"All the Money in the World" Americans' Misperception of Gender Economic Equality

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#### Abstract

Although past research has demonstrated that Americans misperceive racial economic equality, questions remain about perceptions of gender economic equality. The present research found that participants misperceived and overestimated current levels of gender economic equality across multiple measures of equality and between White men and women of different racial groups. Overestimates of current levels of equality were about 15 percentage points above actual equality and were predicted by greater just world beliefs, greater hostile and benevolent sexism, and age. Moreover, overestimates of current levels of equality were correlated with support for a variety of public policy measures, suggesting that misperceptions of equality may be a useful indicator of attitudes toward gender equity-enhancing policy proposals. Participants' perceptions of gender economic equality for White and Asian women relative to White men were more accurate than perceptions of equality between Black and Hispanic women compared to White men. Overall, these findings suggest that Americans largely overestimate gender economic equality by race, and overall, which may have profound societal impact on support for policies intended to address discrimination.


Keywords: gender economic equality, racial economic equality, benevolent sexism, hostile sexism, just world beliefs
"All the Money in the World"
Americans' Misperception of Gender Economic Equality
In 2017, actress Michelle Williams was paid less than 1 percent of what her male co-star, Mark Walberg, was paid for reshoots for their joint film, "All the Money in the World" (Mandell, 2018). This recent example of pay inequality in the film industry demonstrates the persistence of the long-standing gap between men and women. Despite the fact that US government passed the Equal Pay Act in 1963 stating that no employer could discriminate against employees on the basis of their gender ("The Equal Pay Act of 1963", n.d.) the wage gap still persists. According to the Institute for Women's Policy Research, in 2015, women who were full time workers made only 80 cents for every dollar earned by men, demonstrating a gender wage gap of 20 percent. Further, a more recent report even proposed that women may actually only earn about 49 cents for every dollar earned by men (Rose \& Hartmann, 2018). By measuring total earnings for all men and women full-time workers over the past 15 years, this more extreme gender gap of $51 \%$ was calculated (Rose \& Hartmann, 2018). The difference in these estimates may in part be a result of the more recent study taking into account years without pay, perhaps for extended maternity leave. Even when controlling for education, job experience, and other factors, women's average earnings are still a fraction of men's (Alksnis, Desmarais, \& Curtis, 2008). The gap remains such a prevalent issue that as recently as 2016 President Obama worked to address it by passing the Paycheck Fairness Act (Garunay, 2016), in an attempt to close loopholes in the 1963 Equal Pay Act.

## Gender Economic Inequality

Gender disparities exist in all aspects of the workplace, from clear salary differences to imbalances in leadership roles. Previous research has even found differences in pay between
jobs in which the tasks of the position are the same, but the jobs are defined as either "male" or "female" (Alksnis, Desmarais, \& Curtis, 2008; Fortin \& Huberman, 2002; Lips, 2003). Further, not only is the label of the job an important factor in the determination of (in)equality, but the employee composition of the job matters as well. When an occupation is largely composed of female employees, the occupation itself tends to offer lower pay (Hartmann \& Treiman, 1981). This demonstrates that women face inequality in pay due to multiple factors. Additional research has demonstrated, for instance, that although women have made great progress in regards to leadership equality, they are still underrepresented in the upper tiers of organizations where wages are the highest (Barreto, Ryan, \& Schmitt, 2009). Taken together, previous research suggests that women have not yet reached full economic equality with men.

Regarding the persistence of gender inequality, previous research has found sexism to be a predictive factor (Fiske \& Glick, 2001; Inglehart \& Norris, 2003; Napier, Thorisdottir, \& Jost, 2010). Longitudinal data analyzed from 57 societies revealed that gender inequality was directly predicted by sexism (Brandt, 2011). Further, Brandt (2011) argued that sexism both legitimizes the patriarchal status quo and increases the severity of gender inequality, suggesting that sexist people may be perpetuating gender inequality (Sidanius, Pratto, \& Bobo, 1994). There are actually two commonly distinguished forms of sexism --- hostile and benevolent sexism. Hostile sexism is characterized by negative feelings towards women who assume nontraditional roles, whereas benevolent sexism is characterized by protective, if not patronizing, feelings toward women in general and positive feelings toward women who adopt conventional gender roles (Fiske \& Glick, 2001). Benevolent sexism involves, for instance, beliefs that women are needed as romantic partners for men and that women inherently possess positive domestic qualities, which men do not (Barreto \& Ellemers, 2005). While women often recognize and reject hostile
sexism, they often endorse benevolent sexism, further inhibiting gender equality as women conform to a patriarchal society (Barreto \& Ellemers, 2005; Glick \& Fiske, 1996; Kilianski \& Rudman, 1998). In fact, in part because of widespread endorsement by both men and women, benevolent sexism often goes unnoticed as a contributor to gender discrimination (Barreto \& Ellemers, 2005). Nevertheless, benevolent sexism, like hostile sexism, is predictive of gender inequality (Barreto \& Ellemers, 2005; Glick \& Fiske, 2001). To illustrate, benevolent sexism scores for both men and women predicted greater inequality as assessed by the United Nations measures of inequality (Glick et al., 2000; United Nations Development Programme, 1998). Taken together, this research reiterates the way in which sexism of both forms contributes to the persistence of gender inequality.

