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Belief in a just world as a multidimensional construct: empirical validation in the Ukrainian context

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Keywords

Justice
Psychometric properties
Measurement invariance
Satisfaction with life

Abstract

This study examined the structure of belief in a just world, as measured by the *Personal and General Belief in a Just World Questionnaire*. The primary objective of the study was to compare the basic two-factor model with three competing models. The sample consisted of 629 Ukrainians aged 18 to 74 years (64.2% female). Statistical analysis included confirmatory factor analysis, assessment of reliability indices, and correlation analysis. The two-factor model showed a good fit to the data, while the single-factor model showed unsatisfactory fit indices, and the model with orthogonal factors showed even lower fit indices. The second-order factor model showed fit indices comparable to the baseline model, allowing belief in a just world for oneself and belief in a just world for all to be considered manifestations of the basic desire for justice. Measurement invariance of the questionnaire was confirmed for two gender and two age groups, and no significant differences were found between these groups. The nomological validity of the Ukrainian-language instrument was confirmed: both measures of belief in a just world were positively associated with life satisfaction and negatively with belief in a dangerous world, with these associations being stronger for belief in personal justice. The findings confirm the two-dimensional structure of the construct and demonstrate satisfactory psychometric properties of the Ukrainian version of the questionnaire, opening prospects for research on justice beliefs among the Ukrainian-speaking population, including in cross-cultural studies.

La creencia en un mundo justo como constructo multidimensional: validación empírica en el contexto ucraniano

Palabras clave

Justicia
Propiedades psicométricas
Invarianza de medición
Satisfacción con la vida

Resumen

Este estudio examinó la estructura de la creencia en un mundo justo, medida mediante el cuestionario de *Creencia en un Mundo Justo Personal y General*. El principal objetivo del estudio fue comparar el modelo básico de dos factores con tres modelos alternativos. Un total de 629 ucranianos de entre 18 y 74 años (64.2 % mujeres) participaron en el estudio. El análisis estadístico incluyó análisis factorial confirmatorio, evaluación de los índices de fiabilidad y análisis de correlaciones. El modelo de dos factores mostró un buen ajuste, mientras que el unifactorial presentó un ajuste insatisfactorio, y el modelo con factores ortogonales mostró índices aún más bajos. El modelo de segundo orden presentó índices de ajuste comparables con el básico, lo que permite considerar la creencia en un mundo justo para uno mismo y para todos como manifestaciones del deseo fundamental de justicia. Se confirmó la invarianza de medida para ambos géneros y dos grupos de edad, no se encontraron diferencias significativas entre estos grupos. Se confirmó la validez nomológica del instrumento en lengua ucraniana: ambas medidas de creencia en un mundo justo se asociaron positivamente con la satisfacción con la vida y negativamente con la creencia en un mundo peligroso, siendo estas asociaciones más fuertes para la creencia en la justicia personal. Los resultados confirman la estructura bidimensional del constructo y demuestran propiedades psicométricas satisfactorias de su versión en ucraniano, abriendo perspectivas para la investigación sobre las creencias en la justicia en la población de habla ucraniana, incluso en estudios transculturales.

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The original concept of the Belief in a Just World (BJW), formulated by Lerner, refers to human striving to believe that people get what they deserve and deserve what they get (Lerner, 1977, 1980). BJW, as a fundamental belief, performs an adaptive function: it helps to perceive social reality as "ordered, meaningful, and predictable" (Lerner & Miller, 1978), assisting in making sense of one's own experience, reducing existential uncertainty, and maintaining readiness for delayed gratification (Lerner, 1980).

The empirical study of the phenomenon of BJW was accompanied by the development of specialized measurement instruments reflecting the gradual evolution of the theoretical conceptualization of the construct. One of the first was the BJW Scale proposed by Rubin & Peplau (1975). The scale comprised 20 items reflecting both generalized and concrete-specific aspects of perceptions of justice, which complicated interpretation. This limitation was soon noted (Dalbert, et al., 1987) and led to the development of more conceptually consistent and psychometrically reliable instruments. In particular, the General BJW (GBJW) Scale (Dalbert et al., 1987) consisting of 6 items and the Global BJW Scale (Lipkus, 1991) consisting of 7 items were developed. Both scales focused on measuring the BJW for all people in general. Subsequent studies confirmed that these scales have high internal consistency (Barreiro et al., 2014; Dalbert & Katona-Sallay, 1996; Reich & Wang, 2015; Ríos Rodríguez et al., 2024).

Further progress in the conceptualization of BJW led to the differentiation of general BJW from BJW for the self and BJW for others. In their joint study, Lipkus and collegues (1996) posed the question of what significance BJW has for psychological well-being depending on whom the justice concerns: the person themselves (BJW-self), or other people (BJW-others). Based on the Global BJW Scale (Lipkus, 1991), two scales were developed, each consisting of 8 items with similar wording differing only in the "recipient of justice": "I" or (other) "people" (Lipkus et al., 1996). It was also found in the study that BJW-self predicts life satisfaction more strongly and more stable than BJW-others.

The issue raised by Lipkus et al. (1996) was developed in a numerous studies that emphasized differences in perceived justice in relation to oneself and to others, and established that BJW-self serves as a resource for psychological health and facilitates adaptation, whereas BJW-others is associated with rigid social attitudes, such as harsh treatment of the elderly and the poor, as well as with readiness for dishonest behavior (Begue & Bastounis, 2003; Sutton & Douglas, 2005; Sutton et al., 2008; Sutton et al., 2017; Wenzel et al., 2017).

