


Social-Class Differences in Consumer Choices: Working-Class Individuals Are More Sensitive to Choices of Others Than Middle-Class Individuals

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Abstract

The present research shows that, when making choices, working-class Americans are more affected by others' opinions than middle-class Americans due to differences in independent versus interdependent self-construal. Experiment 1 revealed that when working-class Americans made decisions to buy products, they were more influenced by the choices of others than middle-class Americans. In contrast, middle-class Americans were more likely to misremember others' choices to be consistent with their own choices. In other words, working-class Americans adjusted their choices to the preference of others, whereas middle-class Americans distorted others' preferences to fit their choices. Supporting our prediction that this social-class effect is closely linked to the independent versus interdependent self-construal, we showed that the differences in self-construal across cultures qualified the social-class effects on choices (Experiment 2). Moreover, when we experimentally manipulated self-construal in Experiment 3, we found that it mediated the corresponding changes in choices regardless of social class.

Keywords

social class, culture and self, choice, social influence

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It is widely assumed that people make choices based on personal preferences (Bettman, Luce, & Payne, 1998; Samuelson, 1937), especially in the United States (Savani, Markus, & Conner, 2008). However, classic studies also show that individuals are vulnerable to social influences (e.g., Asch, 1956; Milgram, 1963). Thus, the present research examined how individuals made choices when their personal preferences were in conflict with the preference of others and more importantly, what role social class would play in this process. To illustrate the case vividly, imagine that a new smartphone you have long awaited has been just released. You are ready to buy it, but it turns out that other people heavily favor a different smartphone. Which smartphone would you choose? Based on personal preferences (i.e., what you like), will you choose the phone you have been waiting for? Or respecting social preferences (i.e., what others like), will you change your mind? Also, how would you remember others' preferences once the choice is made? We propose that the answer to these questions would be affected by social class in the United States. More specifically, the effect of social preferences would be stronger for working-class

Americans than for middle-class Americans. Moreover, we argue that the predicted social-class differences in the United States are closely linked to the corresponding differences in *independent* versus *interdependent* self-construal. Therefore, the present research also predicted that the social-class difference in choices would be substantially modulated by cross-cultural as well as experimentally induced differences in self-construal, as detailed below. Finally, we also explored how one's memory of social preferences would be influenced by his or her choice and how social class would influence this process.

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Social Class and Choice

Socio-cultural contexts are vastly different for working-class and middle-class Americans, and this influences how sensitive one would or should be to contextual constraints of one's behavior (e.g., Kraus, Piff, Mendoza-Denton, Rheinschmidt, & Keltner, 2012). For example, the burgeoning gap in income between working-class and middle-class Americans creates large differences in accessible resources (Norton & Ariely, 2011). Moreover, working-class and middle-class parents in the United States provide different environments for their kids such that obedience rather than self-direction is emphasized by working-class parents more than middle-class parents (Kohn & Schooler, 1969, 1982). Due to these differences in material and social constraints, one's self-construal correspondingly varies as a function of social class (Snibbe & Markus, 2005; Stephens, Markus, & Fryberg, 2012). Specifically, an emerging literature suggests that working-class contexts promote an interdependent self-construal, in which the self is construed as an entity embedded in social relations. In contrast, middle-class contexts promote an independent self-construal, in which the self is construed as a separate entity with unique attributes (Stephens, Fryberg, & Markus, 2011; Stephens, Markus, & Townsend, 2007).

Consistent with these differences in self-construals, working-class Americans have been shown to be more sensitive to social contexts than middle-class Americans (Cohen, 2009; Kraus, Piff, & Keltner, 2011; Stephens et al., 2012). For example, working-class Americans judged others' emotions more accurately than middle-class Americans (Kraus, Côté, & Keltner, 2010). Similarly, working-class Americans were more affected by situational cues in social perception, whereas middle-class Americans favor dispositional explanations of social events (Kraus, Piff, & Keltner, 2009). Taken together, this literature suggests that when making choices, working-class Americans who are sensitive to contextual cues should be affected by other's opinions more than internally driven middle-class Americans.

In line with this reasoning, previous research suggests that middle-class Americans base their choices primarily on internal attributes (e.g., personal preferences), whereas other normative factors (e.g., a concern for social harmony) loom much larger for working-class Americans (Stephens et al., 2011; Stephens et al., 2007). For example, compared with middle-class Americans, working-class Americans were more likely to choose a pen that looked similar to other pens and to feel good when their choice was shared by others (Stephens et al., 2007). Although these studies provide initial support for our prediction, personal and social preferences did not directly conflict with one another in previous studies. Therefore, the present research investigated not only whether social class would affect sensitivity to social preference but also whether working class' sensitivity to social preferences would override their personal preferences. We hypothesized that compared with middle-class Americans, working-class

Americans would be more likely to switch their choices when their own choices conflicted with the choices made by majority others.

