

## Changes in Income Predict Change in Social Trust: A Longitudinal Analysis

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*Social trust is a psychological variable important to politics, the community, and health. Theorists have predicted that socioeconomic status determines social trust, but also that social trust determines socioeconomic status. The current study tested the viability of both causal directions using longitudinal data from representative samples of the United States and the United Kingdom. Results demonstrated that a model where increases in socioeconomic status (measured by income) predict increases in social trust is more viable than a model where increases in social trust predict increases in socioeconomic status.*

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**KEY WORDS:** trust, social trust, socioeconomic status, social class, income

Social trust, an individual's expectation that other people and groups can be relied on, "is one of the most important synthetic forces within society" (Simmel, 1950, p. 318). People with higher levels of social trust are more likely to participate in the community (Putman, 2000; Shah, 1998), participate in politics (Crystal & DeBell, 2002), report good health (Subramanian, Kim, & Kawachi, 2002), and have a cooperative view of international relations (Brewer & Steenbergen, 2002). One consistent correlate of social trust is socioeconomic status, with the poor and uneducated reporting less social trust than their higher-status counterparts (Alesina & La Ferrara, 2002; Brandt & Henry, 2012b; Gheorghiu, Vignoles, & Smith, 2009; Hamamura, 2012; Henry, 2009).

There is causal ambiguity surrounding the association between socioeconomic status and social trust because the long-term experiences associated with socioeconomic status cannot be manipulated. There is, however, fluidity to both trust and socioeconomic status, such that people may increase or decrease their trust in others, and people may increase or decrease their socioeconomic status (e.g., income) over time. While there are plausible theoretical reasons to expect that changes in socioeconomic status may cause changes in social trust, there are equally compelling theoretical reasons to expect that social trust may cause increases or decreases in socioeconomic status. This article simultaneously tests the viability of the two causal directions surrounding the socioeconomic status and social trust association with longitudinal models in two datasets representative of the United States and the United Kingdom.

### **Social Status → Social Trust**

There is a consistent positive correlation between socioeconomic status and social trust (Alesina & La Ferrara, 2002; Gheorghiu et al., 2009; Hamamura, 2012; Henry, 2009). One explanation for this pattern builds on research from social psychology on social status and stigma (e.g., Goffman, 1963; Major, Quinton, & McCoy, 2002). These perspectives suggest that people with low social status who face disrespect and discrimination in society experience long-term threats to their social worth, which leads them to become more psychologically defensive (Henry, 2009, 2011). One way psychological defensiveness can manifest is through less trust (see Brandt & Henry, 2012b). For example, research has found that information about a business that threatens the social identity of African Americans leads African American professionals to distrust the business (Purdie-Vaughns, Steele, Davies, Dittmann, & Crosby, 2008), and African Americans who expect to be rejected because of their race (compared to those who do not) also experience more distrust of others (Mendoza-Denton, Downey, Purdie, Davis, & Pietrzak, 2002). Those of lower socioeconomic status may be operating under the same principles (see also Putman, 2000).

On the other hand, higher socioeconomic status may cause greater social trust because people who have high social status are more likely to have more successful professional experiences, greater social capital (Alesina & La Ferrara, 2002; Shah, 1998; cf. Brehm & Rahn, 1997), and other resources that afford them the risks and vulnerabilities of trust (Hamamura, 2012). Regardless of the reason, these theoretical perspectives predict that low social status is a cause of social distrust (and conversely, that higher status increases trust). Importantly, the present study would be the first to our knowledge to use longitudinal data to test for evidence consistent with a causal relationship from social status to trust.

### **Social Trust → Social Status**

Just as there are reasons to believe that increases in socioeconomic status drive levels of social trust, there are reasons to believe that greater social trust could influence socioeconomic status. Here too there are plausible arguments for both positive and negative relationships. Social trust could lead to losses in income and socioeconomic status. Trust, as it has been defined, requires a “vulnerability based upon the positive expectations of the intentions or behavior of another” (Rousseau, Sitkin, Burt, & Camerer, 1998, p. 385). Accepting vulnerability has the potential to be hazardous. In the classic prisoner’s dilemma, a person who consistently accepts the vulnerability of cooperating against a person who is consistently competitive will be on the losing end of the exchange. This reasoning suggests that trusting could lead to lower income and status particularly in environments where it is easy to be taken advantage of.

