al., 1996). The personal BJW reflects the belief that events in one's life are just; the general BJW reflects the belief that, basically, the world is a just place. It has been shown that individuals tend to endorse the belief in a personal just world more strongly than the belief in a general just world. Moreover, personal BJW has proved to be a better predictor of mental health (Dalbert, 1999; Lipkus et al., 1996) and anger expression. On the basis of these findings, we expect the personal BJW to be a better predictor of older adults' well-being than the general BJW.

The present studies

The aim of the present studies was to explore how just world theory can be applied to aging research by investigating the effects of BJW on well-being in old age. Based on just world theory, it can be hypothesized that BJW continues to function as a personal resource in later life. Moreover, we expect personality (here: neuroticism, extraversion), socio-economic status (particularly the financial situation), and social contacts to impact on older adults' well-being. Two questionnaire studies were conducted with Slovakian senior citizens to explore the following three sets of hypotheses: First, we expected the financial situation and social contacts of the participants to explain their well-being the better off they were financially and the more social contacts they maintained, the higher we expected their well-being to be. Second, global personality dimensions were also expected to explain well-being the less neurotic and more extraverted the participants were, the higher we expected their well-being to be. Third, the more strongly the participants endorsed the belief in a just world, the fewer negative emotions, the more positive emotions, and the more life satisfaction we expected them to report. The expected relationship between BJW and well-being should be especially true for the personal compared to the general BJW, and the relationship should persist when controlled for other significant predictors as mentioned above.

STUDY 1

Method

Participants. Participants were $N = 92$ seniors ($n = 36$ males, $n = 56$ females) living in senior citizens' homes in East Slovakia. Age ranged from 65 to 91 years ($M = 75.5$; $SD = 7.12$). The study was conducted in autumn 2001 and took place in the senior citizens' homes.

Questionnaires. The belief in a just world was measured with the 6-item General Belief in a Just World Scale ($\alpha = .77$; Dalbert, Montada, & Schmitt, 1987; sample item: "I think basically the world is a just place") and the 7-item Personal Belief in a Just World Scale ($\alpha = .77$; Dalbert, 1999; sample item: "I am usually treated fairly"). Apart from the two affect

scales, all items were rated on two-point rating scales with the alternatives 1 (“agree”) and 0 (“disagree”). The cognitive component of subjective well-being was measured with the 7-item General Life Satisfaction Scale (Dalbert, Montada, Schmitt, & Schneider, 1984) describing satisfaction with one's present and past life and future perspectives ($\alpha = .74$; sample item: “I am satisfied with my life”). The items of this life satisfaction scale are comparable with those of the life satisfaction scale developed by Diener, Emmons, Larsen, & Griffin (1985) at the same time. The emotional component of subjective well-being was assessed by the Positive Affect Scale (Dzuka & Dalbert, 2002b; $\alpha = .86$) consisting of four descriptors (pleasure, happiness, joy, physical freshness) and the Negative Affect Scale (Dzuka & Dalbert, 2002b; $\alpha = .65$) comprising six descriptors (anger, guilt feelings, shame, anxiety, pain, sorrow). The subjects were asked to state how often they experience each of these affect states. Answers were given on a 6-point frequency scale ranging from 1 (“almost never”) to 6 (“almost always”). The frequency ratings were printed in large letters on a piece of paper. Extraversion was measured with a 7-item extraversion scale ($\alpha = .81$; sample item: “I am more enterprising than most of my acquaintances”); neuroticism with the 7-item emotional lability scale ($\alpha = .80$; sample item: “Sometimes I feel rather blue for no reason”) of the Freiburg Personality Inventory (Fahrenberg, Selg, & Hampel, 1978). Social contacts outside the family were measured using Brunstein's 5-item scale (1999; $\alpha = .77$; sample item: “Do you have many acquaintances?”). Finally, subjects were asked to state their age, educational level (basic or higher), and monthly income in Slovakian crowns, and to rate their subjective health on a scale ranging from 1 (“very bad”) to 4 (“very good”).

Procedure. The questionnaires were administered in the senior citizens' homes. Residents were contacted individually, and those who agreed to participate in the study were questioned individually in an empty room. All questions were read aloud and all answers were recorded by the administrator. Each session took about an hour.

