

Justifying Inequality: A Cross-Temporal Investigation of U.S. Income Disparities and Just-World Beliefs from 1973 to 2006

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Abstract This cross-temporal meta-analysis examined 6,120 American college students' scores on the Belief in a Just World Scale (BJW; Rubin and Peplau, *J Soc Issues* 31(3):65–90, 1975) across the last three and a half decades. Drawing on models of belief threat, we examined whether the causal relationship between perceived injustice and increases in BJW could extend from the laboratory to society by using macro-economic injustice trends to predict changes in BJW across these decades. Specifically, we hypothesized that perceptions of inequality, operationalized as rising income disparities, would result in a greater need to justify this inequality and that this would be evidenced by increased commitment to just world beliefs over time. Consistent with this prediction, BJW scores increased significantly over time and this increase was positively related to increasing income disparities in society. Income inequality remained a significant predictor of BJW scores even after controlling for additional factors of general income and political ideology. Implications of increasing just world beliefs are discussed in terms of psychological and policy outcomes.

Keywords Justice · Meta-analysis · Worldview · Fairness · Meaning · Income disparities · Inequality · Belief in a just world

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The gap between rich and poor is bigger [in the United States] than in any other advanced country, but most people are unconcerned... Eight out of ten, more than anywhere else, believe that though you may start poor, if you work hard, you can make pots of money. It is a central part of the American Dream. —“Inequality and the American Dream,” *The Economist*, 2006

Over the past 35 years, the United States has experienced an increase in economic inequality, with the wealthiest subset of the population increasingly consuming a larger slice of the nation’s economic pie (DeNavas-Walt, Proctor, & Smith, 2007). In 2005, the top 5% of U.S. income earners possessed over 50% of the national income while 37 million people (12.6% of the population) were living in poverty (DeNavas-Walt et al., 2007). How can Americans rationalize these vast economic differences in their society? The quotation above suggests that American tolerance for income inequality can be achieved by justifying income disparities so that the rich and poor are perceived as deserving of their respective outcomes.

Belief in a Just World

The Belief in a Just World (BJW) is the notion that people get what they deserve and deserve what they get (Lerner, 1980). By offering meaning, coherence, and order to the world, just-world beliefs provide people with a number of benefits, including enhanced control, motivation, self-efficacy, self-worth, mental health, and normative prescriptions for behavior (Furnham, 2003; Janoff-Bulman, 1989; Lerner, 1980; Lipkus, Dalbert, & Siegler, 1996).

Given that BJW serves these important functions, individuals go to great lengths to maintain these beliefs and justify the world in which they reside (Hafer & Bègue, 2005; Lerner, 1980). For example, people commonly reason that low-status groups such as the poor are lazy, lack talent, and are unwilling to locate profitable employment. In contrast, people view the rich as hardworking, talented, and willing to make personal sacrifices in the service of earning money (Kay et al., 2007; Lerner, 1980; Walster, Walster, & Berscheid, 1978). The need to rationalize one’s world is most pronounced when people encounter evidence of injustice or inequality (Jost & Banaji, 1994; Lerner, 1980; Sidanius & Pratto, 1993; Walster et al., 1978; Yoshimura & Hardin, 2009). When faced with evidence of unfairness, people employ various strategies to protect their belief in a just world, such as blaming victims for their own fate, seeking retribution against perpetrators of injustice, and compensating victims (see Hafer & Bègue, 2005; Lerner, 1980, for reviews).

