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Russian Adaptations of General and Personal Belief in a Just World Scales: Validation and Psychometric Properties

Sofya Nartova-Bochaver¹  · Matthias Donat²  · Nadezhda Astanina³ · Claudia Rüprich²

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Abstract In a questionnaire study, Russian versions of the General and Personal belief in a just world (BJW) Scales were validated. Results from exploratory and confirmatory factor analysis showed that the Personal BJW Scale could be empirically differentiated from the General BJW Scale; however, both scales correlated positively. Good internal consistencies of both scales were demonstrated. Age was positively correlated with personal BJW but not with general BJW. Gender differences were found neither in personal nor in general BJW. Personal BJW was found to be stronger than general BJW. Convergent validity was tested by inspecting correlations of BJW scales with the Basic World Assumptions Scale. Divergent validity was examined by inspecting correlations with Markers for the Big Five Factor Structure Scale and Justice Sensitivity Scales. Both personal and general BJW showed positive connections with all subscales of the Basic World Assumptions Scale (self-worth, benevolence of world, justice, luck, and control). We demonstrated divergent validity of personal BJW regarding intellect, agreeableness, conscientiousness, beneficiary and perpetrator sensitivity, and divergent validity of general BJW regarding intellect, beneficiary, perpetrator, and observer sensitivity. Both BJW dimensions were unrelated to beneficiary and perpetrator sensitivity. In addition, general BJW was not related to observer sensitivity. Results give evidence for satisfactory psychometric properties and validation of the Russian versions of BJW scales.

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Introduction

Belief in a just world (BJW) is a crucial phenomenon in people's social and personal lives and has been shown to be connected with social attitudes and mental well-being in particular and with various psychological and social outcomes in general. In accordance with Lerner (Lerner & Miller, 1978; Lerner & Simmons, 1966), BJW reflects a basic personal illusion that the world is a just place in which people get what they deserve and deserve what they get. BJW serves important regulatory functions, such as people's confidence that they will be treated justly by others. Overall, believing in a just world helps people interpret their personal lives in a meaningful way (Dalbert, 2001).

Justice research led to the development of different scales that assess BJW dimensions separately (e.g., General BJW Scale, Dalbert, Montada, & Schmitt, 1987; Personal BJW Scale, Dalbert, 1999). General and Personal BJW Scales were initially developed in German and have since been translated into other languages, such as Chinese (Wu et al., 2011), Hungarian (Dalbert & Katona-Sallay, 1996), English (Dalbert, 1999), French (Bègue & Bastounis, 2003), Latvian (Nesterova, Ignatjeva, & Ruza, 2015), Portuguese (Correia & Dalbert, 2007), Slovakian (Dzuka & Dalbert, 2002), Turkish (Göregenli, 2003), and Urdu (Fatima & Khalid, 2007), and an adaptation of a Russian version in Belarus (Drovnina, 2014). However, there are very few studies devoted to the validation of these scales and their adaptation to the local culture. Sometimes, respondents are asked in English instead of their native language, which could potentially undermine the scales' validity and limit the studies' results. In our view, a major gap in a just-world research is that only some translated versions of the General and Personal BJW Scales have been checked for psychometric properties.

In Russia, BJW has been attracting a lot of researchers' attention over the last decade. Thus, reliable and valid instruments to assess general and personal BJW are required. Although General and Personal BJW Scales have been widely used in Russia already (Gulevich, 2011; Nartova-Bochaver & Astanina, 2012), no study has yet investigated the scales' validity in the Russian population. Therefore, we focused on investigating the psychometric properties of these scales.

Distinction of General and Personal BJW

General BJW (or BJW-others) has been defined as the extent to which a person is confident that people in general get what they deserve and vice versa, while personal BJW (or BJW-self) has been defined as the extent to which a person believes that s/he is usually treated fairly (Bègue & Bastounis, 2003; Dalbert, 1999, 2002; Dalbert et al., 1987; Furnham, 2003; Hafer & Bègue, 2005; Hafer & Rubel, 2015; Lipkus, Dalbert, & Siegler, 1996; Sutton, Calogero, & Bardi, 2012; Sutton & Douglas, 2005). In line with the self-serving bias in general and in fairness

reasoning in particular (Messick, Bloom, Boldizar, & Samuelson, 1985), research shows that people tend to endorse the personal BJW more strongly than the general BJW and that the two constructs have a different meaning. Further, researchers identified different psychological functions of the BJW dimensions in personality and social regulation: personal BJW provides individuals with hedonic benefits and impacts on their mental health, whereas general BJW gives people an idea of the ordered and predictable lived realities (Sutton et al., 2012).

Recent empirical findings show that the *personal BJW* plays an important adaptive role in people's lives. The personal BJW is positively associated with aspects of subjective well-being (e.g., Christandl, 2013; Dalbert, 1999; Donat, Peter, Dalbert, & Kamble, 2016; Dzuka & Dalbert, 2002; Fatima, 2016; Fatima & Suhail, 2010; Johnston, Krings, Maggiori, Meier, & Fiori, 2016), effective coping with stress (Tomaka & Blascovich, 1994), a greater purpose in life (Bègue & Bastounis, 2003), inhibition of negative effect in unjust situations and promoting forgiveness (Strelan & Sutton, 2011), self-trust, and trust in others (Adoric & Kvartuc, 2007; Nartova-Bochaver & Astanina, 2013). Moreover, adolescents' personal BJW is associated with experiences of being justly treated by teachers and parents (Kamble & Dalbert, 2012) and low levels of bullying, school cheating, and delinquent behavior (Donat, Dalbert, & Kamble, 2014; Donat, Umlauft, Kamble, & Dalbert, 2012).