Results

The correlations between all variables and their descriptive statistics are documented in Table 1. The means of general and personal BJW differed significantly ($t = -9.34$, $p < .001$), with participants endorsing the personal BJW ($M = .66$; $SD = .30$) more strongly than the general BJW ($M = .36$; $SD = .32$). As expected, the personal BJW was more strongly and consistently correlated with well-being than the general BJW was. Furthermore, general, but not personal BJW was negatively associated with education. Personal, but not general BJW was positively associated with age, subjective health, and neuroticism.

-- insert Table 1 about here --

In order to clarify the relationship between well-being and belief in a just world, stepwise multiple regression analyses were performed for life satisfaction, frequency of positive affect, and frequency of negative affect, respectively. Gender, education, and age were entered stepwise in the first block; their three interaction terms were entered stepwise in the second block; income, subjective health, and social contacts were entered stepwise in the third block; the seven product terms depicting the interactions of age or gender with each of these three predictors as well as the interaction between income and social contacts were entered stepwise in the fourth block; the two personality variables were entered stepwise in the fifth block; the two BJW variables were entered stepwise in the sixth block; the twelve product terms depicting the interactions of the two BJW variables with the six socio-demographic variables entered in blocks 1 and 3 were entered stepwise in the final block. These regressions are hierarchical over the blocks, but statistical (= stepwise) within the blocks (see Tabachnick & Fidell, 2001, p. 135). This procedure makes it possible to determine which variables explain variance independently of one another. The accepted models ($p < .05$) are presented in Table 2.

-- insert Table 2 about here --

Life satisfaction was predicted by four main effects, explaining a total of 36 per cent of the variance. Positive affect was predicted by four similar main effects, explaining a total of 55 per cent of the variance. The better their subjective health status, the more social contacts they reported, the less neurotic they were, and the more they believed in a personally just world, the more satisfied the elderly participants were with their lives, and the more often they experienced positive affect. The regression model explaining 37 per cent of the variance in negative affect was very similar, with the exception that personal BJW was not a significant predictor. The worse their subjective health status, the fewer social contacts they reported, and the more neurotic they were, the more often the senior citizens experienced negative affect.

Overall, in line with previous studies (e.g., Costa & McCrae, 1980; Doyle & Forhand, 1984; Pinquart & Sörensen, 2000), our first study indicates that subjective health status, the number of social contacts, and global personality have a positive impact on the subjective mental health of Slovakian seniors in terms of all well-being dimensions assessed. Income did not prove to have any effect in our study, however, although it has been found to be a significant factor in previous studies with elderly samples (Pinquart & Sörensen, 2000) and was expected to play a particularly important role in economically less developed societies such as Slovakia (e.g., Diener & Diener, 1995). As hypothesized, personal, but not general BJW was positively associated with the elderly participants' well-being, but this only held for the positive dimensions of well-being, and not for the negative one. The more the participants believed that events in their life were essentially just, the more satisfied they were with their life, and the more positive affect they experienced.

STUDY 2

We conducted a second study to replicate the major results of Study 1 and to extend our empirical framework. First, we aimed to replicate the positive relationship of subjective

health, social contacts, and personal BJW with well-being, and to explore whether these associations hold for community-dwelling older people as well as for those living in senior citizens' homes. Second, we wanted to explore the impact of the participants' financial situation in more detail. In Study 1, we assessed the senior citizens' objective financial situation in terms of their income in Slovakian crowns per month, which may explain why this factor did not significantly predict well-being. In Study 2, we therefore assessed the perceived financial situation, which we expected to impact on participants' well-being. Instead of extraversion and neuroticism, the personality dimension of religiosity was considered. Levin and Chatters (1998) used data on older adults from three national probability surveys to examine the impact of religious involvement on health status and psychological well-being, and found a positive effect of religiosity, particularly extrinsic religiosity. Moreover, Emmons, Cheung, and Tehrani (1998) found that spiritual or religious content of personal goals has an especially strong influence on well-being. Consequently, we expected extrinsic as well as intrinsic religiosity to increase well-being in old age.

Method

Participants. Participants were $N = 60$ Slovakian seniors ($n = 21$ males, $n = 39$ females) aged from 65 to 80 years ($M = 72.68$; $SD = 4.55$). The study was conducted in autumn 2001.

Participants were surveyed either in their senior citizens' residences ($n = 30$) or in their own homes ($n = 30$).