One important way that people respond to threats to BJW and other meaning systems is by becoming even more committed to the principles underlying those beliefs. For example, laboratory studies have shown that when people encounter injustice, such as innocent victims of crime, they become preoccupied with thoughts about justice (Hafer, 2000; see also Kay & Jost, 2003). Additionally, after threats to their beliefs, people show stronger adherence to their beliefs via

increased support of others who share their worldview (i.e., ingroup bias) (Kaiser, Eccleston, & Hagiwara, 2008; McGregor, Zanna, Holmes, & Spencer, 2001; Solomon, Greenberg, & Pyszczynski, 2004). Likewise, when strong endorsers of just-world beliefs encounter evidence that threatens the legitimacy of their beliefs, they report being more strongly committed to those beliefs compared to when those beliefs are not threatened (Kay et al., 2007). To achieve this commitment to their beliefs, people often fortify their belief systems by re-construing perceived injustice as equitable through psychological compensatory means. In one study (Kay, Jost, & Young, 2005, study 1), American participants presented with injustice showed greater use of psychological rationalization strategies—strategies that maintain equity by balancing one’s success in life with counter-valenced traits (e.g., the rich are unhappy)—than participants not presented with injustice. The use of these rationalization strategies led to stronger endorsement of the system as legitimate and fair (Kay et al., 2005, study 2). In another set of studies (Kay et al., in press), participants who were invested in the success of their socio-political system showed greater support for their system when presented with inequality (e.g., all state power is wielded by the wealthy). These findings are consistent with theoretical perspectives arguing that threatening assumptions about how the world operates leads people to both cling to beliefs and worldviews that are familiar and to seek evidence supporting their beliefs (Heine, Proulx, & Vohs, 2006; Jost, Glaser, Kruglanski, & Sulloway, 2003).

While many lab studies have replicated this effect, demonstrating its strong reliability, one major oversight is tracking the effect’s ecological validity—whether the experimental effect extends outside the lab. The importance of using non-experimental studies to supplement laboratory research has been recognized across the field of psychology (Baumeister, Vohs, & Funder, 2007; Cialdini, 2009; Rozin, 2007; Schmuckler, 2001). Because of its proven track record in the lab, the research on justice and BJW offers an ideal chance to examine whether psychology’s established laboratory findings are reflected more broadly in real-world trends. This paper addresses the generalizability of the relationship between perceptions of injustice and increased commitment to one’s belief systems by examining the relationship between large-scale macro-economic societal injustice and endorsement of BJW. Specifically, the present study takes advantage of the data that have accumulated over 33 years to examine how people respond to evidence that their world is not just and fair: evidence that they live in a system where the economic pie is divided in a disparate manner. An increasingly unequal society, where the rich get richer and the poor get poorer, should threaten Americans’ sense of justice and subsequently result in increased commitment to BJW. To investigate this prediction, we conducted a cross-temporal meta-analysis of Rubin and Peplau’s (1975) Belief in a Just World scale over the years 1973 to 2006. We then examined whether scores on the BJW scale increased over this time period and whether this increase could be predicted by American income inequality indices. Additionally, the present analyses consider whether income inequality predicts BJW above and beyond general income levels and political ideology across this same time-span.

Methods

Belief in a Just World

Rubin and Peplau's (1975) Belief in a Just World scale was the first scale developed to assess just-world beliefs. The scale consists of 20 items (e.g. "Basically, the world is a just place" and "Good deeds often go unnoticed and unrewarded" (reverse-scored)). Its historical and contemporary prevalence in the past three and a half decades of literature makes it ideally suited for studying changes in just-world beliefs over time.

Literature Search

Data collection centered on searching for articles reporting means on the Rubin and Peplau BJW measure. We searched the Web of Knowledge citation databases and Google Scholar from 1975 to 2008 for citations of Rubin and Peplau (1975). We supplemented this search with data points from Dissertation Abstracts International. We also queried the Society for Personality and Social Psychology and the Society for the Psychological Study of Social Issues listservs for published and unpublished studies.

Inclusion Criteria

We employed Twenge's (2000) cross-temporal meta-analysis study inclusion criteria. To be included in the analysis, a study had to meet the following criteria: (a) participants were undergraduates at conventional 4-year institutions in the United States; (b) participants were not singled out for being maladjusted or abnormal in any way; and (c) means for the entire sample were reported, rather than for specific segments of the sample (e.g. only males or only females). We also required that the study used the full 20-item BJW scale (Twenge & Campbell, 2001) rated on a 6 point Likert scale.¹ Following Twenge's (2000) recommendation, unless the year of data collection was specified in the paper, all study years were coded as 2 years prior to the publication date to accommodate time for publishing.