The constancy of gender inequality in America, again, partially due to continued sexism in society, is further highlighted by the slow rate of change towards equality. Previous data has shed light on how slowly the gap is closing, with the last decade showing the slowest progress in nearly 40 years (Institute for Women's Policy Research, n.d.). While women have gotten closer to equality with men in the past few decades, with equality improving from a gender wage gap of about 40 percent to approximately 20 percent from 1973 to 2011, (State of Working America Data Library, 2017), overall progress towards equality has been rather gradual. Further, the gap between college graduates has not seen no improvement over this 38 year period, with the wage gap remaining right under 15 percent (State of Working America Data Library, 2017). In both 1973 and 2011, female college graduates have earned approximately $84 \%$ of what their male counterparts earned. Indeed, overall change has been happening at such a slow rate over the past 50 years that, without intervention, it will take until 2059 for women to reach pay equality with men. Moreover, the research suggests that the rate of change is even slower for some groups of
minority women---Black women would have to wait until 2124, and Hispanic women until 2233, for equal pay with White men to be obtained (Institute for Women's Policy Research, n.d.). Intervention is needed to speed up the rate of progress towards gender economic equality for women of all races.

## Racial Economic Inequality

In addition to facing issues of gender economic inequality, America is also experiencing continued wide-ranging racial economic inequality. Racial minorities of both genders continue to face severe inequality in regards to a number of economic outcomes, most notably, wealth (Richeson \& Sommers, 2016), which helps explain the existence of an even larger gender economic gap for minority women. As previously stated, Black women are even further from equality with White men than are White women, which is tied to the fact that Black Americans as a whole have not yet reached full economic equality with White Americans. Despite a clear and persistent disparity in the economic wellbeing of Black and White Americans, previous research has shown that Americans are not cognizant of the issue at hand (Kraus, Rucker, \& Richeson, 2017). When comparing participants' estimates of the racial gap with national statistics (State of Working America Data Library, 2017), Kraus and colleagues found that, on average, American participants overestimate the amount of progress U.S. society has made towards racial economic equality. These overestimates of progress towards racial economic equality were mostly due to overestimates of current levels of equality rather than overestimates of past levels (Kraus et al., 2017). Given that Americans were unclear on how close American society is to reaching economic equality across race, it is possible that Americans may also misperceive how far society is from reaching gender economic equality.

## The Present Study

To examine whether or not misperceptions of equality also exist in the domain of gender, the present work sought to assess perceptions of the gender wage gap. Americans might overestimate current levels of gender economic equality in the same way they overestimated current levels of racial economic equality (Kraus et al., 2017), perhaps suggesting that Americans simply perceive American society as a more just place overall than it actually is. In fact, Kraus et al. (2017) found that larger over-estimates of current racial economic equality were positively correlated with stronger belief in societal fairness, as measured by the just world beliefs scale (Jost, 2017; Lipkus, 1991). A similar relationship is likely to emerge for perceptions of gender economic equality, as people who think that society is a just and fair place for people of all races are likely to believe the same regarding gender.

That said, the tendency to overestimate current levels of economic equality might be at least partially a result of motivational factors. People want to remain unaware of persisting inequality based on group memberships (race, gender, etc.), so that they can feel better about their current societal status (Dalbert \& Donat, 2015; Kraus et al., 2017). Previous research has suggested that individuals do in fact gravitate towards belief systems that meet their psychological needs (Jost 2017) and that just world beliefs are used as justification for the status quo even when it includes even stark inequality in some societies (Furnham, 1985; Jost \& Hunyady, 2005). People in general want to believe that they live in a world in which everyone gets what he or she deserves, so they are motivated to defend their beliefs in a just world when they feel that their beliefs may be threatened by these injustices (Dalbert \& Donat, 2015); people want to attribute their earned place in society to their hard work, and not to group membership.