Later, the BJW-self vs. BJW-others dichotomy was considered key in studies of beliefs about procedural justice and distributive justice in the context of issues of psychological well-being, social judgment, and forgiveness (Lucas et al., 2011; Lucas et al., 2018). Thus, whereas Lipkus et al. (1996) addressed the question of the specificity of BJW-self in comparison to BJW-others and to BJW in general, their followers focused on the opposition between BJW-self and BJW-others.

The continuation of research on BJW with regard to oneself personally was initiated by Dalbert (1999). Relying on the evidence obtained in the joint work (Lipkus et al., 1996) regarding the role of BJW-self as a significant factor of psychological well-being, she proposed a specific instrument for measuring person's belief in the justice of their "personal world." She designated this instrument as the Personal BJW (PBJW) Scale (Dalbert, 1999). Dalbert not only developed the PBJW Scale but also examined the factor structure of the data obtained using a questionnaire that included both the GBJW and PBJW scales (Dalbert, 1999). The existence of two latent factors - BJW for everyone (GBJW) and for oneself (PBJW) was confirmed. It was empirically shown that respondents generally "believe more strongly that the world is just for them personally than in general" (Dalbert, 1999). PBJW proved to be a stable and stronger predictor of subjective well-being (SWB) and self-esteem compared to GBJW, and its predictive contribution remained significant when GBJW was statistically controlled (Dalbert, 1999; Dalbert, 2001).

The PBJW 7-point scale and the GBJW 6-point scale together form the BJW Questionnaire (Dalbert, 2000). This instrument, originally developed in German and English (Dalbert et al., 1987; Dalbert, 1999; Dalbert, 2002), was subsequently translated into Hungarian (Dalbert & Katona-Sallay, 1996), Slovak (Dzuka & Dalbert, 2002), Urdu (Fatima & Khalid, 2007), Chinese (Wu et al., 2010; Yu & Yang, 2024), Latvian (Nesterova et al., 2015), Portuguese in Portugal and Brazil (Correia & Dalbert, 2007; Gouveia et al., 2018), Polish (Larionow & Mudło-Głagolska, 2021), Italian (Esposito et al., 2022), Persian (Mikani et al., 2022), and others. At present, the BJW questionnaire is widely used in research on justice-related beliefs and has undergone psychometric evaluation in a number of countries.

Dalbert (1999) was the first to analyze the factor structure of the BJW questionnaire, which included 7 PBJW items and 6 GBJW items, using exploratory factor analysis on data from three samples. Principal component analysis with oblique rotation revealed two interrelated factors corresponding to PBJW and GBJW, with correlations between them ranging from .33 to .47 ($p < .001$). Later, Fatima and Khalid (2007), when examining the factor structure of the Urdu-adapted version of the questionnaire, applied orthogonal rotation and obtained two factors corresponding to PBJW and GBJW. However, two items with low factor loadings had to be excluded from the GBJW scale, and even in this modified version, the GBJW scale showed a significant correlation with the PBJW ($r = .56$, $p < .001$). Thus, exploratory factor analysis in both studies confirmed the distinctiveness of PBJW and GBJW while simultaneously indicating their conceptual relatedness.

Starting with the study by Wu et al. (2010), confirmatory factor analysis has been used to assess the structural validity of the BJW questionnaire, with a model of two correlated factors considered as the baseline. This model generally demonstrated acceptable, and less frequently good, fit indices to the empirical data, although in some cases it was necessary to introduce covariances between the residuals of PBJW and/or GBJW items (Esposito et al., 2022; Gouveia et al., 2018; Mikani et al., 2022), and the authors of the Italian adaptation considered it necessary, in addition to this, to exclude the first item from the PBJW scale

(Esposito et al., 2022). Reliability indices were sufficiently high for both PBJW and GBJW. In all cases, a substantial covariance between the two factors was observed, ranging from .59 to .86.

Although the baseline model did not achieve good fit indices in all cases, only two studies, conducted on Chinese (Wu et al., 2010) and Italian (Esposito et al., 2022) samples, considered competing models: a single-factor model and one with two unrelated factors. In the Chinese study, the fit indices of the one-factor model fell within the acceptable range (CFI = .92, SRMR = .08), although they were lower than those of the model with correlated factors (CFI = .95, SRMR = .06). The model with two independent factors showed a relatively low CFI = .91 and an unsatisfactory SRMR = .26 (Wu et al., 2010), which indicated a poor fit of this model to the data. The results obtained on the Italian sample, on the contrary, indicated a very poor fit of the one-factor model to the data (CFI = .732; TLI = .673; RMSEA = .115; SRMR = .084), in contrast to the model with uncorrelated factors (Esposito et al., 2022). Although the latter was inferior to the modified baseline model with two correlated factors, its fit indices fell within the acceptable range (CFI = .935; TLI = .902; RMSEA = .063; SRMR = .032).

The divergence in the evaluations of the two alternative models in China and Italy may reflect differences in BJW between Western individualistic and Eastern collectivistic cultures. Evidence of such differences is provided by a comparative study (Reich & Wang, 2015), which confirmed that global BJW is higher among Chinese respondents compared to North Americans. It can also be noted that in Western culture PBJW scores are higher than GBJW (Dalbert, 1999; Gouveia et al., 2018; Larionow & Mudło-Głagolska, 2021; Nesterova et al., 2015), whereas in China (Wu et al., 2010) and Iran (Mikani et al., 2022) GBJW is more pronounced than PBJW. In a study of a new Chinese adaptation of the BJW questionnaire (Yu & Yang, 2024), in which only the baseline two-factor model with correlated PBJW and GBJW factors was tested, a high covariance of .86 between the two factors indicated a high degree of closeness between PBJW and GBJW in a sample of contemporary Chinese youth. Considering that RMSEA = .091 indicated poor fit, it would be reasonable to raise the question of alternative models - a one-factor model and a second-order factor model, with a latent variable manifested through the first-order PBJW and GBJW factors.