The psychological meaning of a *general BJW* is more complicated to describe. On the one hand, general BJW helps people manage their anger, maintain their self-esteem, keep a positive mood and maintain life satisfaction (Dalbert, 1999, 2002), cope with chronic and strong stressors, sexual violence (Choma, Hafer, Crosby, & Foster, 2012; Fetchenhauer, Jacobs, & Belschak, 2005), and natural disasters such as earthquakes or tsunamis (Wu et al., 2011). Consequently, the general BJW seems to be a psychological resource for people living in unsatisfactory circumstances because this belief gives them hope based on the perception of the world being orderly and predictable. On the other hand, general BJW predicts people's defensiveness against contradictory evidence and their tendency to minimize the perceived injustices that happen to others (Bègue & Bastounis, 2003; Oppenheimer, 2006; Strelan & Sutton, 2011). Hence, people with a strong general BJW tend to blame those for their fate who are in adverse life situations (Hafer, 2000; Hafer, Bègue, Choma, & Dempsey, 2005; Heuer, Penrod, Hafer, & Cohn, 2002) and, as a result, tend to be prejudiced against socially vulnerable people (Oppenheimer, 2006). General BJW has also been shown to be related to harsh social attitudes (Bègue & Muller, 2006) and unrelated to empathy and compassion (McKechnie & Harper, 2011; Silver, Karakurt, & Boysen, 2015). Thus, general BJW is not only an effective personal resource but also sometimes accompanied by non-humanistic opinions and attitudes.

To sum up, both BJW dimensions serve different psychological functions. However, personal and general BJW are positively correlated at least in French, German, and British samples (e.g., Bègue & Bastounis, 2003; Dalbert, 1999; Nesterova et al., 2015; Sutton & Douglas, 2005). Moreover, in Western cultures, personal BJW scores are usually higher than general BJW scores, whereas the

opposite pattern has been found in Eastern cultures (Bègue & Bastounis, 2003; Dalbert, 1999; Wu et al., 2011).

Russia seems to be situated between Eastern and Western cultures. Furthermore, to our knowledge there are no other findings with regard to Russians' endorsement of general and personal BJW. Thus, it seems difficult to formulate a hypothesis on which dimension of BJW is more strongly endorsed in Russia. We therefore aimed to investigate the dimensional structure of both scales in our study and expected that the scales would form two different factors. We further inspected whether Russians endorsed general and personal BJW differently.

BJW and Other Personality Dispositions

In the literature, some researchers consider BJW to be a common feature of a world view or an attitude toward the world; others treat BJW as a personality disposition or a trait (Dalbert, 2009; Lerner, 1980). The construct validity of the Russian adaptation of both BJW scales was investigated by inspecting correlations with other personality dispositions, that is, basic world assumptions, Big Five traits, and justice sensitivity.

Basic World Assumptions

The world assumptions are undeclared general people's beliefs reflecting how just they feel the world to be and how randomly or orderly good and bad events are (Janoff-Bulman, 1989, 1992; Valiente, Espinosa, Vázquez, Cantero, & Fuentenebro, 2010). The following assumptions were identified in a Russian sample (Padun & Kotel'nikova, 2008). *Self-worth* is the extent to which people perceive themselves as good, moral, and decent individuals. *Benevolence of world* reflects an individual's belief that the world is a good place and people are basically good and caring. *Justice* means that people get what they deserve. *Luck* "is an elusive self-perception that allows individuals to believe that they will be protected from ill fortune" and come out on top (Janoff-Bulman, 1989, p. 120). Finally, *Control* shows the extent to which engaging in appropriate behavior determines what will happen to people.

In general, we expected BJW and basic world assumptions to be positively associated with each other. In more detail, we expect both BJW facets to correlate positively with *justice* as a world assumption due to their content familiarity. Several recent studies give also direct and indirect evidence for connections between BJW and other world assumptions. Calhoun and Cann (1994) found that beliefs in a just and *benevolent* world seem to be connected with each other. Personal and general BJW were also positively related to self-esteem (Dalbert, 1999; Donat et al., 2016). Further studies demonstrated positive relations between BJW and locus of *control* or similar constructs, e.g., mastery (Bastounis et al., 2004; Choma et al., 2012; Christopher et al., 2008; Ghorpade et al., 2006; Hafer & Sutton, 2016). Furthermore, individuals who strongly endorsed *luck* believe that they will be protected from ill fortune (Janoff-Bulman, 1989). Similarly, strong just-world believers are confident not to become victims of unforeseeable disasters, believe in

the world as being an orderly place, and trust in the justice of their faith (e.g., Lerner, 1980). We thus expected *luck* and BJW to be positively related. However, there is no empirical evidence on this relation to our knowledge to date. Hence, we expect both BJW facets to be positively connected with self-worth, benevolence of world, justice, control, and luck.

Big Five

The Big Five personality factors (*neuroticism*, *extraversion*, *openness to experience/intellect*, *agreeableness*, and *conscientiousness*) were used in order to investigate the divergent validity of the BJW scales. This implies that the Big Five and BJW can be expected to represent differentiable constructs although they are of course all part of a person's self. The Big Five are conceptualized as a person's self-description which includes their self-referred attributes. In contrast, BJW depicts a person's conviction or assumption about the justice of the world in general or the justice of the person's life. Another explanation for the differentiation appears with a more detailed look at the Big Five: people with a strong *neuroticism* or emotional instability are often described as anxious, depressive, uncertain, nervous, and impulsive; *extraverted* people are gregarious, active, warm, and assertive; people with a strong *openness to experience/intellect* are creative, imaginative, inquisitive, and liberal; *agreeableness* means that people are altruistic, tender-minded, modest, and understanding; *conscientious* people are competent, dutiful, orderly, and self-disciplined (Goldberg, 1992). People use these attributes to describe themselves when rating Big Five items which seem to be unrelated to justice concerns. Further, the words “just” or “fair” are not part of these items. Altogether, from a theoretical point of view, both BJW dimensions would thus be unrelated to the Big Five.

Only a few studies have investigated the relation between BJW and the Big Five. Lipkus et al. (1996) demonstrated negative relations between personal BJW and neuroticism. A recent study by Bollmann, Krings, Maggiori, and Rossier (2015) also found negative correlations between BJW and neuroticism, with personal BJW being more closely related to neuroticism than general BJW. This result is consistent with Nudelman's (2013) meta-analysis. Bollmann et al. (2015) and Nudelman (2013) also showed positive relations between BJW and extraversion, with personal BJW having a stronger effect than general BJW. In addition, the relation between BJW and agreeableness appears to be positive (Nudelman, 2013; Schmitt, Gollwitzer, Maes, & Arbach, 2005); but the evidence is mixed with many studies finding no significant correlations (Bollmann et al., 2015; Keller & Siegrist, 2010; Otto, Glaser, & Dalbert, 2009). However, no differences in the strength of the correlations with regard to personal and general BJW have been reported (Nudelman, 2013). Conscientiousness correlated slightly positively with personal and general BJW (Lipkus et al., 1996; Otto et al., 2009; Schmitt et al., 2005), whereas BJW's correlations with openness to experience ranged from slightly positive to slightly negative values or were insignificant (Bollmann et al., 2015; Nudelman, 2013). To sum up, we expected both BJW facets to be negatively related to neuroticism, positively related to extraversion, and unrelated to openness to experience/intellect, agreeableness, and conscientiousness.

