RUNNING HEAD: ECONOMIC INEQUALITY REDUCES HONESTY

Income Inequality Reduces Civic Honesty

^{a,b} Hongfei Du, ^a Anli Chen, ^c Peilian Chi, ^d Ronnel B. King

^a Department of Psychology, Guangzhou University, Guangzhou, China

^b Social and Health Psychology Research Center, Guangzhou University, Guangzhou, China

^c Department of Psychology, University of Macau, Macau, China

^d Faculty of Education, University of Macau, Macau, China

Corresponding author: Hongfei Du, Department of Psychology, Guangzhou University, Guangzhou, China. Email: dhfpsy@gmail.com

This is the final author version (before journal's copyediting) of the following article:

Du, H., Chen, A., Chi, P., & King, R. B. (2020). Income inequality reduces civic honesty. *Social Psychological and Personality Science*. doi:10.1177/1948550620929495

The journal version of this article can be found at:

<https://journals.sagepub.com/doi/full/10.1177/1948550620929495>

Abstract

Income inequality has been shown to have a detrimental impact on a wide range of psychological, economic, and social outcomes. In this study, we focus on the role of income inequality in reducing civic honesty. Study 1 reanalyzed data of a “lost wallet” experiment conducted by Cohn, Maréchal, Tannenbaum, and Zünd (2019) in 355 cities spread across 40 countries. Multi-level analyses indicated that citizens in countries with higher income inequality were less likely to return a lost wallet. Study 2 examined the causal effects of income inequality by utilizing an experimental design. We found that income inequality reduced one’s personal desire to return a lost wallet. Convergent findings from two studies indicate the crucial role played by income inequality in reducing civic honesty.

Keywords: income inequality, honesty, wealth

Income inequality reduces civic honesty

Recently in *Science*, Cohn et al. (2019) conducted a large-scale “lost wallet” experiment across the globe to examine how material incentives affected civic honesty. The authors found that individuals were more likely to return wallets that contained more money, which was explained by altruistic concerns and aversion to viewing oneself as a thief. This pattern was observed for almost all countries (i.e., 38 of 40 countries included in the study). However, interestingly, there were also significant variations in cross-country return rates. For example, return rates were highest in Switzerland and lowest in China, while the United Kingdom and the United States were somewhere in between these two extremes. Cohn et al. (2019) found that geographic (e.g., latitude, temperature, pathogen prevalence), cultural (e.g., share of protestants, family ties), and institutional (e.g., executive constraints, national education) factors partly explained the cross-country differences in return rates. In this work, we focus exclusively on the potential role that income inequality might play in civic honesty.

Income inequality, the gap between the rich and the poor, can lead to upward social comparisons because of the larger gap between the rich and the poor (Cheung & Lucas, 2016). Upward social comparison, which is intensified by income inequality, leads to numerous societal problems (Wilkinson & Pickett, 2010). In support of this reasoning, emerging research in the recent decade has demonstrated that in countries with more income inequality, there is a greater prevalence of crime and drug use (Wilkinson & Pickett, 2010), reduced prosocial behavior (Côté, House, & Willer, 2015; Sands, 2017), increased antisocial behavior (DeCelles & Norton, 2016), increased racial bias (Connor, Sarafidis, Zyphur, Keltner, & Chen, 2019), reduced trust and perceptions of fairness (Oishi, Kesebir, & Diener, 2011), and poorer well-being (Du, King, & Chi, 2019).

In line with this literature, we suggest that income inequality reduces civic honesty based on two theoretical considerations. First, in unequal societies, people are more likely to

compare themselves with others in terms of economic status (Cheung & Lucas, 2016), which in turn creates more need for money (Payne, Brown-Iannuzzi, & Hannay, 2017). Second, economic social comparison in unequal societies damages social relationships and reduces social ties (Wilkinson & Pickett, 2010). Strong need for money and loose social ties caused by income inequality may reduce people's tendency to return 'the lost wallet'. Therefore, we hypothesized that citizens in high inequality countries would be less likely to return wallets.