Questionnaires. Personal BJW ($\alpha = .66$), life satisfaction ($\alpha = .72$), positive affect ($\alpha = .79$), negative affect ($\alpha = .69$), social contacts ($\alpha = .66$), and subjective health were measured with the same instruments implemented in Study 1. Intrinsic religiosity was assessed with the 7-item scale by Allport and Ross (1967; $\alpha = .77$; sample item: "My religious beliefs lie behind my whole approach to life"); extrinsic religiosity with the 3-item scale by the same authors ($\alpha = .83$; sample item: "I go to church mostly to spend time with my friends"). The religiosity

items were to be rated on two-point rating scales with the alternatives 1 (“agree”) and 0 (“disagree”). Finally, seniors were asked to state their age and educational level (basic or higher education), and to compare their own financial situation with that of their peers. Responses were coded on a bipolar scale with the alternatives 0 (“finances worse than others”) and 1 (“finances equal to or better than others”).

Procedure. The questionnaires were administered individually in the senior citizens’ residences or in the participants’ own homes. The location was coded as a dummy variable with 1 (“living at home”) and 0 (“living in a senior residence”). All questions were read aloud and all answers were recorded by the administrator. Each session took about an hour.

Results

The correlations between all variables and their descriptive statistics are given in Table 3, separately for participants living at home and those living in senior citizens’ residences. There are three interesting patterns of results. (a) BJW correlated with the three well-being dimensions in the expected direction. However, these correlations were only significant for the subsample of participants living in senior citizens’ homes, and not for the community-dwelling participants. (b) The belief in a personal just world and intrinsic, but not extrinsic religiosity were positively associated, but again only for those living in senior citizens’ residences. (c) None of the correlations between the two religiosity dimensions and the three well-being dimensions were significant in either of the subsamples.

-- insert Table 3 about here --

In order to clarify the relationship between well-being and belief in a just world, stepwise multiple regression analyses were performed for life satisfaction, frequency of positive affect, and frequency of negative affect, respectively. The five variables representing age, gender, education, living at home, and financial situation were entered stepwise in the first block; their interaction terms were entered stepwise in the second block; subjective health and social

contacts were entered stepwise in the third block; the six product terms depicting the interactions of subjective health and social contact with living at home, age, and sex were entered stepwise in the fourth block; the two religiosity variables were entered stepwise in fifth block; their interaction with living at home, age, and sex in the six block; personal BJW was entered in the seventh block; the seven product terms depicting the interactions of the belief in a just world with age, sex, education, living at home, financial situation, subjective health, and social contacts, respectively, were entered stepwise in the final block. The accepted models ($p < .05$) are presented in Table 4.

-- insert Table 4 about here --

Life satisfaction was predicted by three main effects, explaining a total of 31 per cent of the variance. The better the participants evaluated their subjective financial situation to be, the more social contacts they reported, and the more they believed in a personally just world, the more satisfied they were with their lives. Positive affect was predicted by three main effects, explaining a total of 38 per cent of the variance. The better their subjective financial situation and subjective health status, and the more the seniors believed in a personally just world, the more often they experienced positive affect. Negative affect was predicted by one main effect and one interaction effect, explaining a total of 27 per cent of the variance. The better their subjective health status, the less often the seniors experienced negative affect. Participants whose subjective financial situation was worse than that of their peers were more likely to experience negative affect than those whose subjective financial situation was equal to or better than that of their peers. For seniors in a comparatively bad financial situation, negative affect decreased with age ($b = -.09$). The same did not hold for those in a comparatively good financial situation, however ($b = .02$). Thus, aging seems to help those in a comparatively poor financial situation to come to terms with their lot. In contrast, senior citizens who are comparatively well off financially seem to find it easier to come to terms with their lot from

the outset, and aging does not have any further impact on the frequency of their negative affect.

Our second study again evidenced that personal BJW has an adaptive impact on the positive dimensions of subjective well-being, but not on the negative one. The more strongly the elderly participants believed that they are usually treated fairly in life, the more satisfied they were with their lives, and the more often they experienced positive affect. In Study 2, we measured the participants' subjective financial situation rather than their actual income. It emerged that the subjective financial situation predicted all three well-being dimensions. Seniors in a comparatively good financial situation were more satisfied with their lives, and experienced positive emotions more often and negative emotions less often. Social contacts and subjective health were less important in explaining the senior citizens' well-being in Study 2. Rather, social contacts were positively associated with life satisfaction only. Subjective health status predicted positive and negative affect. Furthermore, neither intrinsic nor extrinsic religiosity were significantly correlated with our well-being dimensions. Finally, whether the participants lived at home or in a senior citizens' residence had no significant impact on their subjective well-being.