In other words, Americans may be motivated to believe that society is fairer than it currently is, not only in regards to race but in regards to gender as well.

Therefore, the purpose of the current study was to test a number of hypotheses regarding perceptions of gender economic equality. I predicted that participants would overestimate current levels of gender economic equality (in 2011), thinking that American society is closer to equality than statistics would suggest. In addition to the expected over-estimates of gender economic equality in the present in general, I also predicted that participants would overestimate the extent of gender economic equality as a function of race. Specifically, overestimates should be larger for the gap between White men and Black and Hispanic women than for the gap between White men and White, and perhaps, Asian women.

In addition, I also examined a number of potential individual difference and group factors that may predict the magnitude of participants' estimates of gender economic equality, including their own gender, level of sexism, education, and just world beliefs. Lastly, I examined the relationship between perceptions of current levels of gender economic equality and support for gender equity-enhancing policy proposals. This examined relationship involving public policy highlights the important implications of this research, as Americans' perceptions of gender equality could have serious effects on their support for policy proposals. I hypothesized that participants who demonstrated greater overestimations in regards to current levels of gender economic equality would be less likely to support public policy measures aiming to close the existing gap. Those who believe that gender economic equality in our country has already been reached may be less likely to support policies aiming to close a gap they do not see; it is likely that these participants may see such policies as unnecessary.

## Method

## Participants

Participants in the present study were 401 respondents recruited from TurkPrime (Litman, Robinson, Abberdock, 2017), and were paid $\$ 1.00$ for completing the study. Of these 401 participants, $63 \%$ were men $(\mathrm{n}=251), 37 \%$ were women $(\mathrm{n}=149)$, and one identified as another gender. Approximately $66 \%$ of participants identified as White ( $\mathrm{n}=265$ ), $18 \%$ identified as Black ( $\mathrm{n}=73$ ), $9 \%$ identified as Hispanic $(\mathrm{n}=37), 7 \%$ identified as Asian $(\mathrm{n}=29), 3 \%$ identified as Native American ( $\mathrm{n}=14$ ), and one identified as another race. Participants were told to indicate all racial groups they belonged to, explaining why the above percentage breakdown sums to over $100 \%$.

## Procedure

All methods and materials were reviewed and approved by the Institutional Review Board at Yale University. On an introductory screen, participants read that the purpose of the study was to examine how individual personality is related to various social judgments. Participants were told that their participation in the study would involve filling out a survey regarding their beliefs in society, and that it would take about 10-15 minutes to complete. Participants then indicated their consent by clicking a box labeled "Yes, I would like to participate in this research."

Participants were first provided with definitions of wealth/net worth and wages/earnings to make sure they understood the terms used in the survey. Then participants responded to the central questions regarding gender-based economic equality; e.g., "For every $\$ 100$ earned by an average man, how much do you think was earned by an average woman for equal work in 2011 ? (100 would mean equality)" Participants entered their estimates on a $0-200$ scale where 0 would
indicate that men receive all economic resources whereas women receive none. A score of 200 would indicate that women receive twice the economic resources as men. Perceptions of the gender gap in income were assessed for those with a high school degree, those with a 4-year college degree, and regarding employer-provided health insurance (i.e. "For every 100 men who have employer-provided health insurance, how many average women had the same benefits?").

Next, participants were asked about gender-based economic equality for economic outcomes comparing White men relative to women of different races. For example, "For every $\$ 100$ earned by an average White man, how much do you think was earned by an average Black woman for equal work? (100 would mean equality)." This question was also asked comparing Hispanic women, Asian women, and White women to White men. Again, participants entered their estimates on a 0-200 scale.

Participants were then asked a series of questions examining their support for 4 different public policy initiatives regarding the gender wage gap. All four of these questions asked participants to rate how likely they would be to support different policies from 1="Extremely unlikely" to 5= "Extremely likely." The policy measures overall assessed participants' support for publicizing data on how much companies were paying their employees based on their gender. See Appendix for full policy measures.

Next, participants completed the 6-item Just World Beliefs scale (Jost, 2017; Lipkus, 1991) using six-point Likert scales, where $1=$ strongly disagree, and $6=$ strongly agree (e.g., "I think basically the world is a just place"). Then, to measure their sexism, participants completed the benevolent $(\alpha=.85)$ and hostile $(\alpha=.91)$ sexism subscales of the Ambivalent Sexism Inventory (Glick \& Fiske, 1996) using seven-point Likert scales, where $1=$ strongly disagree, and $7=$ strongly agree (e.g., "Most women interpret innocent remarks or acts as being sexist").