The present research aimed to establish the detrimental effects of income inequality on honesty. In Study 1, we reanalyzed the cross-country data of Cohn et al. (2019) to test whether citizens in countries with higher income inequality would be less likely to return lost wallets. In Study 2, we situationally induced income inequality and tested its causal effects on whether people return lost wallets or not.

Study 1

Study 1 aimed to examine whether income inequality would be associated with lower levels of rates for returning wallets by reanalyzing the data of Cohn et al. (2019). Cohn et al. (2019) have observed a positive correlation between national wealth and returning rate. In our re-analyses, we included national wealth as a predictor, in addition to income inequality, and also explored potential interactions between income inequality and national wealth on returning rates.

Method

We used the "lost wallet" data which is publicly available online (<https://dataverse.harvard.edu/dataverse/honesty>). The study was conducted in 355 cities spread across 40 countries, where the authors turned in 17,303 'lost wallets' with a pseudo owner's contact information in five societal institutions including banks, cultural establishments (e.g., museums), post offices, hotels, and public offices (e.g., police stations). The wallets either contained money (US \$13.45) or not (with money vs no money condition).

Researchers handed lost wallets to employees in these societal institutions and asked them to take care of the wallets.

Individual-level civic honesty was indicated by whether individuals who received lost wallets contacted the owner to return the wallets. Country-level civic honesty was indicated by the rate of returning wallets in a given country (Cohn et al., 2019). Because Cohn et al. (2019) found significant differences in returning rates between wallets with money and wallets without money across countries, we calculated two indicators of country-level honesty: return rates for wallets with money and return rates for wallets without money.

Country-level income inequality was indicated by Gini indices, which were retrieved from the Standardized World Income Inequality Database (Solt, 2016). The database provides post-taxation Gini indices. Most of the 40 countries have Gini indices in 2015-2017, from which the latest indices were used. When Gini indices were not available in this time period, we used indices in the most recent year (Gravelle, Wildman, & Sutton, 2002).

Country-level wealth was indicated by GDP per capita in 2015 (World Bank, 2015). It was used as a moderator variable in the relationship between income inequality and return rates.

The twelve country-level factors which authors found to be correlated with country-level civic honesty, were used as covariates in our analyses to ensure that the relationship between inequality and civic honesty was not confounded by other country-level factors. The covariates included geographic (e.g., latitude, temperature, pathogen prevalence), cultural (e.g., the share of protestants, family ties), and institutional (e.g., executive constraints, national education) factors. We tested whether income inequality would predict return rates, after controlling for these country-level covariates.

Results

Country-level analysis linking income inequality and civic honesty

A preliminary analysis showed that income inequality was associated with lower return rates across countries, regardless of whether the wallets contained money ($r = -.71, p < .001$) or not ($r = -.71, p < .001$) (see Figure 1a and Figure 1b). Next, we conducted two multiple regression analyses, in which return rates were regressed on the Gini index, GDP per capita, and the interaction term. Results revealed a main effect of Gini index, such that across both conditions (wallets with money and without money), citizens in high-inequality countries were less likely to return wallets (money condition: $b = -8.76, SE = 2.63, t(36) = -3.33, p = .002, 95\%CI = [-14.10, -3.43]$; no-money condition: $b = -9.06, SE = 2.57, t(36) = -3.53, p = .001, 95\%CI = [-14.27, -3.85]$). A main effect of GDP was also found, such that citizens in wealthier countries were more likely to return wallets (money condition: $b = 10.19, SE = 2.64, t(36) = 3.86, p < .001, 95\%CI = [4.84, 15.54]$; no-money condition: $b = 8.62, SE = 2.57, t(36) = 3.35, p = .002, 95\%CI = [3.40, 13.84]$). Gini explained 49.8% and 49.9% and GDP explained 12.3% and 9.6% of the variances in return rates in the money and no-money situations, respectively.