Discussion

Our questionnaire studies with Slovakian seniors served two main purposes. First, we aimed to test the variables known to impact on the well-being of senior citizens in Western societies in a post-communist country. These variables were socio-economic status (particularly the financial situation), social contacts, and aspects of personality (extraversion, neuroticism, religiosity). Our second aim was to extend just world theory to cover mental health in old age.

We expected social contacts and subjective health to have a positive impact on well-being. In

Study 1, the hypothesized relationships were confirmed unambiguously. The better their subjective health status and the more social contacts they reported, the more satisfied the participants were with their lives, the more often they experienced positive affect, and the less often they experienced negative affect. In Study 2, however, these relationships were only partly replicated. Social contact and life satisfaction were positively associated, and subjective health status revealed significant relationships with positive and negative affect. The differences in the patterns of results of the two studies may be a consequence of their different sample structure. Whereas all participants in Study 1 lived in senior citizens' residences, only half of the Study 2 sample lived in homes; the other half still lived independently in the community. The bivariate correlations within the subsamples of Study 2 support this explanation for social contacts only. Although the interaction between living situation and social contacts was not significant, the bivariate correlations indicate that social contacts were more positively associated with positive well-being for participants living in senior citizens' homes than for those still living in the community. No such systematic differences were observed for subjective health status, however. Furthermore, the financial situation had a stronger impact in Study 2 and may, therefore, have reduced the impact of the other variables.

Where the financial situation was concerned, notable and systematic differences emerged between the two studies. The objective financial situation as measured in Study 1 (income in Slovakian crowns) does not seem to impact on subjective well-being, but the subjective financial situation as measured in Study 2 (comparison with peers) does. Subjects who evaluated their financial situation as worse than that of their peers were less satisfied with their lives and experienced less positive and more negative affect than seniors who judged their financial situation to be better than that of their peers. There may be several reasons why the subjective, but not the objective financial status impacted on well-being. Diener, Diener,

and Diener (1995) found large differences in the subjective well-being of nations, which were correlated with the average income level of those nations. Diener, Oishi, and Lucas (2003) propose that such associations between well-being and income may be due to wealthy societies scoring higher on human rights, equality, longevity, and democracy. Following this line of reasoning, no association between finances and well-being should be expected within a society. Moreover, the variation in the subjective financial situation measured in Study 2 was much greater than the variation in objective income assessed in Study 1. In Study 1, mean income was about \$ 150 with a standard deviation of about €35 ($\frac{SD}{M} \sim .20$). In Study 2, the ratio of SD to M was much greater at .72 and might, therefore, have resulted in stronger associations.

We assumed that Slovakian seniors would feel unfairly treated by post-communist society and that a strong belief in a just world would help them to assimilate this experienced injustice, thus sustaining their subjective well-being. Both studies showed the same consistent pattern of results. The more the seniors believed in a personally just world, the more satisfied they were with their lives and the more often they experienced positive emotions. This pattern of relationships was observed for personal, but not general BJW, thus replicating results showing that the personal BJW is better able to explain well-being than the general BJW (Lipkus et al., 1996; Dalbert, 1999). Moreover, in line with studies with samples of young Slovakian adults (Dzuka & Dalbert, 2002a), BJW did not impact on negative affect. There are at least two interpretations for this finding. Some authors consider negative affect to be more genetically determined than positive affect (e.g., Baker et al., 1992; Diener & Suh, 1997). In line with this reasoning, in Study 1 neuroticism explained negative affect better than positive affect or life satisfaction. Thus, personality dimensions such as BJW can be expected to have a less pronounced impact on negative affect. Second, the relationship between BJW and negative

affect can be seen as mediated by individual coping reactions and not all copings reactions motivated by the BJW have an adaptive impact on negative affect (Dalbert, 1997). Finally, although the interaction between living situation and personal BJW was not significant, the bivariate correlations in both studies indicate that BJW was more positively associated with positive well-being for participants living in senior citizens' homes than for those still living in the community. This pattern of results indicates that BJW becomes especially important when the senior citizens are in particular need of a psychological buffer because of their due to living situation in a senior citizens' homes . The relationships observed between personal BJW and well-being persisted when controlled for the influences of other predictors such as financial situation, social contacts, subjective health, and other personality variables particularly neuroticism, which explained all three well-being dimensions. In sum, the hypothesis that personal BJW serves as buffer protecting subjective well-being was successfully generalized to Slovakian senior citizens, whether they lived in senior citizens' homes or in the community.