The second-order factor explaining the latent factors of PBJW and GBJW was tested only in more complex models that included not only BJW as a latent second-order factor but also SWB as another second-order factor associated with BJW and manifested through the latent factors of the components of SWB (Donat et al., 2025; Hafer et al., 2020). In both cases, the results of confirmatory factor analysis supported the validity of introducing a second-order factor; however, outside the context of SWB, such a hierarchical BJW model has not been tested or compared with the baseline two-factor model.

According to theory, BJW helps individuals perceive the social environment as if it were stable and orderly (Lerner & Miller, 1978), thereby contributing to the maintenance of mental health and SWB. The latter has been confirmed by a number of studies, many of which considered life satisfaction as an indicator of SWB (Correia & Dalbert, 2007; Dalbert, 1999; Dalbert & Katona-Sallay, 1996; Harding et al., 2020; Correia & Dalbert, 2007; Lipkus et al., 1996; Lucas et al., 2011; Lv et al., 2025; Mikani et al., 2022; Wu et al., 2010). As a positive illusion, BJW is associated with the perception of the world as safe and benevolent, which stands in opposition to the view of the world as dangerous and threatening. These beliefs, although distinct, can be viewed as part of a higher-level Safe–Dangerous cluster that reflects a generalized tendency to perceive the world as threatening across different types of threats (Clifton et al., 2018).

The present study

In the context of large-scale war, perceptions of justice become important for meaning-making and psychological adjustment, making BJW a theoretically critical construct for Ukrainian samples. A validated Ukrainian version of the BJW questionnaire is therefore required to examine how PBJW and GBJW relate to well-being under conditions of chronic socio-political threat.

This study aims to develop and psychometrically validate the Ukrainian adaptation of the BJM questionnaire, including the analysis of model fit indices for four models: the basic model with two correlated factors (PBJW and GBJW), a one-factor model, a model with uncorrelated factors, and a second-order factor model. It was hypothesized that the model with two correlated factors, PBJW and GBJW, and the second-order factor model will describe the data structure better than the one-factor model and the model with uncorrelated factors. It was also hypothesized that PBJW will be higher than GBJW in the Ukrainian sample.

In addition, the task of testing measurement invariance was set for two gender groups and for two age groups (younger individuals up to 35 years of age and mature individuals aged 36 years and older). It was assumed that the parameters of the two-factor BJW model would be equivalent across gender groups and equivalent across age groups. Based on theoretical considerations, the task of testing nomological validity was addressed by examining the associations between BJW and life satisfaction, as well as belief in a dangerous world (BDW). It was expected that both BJW indicators would show positive correlations with life satisfaction and negative correlations with BDW.

Method

Participants and procedure

The study involved 629 Ukrainians from the different regions of Ukraine aged 18 to 74 years (*Mdn* = 28; *M* = 30.46; *SD* = 10.96), of whom 433 (68.8%) were younger than 35 years. The sample included 404 (64.2%) women and 225 (35.8%) men, recruited using the snowball sampling method. The participants were asked to complete a Google Form consisting of a socio-demographic section and psychometric instruments. All respond-

ents provided informed consent to participate in the study and for the further use of their responses. Of the sample, 74.1% (n = 466) were employed, and 25.9% were students.

Measurement

BJW. The translation of the English-language scales PBJW Scale (Dalbert, 1999) and GBJW Scale (Dalbert et al., 1987) was carried out by two bilingual psychologists using forward and back translation, followed by expert evaluation by a philologist specializing in Ukrainian (**Appendix 1**). The PBJW Scale consists of seven items, and the GBJW Scale (for all people) consists of six items. Respondents indicated the degree of their agreement with each statement on a 6-point Likert scale from 1 = *Strongly disagree* to 6 = *Strongly agree*.

To assess nomological validity, the Ukrainian-language version of *Diener's Satisfaction with Life* (SWL) *Scale* (Olefir & Bosnyuk, 2024) and the *Dangerous World Beliefs* (DWB) *Scale* (Duckitt et al., 2002) were used. The SWL Scale includes five statements (example: "I have what I really need in my life") (McDonald's ω = .81). The DWB Scale consists of 5 direct and 5 reverse statements (examples: "Any day now chaos and anarchy could erupt around us. All the signs are pointing to it"; "My knowledge and experience tell me that the world we live in is basically a safe, stable, and reliable place in which most people are fundamentally good") (McDonald's ω = .78). Both instruments were rated on a 7-point scale from 1 = *Absolutely disagree* to 7 = *Completely agree*. The BJW questionnaire and the SWL Scale were completed by all 629 respondents; the BDW scale was administered to a subsample of 177 of these respondents.

Data analysis

Data analyses were conducted using JASP software (version 0.19.2). Confirmatory factor analysis (CFA) was applied to test the structural validity of the questionnaire. Since Mardia's Test indicated a deviation from multivariate normality in the data distribution (skewness = 13.248, $p < .001$; kurtosis = 256.553, $p < .001$), the WLSMV estimator (weighted least squares mean and variance adjusted), which does not assume normal distribution, was employed. The following models were tested: a base model with two correlated factors, a second-order factor model, a two uncorrelated factors model, and one-factor model. Model fit to the empirical data was evaluated using the following indices: χ^2 and χ^2/df, Comparative Fit Index (CFI), Tucker–Lewis Index (TLI), Root Mean Square Error of Approximation (RMSEA), and Standardized Root Mean Square Residual (SRMR). CFI and TLI values from .90 to .92 were considered acceptable, from .92 to .95 good, and > .95 excellent. RMSEA and SRMR values < .08 indicated adequate model fit, and values < .05 were evaluated as excellent fit (Hu & Bentler, 1999; Kline, 2016). In model evaluation, item factor loadings with a threshold value of .40 were also considered (Kline, 2016).