Despite this reasoning, research finds that consistent cooperators in social dilemmas typically benefit from their cooperation (Weber & Murnighan, 2008) and that people who have more social trust are more likely to build social and cultural capital (Brehm & Rahn, 1997; Putman, 2000), which could be translated into promotions, bonuses, or other increases in income-based socioeconomic status. Furthermore, evidence has shown that a worker’s trust in an organization is associated with lower turn-over intentions and more commitment to the organization (Aryee, Budhwar, & Chen, 2002).

### **The Current Studies**

In sum, there are plausible reasons to expect that the association between socioeconomic status and social trust may be either positive or negative, and the casual direction may flow from social status to social trust or the reverse (or possibly in both directions). Although there is good reason to

believe that the association between social trust and socioeconomic status is positive based on previous cross-sectional findings in the literature, the causal direction is more ambiguous. It is not possible (or ethical) to directly or intentionally manipulate a person's long-term socioeconomic status to test its causal effect on trust, nor is it possible to manipulate a person's trust in others over the course of enough time to determine its long-term effect on their socioeconomic status. However, there are other means to arrive at causally relevant information other than experimentation, particularly when experimentation is impractical or impossible to implement ethically. Longitudinal regression and path models are one such approach, and can establish two important criteria for causal claims, that of covariation and temporal priority (Cohen, Cohen, West, & Aiken, 2003). They can also rule out the possibility of some alternative explanations by including control variables and can simultaneously test the viability of both causal patterns within the same set of data.

In the present studies, we consider two longitudinal datasets of representative samples of the United States and the United Kingdom that include measures of socioeconomic status (income) and trust across different time points. This procedure allows us to test both directions of the causal paths between social status and social trust. Specifically, we test whether changes in social status predict changes in social trust or changes in social trust predict changes in social status, or a combination of the two.

## Method

### *Participants*

Study 1 included 535 participants from the 2000 (Time 1), 2002 (Time 2), and 2004 (Time 3) waves of American National Election Study (ANES) panel. Study 2 included 1,248 participants from the 1998 (Time 1), 2003 (Time 2), and 2008 (Time 3) waves of the British Household Panel Study. All analyses in Studies 1 and 2 used weight variables for panel analyses created by the ANES and British Household Panel Study to ensure a representative sample.

### *Measures*

We examined income as our key measure of socioeconomic status at all time points. In Study 1, respondents' household income ranged from 1 = "under \$14,999" to 6 = "\$84,999 or over." In Study 2, participants reported their gross personal income in British pounds, which was log transformed.

The measures of social trust are identical to those used previously in the literature (e.g., Alesina & La Ferrara, 2002; Delhey & Newton, 2003; Henry, 2009). In Study 1, a three-item measure was available at Time 1. Participants were asked (1) whether "most of the time people try to be helpful" or if "they are just looking out for themselves," (2) whether "people would try to take advantage of you if they got the chance" or if "they would try to be fair," and (3) whether you "can't be too careful in dealing with people" or if "most people can be trusted." Responses indicating social distrust were coded to equal 0 and social trust to equal 1. These items were averaged to create a reliable scale (Cronbach's  $\alpha = .70$ ). For Time 2 and 3, participants were randomly assigned to respond to either social-trust item 1 or item 2. All participants completed social-trust item 3, so that Time 2 and 3 social trust consisted of the average of two items: social-trust version 1 (V1) = items 1 and 3, social-trust version 2 (V2) = items 2 and 3. The items were sufficiently correlated to justify combining into a scale (item 1 correlated with item 3 at both Time 2 ( $r[279] = .36, p < .001$ ) and Time 3 ( $r[279] = .39, p < .001$ ), and item 2 correlated with item 3 at both Time 2 ( $r[252] = .61, p < .001$ ) and Time 3 ( $r[252] = .61, p < .001$ ). Preliminary analyses indicated that the two social-trust measures

had different effects, and so in subsequent analyses, the measures were analyzed separately.<sup>1</sup> In Study 2, participants rated social trust at each time point by indicating that “most people can be trusted” (coded 1) or “you cannot be too careful” (coded 0).

