A Reference Group Effect in the Misperception of the Black-White Income Gap

Michael W. Kraus¹ & Jennifer A. Richeson^{2,3}

Yale University, School of Management

Yale University, Department of Psychology

Yale University, Institute for Social and Policy Studies

Abstract

The goal of the present work was to determine if reference group effects influence the magnitude of misperception of the Black-White income gap. In prior research, large samples of Americans overestimate income equality between Black and White Americans, but that prior work used the same methodology where respondents were always asked to think of a typical or average White exemplar family prior to making estimates of the comparative income of a typical or average Black family. The results from an initial experiment suggest that reference group effects do shift misperceptions of Black-White income equality. When first thinking of a typical Black family a (N = 607) sample of respondents provided larger overestimates of Black-White income equality then when thinking of a White family first. Similar estimates were observed for participants using a scale versus a free response form for indicating their income gap perceptions. The results suggest that, when bringing a Black exemplar to mind first in the context of estimates of income disparities, Americans tend to bring to mind high status Black exemplars that skew conceptions of income disparities toward greater equality and widen errors in estimation of the Black-White income gap.

Reference Group Effects in Estimation of the Black-White Income Gap

The USA has a tumultuous racial history that has resulted in persistent racial inequality between White Americans and other racial groups (Desmond, 2016; Hamilton, Darity, Price, Sridharan, & Tippett, 2015; Massey & Denton, 1993). Moreover, because Americans tend to adhere to narratives of racial progress, estimates of the magnitude of this inequality tend to systematically underestimate its magnitude. This is true in the domains of earned wages, income, wealth, and employer-provided health care—Americans, and particularly White Americans, tend to overestimate current racial equality with Black Americans (Kraus, Rucker, & Richeson, 2017).

In prior research, one of the primary motivations for being overly optimistic about racial equality is that it supports prevailing narratives of racial progress in society. In essence, the need to support narratives of racial progress elicits motivated cognition that brings to mind high status and high achieving Black exemplars that support narratives of racial equality (Kraus et al., 2017). Indeed, research has found that motivations can shape which types of Black exemplars are salient for perceivers (Sinclair & Kunda, 1999), and that perceivers flexibly activate the type of Black exemplars that will best satisfy their motivational concerns. The implication of this exemplar explanation is that the effect of overestimation of racial equality should be larger to the extent that question format and phrasing facilitates the bringing to mind of these abstract high status Black targets.

In the original studies examining overestimates of Black-White economic equality respondents were asked to first bring to mind a typical White family who has \$100 of a particular economic resource such as income and then to think of how much a typical Black family would have of that same resource on a \$0 to \$200 sliding scale. If bringing to mind high status Black

exemplars is causal in eliciting overestimates of Black-White equality, then asking respondents to first bring to mind a typical Black family who has \$100, a reversal of the prior methodology, should cue respondents to think of a higher status Black family, and thus should elicit wider overestimates of racial equality. In contrast, by calling to mind a typical White family first, we could be undermining the extent to which people would normally activate the type of high-status, high-income Black exemplars that serve motivations to maintain narratives of progress and equality. Research on anchoring suggests that this methodology, where White families are brought to mind will lead people to draw on Black families that are similar to the White ones brought to mind (Eriksson & Simpson, 2013). This was our central prediction for the present study. That bringing to mind a typical Black family first would elicit wider overestimates of Black-White income equality than would bringing to mind the typical White family.

Method

The experiment consisted of 607 participants recruited through Amazon mechanical turk. The sample mean age was 36.80 ($SD = 12.85$), was 74.14% White, and 45.47% women. Participants were assigned to three conditions randomly in our between subjects experiment. In the White reference condition, participants were asked, as in our prior research (Kraus et al., 2017), to think of a White family first (who had \$100 in income). In the Black reference condition, participants thought of the Black family first. Participants then estimated the income of a family of the other race on the same \$0-\$200 scale. We also included a third condition which also involved thinking of a Black family first but used an open-ended response option instead of the scale. We included this third condition because our \$0-\$200 scale has slightly different accurate responses when considering a White versus a Black family first, and we wanted to determine if reference group would influence estimates of racial income disparities

independent of the scale. Participants then estimated the family income of the White/Black family that was not the reference group either using the \$0 to \$200 sliding scale or the open ended response box for the third condition.

To compute the accuracy of estimates, we compared participant perceptions to current federal estimates of the Black-White income gap, which finds that Black Americans have around \$57.30 for every \$100 in income among White Americans (Economic Policy Institute, 2017). In this analysis, we removed six free response estimates because they were more than 2.5 standard deviations from the mean estimate.

Results

In the study, and aligning with our prior research, one-sample t-tests revealed that participants in all three experimental conditions overestimated the current state of racial income equality $t(196 \text{ to } 202) > 8.85, p_s < .001$. This pattern replicates the findings from Kraus and colleagues (2017)—no matter the reference group, respondents overestimate Black-White income equality relative to federal data.

Experimental condition differences also emerged that align with our predictions $F(2,598) = 27.073, p < .001$. When examining group differences using the Fisher LSD test, participants who thought of the Black family first generated larger (i.e., less accurate) estimates of equality than participants who thought of the White family first both using the scale estimate $p_{LSD} < .001$ and the free response estimate $p_{LSD} < .001$ (Figure 1). This effect emerged presumably because thinking of the typical Black family first, in the context of a study about racial inequality, brought high-status Black exemplars to mind more readily than the reverse condition where a White family was brought to mind initially. Importantly, both the free response estimate and the

scale estimate where the typical Black family was thought of first elicited greater overestimates of racial equality than did the scale estimate where a White family was brought to mind first.