When testing model invariance, the following criteria were considered critical: a decrease in CFI greater than .02 and an increase in RMSEA > .03 for metric invariance, and a decrease in CFI greater than .01 and an increase in RMSEA > .01 for scalar and strict (residual) invariance (Putnick & Bornstein, 2016).

The criteria for convergent and discriminant validity were AVE and HTMT. AVE > .50 indicated adequate convergent validity, and HTMT < .85 was applied as a strict discriminant validity threshold (Henseler et al., 2015). Scale reliability was assessed using Composite Reliability, McDonald's ω, and Cronbach's α, with values > .70 indicating good reliability. For the comparative analysis of the levels of PBJW and GBJW, a paired Student's t-test for dependent samples (Paired Samples t-test) was applied. To compare the BJW scores obtained in male and female groups, as well as in two age groups (under 35 years and 36 years and older), a two-way analysis of variance (ANOVA) was conducted.

To confirm nomological validity, Pearson correlation coefficients of both scales of the questionnaire with life satisfaction and BDW were examined.

Results

Confirmatory factor analysis and model fit

The results of the confirmatory factor analysis are presented in Table 1. The lowest and unsatisfactory fit indices were obtained for the model with two uncorrelated factors. All indices of the one-factor model were noticeably higher, but still unsatisfactory. The model with two correlated factors and the two-factor model with a second-order factor were generally supported by the empirical data: CFI and TLI exceeded .95, while RMSEA and SRMR were substantially below the critical threshold of .08.

Table 1

BJW models fit indices

Model	χ^2 / df	CFI	TLI	RMSEA	RMSEA 90% CI	SRMR
Base model	188.6/64	.975	.97	.056	.047-.065	.062
With a second-order factor	188.6/63	.975	.969	.056	.047-.066	.062
2 uncorrelated factors	1325.7/65	.75	.7	.176	.168-.184	.165
1 factor	629.6/65	.888	.866	.118	.109-.126	.114
Base model with residuals covariation	126.5/63	.987	.984	.04	.030-.050	.052

Note. All χ^2 test were significant at $p < .001$.

Figure 1

Two-factor model of BJW with residual covariance of items 3 and 4 of the GBJW scale (Fc1 – PBJW, Fc2 – GBJW). Note. p – PBJW; g – GBJW

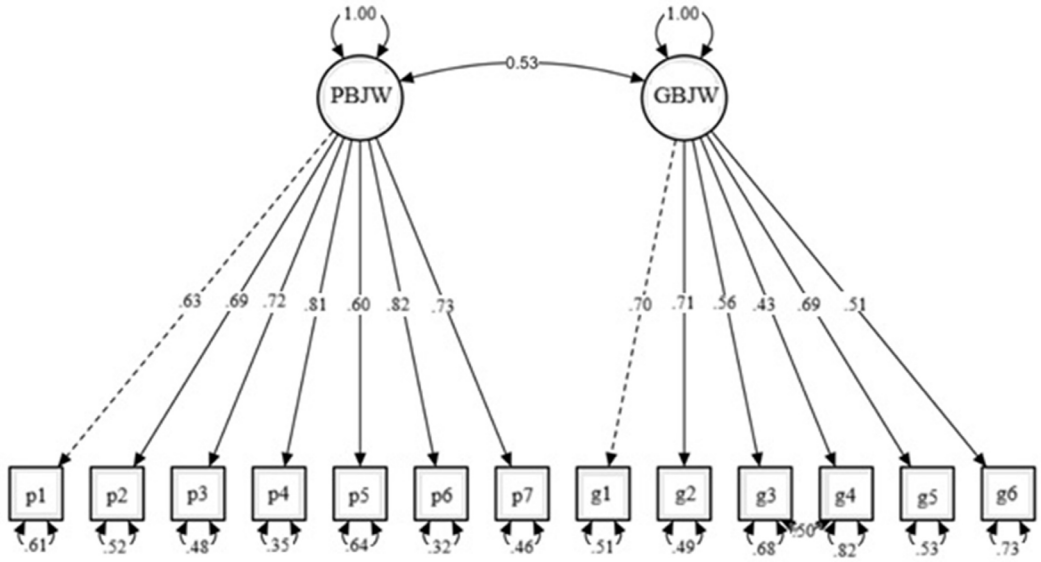

Table 2

Fit indices of the model with two correlated factors calculated for separate respondent groups

Group	*n*	χ^2/ df	CFI	TLI	RMSEA	RMSEA 90% CI	SRMR
Up to 35 years old	433	109.6/64	.987	.984	.041	.027-.053	.057
36 years and older	196	124.9/64	.962	.954	.07	.051-.088	.093
Men	225	98.5/64	.975	.969	.048	.028-.068	.077
Women	404	131.2/64	.982	.978	.051	.038-.063	.064

Note. All χ^2 test were significant at $p < .001$.

Although the χ^2 test indicated a discrepancy between the empirical data and each of these two theoretical models ($p < .001$), the χ^2/df ratio was less than 3. Given the sample size, such a value can be interpreted as evidence of satisfactory model fit.

The fit indices of the model with correlated factors and the model with a second-order factor are nearly identical; however, the slight differences observed for χ^2/df (2.95 and 2.99, respectively) and TLI (.97 and .969) favor the two correlated factors model. All standardized factor loadings of the questionnaire items exceeded .5 ranging from .60 to .82 for the PBJW factor and from .52 to .7 for the GBJW factor. The correlation between the two factors was .51 ($p < .001$).