Justice Sensitivity

We chose justice sensitivity for testing divergent validity of BJW as it also deals with justice in everyday life but in another way. Justice sensitivity reflects the extent to which a person is tolerant or sensitive to cases of injustice happening in everyday life and, as a result, is ready to act in order to restore justice (Schmitt, 1996; Schmitt et al., 2005). Justice sensitivity items measure people's reactions toward perceived unfairness/unequal treatment of others or themselves. In contrast, BJW items measure people's confidence that the world or their own life is just regardless of their own reaction toward injustice in terms of "disturbs," "bothers," etc.

There are four perspectives of justice sensitivity, depending on a person's role in an unjust situation: *victim sensitivity*, *observer sensitivity*, *beneficiary sensitivity*, and *perpetrator sensitivity*. The latter three perspectives reflect a genuine concern for the justice of others, whereas victim sensitivity contains a latent fear of being exploited and, thus, reflects a concern for injustice for the self (Schmitt, Baumert, Gollwitzer, & Maes, 2010). Thus, victim sensitivity is to be considered the strongest activator of person's efforts to restore justice, in absence of their confidence that the world is just.

Previous studies showed BJW and justice sensitivity to be unrelated. Schmitt et al. (2005) found correlations from $r = -.02$ to $r = .13$ between general BJW and justice sensitivity. Researchers further suggested that, when confronted with injustice, people with a strong BJW assimilate unjust experiences, for example by using cognitive reframing such as denying or playing down the injustice, and negative emotions (e.g., Dalbert, 1999, 2001, 2002). However, justice-sensitive people react to injustice by feeling disturbed, bothered, upset, angry, guilty, etc. Moreover, in contrast to Lerner's (1980) assumption that BJW is indicative of a personal contract, the terms of which oblige the individual to behave justly, some researchers showed only weak associations between BJW and person's real behavior (e.g., Callan, Kay, Davidenko, & Ellard, 2009; Ellard, Harvey, & Callan, 2016; Lerner & Simmons, 1966; Schmitt & Baumert, 2016). Thus, justice-sensitive people seem to behave in line with justice as a moral standard more likely than strong just-world believers.

To sum up, we expected both personal and general BJW to be unrelated to observer, beneficiary, and perpetrator sensitivity but would be negatively related to victim sensitivity.

Effects of Age, Gender, and Culture

Only a few researchers reported age trends and gender differences regarding BJW. Dalbert (2009) found a positive age trend in personal BJW and a negative age trend in general BJW. In line with this, Oppenheimer (2006) showed that in Dutch adolescents general BJW begins to lose their importance around the age of 12, followed by personal belief around the age of 16. In French participants aged between 16 and 74 years, the relations between BJW and age were weak or nonsignificant (Bègue & Bastounis, 2003). In German participants aged between 18 and 65 years, Schmitt et al. (2008) reported a significant age trend with older adults

endorsing general BJW more strongly than younger. Due to the mixed results, we tested the relations between age and personal as well as general BJW, but did not formulate any hypotheses regarding age.

Some researchers investigated gender differences in personal and general BJW and also showed mixed results. No gender differences were found in English undergraduates (Sutton & Douglas, 2005); German men and women did not differ in general BJW (Schmitt et al., 2008). In a French sample, men endorsed general BJW more strongly than women, but no gender differences in personal BJW were observed (Bègue & Bastounis, 2003). Furthermore, Latvian women scored higher on both BJW dimensions than Latvian men (Nesterova et al., 2015). Since results regarding gender were mixed, we tested gender differences in personal and general BJW without formulating any explicit hypotheses regarding gender.

Other research has investigated cultural differences in BJW (Furnham, 2003; Furnham & Procter, 1989; Lerner, 1980). In most Western cultures, personal BJW seems to be more pronounced and more strongly associated with the person's well-being than general BJW. In Eastern cultures, however, especially collectivistic cultures, this picture seems to be inverted: here, general BJW seems to be stronger and even more strongly connected with well-being than personal BJW (Cohen, Wu, & Miller, 2016; Wu et al., 2011). Further evidence of cultural differences in general and personal BJW has been found by Correia, Alves, Morais, and Ramos (2015) who showed that, as distinct from the most other cultures, in Portugal personal BJW was positively connected with harsh attitude (that is, toward legitimization of wife abuse), whereas general BJW was not. Finally, Fasel and Spini (2010) found that general BJW was negatively related to the individuals' victimization level in Bosnia and Herzegovina but was unrelated to it in Macedonia, Croatia, and Slovenia. Thus, BJW forms different links and might realize different functions depending on the culture.

To sum up, previous research and theorizing led us to formulate the following hypotheses:

- H1. Personal BJW and general BJW can be empirically differentiated.
- H2. Personal and general BJW correlate positively with all basic world assumptions.
- H3. Both personal and general BJW correlate negatively with neuroticism and positively with extraversion. Personal and general BJW are unrelated to agreeableness, conscientiousness, and openness to experience/intellect.
- H4. Both personal and general BJW are unrelated to beneficiary, observer, and perpetrator sensitivities but correlate negatively with victim sensitivity.

Method

Participants and Procedure

A total of 1325 participants were recruited. They were aged between 14 and 60 years ($M = 21.9$, $SD = 6.6$). In total, 951 (71.8%) were female and 370 (27.9%)

were male; four participants did not indicate their gender. Most participants (79%) were students of Moscow universities and colleges or people who have already had a higher education and visited advanced training in psychology. Data were collected from students in class as a part of their individual home work in a course on “Psychology of individual differences” during 2013–2015, and from adult participants also as their individual projects. As surveys were part of different research projects, not all respondents completed all measures. Some respondents completed the survey online (53%); other respondents did so using a “pencil-and-paper” procedure in the university room (44%). Participation was voluntary and evaluated as an elective (extra) part of their credit in this subject. To get more representative data, we used the “snow ball” technique, and 3% of the sample was our students’ parents.