Last, participants answered demographic questions indicating their age, gender, race, occupation, income, and educational status. They also responded to two questions on a sevenpoint Likert scale assessing their political conservatism in both economic and social domains, from strongly disagree to strongly agree (e.g., "I am a political conservative for economic issues). Participants then responded to four items aiming to assess the racial and social class diversity of their social networks on a four-point Likert scale (e.g., "Are the people you typically interacted with in your neighborhood growing up:" $1=$ all of the same race/social class as you; 4 $=$ all of a different race/social class). The final question provided participants with an image of a ladder with anchors indicating that "at the top are the people with the most money, the most education, and the very best jobs" and "at the bottom are the people with the least amount of money, the least education, and the worst jobs or no job." Participants were then asked to indicate which rung of the ladder they would place themselves relative to others in the area they live in (or their community), from bottom rung= 1 to top rung $=10$. This question aimed to assess participants' perception of their own socioeconomic status in reference to others in their community.

## Results

## Analytic Strategy

The main hypothesis of the study was that Americans would overestimate current levels of gender economic equality. To test this hypothesis, I first analyzed the accuracy of the estimates of average gender economic equality for each economic index. I then analyzed the accuracy of the estimates of the gender gap by race. To examine how accurate participants' estimates of gender economic equality were, one sample $t$-tests were conducted, comparing participants' accuracy to true accuracy [0].

To examine the effects of participants' race, gender, income, education, just world beliefs, and sexism on their estimates of gender economic outcomes, a multiple linear regression was conducted. Last, I conducted another regression analysis to examine the effects of participants' current estimates of gender economic equality on their support for public policy measures regarding the gender gap. In these models, I controlled for the effect of gender, conservatism, age, and just world beliefs.

## Primary Analyses

## Overestimates of Gender Economic Equality

Participants overestimated current levels of gender economic equality across a number of indicators. See Table 1 for participants' estimates of gender gaps compared to the actual gender gaps.

Table 1

General estimates of gender economic equality with means and standard deviations

| Indicators | Mean Estimate (SD) |  |  |
| :--- | :--- | :--- | :--- |
|  |  | Actual Ratio/ Progress |  |
| Income 2011 | $98.59(34.54)$ |  | 84.0 |
| High School Gap 2011 | $98.01(36.56)$ | 80.07 |  |
| College Gap 2011 | $100.88(33.74)$ |  | 78.0 |
| Health Insurance 2010 | $102.96(36.06)$ | 89.43 |  |

Participants' overestimates of gender economic equality outcomes were all significantly different from true accuracy. To illustrate, participants overestimated overall income in 2011 by about 15 percentage points and demonstrated overestimates in the composite measure of current income (the average of the overall income gap, the high school gap, and the college gap) by about 17 percentage points. Participants' estimates of income in 2011 were significantly different from the true gap in 2011, $t(399)=8.45, p<.001$, as was their composite measure of accuracy, $t(400)=17.23, p<.001$. See Table 2 for all accuracy measures of gender economic outcomes.

Table 2

| Indicators | Mean (SD) | t | df | p |
| :---: | :---: | :---: | :---: | :---: |
| Income 2011 Accuracy | $\begin{aligned} & 14.59 \\ & (34.54) \end{aligned}$ | 8.46 | 399 | <. 001 |
| College Gap 2011 Accuracy | $\begin{aligned} & 22.88 \\ & (33.74) \end{aligned}$ | 13.58 | 400 | $<.001$ |
| High School Gap 2011 Accuracy | $\begin{aligned} & 17.94 \\ & (36.56) \end{aligned}$ | 9.80 | 398 | <. 001 |
| Health Insurance 2010 Accuracy | $\begin{aligned} & 13.53 \\ & (36.06) \end{aligned}$ | 7.51 | 400 | <. 001 |
| Composite Measure of Present Accuracy | $\begin{aligned} & 17.23 \\ & (33.59) \end{aligned}$ | 10.27 | 400 | <. 001 |

Note: Higher numbers indicate greater overestimates; negative values indicate underestimations.

