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Income Inequality and Happiness

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Abstract

Using General Social Survey data from 1972 to 2008, we found that Americans were on average happier in the years with less national income inequality than in the years with more national income inequality. We further demonstrated that this inverse relation between income inequality and happiness was explained by perceived fairness and general trust. That is, Americans trusted other people less and perceived other people to be less fair in the years with more national income inequality than in the years with less national income inequality. The negative association between income inequality and happiness held for lower-income respondents, but not for higher-income respondents. Most important, we found that the negative link between income inequality and the happiness of lower-income respondents was explained not by lower household income, but by perceived unfairness and lack of trust.

Keywords

happiness, income inequality, fairness, trust, well-being, sociocultural factors, social structure, socioeconomic status

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One of the most profound social changes in the United States over the last 40 years has been the growing income inequality among social classes (Hacker & Pierson, 2010; see Fig. 1). One commonly used index of income inequality is the Gini coefficient.[1] In the 1960s and 1970s, the Gini coefficient in the United States was much lower than in France and was on par with many other European nations (Atkinson, 1996). In contrast, by 2008, the Gini coefficient was much higher for the United States than for most European nations and for Canada (United Nations Development Programme, 2009). The social consequences of this growing inequality in the United States have been investigated in economics (Piketty & Saez, 2003), political science (Bartels, 2008), sociology (Blau & Blau, 1982), and epidemiology (Kawachi, Kennedy, Lochner, & Prothrow-Stith, 1997). In psychology, however, surprisingly little empirical work has been conducted on income inequality. What are the psychological consequences of income inequality? Are individuals happier when national wealth is distributed more evenly?

Although there is a large body of research on income and happiness (Diener & Oishi, 2000; Dunn, Gilbert, & Wilson, 2011; Stevenson & Wolfers, 2008), few researchers have investigated the relation between income inequality and happiness. The small amount of existing research on this relationship has exclusively focused on cross-national (Berg & Veenhoven, 2010; Diener, Diener, & Diener, 1995; Helliwell & Huang, 2008), cross-state (Alesina, DiTella, & MacCulloch, 2004), or cross-city comparisons (Hagerty, 2000). Most important, existing research has produced mixed results. Some researchers have found a negative association between income inequality and happiness (e.g., Hagerty, 2000), but other researchers have found no association (e.g., Berg & Veenhoven, 2010). These cross-sectional analyses are also vulnerable to various third-variable accounts. For instance, nations (e.g., Brazil), states (e.g., Mississippi), and cities (e.g., New Orleans) with high income-inequality indices are also different from nations (e.g., Denmark), states (e.g., Massachusetts), and cities (e.g., Minneapolis) with low income-inequality indices in other factors, including climate, geography, population size, natural resources, and language. Cross-national comparisons on income inequality have also been criticized because Gini coefficients were not always calculated in the same fashion across nations (Deininger & Squire, 1996). In contrast, cross-temporal analyses within a single nation naturally control for many third variables (e.g., geography, language) inherent in cross-national comparisons and are also free from the technical issues surrounding the calculation of Gini coefficients. Therefore, in the study reported here, we conducted a much stronger test than has previously been conducted for the association between income inequality and happiness by focusing on changes in income inequality within the United States.

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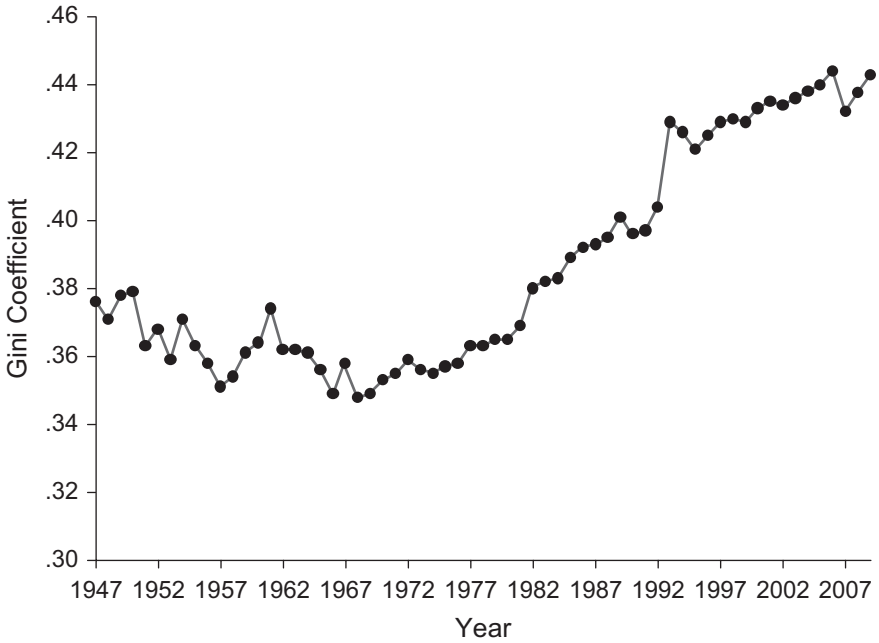