We also included age, gender, and race to adjust for demographics.<sup>2</sup> Life satisfaction (measured at Time 1) was also included because of its association with both income and social trust (e.g., Helliwell & Putnam, 2004). In Study 1, participants rated “how satisfying do you find the way you’re spending your life these days” on a scale from 1 (*completely satisfying*) to 5 (*not very satisfying*). In Study 2, participants rated their “satisfaction with life overall” on a scale ranging from 1 (*not at all satisfied*) to 7 (*completely satisfied*).

## Results

All variables were coded to range between 0 and 1. Our hypothesis is that *changes* in income predict *changes* in social trust, so we computed residual variables representing changes from Time 1 to Time 2 and changes from Time 2 to Time 3 for both income and social trust. We used the residuals from these regression analyses in the path models to represent change from Time 1 to Time 2 and Time 2 to Time 3 for both trust and income respectively. We used a cross-lagged design and computed the path models in Mplus version 6.11 (Muthén & Muthén, 1998–2010). Model 1 includes only the primary variables of interest. Model 2 includes all of the covariates. All models were fully saturated (and thus all models had perfect fit; i.e.,  $\chi^2 = 0$ , CFI = 1, RMSEA = 0), so we do not report fit indices for each individual model.

The path between Time 1 and 2 income changes and Time 2 and 3 social-trust changes represents the test of the socioeconomic status → social-trust hypothesis. The path between Time 1 and 2 social-trust changes and Time 2 and 3 income changes represents the test of the social trust → socioeconomic status hypothesis.

As can be seen in Figures 1 and 2, changes in income positively predicted changes in social trust in Study 1 with social trust V2 and Study 2. That is, as participants reported positive changes in their income, they also reported increases in their levels of social trust at a later time point. This relationship, although not found in Study 1 with social trust V1, was largely robust to the inclusion of the covariates and provides some support for the idea that higher socioeconomic status causes increases in social trust. The size of the coefficients of the increases in income predicting increases in social trust were largely the same between Study 1 and Study 2, both with ( $z$ -scores < 1.47,  $p$ 's > .14) and without covariates ( $z$ -scores < 1.33,  $p$ 's > .18). This suggests that the effects were similarly sized across the two studies.

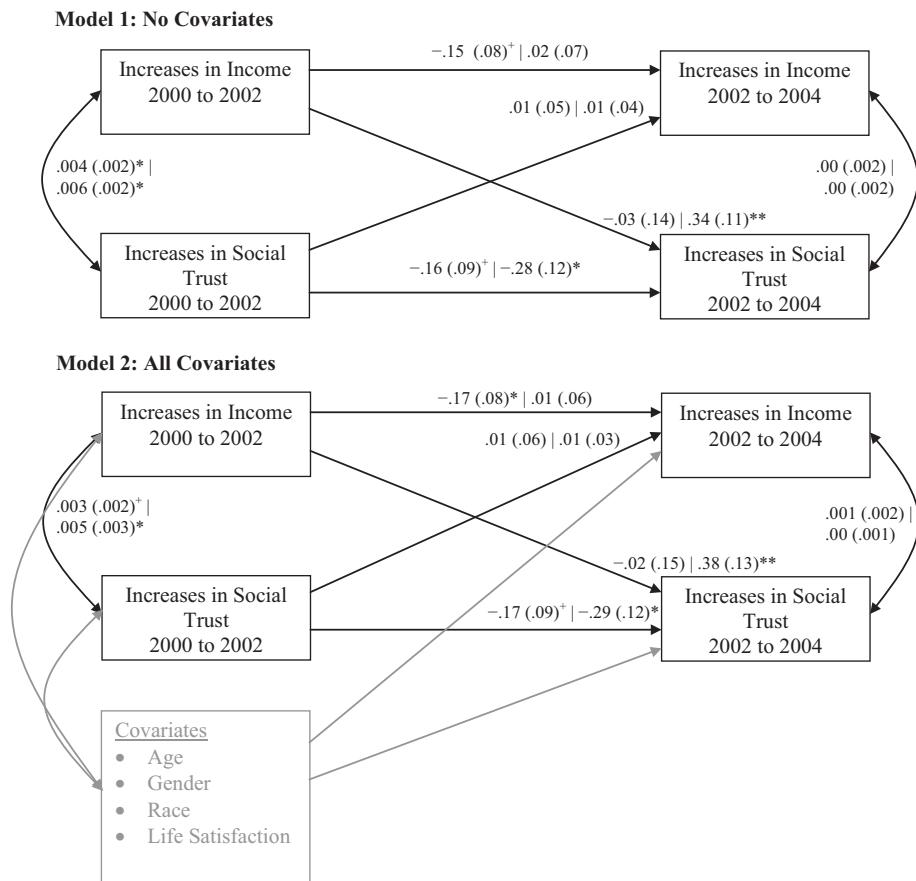
The reverse causal path that uses changes in social trust to predict changes in income, however, was not significant with or without the covariates in either study with either version of the social trust measure. This nonsignificant relationship suggests that the idea that high social trust predicts increases in socioeconomic status is less plausible, at least not across the time periods used in these two studies (Study 1 = 4 years, Study 2 = 10 years).