Final Sample

Data gathering revealed 28 articles that administered the Rubin and Peplau BJW scale and met the inclusion criteria. The final sample consisted of 31 separate studies from these articles with a total of 6,120 participants (see Table 1).

Income Inequality Index

As an indicator of economic disparities, we examined several standard income inequality summary measures collected by the US Census Bureau from 1973 to

¹ All studies using 6-point Likert scales were adjusted to use the same scale endpoints (1–6).

Table 1 Samples included in analyses

Authors	Publication year	Data collection year	N	Overall mean	Standard deviation
Rubin and Peplau	1975	1973	180	61.6	–
Shorkey ^a	1980	1978	129	51.7	17.5
Zweigenhaft et al.	1985	1983	190	70.6	9.4
Kleinke and Meyer	1990	1988	165	70.3	11.1
Weir and Wrightsman	1990	1988	615	67.2	–
Davidson	1991	1989	137	74.4	7.1
Kravitz et al.	1993	1991	201	70.1	9.3
Whatley and Riggio	1993	1991	160	74.5	–
Zucker and Weiner	1993	1991	112	70.4	9.6
Birkeli	1994	1992	291	68.5	9.4
Cowan and Curtis	1994	1992	277	65.5	10.4
Schuller et al.	1994	1992	164	71.1	10.6
Taylor and Kleinke	1992	1990	320	69.2	10.5
Crandall and Martínez	1996	1993	170	73.0	–
Clayton	1996	1994	71	71.9	–
Lipkus et al.	1996	1994	201	70.2	9.5
Couch	1998	1996	212	70.2	–
DePalma et al. ^a	1999	1997	98	50.4	9.7
Corning	2000	1998	288	68.7	9.3
Sloan	2000	1998	400	69.0	8.6
Henderson-King et al.	2004	2001	504	73.0	7.6
Haupt and Blumentritt	2005	2003	78	68.7	8.6
Murray et al.	2005	2003	33	70.8	8.9
Puhl et al. (study 1)	2005	2003	60	68.6	9.2
Puhl et al. (study 2)	2005	2003	55	67.2	9.4
Puhl et al. (study 3)	2005	2003	196	68.1	9.6
Lench and Chang	2007	2005	198	70.6	7.4
Lucas et al. (study 1)	2007	2005	152	71.9	7.8
Lucas et al. (study 2)	2007	2005	274	70.5	8.3
Edlund et al.	2007	2005	171	70.3	8.1
Rubinlicht and Kaiser	2006	2006	17	67.1	10.0

In analyses, BJW means were coded as two years prior to the date of publication unless the year of data collection was otherwise specified in the manuscript

^a This mean was an outlier that was adjusted in analyses

2006 (DeNavas-Walt et al., 2007). The measures are created by comparing the average income from a wealthy segment of the population to the average income from a poorer segment of the population. Because we were interested in examining income disparities between the richest and the poorest segments of the US population, we used the P90/10 income ratio. This ratio takes the median income

made by some of wealthiest households in America (i.e., households whose income is at or above the 90th percentile) and divides it by the median income made by some of the poorest households (i.e., households whose income falls in or below the 10th percentile). Thus, a large P90/10 ratio indicates a large income disparity between the rich and poor. We use this income disparity index as a measure of injustice.²

Additional Societal Trend Data

To rule out alternative predictors that might account for change in just-world beliefs over time, we conducted additional analyses controlling for general income levels and political ideology trends.

Income

Being in a high-income bracket is associated with higher BJW scores relative to being in a low-income bracket (Smith & Green, 1984). Thus, it is possible that overall rising levels of national income could increase Belief in a Just World scores. To account for this possibility, we also examined the median national income level from each year 1973–2006 (DeNavas-Walt et al., 2007).