Fig. 1. Income inequality in the United States from 1947 to 2009, as indexed by the Gini coefficient.

In addition to these methodological limitations, previous research on income inequality and happiness has not identified any psychological mechanisms to account for the link between societal income inequality and individual-level happiness. In our study, we postulated and tested two psychological mechanisms. First, many people (especially low- and middle-income earners) are likely to perceive the world to be unfair only if "the rich get richer." It is possible, then, that people will perceive less fairness in the years with greater income disparity, and this perception in turn could lower those individuals' overall happiness in such years. Second, income disparity could disjoint and divide community members (Putnam, 2000), and as a result, it could make people trust others less (Ichida et al., 2009). To the extent that trust is positively associated with happiness (Inglehart, 1999), lowered general trust could explain why people are in general less happy in times of income inequality.

In addition to examining these two mediating mechanisms, we also investigated whether the relation between national income disparity and individual happiness is moderated by that individual's income level. It is likely that income inequality disproportionately affects the happiness of low-income individuals because income inequality reflects the perceived phenomenon of the rich getting richer. Because the negative link between income inequality and the happiness of low-income individuals could be due to reduced household income in the years with greater income disparity, we also tested whether the negative association between income inequality and the happiness of low-income individuals is due to this economic factor (i.e., reduced household income), as opposed to psychological factors (i.e., lower perceived levels of fairness and trust).

Method

The participants were 53,043 respondents to the General Social Survey (GSS; National Opinion Research Center, 2010) from 1972 to 2008 (29,675 females, 23,368 males; 43,323 self-identified as White, 7,314 self-identified as Black, and 2,406 self-identified as an ethnicity other than White or Black; age ranged from 18 to 89 years, with a mean of 45.52 years). Of the total sample, 48,318 provided valid responses to the happiness item on the GSS. Thus, the mean size per year of the final sample was 1,789.56 (range = 1,337–2,986).

We measured subjective well-being with the three-point happiness item on the GSS. This item is the only measure of subjective well-being that has been included in every survey since the first in 1972. Respondents answered the following question: "Taken all together, how would you say things are these days—would you say that you are very happy, pretty happy, or not too happy? (1 = *not too happy*, 2 = *pretty happy*, 3 = *very happy*)."

To measure perceived levels of fairness and general trust, we used the following questions, which were presented much later than the happiness item on the questionnaire: "Do you think most people would try to take advantage of you if they got a chance, or would they try to be fair? (1 = *take advantage*, 2 = *depends*, 3 = *fair*)," and "Generally speaking, would you say that most people can be trusted or that you can't be too careful in dealing with people? (1 = *cannot trust*, 2 = *depends*, 3 = *can trust*)."

Respondents also reported their household income (listed under the variable name "realinc" on the GSS), which was converted to 1986 U.S. dollars. For our analyses, we used the