## Discussion

Social trust is important across a variety of life domains, including politics, the community, and health. We found that a decline in social status was associated with a decline in social trust at a later time point, consistent with theories arguing that socioeconomic status causes social trust (Alesina &

<sup>1</sup> Details of these analyses are available from the first author.

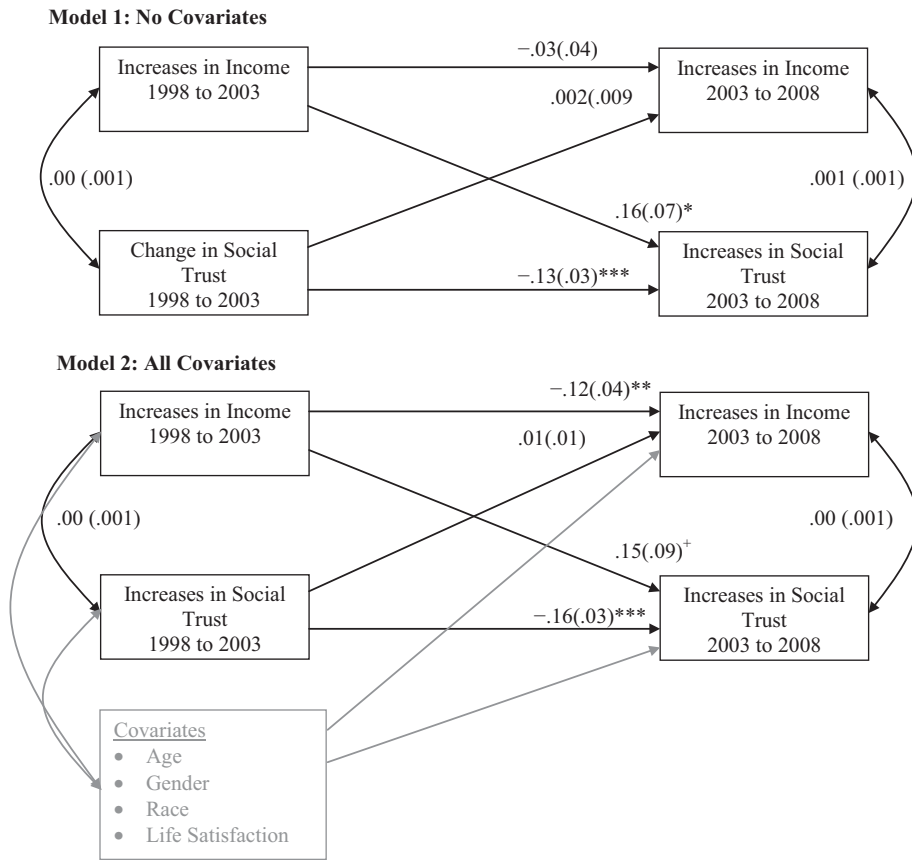
<sup>2</sup> The race variable in Studies 1 and 2 and the gender variable in Study 1 were available only in the Time 2 wave.



**Figure 1.** Study 1: Increases in income predict increases in social trust in an American sample. All coefficients are unstandardized estimates (standard errors). Coefficients on the left-use social trust V1. Coefficients on the right-use social trust V2.  $^+p < .10$ ,  $^*p < .05$ ,  $^{**}p < .01$ ,  $^{***}p < .001$

La Ferrara, 2002; Henry, 2009; Putman, 2000). Some perspectives, however, also suggest that social trust causes status. Although plausible, we did not find evidence for this perspective. The causal sequence from socioeconomic status to social trust appears to be the more viable and robust sequence. In sum, the results confirm the positive association between socioeconomic status and social trust uncovered in the cross-sectional literature and establishes that this effect is likely because changes in socioeconomic status predicts changes in social trust.