Political Ideology

It is important to control for whether the nation grew more liberal or conservative over the period from 1973 to 2006 since conservatism tends to strengthen one's belief in a system's fairness (Kay, Czaplinski, & Jost, 2009). To assess this construct, we utilized data from the General Social Survey (GSS) (Davis, Smith, & Marsden, 2005). The critical measure assessing political ideology asked respondents to rank themselves on a scale from 1 "Extremely Liberal" to 7 "Extremely Conservative." The sample data were weighted to reflect the US population. From these data we derived a mean political ideology score for each year available in the GSS.³

² Americans awareness of this disparity should be high given the large amount of reporting done on the subject. For example, a LexisNexis search of "income inequality" in US newspapers and wires over the past ten years turns up over 3,000 results. Public opinion polls also demonstrate the nation's awareness of economic inequality. In the AFL-CIO Communication Survey of 1997 (Community Survey, 1997), respondents were asked to respond to the statement "The growing inequality between the incomes of the well-to-do and working people. ... On a scale from 1 to 10, how serious a problem is this for the country?" (1 Not a Serious Problem to 10 It's an Extremely Serious Problem). Forty-nine percent of respondents selected 8 to 10, indicating that they saw income inequality as a serious problem. An additional 38% of respondents fell into the 5 to 7 response range, agreeing that economic inequality was a problem in the United States.

³ This survey was not collected in 1973, 1992, nor odd years after 1995. Thus, the political ideology data correspond to 11 out of the 17 years of BJW data. Because the missing data points occur throughout the time period of interest at regular 1-year intervals rather than in larger time chunks, the data present a reasonable estimate of the political ideological trends across this time-span.

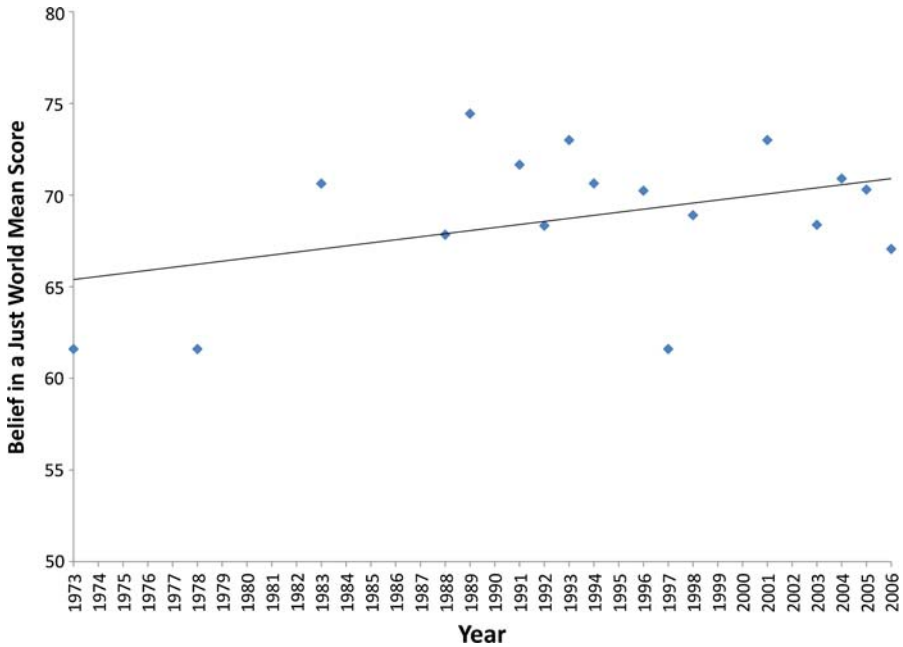


Fig. 1 Predicted regression line plotted for study means from 1973 to 2006

Results

The mean BJW score across all samples was 68.56 ($SD = 5.32$), which is roughly at the midpoint of the scale (scale range is 20–120, with higher scores indicating stronger just world beliefs). To examine cross-temporal changes in just-world beliefs, we used regression analysis predicting BJW scores from the year of data collection. Following Twenge (2000), the regression analysis was weighted by sample size because studies with larger sample sizes produce more precise estimates of the means (Hedges & Olkin, 1985).