Model refinement and final baseline model

Since one of the objectives of this study was to test measurement invariance of the model across gender and age, model fit indices were calculated separately for each gender and age group (Table 2). The worst fit indices were found in the group of older respondents (aged 36 and above), with SRMR indicating inadequate fit (.093). An analysis of the modification indices (MI) for this model, obtained both for the overall sample and for each of the groups under consideration, indicated high covariance of the residuals of items g3 ("I am confident that justice always prevails over injustice") and g4 ("I am convinced that in the long run people will be compensated for injustices.") of the GBJW scale. After adding this covariance to the model, the fit indices improved substantially for the overall sample (Table 1), indicating good fit between the empirical data and the modified model. The residual covariance of items g3 and g4 was .5 ($p < .001$) (Fig. 1). Subsequent analyses were conducted on the modified baseline model.

Convergent and discriminant validity

To assess the internal convergent validity of the two scales, the AVE indices were used, which equaled .51 for PBJW and .4 for GBJW. Good convergent validity with AVE > .5 was demonstrated only by the PBJW factor. For the GBJW factor, the AVE index was .4. At the same time, according to Hair et al. (2021), a combination of AVE above .4 and a reliability coefficient above .6 provides grounds to consider convergent validity acceptable. In our case, the composite reliability (CR) and McDonald's ω values were high for both factors: .88 and .86 for PBJW; .79 and .80 for GBJW. The HTMT value of .47 is well below the strict thresh-

old of .85 (Henseler et al., 2015), which confirms the discriminant validity of the two factors, PBJW and GBJW (see Table 3).

Measurement invariance across gender and age

The results of testing the measurement invariance of the modified model for two gender and two age groups are presented in Table 4. They indicate that the Ukrainian adaptation of the BJW scales demonstrates invariance at all levels of testing - configural, metric, scalar, and strict. The ΔCFI values did not reach the threshold of .01, ΔRMSEA did not exceed .015 for metric invariance and was negative or zero at the scalar and strict levels, and ΔSRMR was below .01.

Group Comparisons and Scale Differences. A two-way analysis of variance with two independent variables—gender and age group—showed the absence of significant differences depending on gender, age group, as well as the absence of interaction effects between these two factors.

A comparative analysis using the paired Student's *t*-test for dependent samples revealed significant differences between PBJW and GBJW ($t = 14.4$, $p < .001$) with a moderately expressed effect size (Cohen's $d = .574$). In the Ukrainian sample overall, respondents tend rather to have confidence in a personally just world and doubts about the general justice of the world: the means and standard deviations were 3.92 ($SD = 0.932$) and 3.33 ($SD = 0.957$), respectively.

Nomological Validity. To confirm nomological validity, correlation coefficients of the two BJW scales with life satisfaction and BDW were analyzed. Both BJW scales significantly correlated with subjective SWB, with a significantly stronger association observed for PBJW compared to GBJW (.52 and .33, both significant at $p < .001$, the difference between the correlations significant at $p < .001$). This result is fully consistent with Dalbert (1999) (.52 and .39). Both scales correlated negatively with BDW, with PBJW again showing the stronger correlation (-.45 and -.28, $p < .001$).

Discussion

The main objective of our study was to adapt and test the psychometric properties of the Ukrainian-language BJW scale, aimed at measuring individuals' beliefs in the justice of the world in general and in the justice of the world as it relates to themselves. The question was raised regarding the factor structure that best describes these two beliefs. In previous studies, the model with two correlated factors, PBJW and GBJW, was treated as the basic and predominantly the only one. At the same time, a review of these studies provided grounds for test-

Table 3

AVE, HTMT, CR, and McDonald's ω indices for the two scales PBJW and GBJW

Factor	F1	AVE	CR	McDonald's ω (95% CI)	Cronbach's α
PBJW		.51	.88	.86 (.84 – .88)	.85
GBJW	HTMT .47	.4	.79	.8 (.78 – .83)	.8
BJW				.85 (.83 – .87)	.84

Note. All χ^2 test were significant at $p < .001$.

Table 4

Testing measurement invariance of the modified two-factor model by gender and age

Model	χ^2/ df	*p*	CFI	RMSEA	SRMR	Nested Model	Δ CFI	Δ RMSEA	Δ SRMR
Gender									
Men, n=225	67,6/63	.019	.997	.018	.066				
Women, n=404	97,8/63	.003	.991	.037	.056				
M0. Configural	165,4/126	.011	.992	.032	.059				
M1. Metric	184,6/137	.004	.991	.033	.062	M1-M0	-.001	.001	.003
M2. Scalar	191,5/148	.009	.992	.031	.059	M2-M1	.001	-.002	-.003
M3. Strict	212,4/162	.005	.99	.031	.063	M3-M2	-.002	0	.004
Age group (up to 34, from 35)									
Younger, n=433	81,9/63	.055	.995	.026	.05				
Older, n=196	82,9/63	.047	.988	.04	.076				
M0. Configural	164,8/126	.012	.992	.031	.058				
M1. Metric	216,9/137	<.001	.984	.043	.066	M1-M0	-.008	.012	.008
M2. Scalar	230,5/148	<.001	.984	.042	.063	M2-M1	0	-.001	-.003
M3. Strict	242,3/162	<.001	.984	.04	.065	M3-M2	0	-.002	.002

ing three additional models: a one-factor model, a two-factor orthogonal model, and a second-order factor model. A stepwise evaluation of the factor structure of the Ukrainian adaptation of the BJW scale demonstrated that the best fit indices, indicating good agreement with the empirical data, were obtained for the basic model and the second-order factor model. The fact that the model with a second-order factor obtained acceptable fit indices allows us to consider BJW for oneself and BJW for all as manifestations of the basic desire for justice, as discussed by Lerner (1977, 1980).