In several studies conducted with seniors in Western societies (e.g., Levin & Chatters, 1998; for a review, see Parker, Roff, Klemmack, Koenig, Baker, & Allman, 2003), a positive relationship has been found between religiosity and well-being. In our study, however, no such relationships were observed. One explanation may relate to the communist past of the country. Today's Slovakian seniors spent most of their lives under communist rule, during which time religion and religious activities were systematically suppressed. One consequence of this may be that religion does not act as a buffer protecting the mental health of this population. Another explanation concerns the differences between religiosity and BJW. Although personal BJW and intrinsic religiosity were positively correlated in the subsample of participants living in senior citizens' homes (e.g., Rubin & Peplau, 1973), it seems that the

belief of justice prevailing in one's personal life is more important for the maintenance of subjective well-being than the belief in god, at least in a post-communist society.

Carstensen (e.g, 1995) argues that, because of their shorter life expectancy, older adults focus more strongly on regulating their emotions. Our studies indicate that the belief in a personally just world, in which one is usually treated fairly, helps older people to successfully regulate their emotions. We suggest that this is because the BJW helps individuals to find meaning in their lives, even if unjust events occur that cannot be reversed or compensated in their lifetime. In sum, future research examining the conditions that impact on subjective well-being in an aging society should take into account the need to believe in a just world.

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The studies reported were supported by Grant VEGA: 1/9190/02 awarded to the first author.

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Table 1

Correlations, means (M), and standard deviations (SD) (N = 92)

Scale	M	SD	LS.	PA	NA	GBJW	PBJW	E	N	SC	Age	SH	Income	Ed	Sex
Life satisfaction (LS)	.60	.28		.62**	-.45**	.26**	.41**	.24*	-.34**	.34**	.01	.42**	.13	.11	.11
Positive affect (PA)	3.0	0.92			-.51**	.25*	.37**	.34**	-.35**	.56**	-.06	.49**	.07	.11	.09
Negative affect (NA)	2.80	0.72				-.11	-.30**	-.24*	.42**	-.31**	-.07	-.47**	-.13	-.18	.02
General BJW (GBJW)	.36	.32					.51**	.12	.09	.16	-.02	.09	-.19	-.34**	.19
Personal BJW (PBJW)	.66	.30						.09	-.25*	.20	.21*	.24*	.02	-.06	.15
Extraversion (E)	.58	.32							-.08	.40**	-.23*	.21*	-.14	-.14	.06
Neuroticism (N)	.55	.33								-.17	-.01	-.21*	-.18	-.15	-.06
Social contacts (SC)	.40	.34									-.17	.14	.10	.14	-.08
Age	75.52	7.12										-.09	.19	.03	.04
Subjective health (SH)	2.46	0.78											.15	.13	.07
Income	5832	1147												.47**	-.27**
Education (Ed)	.51	-													-.25*
Sex	0.61	-													

Note. * $p < .05$; ** $p < .01$. Age is given in years. Subjective health ratings range from 1 (“very bad”) to 4 (“very good”). Income is given in Slovakian crowns. For education, 0 signifies “basic education“ and 1 “higher education.” For gender, 1 signifies “female” and 0 “male.” Life satisfaction, general BJW, personal BJW, extraversion, neuroticism, and social contacts range from 0 to 1, positive and negative affect from 1 to 6, with a high value indicating strong endorsement of the construct.