Initial inspection of the data showed that two studies produced means over three standard deviations below the mean of all the studies' reported scores. We adjusted these outlying scores by changing them to the next lowest score in the sample (Tukey, 1962). None of the findings reported in this paper change when these outliers remain unadjusted. Study year accounted for a significant amount of variance in the BJW score ($R^2 = .21$, $F(1, 29) = 7.88$, $p < .01$). Specifically, scores on the BJW scale have been rising since 1973 (see Fig. 1).⁴ We used Twenge and Campbell's (2001) method for examining the magnitude of the effect size for this increase over time. For this analysis, we used the weighted regression line equation to find the average BJW scores for 1973 and 2006. After subtracting the 1973 average score from the 2006 average score, we divided by the average of the

⁴ We also ran this analysis excluding studies that reported using the BJW scale after an experimental manipulation. This analysis revealed a similar relationship ($r(25) = .52$, $p < .01$).

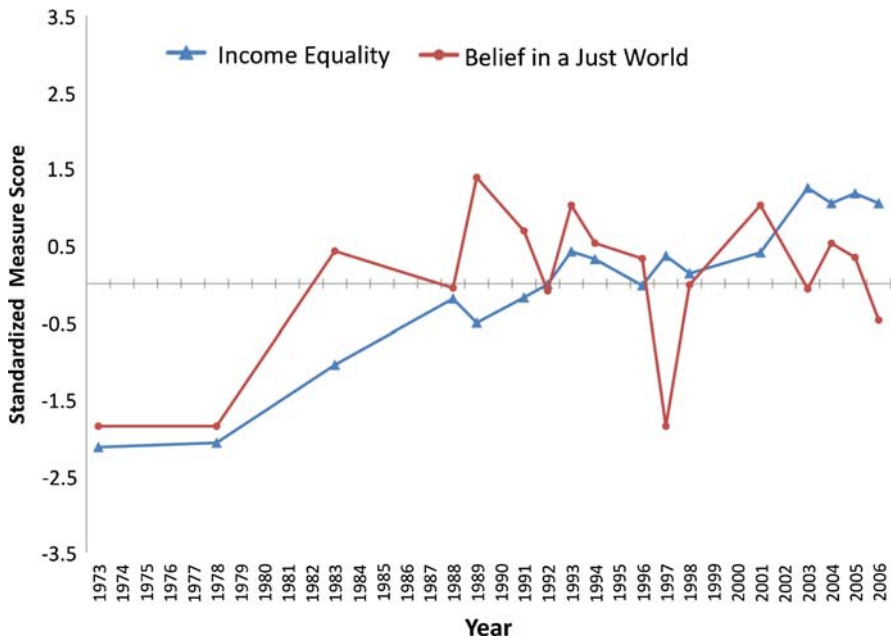


Fig. 2 BJW and P90/10 income equality scores increase over time (scores are standardized for graphical representation)

standard deviations reported by each study ($SD = 9.47$). This analysis revealed that the change from 1973 to 2006 was moderate in size, Cohen's $d = 0.65$.

Does Income Inequality Predict Increased Commitment to BJW?

We next tested whether the increase in BJW over the past three and a half decades co-occurred with rising income inequality. During this time, the income ratio of those households at and above the 90th percentile of household income to the households at or below the 10th percentile of household income increased from 8.86 in 1973 to 11.08 in 2006 (DeNavas-Walt et al., 2007). Consistent with hypotheses, this P90/10 income ratio significantly predicted BJW over time, $R^2 = .20$, $F(1, 29) = 7.09$, $p = .01$ (see Fig. 2).^{5,6} Thus, as American income distributions became

⁵ We analyzed this relationship regressing all reported study BJW scores, weighting by study sample size, on their corresponding P90/10 for that year. We also computed this analysis using one BJW score per year (averaging across reported BJW scores for a given year). This analysis revealed a similar relationship ($r(15) = .45$, $p = .06$).