Materials

First of all, we compared German and English versions of BJW scales and noted that they differed in the order of items and slightly in their meanings, as German rules of word building are more familiar to Russian ones as compared to English (Dalbert et al., 1987; Dalbert, 1999). After this, the most relevant Russian wordings were derived from both translation versions (German–Russian and English–Russian ones).

More precisely, the present authors and two psychologists who have been working in justice psychology for more than 7 years independently translated the General and Personal BJW Scales from the German and English versions. One of the authors has a certificate in translation from German into Russian; one of the psychologists is bilingual and has worked at a UK university for 6 years. One draft of the German–Russian translation and three drafts of the English–Russian text were shown to independent expert English–Russian and German–Russian translators to ensure the items’ fluency and accuracy. Both experts are psychologists; one of them has worked in a UK university for 4 years, another had worked as a translator from German and editor in a Russian publishing house for a long time, now retired. All versions of the items were discussed, and the most appropriate items were selected and edited. After this, two short pilot studies on the small samples of 40 and 35 students were conducted in order to get feedback from respondents and to check the items distribution at a glance. After every pilot study, instructions and wordings were slightly changed. As the order of items in the German and English versions differed, we decided to follow the English version as the most commonly used. Responses on these scales were made on a six-point scale ranging from 1 (*totally disagree*) to 6 (*totally agree*) to indicate the extent to which participants agreed with the statements about general BJW (e.g., “I am confident that justice always prevails over injustice”; see “[Appendix 1](#)”) and personal BJW (e.g., “In my life injustice is the exception rather than the rule”; see “[Appendix 2](#)”) (Nartova-Bochaver, Hohlova, & Podlipnyak, 2013).

We measured basic assumptions to evaluate the General and Personal BJW Scales’ convergent validity (284 respondents participated in thus survey). We used an adapted Russian version (Padun & Kotel’nikova, 2008) of the *Basic World*

Assumptions Scale (Janoff-Bulman, 1989). This scale comprises five subscales: *Self-Worth* (“I could say I like myself enough”) with 7 items, *Benevolence of World* (“There is more good than evil in the world”) with 9 items, *Justice* with 6 items (“People will experience good fortune if they themselves are good”), *Luck* (“I seem to be not as lucky as most people”) with 8 items, and *Control* (“People’s misfortunes result from mistakes they have made”) with 7 items.

Furthermore, we measured the Big Five personality factors (269 respondents participated in this survey). We used Goldberg’s (1992) *Markers for the Big Five Factor Structure* (Russian version: Knyazev, Mitrofanova, & Bocharov, 2010). The Russian version consisted of five subscales: *Extraversion* (“I am the life of the party”), *Agreeableness* (“I feel little concern for others”), *Conscientiousness* (“I am always prepared”), *Neuroticism* (“I get stressed out easily”), and *Intellect* as a modification of *Openness to Experience* (“I have a rich vocabulary”); each of them comprised 10 items. Responses on these scales were made on a six-point scale ranging from 1 (*totally disagree*) to 5 (*totally agree*).

We also used the *Justice Sensitivity Inventory* (Schmitt et al., 2010; Russian version: Nartova-Bochaver & Astanina, 2012) to examine the divergent validity of BJW scales (788 respondents participated in this survey). This inventory consists of four subscales representing different perspectives of justice sensitivity: *Victim Sensitivity* (“It bothers me when others receive something that ought to be mine”), *Observer Sensitivity* (“It bothers me when someone gets something they don’t deserve”), *Beneficiary Sensitivity* (“It disturbs me when I receive what others ought to have”), and *Perpetrator Sensitivity* (“It gets me down when I take something from someone else that I don’t deserve”); each of them included 10 items. Responses on these scales were made on a six-point scale ranging from 1 (*totally disagree*) to 6 (*totally agree*).

Results

Descriptive Statistics and Reliabilities

Descriptive statistics and reliabilities of General and Personal BJW Scales are presented in Table 1. The mean difference between general and personal BJW was significant, $t(1324) = -23.63$, $p < .001$, $d = 0.63$, 95% CI $[-0.65, -0.55]$. All items showed high inter-correlations (see Tables 2, 3). Corrected item–total correlations of the items of the General BJW Scale varied from $r_{it} = .45$ to

Table 1 Descriptive statistics of Personal and General BJW Scales

	<i>N</i>	<i>M</i>	Mdn	Mode	Min	Max	SD	Cronbach’s α
General BJW	1325	3.60	3.67	4.00	1.00	6.00	0.92	.78
Personal BJW	1325	4.20	4.29	4.00	1.00	6.00	0.86	.89

Mdn median

Table 2 Means, standard deviations, and inter-item correlations of items of General BJW Scale ($N = 1325$)

	gbjw1	gbjw2	gbjw3	gbjw4	gbjw5	<i>M</i>	SD
gbjw1						3.22	1.35
gbjw2	.51					3.86	1.26
gbjw3	.48	.48				3.51	1.40
gbjw4	.24	.31	.47			4.07	1.35
gbjw5	.41	.37	.44	.35		3.59	1.20
gbjw6	.26	.28	.41	.27	.39	3.36	1.34

All correlations were significant at $p < .001$ (two-tailed)

gbjw general belief in a just world

Table 3 Means, standard deviations, and inter-item correlations of items of Personal BJW scale ($N = 1325$)

	pbjw1	pbjw2	pbjw3	pbjw4	pbjw5	pbjw6	<i>M</i>	SD
pbjw1							4.32	1.12
pbjw2	.47						4.28	1.14
pbjw3	.60	.55					4.31	1.06
pbjw4	.53	.59	.63				4.17	1.11
pbjw5	.37	.43	.42	.52			3.96	1.17
pbjw6	.52	.60	.59	.73	.57		4.17	1.13
pbjw7	.50	.47	.53	.57	.46	.61	4.21	1.03

All correlations were significant at $p < .001$ (two-tailed)

pbjw personal belief in a just world

$r_{it} = .67$; corrected item–total correlations of the items of the Personal BJW Scale varied from $r_{it} = .58$ to $r_{it} = .78$. Furthermore, both scales correlated positively ($r = .46$, $p < .001$) which has previously been shown in the German and French cultures (Bègue & Bastounis, 2003; Dalbert, 1999).