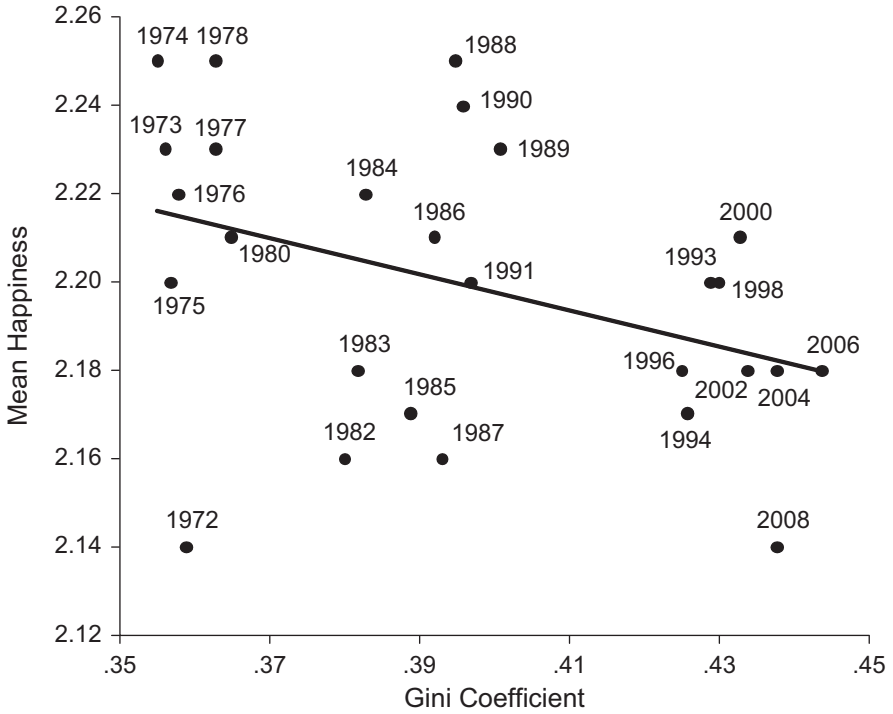

Fig. 2. Scatter plot (with best-fitting regression line) showing mean American happiness scores as a function of income inequality, as indexed by the Gini coefficient, from 1972 to 2008.

log-transformed household income. We obtained the index of income inequality (Gini index) from the U.S. Census Bureau (2009).

Results

Because respondents were nested within years, we created a multilevel random-coefficient model, using Mplus 4.2 software (Muthén & Muthén, 2007). The simple, direct-effect model showed a significant negative association between Gini coefficient and happiness, $b = -0.385$, 95% confidence interval = [−0.730, −0.041], $SE = 0.176$, $Z = -2.19$, $p < .05$ (see Fig. 2). Americans were on average happier at times of relative national income equality than of relative national income inequality.

We next used a multilevel mediation analysis to test whether perceived fairness and trust would explain the inverse association between income inequality and happiness[2] (Preacher, Zyphur, & Zhang, 2010). This analysis revealed that Americans perceived others to be less fair and less trustworthy in times of income inequality than in times of income equality (see Fig. 3). Once fairness and trust were included in the equation, the multilevel association between income inequality and happiness disappeared. As predicted, Americans perceived others to be less fair and trustworthy in the years with greater income disparity, and this perception in turn explained why Americans reported lower levels of happiness in those years (see Table 1).

Considering that greater income inequality is mostly due to the rich getting richer, we next tested the possibility that the association between income inequality and happiness could be different for individuals across different income levels. Gini coefficients showed a strong negative association with the mean happiness level of the lowest-20% income group, $r(25) = -.54$, $p < .01$, and the mean happiness level of the next lowest (20–40%) income group, $r(25) = -.63$, $p < .01$. That is, lower-income respondents' happiness was lower in the years with more income inequality than in the years with less income

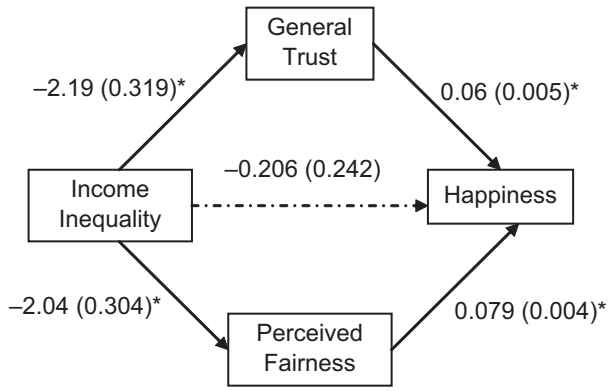

Fig. 3. Mediation model showing the relation between income inequality and happiness as mediated by perceived fairness and general trust. Unstandardized regression coefficients are shown, and standard errors are given in parentheses. Asterisks indicate significant coefficients ($p < .01$).