Moreover, we found a significant interaction between income inequality and national wealth on return rates (money condition: $b = -5.05, SE = 2.40, t(36) = -2.11, p = .042, 95\%CI = [-9.91, -0.19]$; no-money condition: $b = -5.09, SE = 2.34, t(36) = -2.18, p = .036, 95\%CI = [-9.83, -0.35]$). Simple slopes analyses showed that when GDP was high, citizens in high inequality countries were less likely to return wallets (money condition: $b = -13.81, SE = 3.74, t(36) = -3.69, p < .001, 95\%CI = [-21.40, -6.23]$; no-money condition: $b = -14.15, SE = 3.65, t(36) = -3.88, p < .001, 95\%CI = [-21.54, -6.75]$). In contrast, when GDP was low, return rates were comparably low in both high- and low-Gini countries (money condition: $b = -3.71, SE = 3.37, t(36) = -1.10, p = .278, 95\%CI = [-10.54, 3.12]$; no-money condition: $b = -3.97, SE = 3.29, t(36) = -1.21, p = .235, 95\%CI = [-10.64, 2.69]$) (see Figure 2a and 2b).

Figure 1a. Scatter plot of the relationship between Gini index and *return rates for wallets with money*.

Note. UAE = United Arab Emirates; UK = United Kingdom; US = United States

Another potential interpretation of the interaction effect was that when inequality was low, citizens in wealthy countries were more likely to return wallets (money condition: $b = 15.24$, $SE = 3.78$, $t(36) = 4.03$, $p < .001$, $95\%CI = [7.58, 22.90]$; no-money condition: $b = 13.71$, $SE = 3.69$, $t(36) = 3.72$, $p < .001$, $95\%CI = [6.24, 21.18]$). In contrast, when inequality was high, return rates were comparably low in both wealthy and less wealthy countries (money condition: $b = 5.14$, $SE = 3.33$, $t(36) = 1.54$, $p = .132$, $95\%CI = [-1.62, 11.90]$; no-money condition: $b = 3.53$, $SE = 3.25$, $t(36) = 1.09$, $p = .284$, $95\%CI = [-3.06, 10.13]$).

Figure 1b. Scatter plot of the relationship between Gini index and *return rates for wallets without money*.

Note. UAE = United Arab Emirates; UK = United Kingdom; US = United States

We also examined whether income inequality's effects on return rates were accounted for by geographic, cultural, and institutional covariates. We conducted a series of regression analyses, by controlling for each of the covariates (see details in Table S1). Results showed that all the main effects of Gini remained robust in both money and no-money situations ($ps < .037$), while some main effects of GDP and interactive effects between Gini and GDP were not significant anymore. The robust findings associated with the Gini coefficient suggests

that income inequality was associated with lower levels of honesty even after accounting for geographic, cultural, and institutional covariates.

Figure 2a. Interaction between Gini index and GDP per capita in predicting *rates of returning a lost wallet with money*. Higher and lower are defined as 1 standard deviation above or below the mean, respectively.

Figure 2b. Interaction between Gini index and GDP per capita in predicting *rates of returning a lost wallet without money*. Higher and lower are defined as 1 standard deviation above or below the mean, respectively.

Multilevel analysis linking country-level income inequality and individual-level civic honesty

To further examine the robustness of the results, we conducted multilevel analyses by using individual scores of return rates. Return rates in multilevel analyses included data of both wallets with money and without money, by which we were able to test whether the effect of income inequality was accounted for by the difference between wallet conditions and whether inequality interacted with wallet condition in predicting return rates. We regressed return rates on wallet condition (1 = with money; 0 = without money), Gini, GDP per capita, as well as interaction terms between Gini and wallet condition and between Gini and GDP per capita (see details in Table 1).

Table 1 Results of multilevel analysis

Variables	<i>b</i>	<i>SE</i>	<i>Odds ratio</i>	<i>t</i>	<i>p</i>	95%CI
<i>Returning rates</i>						
<i>Individual-level predictors</i>						
Wallets' treatment	0.513	0.053	1.671	9.596	0.000	(1.499, 1.861)
<i>Country-level predictors</i>						
Income inequality	-0.369	0.118	0.691	-3.134	0.004	(0.545, 0.878)
GDP per capita	0.472	0.118	1.603	3.992	0.000	(1.262, 2.036)
<i>Cross-level predictors</i>						
Income inequality * GDP per capita	-0.223	0.108	0.800	-2.072	0.045	(0.644, 0.995)
Income inequality * Wallets' treatment	-0.016	0.055	0.984	-0.292	0.772	(0.881, 1.099)

Note. SE= standard error; CI = confidence interval.