## Overestimates of Gender Economic Equality by Race

Americans also misperceived the levels of gender economic equality by race in the
United States. See Table 3 below for estimates of gender economic equality outcomes by race.
Table 3
Gender economic equality estimates by race with means, and standard deviations

| Indicators | $\underline{\text { Mean (SD) }}$ | $\underline{\text { Actual Ratio/Progress }}$ |
| :--- | :--- | :--- |
| White/White 2011 | $100.99(36.79)$ | 80.41 |
| White/Black 2011 | $93.29(40.83)$ | 66.45 |
| White/Hispanic 2011 | $91.98(40.92)$ | 59.56 |
| White/Asian 2011 | $97.23(39.65)$ | 83.10 |

Note: Actual data included for reference.

Participants overestimated how much a Black woman made compared to a White man in 2011 by about 27 percentage points. This overestimation significantly differed from the true gap between Black women and White men in 2011, $t(399)=11.02, p<.001$. Participants also overestimated how much a Hispanic woman made compared to a White man in 2011, in this case by about 32 percentage points. See Table 4 for all overestimations of gender economic outcomes by race.

Table 4

| Means and standard deviations of accuracy measures by race |  |  |  |  |
| :--- | :--- | :--- | :--- | :--- |
| Indicators | $\underline{\text { Mean (SD) }}$ | $\underline{\mathrm{t}}$ | $\underline{\mathrm{df}}$ | p |
| White/White 2011 | $20.27(36.79)$ | 11.02 | 399 | $<.001$ |
| Accuracy | $26.84(40.82)$ | 13.14 | 398 | $<.001$ |
| White/Black 2011 | Accuracy | 15.84 | 399 | $<.001$ |
| White/Hispanic | $32.42(40.92)$ | 7.14 | 400 | $<.001$ |
| 2011 Accuracy <br> White/Asian 2011 <br> Accuracy | $14.13(39.65)$ |  |  |  |

Note: All measures show significant overestimates of equality. Higher means indicate greater overestimations.

Further t-tests compared the accuracy of estimates of the gaps between White men and women of different races. To illustrate, results indicated that participants were more accurate in their estimate of the gap between White men and White women in 2011 ( $M=20.27, S D=36.79$ ) than in their estimate of the gap between White men and Black women in 2011 ( $M=26.84$. $S D=40.82), t(397)=-7.255, p<.001$. Further, participants were more accurate in their estimate of the gap between White men and White women in $2011(M=20.27, S D=36.79)$ than in their estimate of the gap between White men and Hispanic women in 2011 ( $M=32.24, S D=40.92$ ), $t(398)=-12.54, p<.001$. All other comparisons yielded significant differences in overestimations. See Table 5 for full results.

Table 5
Paired samples t-tests comparing the accuracy of estimates of gender economic equality by race

| Indicators | $\underline{\text { Mean (SD) }}$ | $\underline{t}$ | $\underline{\mathrm{df}}$ | $\underline{\mathrm{P}}$ |
| :--- | :--- | :--- | :--- | :--- | :--- |
| WM/WW 2011 vs. WM/BW 2011 | $-6.87(18.90)$ | -7.26 | 397 | $<.001$ |
| WM/WW 2011 vs. WM/HW 2011 | $-12.30(19.60)$ | -12.54 | 398 | $<.001$ |
| WM/WW 2011 vs. WM/AW 2011 | $6.22(18.98)$ | 6.55 | 399 | $<.001$ |
| WM/AW 2011 vs. WM/BW 2011 | $-13.07(20.52)$ | -12.72 | 398 | $<.001$ |
| WM/AW 2011 vs. WM/HW 2011 | $-18.48(20.53)$ | -18.01 | 399 | $<.001$ |


| WM/BW 2011 vs. WM/HW 2011 | $-5.36(16.04)$ | -6.67 | 397 | $<.001$ |
| :--- | :--- | :--- | :--- | :--- | :--- |

Note: Positive values indicate that the first value is more of an overestimate than the second value (e.g., participants were more accurate for the White Man/Asian Woman gap than then White Man/White Woman gap). Negative values indicate that the second listed term is more of an overestimate than the first listed (e.g., the White Man/Black Woman estimate is more of an overestimate than the White Man/White Woman estimate). In the table, WM= White Man, WW= White Woman, BW= Black Woman, HW= Hispanic Woman, and AW=Asian Woman.