Figure 1. Mean estimates of Black family income from a sample of perceivers ($N = 607$) who made estimates of current racial income equality when thinking of a typical White family or a typical Black family with \$100 in income before estimating the income of the comparison race family using a \$0-200 scale or a free response box. A score of 0 indicates accuracy with federal estimates of Black-White income inequality where Black Americans make \$57.30 for every \$100 made by White Americans. Error bars indicate 95% confidence intervals surrounding the mean.

Discussion

Consistent with prior research, we found that three variations on the same method of asking about Black-White income equality yielded converging results which suggest that Americans tend to overestimate income equality between Black and White Americans.

Interestingly we also found a result suggesting that the reference group matters for the magnitude of these overestimates. Importantly, methods that allowed participants to bring to mind high status Black exemplars increased overestimates of Black White income equality either done using scale or free response methods. This finding is consistent with prior research indicating that people bring Black exemplars to mind to satisfy activated motives (Sinclair & Kunda, 1999) and that high status Black exemplars are particularly salient in the context of narratives of progress toward income equality between racial groups.

A few limitations on this study bear mentioning. First, the sample would likely be more impervious to reference effects of this kind if the people within the sample had more meaningful contact with Black families, and given this pattern, a White sample, like the one found on online crowdsourcing platforms like mechanical turk is particularly likely to show these kind of reference effects. We could imagine meaningful contact between participants and Black families would be a significant moderator of these experimental results, but obviously, that work is something researchers (perhaps us) should pursue in the future.

It is interesting to think about motivated search in contrast to recent findings that underscore associations between Black American stereotypes and low status positions in society (i.e., welfare; Alter, Stern, Granot, & Balcetis, 2016; Brown-Iannuzzi et al., 2017; Hetey & Eberhardt, 2018; Lei & Bodenhausen, 2017). Here we highlight that the salience of high status Black exemplars is higher in the context of considering racial inequality than in contexts where people are bringing to mind social safety net programs or incarceration rates. In the latter case, high status exemplars and associated narratives of racial progress would be less relevant, and therefore, less readily accessible (Lowery, Hardin, & Sinclair, 2001; Sinclair & Kunda, 1999). Instead, the present results are a case where people bring to mind Black exemplars in ways that

reduce the extent that people are aware of the magnitude of racial inequality, and by implication, responsible for doing something to redress this inequality. Outlining the precise contexts where high status exemplars of Black Americans as well as other racial minority groups are active and when low status stereotypes are elicited is an important topic of future research.

Importantly, racial inequality is a persistent part of American social and economic life and until people are able to see the sheer magnitude of the divide between White and Black Americans policy decisions that impact these disparities will be difficult to intervene upon. The present research indicates that though reference effects can magnify or diminish perceptual errors in estimating racial disparities what is clear is that Americans chronically overestimate the extent that society is equal no matter the ways in which the questions are worded.

References

- Alter, A. L., Stern, C., Granot, Y., & Balceris, E. (2016). The “bad is black” effect: Why people believe evildoers have darker skin than do-gooders. *Personality and Social Psychology Bulletin*, 42(12), 1653-1665.
- Bodenhausen, G. V., Schwarz, N., Bless, H., & Wänke, M. (1995). Effects of atypical exemplars on racial beliefs: Enlightened racism or generalized appraisals?. *Journal of Experimental Social Psychology*, 31, 48-48.
- Bonilla-Silva, E. (2017). *Racism without racists: Color-blind racism and the persistence of racial inequality in America*. Rowman & Littlefield.
- Brown-Iannuzzi, J. L., Dotsch, R., Cooley, E., & Payne, B. K. (2017). The relationship between mental representations of welfare recipients and attitudes toward welfare. *Psychological science*, 28(1), 92-103.
- Desmond, M. (2016). *Evicted: Poverty and profit in the American city*. Broadway Books.
- Eriksson, K., & Simpson, B. (2013). The available evidence suggests the percent measure should not be used to study inequality: Reply to Norton and Ariely. *Judgment and decision making*, 8(3), 395.
- Hamilton, D., Darity Jr, W., Price, A. E., Sridharan, V., & Tippett, R. (2015). Umbrellas don’t make it rain: Why studying and working hard isn’t enough for Black Americans. *New York: The New School*.
- Hetey, R. C., & Eberhardt, J. L. (2014). Racial disparities in incarceration increase acceptance of punitive policies. *Psychological Science*, 25(10), 1949-1954.

- Hetey, R. C., & Eberhardt, J. L. (2018). The numbers don't speak for themselves: Racial disparities and the persistence of inequality in the criminal justice system. *Current Directions in Psychological Science*, 27(3), 183-187.
- Kraus, M. W., Rucker, J. M., & Richeson, J. A. (2017). Americans misperceive racial economic equality. *Proceedings of the National Academy of Sciences*, 114(39), 10324-10331.
- Lei, R. F., & Bodenhausen, G. V. (2017). Racial assumptions color the mental representation of social class. *Frontiers in psychology*, 8, 519.
- Lowery, B. S., Hardin, C. D., & Sinclair, S. (2001). Social influence effects on automatic racial prejudice. *Journal of personality and social psychology*, 81(5), 842.
- Sinclair, L., & Kunda, Z. (1999). Reactions to a black professional: motivated inhibition and activation of conflicting stereotypes. *Journal of personality and social psychology*, 77(5), 885.