Results showed a main effect of wallet condition, such that wallets with money were more likely to be returned (odds ratio = 1.67, 95%CI = 1.50, 1.86), as well as main effects of Gini (odds ratio = 0.69, 95%CI = 0.55, 0.88) and GDP per capita (odds ratio = 1.60, 95%CI = 1.26, 2.04). Moreover, we observed an interactive effect between Gini and GDP (odds ratio = 0.80, 95%CI = 0.64, 0.995). In contrast, the interactive effect between wallet condition and Gini was not significant (odds ratio = 0.98, 95%CI = 0.88, 1.10).

Discussion

Study 1 provided correlational evidence that in countries with higher income inequality, citizens were less likely to return a lost wallet. This association remained robust, after controlling for wallet condition (with money vs. no money) and multiple covariates at the country-level.

Study 2

Study 2 aimed to examine the causal effect of income inequality on honesty by using an experimental design. We manipulated income inequality (high versus low) and tested the effect of inequality on motives for returning a lost wallet.

Method

Participants

We recruited participants from a university in Guangzhou, China and obtained a sample of 101 college students, who participated in this study in exchange for course credit. Participants were randomly assigned to either a high-income-inequality or low-income-inequality condition. One participant completed the study in 64 seconds which was only 15% of the normal amount of time it took for most other participants ($M_{\text{time}} = 408.93$ seconds). We excluded this participant from the analyses. The final sample was 100 participants (85 females) aged between 18 and 24 years old ($M = 19.59$, $SD = 1.44$). Sensitivity analysis using G*power (Faul, Erdfelder, Buchner, & Lang, 2009) revealed that, a study with this sample size can detect medium sized effect in an independent samples t -test ($\alpha = .05$, two-tail): $d = .57$, with sufficient power (.80).

Procedure

The study was administered online. Participants signed the informed consent and reported demographic information, including gender and age.

Manipulation of income inequality

We used the material of income inequality in previous research (Sprong et al., 2019) and adapted it for Chinese participants. All participants were instructed to imagine that they were living in a fictitious city in China called Jijing, learned that Jijing consisted of three income groups, and were informed that they belonged to the middle-income group, which earned 7,000 Chinese Yuan per month. Then participants were randomly assigned to the high- or low-income-inequality condition. In the high-income-inequality condition, the upper-income group had a higher salary of 13,500 Yuan per month, whereas the lower-income group had a lower salary of 500 Yuan per month. In the low-income-inequality condition, the income gaps were much smaller between the three groups (i.e., the upper-income group earned 8,000 Yuan per month, and the lower-income group earned 6,000 Yuan per month).

Next, participants were asked to imagine three kinds of purchases in the city Jijing, including buying a house, choosing a mode of transport, and taking a vacation. There were items for upper-income, middle-income, and lower-income groups, respectively. Because participants were in the middle-income group so that they can only choose the items selling for the middle-income group. For each kind of purchase, participants had to choose one of three items (i.e., houses, cars, vacations) that the middle-income group can afford, and the items were identical in the low- and high-income-inequality conditions. But the items for the upper-income and lower-income groups differed between the two conditions. In the high-income-inequality condition, houses, cars, and vacations for the upper-income group were much more expensive and luxurious than those for the middle-income group, whereas the items for the lower-income group were much cheaper and less luxurious than the middle-income group. Therefore, in the high-income-inequality condition, the differences in available items for purchase indicated a large income gap between three groups. However, in the low-income-inequality condition, the items for the upper-income group were only slightly more expensive than the middle-income group, and the items for the lower-income group were only slightly less expensive than the middle-income group. These differences indicated a small income gap between the three groups.