Dimensional Structure of the BJW Scales

To investigate the dimensional structure of the translated items of General and Personal BJW Scales, we used an exploratory procedure (principal component analysis: PCA; with SPSS 22) and a confirmatory procedure (confirmatory factor analyses: CFA; with AMOS 22). We first substituted missing data because AMOS requires complete data to calculate the CFA. We thus used the maximum likelihood estimation method which is implemented in AMOS to impute missing data. The proportion of items with missing data was very low (between 0.01 and 0.02% for both scales). Then we randomly split our sample into two equal subsamples by using

an SPSS tool (“select cases,” “random sample”). We used the first subsample ($n = 662$) to calculate PCA and the second subsample ($n = 663$) to calculate CFA.

Principal Component Analyses

We first inspected the Kaiser–Meyer–Olkin Index ($= .90$) which indicated a good sample suitability; Bartlett’s sphericity test ($p < .001$) proved the appropriateness of the items for calculating PCA. The initial PCA showed two factors with eigenvalues larger than 1: $\lambda_1 = 5.51$; $\lambda_2 = 1.89$. Parallel analysis (Horn, 1965) and scree analysis (Cattell, 1966) both confirmed a two-factorial solution. A second PCA with varimax rotation showed that all items of the Personal BJW Scale substantially formed the first factor and all items of General BJW Scale substantially formed the second factor. Three items of the General BJW Scale (gbjw1, gbjw2, gbjw5) further showed factor loadings larger than .30 on the first factor. However, these items met the Fürntratt criterion (Furntratt, 1969) according to which an item belongs to a factor if $l^2/h^2 > .50$ (for gbjw1, $= .65$; for gbjw2, $= .79$; for gbjw5, $= .81$). This solution explained 56.92% of the variance (factor 1: 34.38%; factor 2: 22.54%). Table 4 presents the results of the second PCA.

Table 4 Results from principal component analysis and descriptive statistics of General and Personal BJW Scales’ items ($n = 662$)

Item code	Wording	h^2	l_1	l_2	M	SD
General belief in a just world Scale						
gbjw1	I think basically the world is a just place	.52	.43	.58	3.25	1.39
gbjw2	I believe that, by and large, people get what they deserve	.52	.33	.64	3.87	1.29
gbjw3	I am confident that justice always prevails over injustice	.69	.12	.82	3.50	1.43
gbjw4	I am convinced that in the long run people will be compensated for injustices	.46	-.01	.68	4.03	1.38
gbjw5	I firmly believe that injustices in all areas of life (e.g., professional, family, politic) are the exception rather than the rule	.52	.31	.65	3.56	1.22
gbjw6	I think people try to be fair when making important decisions	.43	.05	.65	3.36	1.33
Personal belief in a just world Scale						
pbjw1	I believe that, by and large, I deserve what happens to me	.57	.76	.03	4.35	1.14
pbjw2	I am usually treated fairly	.55	.73	.14	4.32	1.13
pbjw3	I believe that I usually get what I deserve	.65	.79	.15	4.37	1.06
pbjw4	I believe that most of the things that happen in my life are fair	.72	.83	.17	4.20	1.13
pbjw5	In my life injustice is the exception rather than the rule	.46	.64	.21	4.02	1.19
pbjw6	Overall, events in my life are just	.75	.84	.20	4.18	1.18
pbjw7	I think that important decisions that are made concerning me are usually just	.56	.71	.23	4.24	1.04

Factor loadings $> .30$ are in bold

pbjw personal belief in a just world, *gbjw* general belief in a just world, h^2 communalities, l factor loadings

Confirmatory Factor Analyses

We used χ^2 , CFI, RMSEA, and SRMR (e.g., Hu & Bentler, 1999) to evaluate the goodness of model fit with χ^2 being affected by sample size.

In the first model, we included expected factor loadings of all six items of the General BJW Scale on one latent factor and factor loadings of all seven items of the Personal BJW Scale on the other latent factor. We also allowed both latent factors to covariate because a lot of BJW studies proved that general and personal BJW usually correlate positively (e.g., Bègue & Bastounis, 2003; Dalbert, 1999; Sutton & Douglas, 2005). This model showed an unsatisfactory model fit ($\chi^2(64) = 340.12$, $p < .001$; CFI = .917; RMSEA = .081; SRMR = .057). We therefore checked the wording of the items and identified a few similarities such as “believe,” “deserve,” “I am convinced/I am confident,” “injustice,” and “the exception rather than the rule.” These wording similarities might indicate that the corresponding items shared common variance, which was not explained by the latent factors, and might therefore result in residual correlations that we did not consider in the first model. We thus allowed the residuals of items with similar wording to correlate which resulted in the final model with $\chi^2(60) = 216.033$, $p < .001$; CFI = .953; RMSEA = .063; SRMR = .047 (see Fig. 1).