Future work should explore the specific mechanisms of this association. There are several psychological reasons socioeconomic status would predict lower levels of social trust. Our preferred perspective argues that members of low-status groups face long-term threats to their social value. These threats to social value lead members of low-status groups to be more psychologically defensive, which can manifest in social distrust, but also in authoritarianism (Brandt & Henry, 2012a; Henry, 2011), stronger religious beliefs (Brandt & Henry, 2012b), and reactive aggression in the face of insults (Henry, 2009). Although this interpretation is consistent with the data, there are other perspectives that may account for the association between social status and social trust. For example, people with high social status may have social experiences that facilitate the development of social trust. People high in social status often have greater resources (both social and economic) at their disposal, and these resources may afford high-status group members the luxury to trust other people.



**Figure 2.** Study 2: Increases in income predict increases in social trust in a British sample. All coefficients are unstandardized estimates (standard errors). <sup>+</sup>*p* < .10, \**p* < .05, \*\**p* < .01, \*\*\**p* < .001

Another explanation may be that members of low-status groups have more experiences with being cheated or lied to, and for practical and realistic reasons adopt a less trusting stance. Relatedly, future work should also explore why the results differed between the two versions of the social-trust measure. Perhaps the perception of people’s willingness to take advantage of other people (the item unique to V2) is more tightly related to the experience of low social status compared to perceptions of helpfulness (the item unique to V1). By testing multiple explanations for the social status → social-trust causal path, it will be possible to develop a more complete understanding of the origins of social trust and the experience of social status.

### Two Kinds of Trust?

There is an important distinction to be made between a generalized social trust (the focus of this article) and trust directed towards specific individuals. For example, one study showed that in a trust game people with lower socioeconomic status made more trusting responses, not less, compared to people with high socioeconomic status (Piff, Kraus, Cheng, Côté, & Keltner, 2010). Others have found that among African American men, working-class men compared to men from higher classes have closer friendships characterized by more self-disclosure and emotional vulnerability, elements of trusting relationships (Franklin, 1992). Despite the consistent negative association between

socioeconomic status and trust that we have reviewed, these studies seem to indicate the converse, that people from poorer working-class backgrounds instead may be more trusting than people with higher social classes. Preliminarily, we suggest that the same mechanism—psychological defensiveness due to a stigmatized identity—may actually account for both effects. For more generalized and abstract social trust, as we have already described, people with low socioeconomic status endorse these beliefs because they face long-term threats to their social worth from a society that chronically devalues them (see also Brandt & Henry, 2012a; Henry, 2009). However, for social trust with actual individuals such as friends and interaction partners, members of low-status groups may be more motivated to form strong trusting bonds to reassure themselves of their overall sense of belonging that would otherwise be threatened by their stigma and low social status (Smart Richman & Leary, 2009). We could not test these explanations here because the surveys did not include both types of trust, but future work should examine potential mechanisms for divergent associations between socioeconomic status and different manifestations of trust.

### Caveats

Despite the strengths of the longitudinal data and representative samples used here, there are at least three shortcomings. First, longitudinal models provide good, but not experimental, evidence for causality. Experimental evidence is impossible for capturing the long-term experience of social status; nevertheless, additional third variables that we did not anticipate may still account for the relationships we have documented, and we cannot definitively rule them out. Second, there may not have been enough time between the waves of the surveys to adequately capture changes in income, and thus we may underestimate the size of the social trust → social-status association. However, because the effects replicated across surveys with both a four-year and a 10-year time period, we do not think this is likely. Third, the measures of social trust consisted of only a few items. Lengthier measures of social trust may more accurately represent the construct and be more sensitive to changes over time. With this noted, the current study is consistent with much of the literature that has consistently used the same items we adopted. Nevertheless, additional research using broader measures of social trust and a longer time between time points can help clearly establish the direction and robustness of the effects shown here.

Being in a lower socioeconomic position in society is not free of psychological effects. In these two studies, we provide evidence that changes to real-world socioeconomic status in representative adult samples can have psychological consequences on trusting others. These studies provide further empirical evidence concerning the psychological consequences of the experience of social status in society.

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