Manipulation and attention check

The inequality materials were followed by a manipulation check question: “To what extent is Jijing’s economic distribution unequal?” (1 = *not unequal at all*, 7 = *very unequal*) (Sprong et al., 2019) and an attention check question: “Which income level have you been assigned to?” (1 = the highest income group, 2 = the middle-income group, 3 = the lowest income group). Participants responded to these two questions based on their impressions of the city Jijing.

Returning a lost wallet

Participants were further asked to imagine a scenario which happened in the city Jijing. This scenario was adapted from the study of Cohn et al. (2019). Participants learned that they were employees working in the counter in a bank. A stranger approached them at the counter and said, “Hi, I found this on the street around the corner”. (Figure S1 was presented to participants which showed that a wallet contained cash, a key, and three business cards printed with the owner’s name and email address). The amount of cash was 651.2 Chinese Yuan, which was equal to US \$94.15, the amount of money used in the study of Cohn et al. (2019). Moreover, the stranger said, “Somebody must have lost it. I am in a hurry and have to go. Can you please help to contact the owner?”, placed the wallet on the counter, and then left without leaving his/her name or contact details.

Next, we asked participants to look inside the wallet again, and then answer a questions on motives for returning the money, which have been used in the study of Cohn et al. (2019)¹. We assessed participants’ own desire to return the lost wallet: “How likely would it be for you to contact the owner to return the lost item?” Participants responded to the two questions on an 11-point scale from 0% to 100% in 10% increments.

Results

Manipulation and attention check

Regarding manipulation check, participants in the high-income-inequality condition perceived more inequality ($M = 5.37$, $SD = 1.02$) than those in the low-income-inequality condition ($M = 3.27$, $SD = 1.24$), $t(98) = 9.31$, $p < .001$, $d = 1.85$. Moreover, all participants passed the attention check.

---

¹ Cohn et al. (2019) asked participants to report whether other people would return the wallet, and also tested different motives associated with returning a lost wallet: altruistic concern, theft aversion, fear of negative evaluation, and fear of punishment. To closely replicate Cohn and colleagues’ (2019) study, we also collected data on perceptions of whether other people will return the wallet as well as the four motives. However, because our primary interest in the current study was whether income inequality will predict return rates and not on whether these mediators will account for inequality’s effects on returning the lost wallet, we did not report the results related to the four motives in the main paper for the sake of parsimony. The full results are reported in the Supplementary Materials.

Effects of income inequality on returning the lost wallet

When asked to think about their personal decision, participants in the high-inequality condition reported a lower possibility of returning the wallet ($M = 9.78$, $SD = 1.46$) than those in the low-inequality condition ($M = 10.31$, $SD = 1.10$), $t(98) = -2.01$, $p = .047$, $d = 0.41$. This result confirms the hypothesis that income inequality reduced one's desire to return the lost wallet.

However, when asked to think about whether others will return the wallet or not, participants did not perceive significant differences in the probability of returning the lost wallet in the high-inequality ($M = 7.94$, $SD = 1.58$) and low-inequality ($M = 8.39$, $SD = 1.84$) conditions, $t(98) = -1.31$, $p = .195$, $d = 0.26$).

Discussion

Study 2 provided causal evidence on the effects of income inequality on motives for returning a lost wallet: people are less likely to behave honestly in a context of high inequality.

General Discussion

We investigated the relationship between income inequality and civic honesty. As predicted, citizens in countries with higher income inequality were less likely to return lost wallets. Moreover, situationally induced income inequality also reduced personal motives for returning lost wallets.

Our findings illustrate that income inequality contributes to societal differences in civic honesty, which corroborates the view that income inequality is a 'social evil' (Alesina, Di Tella, & MacCulloch, 2004, p. 2010). Income inequality not only affects health and psychological well-being (Du, Chi, & King, 2019; Zheng, 2012) but also leads to behavioral problems (DeCelles & Norton, 2016; Payne et al., 2017). Prior research has shown that income inequality leads to reduced prosocial behaviors (e.g., donating resources to others,

willingness to support redistributions) (Côté et al., 2015; Sands, 2017). The current findings extend the literature to the domain of civic honesty showing that this is also hindered by large income gaps.