Table 1. Results of Multilevel Mediation Analyses Investigating Whether Perceived Fairness and General Trust Mediate the Relation Between Income Inequality and Happiness

Group and predictor	Indirect effect	95% confidence interval	*Z*	*p*
Total sample (*N* = 31,873)				
Perceived fairness	−0.161 (0.026)	[−0.211, −0.110]	−6.25	< .001
General trust	−0.131 (0.026)	[−0.182, −0.081]	−5.08	< .001
Lowest-20% income group (*n* = 5,018)				
Perceived fairness	−0.344 (0.058)	[−0.460, −0.228]	−5.84	< .001
General trust	−0.099 (0.027)	[−0.151, −0.047]	−3.73	< .01
Household income	0.082 (0.057)	[−0.029, 0.193]	1.44	.15
20−40% income group (*n* = 4,900)				
Perceived fairness	−0.115 (0.028)	[−0.166, −0.065]	−4.46	< .001
General trust	−0.148 (0.039)	[−0.225, −0.071]	−3.76	< .001
Household income	−0.057 (0.074)	[−0.203, 0.089]	−0.77	.44
40–60% income group (*n* = 6,093)				
Perceived fairness	−0.068 (0.026)	[−0.119, −0.017]	−2.61	< .01
General trust	−0.071 (0.026)	[−0.123, −0.020]	−2.73	< .01
Household income	0.002 (0.028)	[−0.053, 0.057]	0.07	.94
60–80% income group (*n* = 7,767)				
Perceived fairness	−0.095 (0.022)	[−0.139, −0.052]	−4.285	< .001
General trust	−0.092 (0.033)	[−0.156, −0.027]	−2.796	< .01
Household income	0.069 (0.072)	[−0.072, 0.210]	0.956	.34
Top-20% income group (*n* = 5,105)				
Perceived fairness	−0.030 (0.021)	[−0.071, 0.011]	−1.432	.15
General trust	−0.029 (0.025)	[−0.079, 0.021]	−1.144	.25
Household income	0.112 (0.107)	[−0.097, 0.322]	1.051	.29

Note: Standard errors are given in parentheses. Variance for the intercept of happiness in the simple, direct multilevel model was .00079, $\chi^2(26, N = 48{,}318) = 113.57$, $p < .001$. Residual variance was .403 (*SE* = .004). Residual variance in the mediation analysis for the total sample was .394 (*SE* = .004).

inequality. In contrast, income inequality of the year was unrelated to the mean happiness of the middle (40–60%) income group, $r(25) = -.12$, $p = .56$, the upper-middle (60–80%) income group, $r(25) = -.09$, $p = .65$, and the top-20% income group, $r(25) = .03$, $p = .88$. We tested the moderation effect more formally using a multigroup, multilevel random-coefficient analysis. As predicted, the model fit was excellent when the association between Gini coefficients and happiness was allowed to vary across the five income groups, $\chi^2(8) = 9.55$, $p = .33$, comparative fit index = .969, root-mean-square error of approximation = 0.004, and significantly better than when the association was fixed at the same value, $\Delta\chi^2(4) = 33.70$, $p < .01$.

The negative link between income inequality and the happiness of low-income individuals could be due to reduced household income among low-income individuals in the years with greater income disparity. Indeed, average household income was lower in the years with more income inequality than in the years with less income inequality for the lowest-20% income group, $b = -4.455$, $SE = 0.512$, $Z = -8.70$, $p < .01$, and the 20–40% income group, $b = -1.42$, $SE = 0.353$, $Z = -4.03$, $p < .01$. Gini coefficients were not related to household income for the 40–60% income group, $b = 0.025$, $SE = 0.341$, $Z = 0.072$. As expected, high-income groups earned more money in the years with greater income inequality than in the years with less income inequality, $b = 1.92$, $SE = 0.469$, $Z = 4.10$, $p < .01$, for the 60–80% group; $b = 4.18$, $SE = 0.75$, $Z = 5.58$, $p < .01$, for the top-20% group.

Thus, we next tested whether the negative association between income inequality and the happiness of low-income individuals was due to reduced household income, as opposed to lower perceived levels of fairness and trust. In conducting this multigroup, multilevel mediation analysis, we also included four demographic variables at the individual level (i.e., sex, race, marital status, and age). As Table 1 shows, the decreased happiness of lower-income individuals in the years with greater income inequality was not due to the economic factor of reduced income. Instead, it was explained by lower perceived fairness and general trust for the lowest-20% income group, the 20–40% income group, and the 40–60% income group. That is, the negative association between income inequality and happiness was explained by lower levels of perceived fairness and general trust in these three income groups, and once these mediators were included, the direct association between income inequality and happiness disappeared, $b = 0.026$, $Z = 0.07$, for the lowest-20% group; $b = -0.42$, $Z = -0.94$, for the 20–40% group; and $b = 0.54$, $Z = 1.34$, for the 40–60% income group. Unexpectedly, we found that when controlling for perceived fairness, general trust, and household