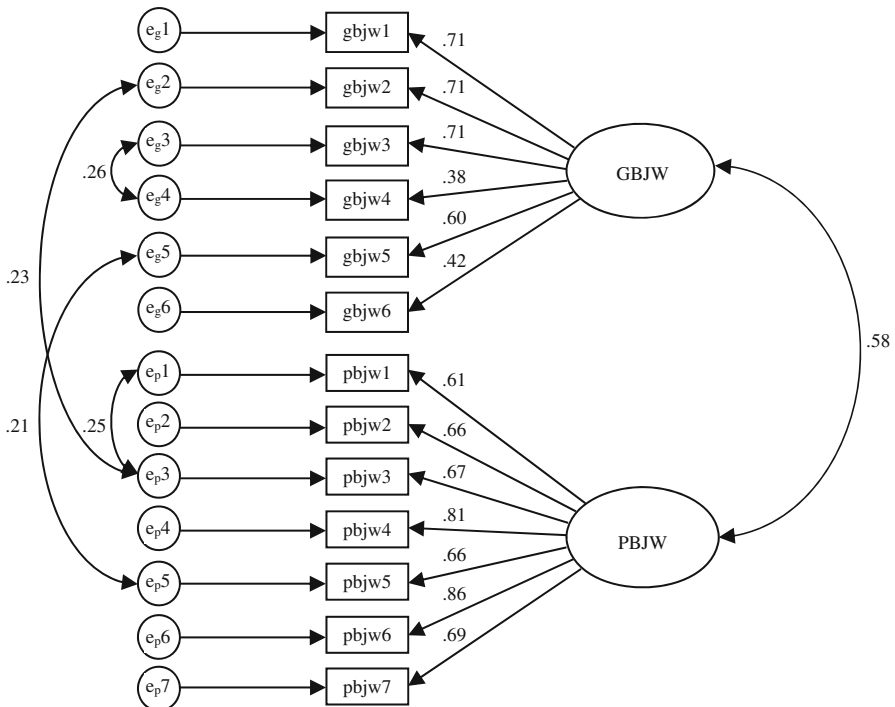


Fig. 1 Standardized regression weights and correlations from confirmatory factor analysis (all $ps < .001$). *GBJW* general belief in a just world, *PBJW* personal belief in a just world. $N = 663$

In summary, the results of the principal component and confirmatory factor analyses support a two-dimensional structure and thus the distinction of general and personal BJW which has also been shown in other cultures (e.g., Bègue & Bastounis, 2003; Nesterova et al., 2015; Wu et al., 2011).

Age and Gender

Next, we inspected correlations between BJW scales and participants' age and gender. General BJW was unrelated to age ($r = .01$, $p = .69$), whereas personal BJW correlated positively with age ($r = .10$, $p < .001$). The older the participants, the more likely they were to believe that they were usually treated justly in their lives. Furthermore, there were no gender differences in general and personal BJW (see Table 5).

Convergent Validity

Before examining the convergent and divergent validity of our BJW scales, the data were checked concerning their accuracy and fullness by controlling spread of distribution in respondents' answers: if the score was out of max–min, we considered this to be a misprint, and such answers as well as data sets with missing cells (67 cases) were eliminated from analysis. Perhaps this way of checking is not absolutely reliable but it helps in avoiding some mistakes.

World Assumptions

We found positive correlations between General and Personal BJW Scales and all facets of the World Assumptions Scale (see Table 6), but both scales showed different correlation patterns. General BJW was more strongly linked with benevolence of the world ($z = 5.02$, $p < .001$) and self-worth ($z = 1.89$, $p < .05$) than personal BJW. However, personal BJW was more strongly connected with luck ($z = 3.02$, $p < .01$) than general BJW. Most importantly, both BJW dimensions correlated positively with justice. Hence, general and personal BJW seemed to be accompanied by beliefs in the importance and value of the self, benevolence of world, good fortune, and the ability to control events as well which confirms Hypothesis 2 and demonstrates sufficient convergent validity of both BJW scales.

Table 5 Gender differences in personal and general BJW

Gender	<i>N</i>	<i>M</i>	SD	<i>t</i>	<i>df</i>	<i>p</i>
Personal BJW						
Male	370	4.21	0.94	0.03	1319	.98
Female	951	4.20	0.83			
General BJW						
Male	370	3.55	1.00	− 1.23	1319	.22
Female	951	3.62	0.88			

Table 6 Reliabilities of validation constructs and correlations with the BJW scales

Sample (N)	Validation construct	<i>M</i>	<i>SD</i>	Cronbach's α	Personal BJW	General BJW
World assumptions						
284	Self-worth	31.90	8.23	.87	.25**	.36**
284	Benevolence of world	21.88	5.11	.79	.34**	.60**
284	Justice	28.79	6.35	.88	.29**	.25**
284	Luck	33.51	6.41	.87	.45**	.28**
284	Control	28.33	4.57	.64	.28**	.28**
Five personality factors						
269	Extraversion	33.45	8.09	.88	.13*	.21**
269	Agreeableness	38.45	5.87	.80	.04	.21**
269	Conscientiousness	33.20	6.97	.80	.10	.13*
269	Neuroticism	33.87	8.75	.86	–.34**	–.26**
269	Intellect	38.07	5.59	.77	.06	.01
Justice sensitivity						
788	Victim sensitivity	2.98	.94	.88	–.22**	–.19**
788	Observer sensitivity	2.84	.94	.89	–.18**	–.02
788	Beneficiary sensitivity	2.44	1.02	.91	–.04	.03
788	Perpetrator sensitivity	2.96	1.05	.92	.02	.01

** $p_{\text{two-tailed}} < .01$; * $p_{\text{two-tailed}} < .05$

Divergent Validity

Big Five

In our study, we found significantly positive correlations of both general and personal BJW with extraversion and negative correlations with neuroticism (see Table 6). Contrary to our expectations, general BJW also correlated positively with agreeableness and conscientiousness. However, general and personal BJW formed different patterns of correlations with the Big Five scales which further confirmed the necessity of distinguishing between the two dimensions. In summary, these results partly supported Hypothesis 3 and demonstrated particularly divergent validity of personal BJW scale with regard to agreeableness, conscientiousness, and intellect.

Justice Sensitivity

Although correlations of both BJW scales with justice sensitivity scales were predominantly small, three were significant: victim sensitivity correlated negatively with both general and personal BJW, and observer sensitivity correlated negatively with personal BJW (see Table 6). These results demonstrated divergent validity of both BJW scales from beneficiary and perpetrator sensitivities, divergent validity of the General BJW Scale from observer sensitivity but did not confirm divergent

validity of both BJW scales from victim sensitivity. Hence, we conclude that Hypothesis 4 confirmed partly.

Discussion

The current study was devoted to validating the General and Personal BJW Scales and investigating their psychometric properties in the Russian context. One aim of our study was to validate the necessity to distinguish between general and personal BJW as in other cultures (Bègue & Bastounis, 2003; Fatima & Khalid, 2007; Nesterova et al., 2015; Wu et al., 2011). As expected, the results from the principal component analysis and confirmatory factor analysis showed a two-factorial item structure: all items of the Personal BJW Scale loaded on one factor and all items of the General BJW Scale loaded on another factor. However, we allowed measurement errors to correlate which seem to be due to similar item formulations. Thus, a replication of our findings in another Russian sample is clearly warranted and might help researchers to identify whether these findings were the consequence of random peculiarities of our sample.