The fit indices of the one-factor model and the orthogonal two-factor model indicated poor fit to the data, with the model comprising two uncorrelated factors performing substantially worse than the one-factor model. These results differ both from those obtained in Italy, where the model with uncorrelated factors demonstrated acceptable fit while the one-factor model failed to fit the data (Esposito et al., 2022), and from those obtained in China, where, conversely, the one-factor model yielded higher and nearly acceptable fit indices (Wu et al., 2010).

Considering the slightly higher fit indices of the baseline model compared to the second-order factor model, further analyses were conducted using the baseline model. Introducing a residual covariance between items 3 and 4 of the GBJW scale substantially improved model fit: the indices indicated excellent and good fit to the data for the total sample as well as for the subsamples divided by gender and age. Both items concern the inevitability of the triumph of justice: "I am confident that justice always prevails over injustice" (g3) and "I am convinced that in the long run people will be compensated for injustices" (g4). The same modification (together with two additional covariances) was introduced into the baseline model for the Italian version of the scale, which was justified not only statistically but also by the semantic similarity of the items (Esposito et al., 2022). It should also be noted that item g4 was the only item in the entire scale that received significantly stronger support among Ukrainian IT specialists in wartime 2022 compared to peacetime 2021 (Kryazh & Kholmanova, 2024). Possibly, the strong residual covariance of g3 and g4 reflects the wartime intensification of the perceived importance of delayed but inevitable justice.

For the modified baseline model, the internal convergent and discriminant validity of the scales was confirmed. The insufficiently high AVE value for GBJW (.40) in the Ukrainian adaptation is consistent with the results obtained for all other adaptations, where AVE values ranged from .29 to .46 (Esposito et al., 2022; Larionov & Mudło-Głagolska, 2021; Mikani et al., 2022). For PBJW, the AVE value in our case confirmed convergent validity and was even higher than in other adaptations, where this value ranged from .39 to .50 (Esposito et al., 2022). Reliability indices for the Ukrainian BJW scales were sufficiently high and close to those reported in other cross-cultural adaptations. The Ukrainian scale demonstrates validity and reliability comparable to other adaptations.

The positive associations of life satisfaction and the negative associations of BDW with BJW indicators established in the present study confirm the nomological validity of the Ukrainian adaptation of the questionnaire. At the same time, as in other studies (Dalbert, 1999; Larionov & Mudło-Głagolska, 2021), it is PBJW that manifests itself as an indicator of positive functioning, being more strongly associated than GBJW with both conceptually related constructs.

In our study, measurement invariance of the BJW questionnaire for two gender and two age groups was confirmed for the first time. Previously, invariance testing had been conducted only for the Italian adaptation, where data collected in three different regions of Italy were compared (Esposito et al., 2022). The confirmed equivalence of the interpretation of the questionnaire scales by men and women, as well as by younger and older respondents, allowed for a comparative analysis of the indicators by gender and age group, considering possible interactions of these two factors. The results of previous studies presented a contradictory picture: the absence of significant gender differences in Germany (Dalbert, 1999) and Iran (Mikani et al., 2022); lower GBJW in men in Poland (Larionov & Mudło-Głagolska, 2021); in Italy, a slight increase in GBJW with age and, at the level of a small effect, lower scores on both BJW scales in women (Esposito et al., 2022). Women were also found to have lower scores on BJW-Others in France (Bègue & Bastounis, 2003) and on BJW-Global in Spain (Rodríguez et al., 2024). In our study, no differences were found in either BJW indicator between groups of Ukrainian citizens differing by gender and age.

The Ukrainian adaptation of the BJW scale provides a psychometrically sound tool for identifying individuals at risk of reduced well-being due to weakened personal justice beliefs and for evaluating the effectiveness of psychological interventions designed to support adaptive meaning-making in wartime. The availability of invariant and reliable measures of PBJW and GBJW across gender and age groups makes it possible to use the scale in applied psychological assessment, population surveys, and longitudinal monitoring without the risk of measurement bias.

Limitations

The study was conducted under wartime conditions, which creates a risk of confounding culturally specific characteristics of respondents with the influence of the extreme sociocultural context. In addition, the sample was formed using the snowball method, which limits the generalizability of the results to the population. The psychometric evaluation of the instrument did not include an assessment of its test–retest reliability, making it impossible to draw conclusions about the temporal stability of the construct being measured.

Future research

The present findings open several directions for future research. First, the strong residual association between BJW scale items reflecting delayed justice (g3 and g4) suggests that beliefs about eventual moral compensation may represent a specific cognitive mechanism of coping under prolonged injustice. This hypothesis should be tested by examining links between these beliefs and constructs such as hope and posttraumatic growth.

Further, future studies should examine whether the second-order structure of BJW, in which PBJW and GBJW are organized under a higher-order justice belief, can be replicated across different cultural contexts and levels of societal stability.

Conclusions

The Ukrainian-language adaptation of the BJW Questionnaire demonstrates a reproducible two-factor structure with correlated latent variables of PBJW and GBJW, as well as satisfactory psychometric properties, including internal consistency, convergent, discriminant, and nomological validity. The confirmed measurement invariance across gender and age ensures the methodological appropriateness of intergroup comparisons; in the present sample, no differences were found for these characteristics. The associations of BJW indicators with life satisfaction and BDW are consistent with theoretical expectations and point to the significance of PBJW for positive functioning. Taken together, the findings support the suitability of the instrument for applied and cross-cultural research in the Ukrainian context.

Author contributions

Conceptualization: I.K.
Methodology: I.K.
Investigation: I.K, V.K.
Data curation: I.K, V.K.
Formal analysis: I.K.
Writing – original draft: I.K, V.K.
Writing – review & editing: I.K, V.K.

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Declaration of interests

The authors declare that there is no conflict of interests.