Table 2

Regression models for socio-demographic variables, personality, general and personal belief in a just world (BJW), and interactions specified in the text as predictors of life satisfaction, positive and negative affect (accepted models; $p < .05$)

Predictor	<u>R</u>	<u>R</u> ² -change	<u>b</u>	<u>T</u>	<u>p</u>
Life satisfaction (<u>F</u>_{total} (4,87) = 12.239; $p < .000$)					
Subjective health	.42	.18**	.11	3.264	< .002
Social contacts	.51	.08**	.18	2.423	< .017
Neuroticism	.55	.05*	-.16	-2.041	< .044
Personal BJW	.60	.06**	.24	2.740	< .007
(Constant)			0.19		
Positive affect (<u>F</u>_{total} (4,87) = 26.005; $p < .000$)					
Social contacts	.56	.32***	1.24	6.093	< .000
Subjective health	.70	.17***	.42	4.702	< .000
Neuroticism	.72	.03*	-.44	-2.084	< .040
Personal BJW	.74	.02*	.49	2.057	< .043
(Constant)			1.39		
Negative affect (<u>F</u>_{total} (3,88) = 17.491; $p < .000$)					
Subjective health	.47	.22***	-.36	-4.388	< .000
Social contacts	.53	.06**	-.43	-2.345	< .021
Neuroticism	.61	.09***	.68	3.555	< .001
(Constant)			3.47		

Note. * means $p < .05$; ** means $p < .01$; *** means $p < .001$. For the scaling of the variables, see Table 1.

(Table 3 continued)

<u>Scale</u>	<u>M</u>	<u>SD</u>	LS	PA	NA	PBJW	RI	RE	SC	Age	SH	FS	Ed	Sex
<u>Living at home (N = 30)</u>														
Life satisfaction (LS)	.76	.26		.39*	-.08	.19	.00	-.04	.27	.13	.13	.17	.15	-.24
Positive affect (PA)	2.94	0.96			-.43*	.29	-.12	-.15	.23	.04	.35	.18	.06	-.15
Negative affect (NA)	2.74	0.65				-.14	-.24	.11	-.29	.01	-.58**	-.01	-.10	.00
Personal BJW (PBJW)	.79	.21					.18	.27	-.04	-.09	.21	-.19	-.28	.38*
Religiosity-intrinsic (RI)	.87	.26						.31	-.03	.37*	-.07	-.05	-.01	-.10
Religiosity-extrinsic (RE)	.21	.37							-.08	-.08	-.09	-.11	-.40*	-.22
Social contacts (SC)	.41	.28								-.17	.32	.07	-.08	-.04
Age	74.13	4.45									.08	.17	.06	-.28
Subjective health (SH)	2.43	0.48										.03	.02	.08
Financial situation (FS)	.67	0.48											.58**	-.31
Education (E)	.60	-												-.24
Sex	.70	-												

Note. * $p < .05$; ** $p < .01$. Age is given in years. Subjective health ratings range from 1 (“very bad”) to 4 (“very good”). For financial situation, 0 signifies “finances worse than peers” and 1 “finances equal to or better than peers,” for education, 0 signifies “basic education” and 1 “higher education,” for gender, 1 signifies “female” and 0 “male.” Life satisfaction, personal BJW, intrinsic and extrinsic religiosity, and social contacts range from 0 to 1, positive and negative affect from 1 to 6, with a high value indicating strong endorsement of the construct.

Table 4

Regression models for socio-demographic variables, intrinsic and extrinsic religiosity, general and personal belief in a just world (BJW), and interactions specified in the text as predictors of life satisfaction, positive and negative affect (accepted models; $p < .05$)

Predictor	<u>R</u>	<u>R</u> ² -change	<u>b</u>	<u>T</u>	<u>p</u>
Life satisfaction (<u>F</u>_{total} (3,56) = 8.449; $p < .000$)					
Good financial situation	.35	.12**	.14	2.130	< .038
Social contacts	.44	.07*	.23	2.077	< .042
Personal BJW	.56	.12***	.40	3.152	< .003
(Constant)			0.23		
Positive affect (<u>F</u>_{total} (3,56) = 11.572; $p < .000$)					
Good financial situation	.36	.13**	.51	2.460	< .017
Subjective health	.51	.14***	.38	2.728	< .009
Personal BJW	.62	.12***	1.41	3.288	< .002
(Constant)			0.68		
Negative affect (<u>F</u>_{total} (4,55) = 5,170; $p < .001$)					
Good financial situation	.19	.04	-8.42		
Age	.21	.01	-.09		
Financial situation X age	.43	.14***	.11	2.962	< .005
Subjective health	.52	.09**	-.30	-2.585	< .012
(Constant)			10.38		

Note. * $p < .05$; ** $p < .01$; *** $p < .001$. For the scaling of the variables, see Table 3.