## Demographic Analyses

The study also examined potential individual differences and group factors that may have predicted the magnitude of participants' estimates of gender economic equality. In regards to estimates of current levels of equality (2011), there was no significant effect of gender, $p=.18$. Further, with respect to estimates of current levels of equality, Whites were more accurate in their estimates than were Non-Whites, $B=-10.65, S E=2.99, t=-3.57, p<.001$. Increased age correlated with greater overestimations of equality in 2011, $B=.36, S E=.10, t=3.47, p=.001$. In line with predictions, participants with higher levels of just world beliefs demonstrated greater overestimates of current levels of income, $B=9.08, S E=1.41, t=6.42, p<.001$. Both benevolent sexism, $B=3.17, S E=1.54, t=2.06, p=.04$, and hostile sexism, $B=3.25, S E=1.23, t=2.66, p=.008$, were positively correlated with increased overestimations of equality. Contrary to predictions, greater levels of education predicted greater overestimations of equality, $B=7.60, S E=2.22$, $t=3.42, p<.001$. Family income did not have a significant effect on estimates of income, $p=.81$.

## Public Policy Analyses

Lastly, I ran a regression analysis predicting support for public policy measures from estimates of current levels of gender economic equality (2011) while controlling for gender, conservatism, age, and just world beliefs. Overestimates of current levels of equality were marginally positively related to support for a policy requiring companies with over 100 employees to provide information to the government regarding how much they pay their
employees based on gender, $B=.003, S E=.002, t=1.93, p=.05$; participants with higher overestimates showed more support for the policy. Those who had more conservative political views for economic issues were less likely to support this policy, $B=-.13, S E=.04, t=-3.09$, $p=.002$. Gender, age, just world beliefs, and conservatism for social issues were not significantly related to support for this policy, all $p \mathbf{s}>.08$.

Participants who demonstrated larger overestimates of current levels of income equality were also more likely to support ending the previously stated initiative, stating that it is unnecessary given where we are in society, $B=.009, S E=.002, t=4.90, p<.001$. Men showed more support for ending this policy than did women, $B=-.29, S E=.11, t=-2.68, p=.008$. Those who were more conservative for social issues were more likely to support ending this policy, $B=.17, S E=.05, t=3.87, p<.001$. Additionally, participants with greater levels of just world beliefs were also more likely to support ending this policy, $B=.26, S E=.06, t=64.41, p<.001$. Neither age nor economic conservatism had a significant effect on support for ending this initiative, all $p \mathbf{s}>.15$.

Participants who overestimated current levels of income equality were also more likely to support a federal law that would require information about each individual's pay along with his/her gender to be publicly available, $B=.005, S E=.002, t=2.49, p=.01$. Participants who were conservative in regards to economic issues were less likely to support this policy, $B=-.11$, $S E=.05, t=-2.14, p=.03$. Again, participants with greater levels of just world beliefs were marginally more likely to support this policy, $B=.12, S E=.06, t=1.84, p=.07$. Neither gender, age, nor political conservatism for social issues had a significant effect on support for this policy, all $p \mathrm{~s}>.57$.

Participants who demonstrated greater overestimates in regards to income equality were more likely to support implementing a new law that would require all companies to pay employees equally, or receive a fine, $B=.007, S E=.002, t=3.60, p<.001$. Women were more likely to support this policy than were men, $B=.41, S E=.12, t=3.40, p=.001$. Participants who were more politically conservative in regards to economic issues were less likely to support this policy, $B=-.18, S E=.05, t=-3.64, p<.001$. Participants with greater levels of just world beliefs were also more likely to support this policy, $B=.13, S E=.06, t=2.06, p=.040$. There was no significant effect of age or political conservatism in regards to social issues on support for this policy, all $p \mathrm{~s}>.58$.

## Exploratory Analyses

Results indicated that not only did participants overestimate gender economic equality, but that approximately twenty-eight percent of participants reported that women earned more than men did in 2011 for equal work. Further, 12.0\% of participants stated that women earned more than 1.5 times more than men did in 2011.

Table 6
Percentage of people who reported that women made more than men (values greater than 100, which corresponds to equality), and the percentage of people who reported that women made more than $1.5 x$ what men made (values greater than 150).

| Indicators | \% over 100 | \% over 150 |
| :--- | :--- | :--- |
| Income 2011 | 28.2 | 12.0 |
| High School Gap 2011 | 28.1 | 12.8 |
| College Gap 2011 | 29.4 | 12.2 |
| Health Insurance 2010 | 26.7 | 14.7 |
| White Men/White Women 2011 | 27.2 | 14.2 |
| White Men/Black Women 2011 | 26.6 | $\sim 13.3$ |
| White Men/Hispanic Women 2011 | 26.2 | 12.7 |
| White Men/Asian Women 2011 | 29.2 | 15.0 |

## Discussion

The goal of this study was to examine perceptions of gender economic equality. Theoretically, the present work extends past research about misperceptions of racial economic equality, finding that Americans also overestimate gender economic equality. Further, the study extends the past research as it incorporates gender into perceptions of the racial income gap, suggesting that Americans differentially overestimate economic equality at the intersection of race and gender. Practically, it is important to identify misperceptions of equality in current society, as Americans must be aware of problems of inequality before they attempt to fix them. Perceptions of current levels of equality affect how likely Americans are to support public policies related to closing the gender gap; Americans who overestimate current levels of gender economic equality were found to show more ambivalent responses regarding policies aiming to close the gap.