Data availability statement

The data that support the findings of this study are available on request from the corresponding author.

References

Barreiro, A., Etchezahar, E., & Prado-Gasco, V. (2014). Creencia global en un mundo justo: validación de la Escala de Lipkus en estudiantes universitarios de la Ciudad de Buenos Aires. *Interdisciplinaria, 31*(1), 57-72.

Bègue, L., & Bastounis, M. (2003). Two spheres of belief in a just world: extensive support for the dimensional model of belief in a just world. *Journal of Personality, 71*, 435-463. https://doi.org/10.1111/1467-6494.7103007

Clifton, J. D. W., Baker, J. D., Park, C. L., Yaden, D. B., Clifton, A. B. W., Terni, P., Miller, J. L., Zeng, G., Giorgi, S., Schwartz, H. A., & Seligman, M. E. P. (2018). Primal world beliefs. *Psychological Assessment*, *30*(1), 82-99. https://doi.org/10.1037/pas0000639

Correia, D., & Dalbert, C. (2007). Medindo crença no mundo justo pessoal e geral: adaptação de uma escala ao contexto brasileiro. *Avances en Psicología Latinoamericana, 36*(1), 167-181. https://doi.org/10.12804/revistas.urosario.edu.co/apl/a.4989

Dalbert, C. (1999). The world is more just for me than generally: about the personal belief in a Just World Scale's validity. *Social Justice Research, 12*, 79-98. https://doi.org/10.1023/A:1022091609047

Dalbert, C. (2000). Beliefs in a just world questionnaire, In J. Maltby, C. A. Lewis, & A. Hill (Eds.), *Commissioned reviews of 250 psychological tests* (pp. 461-465). Edwin Mellen Press.

Dalbert, C. (2001). *The justice motive as a personal resource: Dealing with challenges and critical life events*, Kluwer Academic/Plenum Publishers. https://doi.org/10.1007/978-1-4757-3383-9

Dalbert, C. (2002). *GWPER. Persönliche Gerechte-Welt-Skala*, [Verfahrensdokumentation, Autorenbeschreibung, Fragebogen Deutsch und Englisch]. Leibniz-Institut für Psychologie (ZPID). https://doi.org/10.23668/psycharchives.6543

Dalbert, C., & Katona-Sallay, H. (1996). The "belief in a just world" construct in Hungary. *Journal of Cross-Cultural Psychology, 27*(3), 293-314. https://doi.org/10.1177/0022022196273003

Dalbert, C., Montada, L., & Schmitt, M. (1987). Glaube an die gerechte Welt als Motiv: validierung zweier Skalen. *Psychologische Beiträge, 29*, 596-615.

Donat, M., Wolgast, A., et al. (2025). Further evidence for the latent structure and relationship between belief in a just world and subjective well-being: a commentary on the latent factor approach by Hafer et al. (2020). *Social Justice Research, 38*, 14-26. https://doi.org/10.1007/s11211-025-00449-1

Dzuka, J., & Dalbert, C. (2002). Mental health and personality of Slovak unemployed adolescents: about the beliefs in a just world's impact. *Journal of Applied Social Psychology, 32*, 732-757. https://doi.org/10.1111/j.1559-1816.2002.tb00240.x

Esposito, C., Di Martino, S., Arcidiacono, C., & Di Napoli, I. (2022). Is the world a just place? The Italian adaptation of the personal and general belief in a just world scales. *Social Justice Research, 36*(1), 1-21. https://doi.org/10.1007/s11211-022-00401-7

Fatima, I., & Khalid, R. (2007). Some aspects of reliability and validity of beliefs in a just world questionnaire. *Pakistan Journal of Social and Clinical Psychology, 5*(1), 15-24.

Gouveia, V. V., Nascimento, A. M., Gouveia, R. S. V., Medeiros, E. D., Fonsêca, P. N., & Santos, L. C. O. (2018). Medindo crença no mundo justo pessoal e geral: adaptação de uma escala ao contexto brasileiro. *Avances en Psicología Latinoamericana, 36*(1), 167-181. https://doi.org/10.12804/revistas.urosario.edu.co/apl/a.4989

Hafer, C. L., Busseri, M. A., Rubel, A. N., Drolet, C. E., & Cherrington, J. N. (2020). A latent factor approach to belief in a just world and its association with well-being. *Social Justice Research, 33*, 1-17. https://doi.org/10.1007/s11211-019-00342-8

Hair, J. F., Jr., Hult, G. T. M., Ringle, C. M., & Sarstedt, M. (2021). *A primer on partial least squares structural equation modeling (PLS-SEM)* (2nd ed.). Sage.

Harding, W. G., McConatha, J. T., & Kumar, V. K. (2020). The relationship between just world beliefs and life satisfaction. *International Journal of Environmental Research and Public Health, 17*(17), Article 6410. https://doi.org/10.3390/ijerph17176410

Henseler, J., Ringle, C. M., & Sarstedt, M. (2015). A new criterion for assessing discriminant validity in variance-based structural

equation modeling. *Journal of the Academy of Marketing Science, 43*, 115-135. https://doi.org/10.1007/s11747-014-0403-8

Hu, L., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: conventional criteria versus new alternatives. *Structural Equation Modeling: a Multidisciplinary Journal*, *6*(1), 1-55. https://doi.org/10.1080/10705519909540118

Kline, R. B. (2016). *Principles and practice of structural equation modeling* (4th ed.). Guilford Press.

Larionov, P., & Mudło-Głagolska, K. (2021). Polish adaptation of the personal and general belief in a just world scales. *Annales Universitatis Mariae Curie-Skłodowska, Sectio J, Paedagogia-Psychologia, 34*(2), 245-264.