Similar to many Western cultures, Russians were found to believe more strongly in a personal than in a general just world (Dalbert, 1999; Hafer & Sutton, 2016; Sutton & Douglas, 2005). We also found high item inter-correlations and reliabilities of both BJW scales. The scales also correlated positively with each other, which is mainly in line with recent studies in other cultures (Bègue & Bastounis, 2003; Fatima & Khalid, 2007; Nesterova et al., 2015; Wu et al., 2011).

Furthermore, we observed a correlation between personal BJW and age: the older the participants, the more likely they were to feel treated justly. These results are partly in line with other studies (Bègue & Bastounis, 2003; Dalbert, 2009); in contrast, general BJW showed no relation to age. Taking into account the fact that the majority of people in our sample were students, this result should be interpreted with caution.

Regarding gender differences, we showed that both scales scores did not differ regarding gender, which has also been shown in English undergraduates (Sutton & Douglas, 2005) but contradicts findings from Latvia (Nesterova et al., 2015).

We used *basic world assumptions* to investigate the convergent validity of both BJW scales. Correlations between BJW scales and the World Assumptions Scale (Janoff-Bulman, 1989) were significant and positive. Contrary to our expectations, both BJW facets positively correlated with luck. Beliefs in benevolence of the world and self-worth were more strongly connected with general than with personal BJW, whereas we observed the opposite for luck. These results support convergent validity of both BJW scales and correspond to the results of previous studies showing BJW to be a part of a positive world view (Dalbert, 2009). Thus, the more people believe in a just world, the more they trust in other people and the world in general (Adoric & Kvartuc, 2007; Correia & Dalbert, 2007). High correlations between BJW means and self-worth are also in line with outcomes demonstrating a positive connection between BJW and self-esteem (Correia & Dalbert, 2007; Dalbert, 1999). However, whereas Dalbert emphasized that personal BJW

correlated with self-esteem more strongly than general BJW (Dalbert, 1999), our results showed an opposite pattern which seems to be similar to some extent to results in collectivistic cultures. Despite lacking information on the connections between self-esteem and BJW in collectivistic cultures, we could note that other parameters of well-being stronger correlated with general than with personal BJW there (Wu et al., 2011). To sum up, some associations between BJW and basic world beliefs seem to be similar to those in Western cultures, and some associations seem to be similar to those in Eastern cultures. This observation might be indicative of the specificity of Russian history and mentality (Hofstede, Hofstede, & Minkov, 2010; Robinson, Lopez, Ramos, & Nartova-Bochaver, 2013). Russian culture developed as a collectivistic culture historically. In this regard, it retains some of the collectivistic values, for example, that people's positive self-esteem is more strongly connected with their faith in world order maintained by community and community leaders than in personal efforts and fate. However, despite different patterns of correlations with basic world assumptions formed by personal and general BJW, these results give an evidence for convergent validity of both BJW scales.

We further used the *Big Five* personality factors to investigate the divergent validity of both BJW scales. However, personal and general BJW significantly correlated with extraversion and neuroticism. In addition, people with high general BJW scores were more agreeable and conscientious than those with low scores. These findings are partly in line with previous studies (Lipkus et al., 1996; Nudelman, 2013). Significant positive correlations of both BJW scales with extraversion demonstrated that individuals who strongly endorsed BJW were characterized by greater sociability, optimism, and activity. It is likely that their perception of the world as a well-ordered and just place where people get what they deserve reduces the feeling of their vulnerability. The negative relation between BJW and neuroticism indicated that the more strongly Russian people endorsed the BJW, the stronger their emotional stability was. This result confirms the idea of BJW as an important personal resource and a buffer against harsh experiences in life (Dalbert, 2001; Furnham, 2003). The belief that the world is an orderly place, which a person can control, may contribute to her or his emotional stability. Furthermore, it seems plausible that the development of a strong BJW may be inhibited by a person's strong neuroticism, which is connected with strong anxiety. Anxious people are unlikely to form a concept of the orderly and stable environment which BJW is based on (Nudelman, 2013).

Contrary to our expectations, we found positive correlations of general BJW with agreeableness and conscientiousness which means that people with a strong general BJW are more friendly and helpful as well as more honest and scrupulous than those with a weaker general BJW. These results differ from results of some other studies to a certain extent which showed general BJW to be related to negative attitudes against the poor and elderly (Bègue & Bastounis, 2003; Furnham, 2003). However, results of the Russian sample contribute to the debate about consequences of general BJW, indicating that general BJW can also be accompanied by pro-social features (Dalbert, 2002). As expected, intellect was unrelated to personal and general BJW, which was in accordance with other studies (e.g., Bollmann et al., 2015) but contrary to outcomes by Lipkus et al. (1996). Altogether, these results should be interpreted with caution because BJW and the Big Five do not seem to be fully

differentiable even if most of the observed correlations were quite low. Particularly, neuroticism seems to be connected with both BJW dimensions as previously found in other studies. Thus, a replication of our results is clearly needed and future studies could, for example, investigate BJW's divergent validity by using different measures of the Big Five or even other personality traits.

We also used justice sensitivity to evaluate divergent validity of BJW scales. As expected, personal and general BJW were unrelated to beneficiary and perpetrator sensitivity which is in line with previous findings (e.g., Schmitt et al., 2005). Furthermore, general BJW was also uncorrelated with observer sensitivity. Finally, according to our assumptions, both BJW scales were negatively related to victim sensitivity but these correlations were quite low. An explanation for this result might be that strong just-world believers tend not to feel anger in order to restore justice and their own rights (e.g., to be victim sensitive) and instead would more likely minimize or deny unjust experiences (Dalbert, 2001).

Moreover, personal BJW also correlated negatively with observer sensitivity. People who believe to be treated fairly are less sympathetic to people who are treated unjustly, defend themselves and detach themselves from other people's unjust situations. This could be considered as an efficient way to cope with injustice. Thus, in our Russian sample, not only general BJW but also personal BJW seems to be accompanied by absence of compassion on people who could need help because of their unjust life circumstances. The negative relations between both BJW scales and victim sensitivity indicated that individuals with a strong BJW do not tend to feel offended and angry due to injustice. Victim sensitivity is accompanied by self-defensive attitudes; BJW, in contrast, implies reliance in world order. Therefore, the more strongly individuals believe in a just world, the less they express their negative feelings about their own misfortunes, in accordance with Dalbert (2001).