## Overestimates of Gender Economic Equality

Previous research has shown that the wage gap between men and women exists, but the current research suggests that the general public is unaware of it. Despite women making, on average, about 80 cents for every dollar earned by men (Institute for Women's Policy Research, n.d.), this study revealed that Americans believed that women were making approximately 99 cents for every dollar earned by men in 2011. In fact, nearly a third of participants (28.2\%) in this study reported that women earned more than men that year. Results demonstrated that Americans significantly overestimated current levels of gender economic equality at every level of comparison, including education and health insurance coverage.

Future interventions could examine possible ways of improving this accuracy in Americans on both an immediate and long-term basis. For example, it is possible that having
participants read an article about women facing discrimination in the workplace would remind participants of the gap and help them make more accurate estimates in a survey. Alternatively, a future study could attempt to increase salience of discrimination in participants by asking them to consider an "alternative United States" where discrimination based on gender still exists; this would match the manipulation from a previous study used to increase awareness of persisting racial discrimination in society (Kraus et al., 2017). In regards to a more long-term intervention, educational programs aiming to teach both boys and girls about the gender income gap at a younger age might increase awareness of the important issue.

Identified predictors of overestimates of gender economic equality were similar to those of racial economic equality, as found by Kraus and colleagues (2017). Consistent with the previous finding that both White and Black participants overestimated levels of racial economic equality (Kraus et al., 2017), both male and female participants in this study overestimated current levels of gender economic equality. This suggests that the misperception of economic equality spans across all groups. Further, this supports the notion that educational interventions are required for both young boys and young girls. The present research also revealed that not only do Americans with greater belief in a just world demonstrate greater overestimates of racial economic equality (Kraus et al., 2017), but they also demonstrate greater overestimates of gender economic equality. People who believe that the world is just and fair seem to believe that it is fair for people of all races and genders.

Moreover, in line with predictions, sexism was positively correlated with overestimates of gender economic equality. This finding extends past research suggesting that not only does sexism predict gender inequality in society (Brandt, 2011; Fiske \& Glick, 2001), but also that sexist people who may be perpetuating gender inequality may also be more unaware of the
persistent disparity. Both benevolent and hostile sexism predicted overestimates of gender economic equality, suggesting that both forms of sexism affect Americans' perceptions of equality in a similar manner. Sexist participants may believe that women are currently earning more than they do, therefore causing them to overestimate how much an average woman is actually earning in comparison to an average man for equal work. Despite the fact that higher education was previously found to be associated with lower levels of sexism (Glick et al., 2002), while lower levels of sexism predicted more accurate estimates of equality, in this study, higher levels of education did not predict more accurate estimates of equality. As a matter of fact, higher levels of education were found to predict greater overestimations of current levels of equality. Future research should look to clarify the relationship between education level and perceptions of economic equality.

## Overestimates of Gender Economic Equality by Race

These results extend the finding that Americans overestimate racial economic equality (Kraus et al., 2017) by suggesting that Americans also misperceive levels of gender economic equality by race. When White and minority women were compared to White men, participants consistently misperceived the disparity at hand. For example, participants significantly overestimated how much an average Black woman earned compared to an average White man. Participants were less accurate in regards to their estimates of gender economic equality for Black and Hispanic women than for White and Asian women. Future research could attempt to clarify why perceptions of equality differ on the gap between White men and women of different racial groups. These additional studies should clarify why Americans more aptly estimate the gap for White and Asian women whereas they more largely overestimate the gap for Black and Hispanic women. It is meaningful to note however that the large percentage of White
participants in the study, about $66.1 \%$ of all participants, may have played a role in the more accurate perception of the White-White gap compared to the perceptions of the other examined gaps. More White participants in the study may have allowed for a more accurate understanding of the White-White gap overall.