The key finding that income inequality reduces civic honesty is in line with the theoretical proposition that inequality erodes social capital (Pickett & Wilkinson, 2015). In more unequal environments, individuals are more sensitive to their economic status, which leads to a greater desire for more material resources (Payne et al., 2017; Walasek & Brown, 2015) and concomitantly a lower valuing of social cohesion (Wilkinson & Pickett, 2017). Therefore, unequal environments can erode social capital, including trust in others, civic participation, and norms of reciprocity (Layte, 2012; Oishi et al., 2011). Honesty has been considered as a key component of social capital (Guiso, Sapienza, & Zingales, 2011). Our findings enrich this line of literature that unequal societies can lead to poor social capital, in terms of reducing civic honesty.

The interplay between inequality and wealth suggests that if citizens live in an unequal country, they will show less honesty, regardless of whether they reside in wealthy or non-wealthy countries. This finding is in line with Oishi and Kesebir's insight (2015) on the Easterlin paradox that in wealthy countries, economic growth itself cannot improve psychological well-being if national wealth is distributed unevenly. Our study demonstrates that only when economic growth is associated with a more even distribution of national wealth can honesty be facilitated.

Although both income inequality and wealth accounted for variance in return rates, the pattern that wallets with money were more likely to be returned than wallets without money replicates the findings of Cohn et al. (2019). Moreover, we did not find interactive effects between inequality and wallet condition on return rates. These findings suggest that inequality was associated with lower return rates across countries regardless of whether the

wallets contained money or not. In addition, citizens were more likely to return wallets with money than those without, regardless of whether they lived in high or low inequality countries.

The present study has some limitations. First, self-reports of whether one will return a lost wallet in Study 2 could be influenced by social desirability bias, which may represent higher levels of honesty than what would have been obtained using behavioral data (Cohn et al., 2019). Future research is needed to replicate our findings using behavioral measures of honesty. Second, we used single-item measures for our dependent variables which might contain more measurement error. It is important to replicate the findings with better-validated multi-item scales. Third, although the experimental approach for manipulating perceived inequality in Study 2 has been often used in the extant literature (Côté et al., 2015; Sprong et al., 2019), the effect of perceived inequality might differ from actual inequality, because individuals can underestimate or overestimate the actual wealth distributions (Norton & Ariely, 2011). Additional research can investigate whether actual inequality exerts the same effect on honesty (e.g., Sands, 2017).

In conclusion, citizens are more honest when their national wealth is distributed more evenly. The impact of inequality on civic honesty deserves greater research attention given the rising tide of inequality and civic honesty's critical role in social and economic life.

References

- Alesina, A., Di Tella, R., & MacCulloch, R. (2004). Inequality and happiness: are Europeans and Americans different? *Journal of Public Economics*, 88, 2009-2042.
doi:10.1016/j.jpubeco.2003.07.006
- Cheung, F., & Lucas, R. E. (2016). Income inequality is associated with stronger social comparison effects: The effect of relative income on life satisfaction. *Journal of Personality and Social Psychology*, 110, 332-341. doi:10.1037/pspp0000059
- Cohn, A., Maréchal, M. A., Tannenbaum, D., & Zünd, C. (2019). Civic Honesty across the Globe. *Science*, 365, 70-73. doi:10.1126/science.aau8712
- Connor, P., Sarafidis, V., Zyphur, M. J., Keltner, D., & Chen, S. (2019). Income Inequality and White-on-Black Racial Bias in the United States: Evidence From Project Implicit and Google Trends. *Psychological Science*, 30, 205 –222.
doi:10.1177/0956797618815441
- Côté, S., House, J., & Willer, R. (2015). High economic inequality leads higher-income individuals to be less generous. *Proceedings of the National Academy of Sciences*, 112, 15838-15843. doi:10.1073/pnas.1511536112
- DeCelles, K. A., & Norton, M. I. (2016). Physical and situational inequality on airplanes predicts air rage. *Proceedings of the National Academy of Sciences*, 113, 5588-5591.
doi:10.1073/pnas.1521727113
- Du, H., Chi, P., & King, R. B. (2019). Economic inequality is associated with long-term harm on adolescent well-being in China. *Child Development*, 90, 1016-1026.
doi:10.1111/cdev.13253
- Du, H., King, R. B., & Chi, P. (2019). Income inequality is detrimental to long-term well-being: A large-scale longitudinal investigation in China. *Social Science & Medicine*, 232, 120-128. doi:10.1016/j.socscimed.2019.04.043