income, respondents in the 60–80% income group were happier in the years with more income inequality than in the years with less income inequality, $b = 0.58$, $SE = 0.287$, $Z = 2.02$, $p < .05$. Finally, among the top-20% income group, income inequality was not associated with perceived fairness, $b = -0.64$, $SE = 0.409$, $Z = -1.56$, n.s. Also, general trust among this group was not associated with happiness, $b = 0.014$, $SE = 0.011$, $Z = 1.27$, n.s. Thus, the aforementioned mediation processes (high income inequality yields lower perceived fairness and general trust, which yields less happiness) did not hold for the richest-20% income group.

Discussion

We investigated the relation between income inequality and happiness over a 37-year period in the United States. As predicted, Americans were on average less happy in years with more societal income inequality than in years with less societal income inequality. We demonstrated that the negative association between societal income inequality and individual-level happiness was explained by perceived fairness and general trust. We also found that the negative association between income disparity and happiness was present among Americans with lower incomes but not among Americans with higher incomes. Moreover, we showed that it was not the reduced income but the lowered levels of perceived fairness and trust that made low-income Americans feel less happy in the years with greater income inequality.

Although there is a large body of research on income inequality in other social and behavioral sciences (see Wilkinson & Pickett, 2009, for a review), relatively few researchers have investigated the role of income inequality in psychological science. More important, the small body of existing research on income inequality and happiness has not examined any psychological mechanisms. To this end, our mediation findings for the first time delineate the psychological mechanisms linking a socioecological factor (income inequality) with individual-level happiness, and therefore contribute to the emerging topics in socioecological psychology (Oishi & Graham, 2010; Oishi, Kesebir, & Snyder, 2009).

Social scientists have debated why Americans have not become happier over the last 50 years despite the enormous growth in national wealth (Easterlin, 1974). At first, researchers assumed that economic growth was not associated with an increase in individual happiness because of social-comparison processes (other people's wealth was also increasing), upward shifts in aspirations, and hedonic adaptation (Easterlin, 1974). Recently, however, researchers have found that economic growth is in fact associated with an increase in happiness over time in many nations other than the United States (Stevenson & Wolfers, 2008). It has been unclear, however, why massive economic growth over the past decades has translated to an increase in happiness among the Danish, French, and Germans, but not among Americans. The existing theories cannot explain the anomaly of the United States, as an upward shift in aspiration, hedonic adaptation, and social comparisons should apply similarly to other nations with economic growth. Our findings provide a novel clue for this puzzle. Income growth without income disparity is likely to result in an increase in the mean happiness of a general population. This new hypothesis needs to be carefully tested in the future.

It is important to recognize four limitations of our research. First, happiness, fairness, and general trust were each measured by single items. Thus, measurement error is expected to be far from trivial. Although researchers have used the same single-item happiness (Kahneman, Krueger, Schkade, Schwarz, & Stone, 2006), fairness, and trust measures (Kawachi et al., 1997), it is important to replicate the current findings with better-validated multi-item scales. Second, we examined only perceived fairness and general trust as potential mediators. There might be other potential mediators that were not measured in this study. Third, although we emphasized the negative aspects of income inequality, there might be circumstances under which income inequality reflects that individuals who contribute more receive greater rewards. Furthermore, the relation between societal income inequality and individual happiness is likely to vary across time, nations, and political cultures (e.g., Alesina et al., 2004; Napier & Jost, 2008).

In conclusion, Americans are happier when national wealth is distributed more evenly than when it is distributed less evenly. If the ultimate goal of society is to make its citizens happy (Bentham, 1789/2008), then it is desirable to consider policies that produce more income equality, fairness, and general trust.

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Declaration of Conflicting Interests

The authors declared that they had no conflicts of interest with respect to their authorship or the publication of this article.

Notes

1. The U.S. Census Bureau (2009) reports the Gini coefficients for families and for households, respectively. We used the Gini coefficient for families in our analyses. Between 1972 and 2008, the correlation between the Gini coefficients for families and for households was .997.
2. The slopes of trust and perceived fairness were fixed across years, as variance was nonsignificant for both slopes.

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