⁶ We ran similar correlational analyses using other measures of income inequality including: the Gini coefficient, Atkinson indices, and the ratio of the 95th percentile of household incomes to the 50th percentile of household incomes. These measures produced comparable correlations with BJW means ($.33 < r < .45$). Additionally, these additional measures of income inequality continued to significantly predict BJW scores after controlling for general income level ($.69 < \beta'_{\text{income inequality}} < .78$; $.006 < p' < .04$), and income inequality maintained a similar relationship with BJW when controlling for political ideology ($.42 < \beta'_{\text{income inequality}} < .66$; $.05 < p' < .20$).

more unequal over the years, each progressive generation of respondents more strongly believed that the world was just and fair, and that people were deserving of the outcomes they received in life ($\beta = .44$, $t(29) = 2.66$, $p = .01$).

Controlling for Income and Political Ideology

To determine whether income inequality predicted BJW over time above and beyond other societal level predictors of income and political ideology, each individual societal level predictor was entered simultaneously as a predictor with income inequality in a regression predicting BJW scores.

Income

Overall, the regression entering general income levels and income inequality simultaneously was significant, $R^2 = .20$, $F(1, 28) = 3.51$, $p = .04$. Importantly, P90/10 significantly predicted BJW scores ($\beta = .50$, $t(28) = 2.18$, $p = .04$) while income did not predict BJW scores ($\beta = -.08$, $t(28) = -.36$, $p = .72$).

Political Ideology

The regression was marginally significant, $R^2 = .29$, $F(1, 28) = 3.09$, $p = .08$. Specifically, P90/10 significantly predicted BJW scores ($\beta = .73$, $t(28) = 2.46$, $p = .03$) while political ideology remained a non-significant predictor of BJW scores ($\beta = -.42$, $t(28) = -1.42$, $p = .18$). See Table 2 for correlations between all variables.

Discussion

Drawing upon theoretical perspectives of justice and belief threat, we examined whether increasing income disparities in the United States would be associated with increased commitment to BJW, a belief system that rationalizes these disparities. Consistent with these perspectives, this cross-temporal meta-analysis demonstrated that as income disparities increased over the last three and a half decades, so too did

Table 2 Correlations between variables

	Intercorrelations			
	(1)	(2)	(3)	(4)
(1) BJW		.45	.16	-.02
(2) P90/10			.74**	.51
(3) Income				.19
(4) Political ideology				

For this table, BJW is the average of multiple BJW samples within the same year

* $p < .05$; ** $p < .01$ (2-tailed)

BJW. Indeed, this relationship held even when controlling for national income levels and political ideology during this time period. As can be seen in Fig. 2, BJW and income disparities changed most rapidly from the mid 1970s to the late 1980s, leading to the strongest relationship among these variables during this time period. The results of this meta-analysis extend the theoretical and experimental evidence on the relationship between threats to justice and just-world beliefs. Specifically, the findings reported here demonstrate that the relationship between perceived injustice and bolstering of one's belief system (Hafer, 2000; Heine et al., 2006; Jost et al., 2003; Kaiser et al., 2008; Kay et al., 2007; Solomon et al., 2004) is reflected in societal-level trends across time. This ability to extend findings from the laboratory setting further demonstrates the relevance and predictive power of psychological theory and science for naturalistic contexts and events.

Implications

How might an increased commitment to BJW affect Americans? As the opening quotation in this paper suggests, Americans may become less concerned with and less emotionally burdened by others' suffering and disadvantage. Supporting this claim, Napier and Jost (2008) found that conservatives, whose ideologies foster BJW (Furnham & Procter, 1989), maintained life satisfaction in the face of economic inequality while liberals suffered decreased satisfaction.