- Faul, F., Erdfelder, E., Buchner, A., & Lang, A.-G. (2009). Statistical power analyses using G* Power 3.1: Tests for correlation and regression analyses. *Behavior Research Methods*, 41(4), 1149-1160.
- Gravelle, H., Wildman, J., & Sutton, M. (2002). Income, income inequality and health: what can we learn from aggregate data? *Social Science & Medicine*, 54(4), 577-589.
- Guiso, L., Sapienza, P., & Zingales, L. (2011). Civic capital as the missing link. In J. Benhabib, A. Bisin, & M. O. Jackson (Eds.), *Handbook of social economics* (Vol. 1, pp. 417-480). San Diego: Elsevier.
- Layte, R. (2012). The association between income inequality and mental health: testing status anxiety, social capital, and neo-materialist explanations. *European Sociological Review*, 28(4), 498-511. doi:10.1093/esr/jcr012
- Norton, M. I., & Ariely, D. (2011). Building a better America—One wealth quintile at a time. *Perspectives on Psychological Science*, 6, 9-12. doi:10.1177/1745691610393524
- Oishi, S., & Kesebir, S. (2015). Income Inequality Explains Why Economic Growth Does Not Always Translate to an Increase in Happiness. *Psychological Science*, 26, 1630-1638. doi:10.1177/0956797615596713
- Oishi, S., Kesebir, S., & Diener, E. (2011). Income inequality and happiness. *Psychological Science*, 22, 1095-1100. doi:10.1177/0956797611417262
- Payne, B. K., Brown-Iannuzzi, J. L., & Hannay, J. W. (2017). Economic inequality increases risk taking. *Proceedings of the National Academy of Sciences*, 114, 4643-4648. doi:10.1073/pnas.1616453114
- Pickett, K. E., & Wilkinson, R. G. (2015). Income inequality and health: a causal review. *Social Science & Medicine*, 128, 316-326. doi:10.1016/j.socscimed.2014.12.031
- Sands, M. L. (2017). Exposure to inequality affects support for redistribution. *Proceedings of the National Academy of Sciences*, 114, 663-668. doi:10.1073/pnas.1615010113

- Solt, F. (2016). The standardized world income inequality database. *Social Science Quarterly*, 97, SWIID Version 7.1, August 2018.
- Sprong, S., Jetten, J., Wang, Z., Peters, K., Mols, F., Verkuyten, M., . . . Ayub, N. (2019). “Our Country Needs a Strong Leader Right Now”: Economic Inequality Enhances the Wish for a Strong Leader. *Psychological Science*, 0956797619875472.
- Walasek, L., & Brown, G. D. (2015). Income inequality and status seeking: searching for positional goods in unequal US states. *Psychological Science*, 26(4), 527-533.
doi:10.1177/0956797614567511
- Wilkinson, R. G., & Pickett, K. (2010). *The spirit level: Why equality is better for everyone*: Penguin UK.
- Wilkinson, R. G., & Pickett, K. E. (2017). The enemy between us: The psychological and social costs of inequality. *European Journal of Social Psychology*, 47(1), 11-24.
- World Bank. (2015). GDP per capita. Retrieved 03/20/17
<http://data.worldbank.org/indicator/NY.GDP.PCAP.KD?end=2015&start=1960&view=chart>
- Zheng, H. (2012). Do people die from income inequality of a decade ago? *Social Science & Medicine*, 75, 36-45. doi:10.1016/j.socscimed.2012.02.042