Lerner, M. J., & Miller, D. T. (1978). Just world research and the attribution process: Looking back and ahead. *Psychological Bulletin, 85*(5), 1030-1051. https://doi.org/10.1037/0033-2909.85.5.1030

Lerner, M. J. (1977). The justice motive: some hypotheses as to its origins and forms. *Journal of Personality*, *45* (1), 1-52. https://doi.org/10.1111/j.1467-6494.1977.tb00591.x

Lerner, M. (1980) *The belief in a just world: a fundamental delusion*. Springer.
https://doi.org/10.1007/978-1-4899-0448-5

Lipkus, I. (1991). The construction and preliminary validation of a global belief in a just world scale and the exploratory analysis of the multidimensional Belief in a Just World Scale. *Personality and Individual Differences, 12*(11), 1171-1178. https://doi.org/10.1016/0191-8869(91)90081-L

Lipkus, I. M., Dalbert, C., & Siegler, I. C. (1996). The importance of distinguishing the belief in a just world for self versus for others: implications for psychological well-being. *Personality and Social Psychology Bulletin, 22*, 666-677.

Lucas, T., Strelan, P., Karremans, J. C., Sutton, R. M., Najmi, E., & Malik, Z. (2018). When does priming justice promote forgiveness? On the importance of distributive and procedural justice for self and others. *The Journal of Positive Psychology, 13*(5), 471-484. https://doi.org/10.1080/17439760.2017.1303533

Lucas, T., Zhdanova, L., & Alexander, S. (2011). Procedural and distributive justice beliefs for self and others: assessment of a four-factor individual differences model. *Journal of Individual Differences, 32*(1), 14-25. https://doi.org/10.1027/1614-0001/a000032

Mikani, M., Rafiee, P., & Donat, M. (2022). Validation of the general and personal belief in a just world scales in Iran and their relations to perceived likelihood of kin favoritism. *Current Psychology*, *42*, 26286-26299. https://doi.org/10.1007/s12144-022-03736-1

Putnick, D. L., & Bornstein, M. H. (2016). Measurement invariance conventions and reporting: The state of the art and future directions for psychological research. *Developmental Review, 41*, 71-90. https://doi.org/10.1016/j.dr.2016.06.004

Reich, B., & Wang, X. (2015). And justice for all: revisiting the Global Belief in a Just World Scale. *Personality and Individual Differences, 78*, 68-76. https://doi.org/10.1016/j.paid.2015.01.031

Ríos Rodríguez, M. L., Moreno Jiménez, P., & Hernández Ruiz, B. (2024). Validation of the Global Belief in a Just World Scale within the Spanish population. *Tempus Psicológico, 7*(1). https://doi.org/10.30554/tempuspsi.7.1.5008.2024

Rubin, Z., & Peplau, L. A. (1975). Who believes in a just world? *Journal of Social Issues, 31*(3), 65-89.

Sutton, R. M., & Douglas, K. M. (2005). Justice for all, or just for me? More evidence of the importance of the self-other distinction in just-world beliefs. *Personality and Individual Differences, 39*, 637-645. https://doi.org/10.1016/j.paid.2005.02.010

Sutton, R. M., Douglas, K. M., Wilkin, K., Elder, T. J., Cole, J. M., & Stathi, S. (2008). Justice for whom, exactly? Beliefs in justice for the self and various others. *Personality and Social Psychology Bulletin, 34*, 528-541. https://doi.org/10.1177/0146167207312526

Sutton, R. M., Stoeber, J., & Kamble, S. V. (2017). Belief in a just world for oneself versus others, social goals, and subjective well-being. *Personality and Individual Differences, 113*, 115-119. https://doi.org/10.1016/j.paid.2017.03.026

Wu, M. S., Yan, X., Zhou, C., Chen, Y., Li, J., & Han, B. (2010). General belief in a just world and resilience: evidence from a collectivistic culture. *European Journal of Personality, 25*(6), 431-442. https://doi.org/10.1002/per.807

Appendix 1. Ukrainian version of the BJW questionnaire

Запропоновані нижче твердження стосуються питання справедливості у житті.
Будь ласка, відзначте, наскільки ви згодні з кожним з тверджень, обрав відповідну цифру:
1 — зовсім не погоджуюся
2 — не погоджуюся
3 — скоріше не погоджуюся, ніж погоджуюся
4 — скоріше погоджуюся
5 — погоджуюся
6 — цілком погоджуюся

№	Шкала	№	
1	Особиста віра в справедливий світ (світ справедливий для мене)	1	Я вважаю, що здебільшого я заслуговую на те, що зі мною відбувається
2		2	Зазвичай зі мною поводяться справедливо.
3		3	Я переконана, що зазвичай отримую те, на що заслуговую.
4		4	Загалом, те, що відбувається в моєму житті, є справедливим.
5		5	У моєму житті несправедливість є скоріше винятком, ніж правилом.
6		6	Я вважаю, що більшість речей, які трапляються в моєму житті, справедливі.
7		7	Я вважаю, що важливі рішення, які приймаються щодо мене, зазвичай справедливі.
8	Загальна віра в справедливий світ (світ справедливий для всіх)W	1	Я думаю, що в основному світ є справедливим місцем.
9		2	Я вважаю, що загалом люди отримують те, на що заслуговують.
10		3	Я впевнений(а), що справедливість завжди перемагає несправедливість.
11		4	Я переконаний(а), якщо людина пережила несправедливість, то в майбутньому завдане буде відшкодовано.
12		5	Я твердо переконаний(а), що несправедливість у всіх сферах життя (наприклад, професійній, сімейній, політичній) є скоріше винятком, ніж правилом.
13		6	Я думаю, що люди, приймаючі важливі рішення, намагаються бути справедливими.