Additionally, increased BJW has important implications for how Americans approach issues of poverty. When one believes that everyone gets what they deserve and deserves what they get, it facilitates a culture of victim blaming (Furnham, 2003; Lerner, 1980). Therefore, the increase in BJW may lead to a decrease in assistance for lower income families by fostering the mentality that people must fend for themselves and are responsible for pulling themselves out of poverty. We have seen this belief borne out in the 1996 Welfare Reform Law as a decrease in free cash handouts coupled with increased work requirements, public assistance time limits, tax-credits and child-care subsidies to help get those in poverty employed and self-sufficient (Pear, 2003).

Limitations and Caveats

This meta-analysis used the Rubin and Peplau (1975) BJW measure due to its widespread usage and its availability over the time period of interest. However, some researchers report the scale has low reliability (for a review see Furnham, 2003). The mean alpha in the present analysis was 0.64 ($SD = .07$). Yet, the fact that the relationship between inequality and BJW persisted over time even using a scale with low reliability emphasizes the strength of this relationship. More recently, additional individual difference BJW scales were developed. Once these measures have sufficient history in the literature, they can be incorporated into future analyses.

Although our analysis represented the BJW scores of over 6,000 American college students, we had a total of just 31 samples that matched the inclusion

criteria. Although limited, our study offers a fair representation of this time-span in that it covers 17 years of the 34-year time period, has studies from all decades, and includes data from a large number of students at universities around the country. Given the recent resurgence of research on justice and related ideologies (Jost, 2006), this study provides an important historical context for this burgeoning research area.

In this analysis, we limited our samples to those including college students. Although this criterion limits generalizability, it allows for a comparison across cohorts that share certain developmental and contextual similarities. As college students are in a developmental period in which they are more concretely defining themselves and their values (Sears, 1986), they provide a developmentally appropriate group for examining the effects of society on its members. But analyzing only college students over time requires an understanding of how this population has also changed. In 2005, ethnic minorities comprised 31% of college students, up from just 15% in 1976 (U.S. Department of Education, 2008). An increasing proportion of minorities at the college level over time could potentially result in change in BJW scores as these student life experiences might vastly differ from earlier more homogeneous college samples. Minority or low-status groups (e.g., Blacks or Latinos) often show weaker endorsement of BJW and other system justifying measures than high-status groups or Whites on measures of (O'Brien & Major, 2005). But this point itself argues against a minority presence account for the present findings. If minority presence increased over time, then BJW scores would likely show a corresponding decrease.

Our results demonstrate the utility and applicability of psychology's findings, showing that the observed relationship between perceived injustice and increases in BJW does indeed extend beyond the laboratory. The present analysis took previous psychological experimental evidence showing a causal relationship between perceptions of injustice and strengthened BJW (Kay et al., 2005) and demonstrated that this relationship holds over observations of macro-economic data across time. Our income disparity approach converges with the findings of numerous lab-based experimental investigations linking threats to one's beliefs and worldview with efforts to justify the legitimacy of those beliefs (Hafer, 2000; Kaiser et al., 2008; Kay et al., 2007; Kay & Jost, 2003; Lerner, 1980; McGregor et al., 2001; McGregor, Nail, Marigold, & Kang, 2005; Solomon et al., 2004). The current results also converge with cross-cultural data showing that BJW is higher among demographically matched samples of White children and college students living in an unjust society (i.e., South Africa during apartheid) than among those in a fairer society (i.e., Great Britain during this same time period) (Furnham & Gunter, 1984). The present analyses also controlled for income and political ideology—both factors which could plausibly also affect BJW. In sum, the wealth of past experimental lab work on BJW provided the grounds to investigate its societal implications within a historical context. That the relationship found in highly controlled lab studies was reproduced in samples over 33 years, predicted by income disparity, substantiates past research's external validity and generalizability.

Conclusion

Over the past three and a half decades, America's income gap increased and Americans were faced with a choice to either accept that their world was not as just as they assumed or to further justify their beliefs. Our research demonstrates that Americans have increased their belief in a just world while inequality in their worlds has also increased. This increase in just-world beliefs provides a framework for understanding how people respond to threats to their beliefs, and this has implications for many social and political trends in America.

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