Additionally, accuracy estimates of gender economic equality differed in regards to the race of the participant. White participants were more accurate in their estimates of the current gender gap than were non-White participants. This result indicates that non-White participants perceived greater levels of gender equality than did White participants, who were more accurate about the persistent disparity. Black and Hispanic women experience greater levels of wage equality with men in their same racial group in comparison to White men and women (State of Working America Data Library, 2018), so it is possible that greater gender equality within their racial group causes them to perceive greater gender equality and be less accurate about the overall gender gap. Black women earned $92.1 \%$ of what Black men did in 2011, whereas White women only earned about $80.4 \%$ of what White men did in the same year (State of Working America Data Library, 2018). The gap between Hispanic men and women is also smaller than that between White men and White women, with Hispanic women earning about $92.4 \%$ of what Hispanic mean earned in 2011 (State of Working America Data Library, 2018). Future research should attempt to further clarify the relationship between perceptions of inter- and intra-racial gender equality.

## Public Policy Implications

Overestimates of equality have important implications, as people are less likely to work to fix a problem they do not see. Results from this study indicated that participants who showed larger overestimates of current levels of equality were more likely to support ending a policy that
required companies to reveal how much they pay their employees based on gender, seeing the policy as "unnecessary given where we are in society." Therefore, Americans who overestimate equality may see additional interventions aiming to close the gender gap as inessential. It is important that future work continues to examine the relationship between perceptions of economic equality and beliefs on the necessity of such policies or interventions.

However, participants who demonstrated higher overestimates of equality also demonstrated higher levels of support for policies that would require data regarding gender pay to be more publicized. This perhaps could be because these participants already believe equality has been reached, so they see no harm in publicizing wages. It is conceivable that these participants believe that this will show others that equality has been reached in the way they believe it has. However, it is also possible that there may have been complications with the measures used to discern support for public policy, as participants with greater overestimates of current equality were both more likely to support a policy aiming to reveal how much companies pay their employees based on gender and also more likely to support ending the policy due to it being an "unnecessary burden on employers." One limitation of these measures could potentially be the order in which the questions were asked. The order of the questions were not randomized, and it possible that the public policy questions affected one another. Future research should work to clarify these measures and further examine the relationship between overestimates of gender equality and support for public policies related to the gender wage gap.

## Future Directions and Limitations

Now that current research has shown misperceptions of income equality across both race (Kraus et al., 2017) and gender, future research should examine perceptions of the economic disparity between single and married men and women. The study done by Kraus and colleagues
(2017) examined perceptions of racial economic equality by measuring estimates of both income and wealth, however the present work only examined perceptions of gender equality in regards to income. Wealth becomes complex in the domain of gender because marriage tends to lead to sharing of economic resources; therefore, a limitation of the current study is that it focused solely on perceptions of income. To accurately assess perceptions of gender economic equality in regards to wealth, future research should examine married and single women separately. At present, there was not sufficient data on the two groups of women to properly examine this question, however when new data becomes accessible, future research could identify perceptions of wealth disparities between men and women, both single and married.

An additional limitation of the study may be the population of participants used in the study. It is possible that the participants who completed the survey through TurkPrime may not be an accurate representation of the larger American population. Future studies should attempt to replicate these findings of misperceptions of equality, while aiming to potentially include a more representative sample.

In conclusion, the present results suggest that Americans have inaccurate perceptions of our country's current levels of gender equality in general, and with respect to racial gender disparities. Despite clear issues of disparity in income based on gender, as highlighted by the gap between Michelle Williams and Mark Wahlberg in "All the Money in the World," Americans remain largely unaware of the persistent inequality. These results highlight the importance of educating Americans on existing economic disparities in order to improve accuracy estimates and hopefully increase support for policy interventions as a result. In order to fix the problems at hand, Americans must first be cognizant that the issues exist. Until

Americans accurately grasp the gender gap, women will be unable to experience the true equality they deserve.

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## APPENDIX

## Public Policy Measures

1. A past administration implemented a federal policy initiative intended to help close the gender wage gap. The policy required companies with over 100 employees to provide information to the government regarding how much they pay their employees based on gender. How likely would you be to support this policy?
2. A more recent administration ended this initiative stating that it was unnecessary given where we are in society and that it is instead a burden on employers. How likely would you be to support ending this initiative?
3. There are state level policies that require information on each individual's pay along with his/her gender to be publicly released. How likely would you be to support these state policies as federal laws?
4. Policy makers have suggested implementing a new law that would require all companies to pay all employees equally, or receive a fine. How likely would you be to support this as a new law?