A negative relation between personal BJW and observer sensitivity is also in line with some studies referred to above (e.g., Schmitt et al., 2005): the more people endorse personal BJW, the less emotional reaction they show toward observed injustice. On the one hand, this association indicates that personal BJW functions as a psychological resource, which helps people keep emotional stability and trust in the world. On the other hand, it means a lack of readiness to restore observed injustice.

A further possible line of interpretation of the negative connection between the personal BJW and observer sensitivity can also be tied to a contradictory combination of the values of individualism and collectivism in the Russian mentality (Lipatov, Kuprejchenko, Gromova, & Shrader, 2015). Thus, in Russia, personal BJW is not always accompanied by humanistic attitudes, whereas general BJW is not necessarily connected with harsh ones. Altogether, the relations of personal and general BJW with the perspectives of justice sensitivity mainly confirm divergent validity of both BJW scales regarding justice sensitivity, especially beneficiary and perpetrator sensitivity. However, there seem to be some similarities between BJW and victim sensitivity which should be investigated more detailed in the future studies.

Limitations and Prospects

Before discussing the prospects and practical implications, we want to point out some limitations of the study. First, our sample consisted mainly of university students or people who have had a higher education and were, thus, selective with regard to age, SES, and region. This should be improved in future surveys, at least regarding norms of BJW scales, as some of our results might be explainable by special characteristics of the participants. Secondly, our work did not deal with the respondents' biographies (current life situations and previous experiences) which might be important variables influencing BJW. To provide more evidence regarding the content validity of BJW scales, it would be worthwhile to examine the link between BJW and life experiences, subjective well-being, and pro-social or anti-social behavior in a Russian sample. It also seems to be promising to study the BJW phenomenon as a personal resource in special samples, as deaf and visually impaired individuals, people who experienced sport or civilian traumas, et cetera. In future research, these variables and other parameters of personality should be taken into account to essentially extend BJW research in Russia and in a cross-cultural context.

Conclusion

In the current study, the Personal and General BJW Scales (Dalbert, 1999; Dalbert et al., 1987) have been adapted to the Russian culture. The two-factorial structure of the Russian BJW scales, as in many other cultures, was confirmed. Personal and General BJW Scales showed good psychometric properties such as reliabilities, convergent and divergent validity. The Russian versions of the Personal and General BJW Scales are useful tools which can be widely used in research on personality and social psychology in Russia.

We have also further shown that in our Russian sample, personal and general BJW were differentially related to as world assumptions, personal dispositions, and justice sensitivity. This could be caused by specificity of the history and the mentality of Russia as a country situated between individualistic and collectivistic cultures, and between East and West.

Despite these specific relations between BJW and the other variables investigated, BJW scales seem to be useful in Russian or cross-cultural research as the main structures of the scales are stable, match both initial German and English versions, and have satisfactory reliability and validity characteristics.

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Compliance with Ethical Standards

Ethical Approval All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki Declaration and its later amendments or comparable ethical standards. For this type of study, formal consent is not required.

Appendix 1

General Belief in a Just World Scale: Russian Version and Corresponding English Version

Инструкция:

Ниже перечислено несколько разных утверждений. С некоторыми из них Вы согласитесь, с другими – нет, с некоторыми - частично согласитесь. Прочитайте внимательно каждое утверждение и решите, в какой степени лично Вы согласны или не согласны с ним. Отметьте номер, соответствующий Вашему ответу для каждого утверждения.

Instruction:

Below you will find various statements. Most likely, you will strongly agree with some statements, and strongly disagree with others. Sometimes you may feel more neutral. Read each statement carefully and decide to what extent you personally agree or disagree with it. Circle the number which corresponds to this judgment. Make sure you circle a number for every statement.

Item code	Russian wording	English wording
gbjw1	Я считаю, что в целом мир справедлив	I think basically the world is a just place
gbjw2	Я считаю, что, по большому счету, люди получают то, что заслуживают	I believe that, by and large, people get what they deserve
gbjw3	Я уверен(а), что справедливость всегда побеждает несправедливость	I am confident that justice always prevails over injustice
gbjw4	Я убежден(а), что, если человек пережил несправедливость, в будущем это возместится	I am convinced that in the long run people will be compensated for injustices
gbjw5	Я твердо уверен(а), что несправедливость в самых разных жизненных ситуациях (в семье, в учебе и т.д.) – скорее исключение, чем правило	I firmly believe that injustices in all areas of life (e.g., professional, family, politic) are the exception rather than the rule
gbjw6	Я думаю, что все, кто принимает важные решения, стремятся быть справедливыми	I think people try to be fair when making important decisions

Responses were made on a six-point scale: 1 (*совсем не согласен; strongly disagree*), 2 (*не согласен; disagree*), 3 (*скорее не согласен, чем согласен; slightly disagree*) 4 (*скорее согласен, чем нет; slightly agree*), 5 (*согласен; agree*), 6 (*полностью согласен; strongly agree*)

Appendix 2

Personal Belief in a Just World Scale: Russian Version and Corresponding English Version

The instruction was the same as in “Appendix 1.”

Item code	Russian wording	English wording
pbjw1	Я считаю, что, по большому счету, заслуживаю того, что происходит со мной	I believe that, by and large, I deserve what happens to me
pbjw2	Как правило, жизнь ко мне справедлива	I am usually treated fairly
pbjw3	Я верю, что обычно получаю то, что заслуживаю	I believe that I usually get what I deserve
pbjw4	В моей жизни в общем и целом все происходит справедливо	I believe that most of the things that happen in my life are fair
pbjw5	В моей жизни несправедливость – скорее исключение, чем правило	In my life injustice is the exception rather than the rule
pbjw6	Я считаю, что в целом в моей жизни все справедливо	Overall, events in my life are just
pbjw7	Я думаю, что важные решения, которые касаются меня, обычно справедливы	I think that important decisions that are made concerning me are usually just

Responses were made on the same six-point scale as in “Appendix 1”

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