In addition, it may be interesting to examine possible social-class differences in how accurately they remember social preferences. Working-class Americans are expected to be quite accurate in their memory of social preferences due to their sensitivity to social contexts. However, there exist interesting possibilities regarding middle-class Americans. Given that middle-class Americans value uniqueness (Stephens et al., 2007), they may exaggerate the difference between personal and social preferences in their memory. However, middle-class Americans may want to believe that their choice is also popular among others because middle-class Americans are highly motivated to justify their choice (Snibbe & Markus, 2005) and high status is generally associated with an approach toward positive outcomes such as popularity (e.g., Keltner, Gruenfeld, & Anderson, 2003). Thus, it is informative to investigate how working-class and middle-class Americans would remember both consistent and inconsistent social preferences.

The Independent Versus Interdependent Self-Construal and Social-Class Differences in Choices

The literature suggests that variations in self-construal on the independence/interdependence continuum are a key factor influencing social-class differences in the United States. If so, the predicted social-class effects on choice should be influenced by factors that are associated with self-construal. Thus, the present work examined how cross-cultural differences in self-construals would interact with the predicted social-class differences. Furthermore, to directly test its effect, we experimentally manipulated self-construal.

First, one's self-construal systematically varies across cultures (Kitayama, Duffy, & Uchida, 2007; Markus & Kitayama, 1991) and thus, the predicted social-class differences might be modified by culture. People in independent countries (e.g., Americans or Western Europeans) tend to believe that the self is defined by internal attributes (an independent self-construal), and thus, it is believed that these internal attributes (e.g., personal preferences) guide one's behavior including choice (Kitayama & Imada, 2008; Triandis, 1989). In contrast, people in interdependent countries (e.g., East Asians or Indians) tend to believe that the self is defined by important social relations (an interdependent self-construal), and thus, one's behavior including choice is a means to respond to social expectations (Kitayama & Imada, 2008; Savani et al., 2008). Therefore, in independent countries, choice is an important way of expressing oneself (Kim & Sherman, 2007) and is psychologically meaningful when it is not contaminated by other people (Imada & Kitayama, 2010); whereas, in interdependent countries, choice is an important way of

expressing social attributes (e.g., social status; Kim & Drolet, 2009) and is psychologically meaningful when it is made in the presence of social implications such as reputation (Imada & Kitayama, 2010; Na & Kitayama, 2012).

To summarize, Asian cultures promote an interdependent self-construal and hence, social sensitivity. Therefore, it is expected that Asians should be more sensitive to social preferences than Americans. Furthermore, Asians may be highly sensitive to others' opinions regardless of their social class. In line with this thinking, Miyamoto and Wilken (2010) found that U.S. leaders (i.e., those who could influence others) adopted a context-independent perceptual style in the United States and Japanese leaders adopted a context-sensitive perceptual style in Japan. In other words, high social status leads to different perceptual styles depending on their culture; specifically, their findings suggest that high social status leads to inclination to internal attributes (e.g., personal goals) in the United States, and social contexts (e.g., other people) in Asia. Similarly, a higher hierarchical level in organizations resulted in more conformity in Japan (Naoi & Schooler, 1985), but not in the United States (Kohn & Schooler, 1982). These findings show that psychological effects of social status vary across cultures. Therefore, we expected that the predicted social-class effects (less sensitivity to social preferences among middle-class Americans) would be diminished or even completely offset among Asians.

Finally, the present research investigated the effect of self-construal more directly by inducing temporary changes in self-construal. It is of particular importance to do so not only because it would support the critical role of self-construal, but also because it would show that chronic social-class differences can be easily manipulated. Numerous studies have demonstrated that simple manipulations temporarily alter one's self-construal (see Oyserman & Lee, 2008, for a review). For example, repeated exposures to first-person singular pronouns prime an independent self-construal whereas repeated exposures to first-person plural pronouns prime an interdependent self-construal (Brewer & Gardner, 1996; Gardner, Gabriel, & Lee, 1999). Similarly, an independent and interdependent self-construal was induced by thinking about differences and similarities between the self and important others, respectively (Trafimow, Triandis, & Goto, 1991). If the expected social-class effects on choices among Americans are largely driven by differences in independent versus interdependent self-construal, temporary changes in self-construal induced by priming should be able to change one's sensitivity to social preferences accordingly.

Experiment 1

In Experiment 1, participants chose one of two consumer products to purchase and then were informed of the choice made most frequently by others. When given an opportunity to make a second choice, we expected working-class

Americans to be more likely to change their choice in the direction of others.

Method

Participants. Participants were 43 students at the University of Texas at Dallas. In all experiments, the number of participants was not pre-determined. Instead, we aimed at recruiting as many participants as possible from the university subject pool in a given semester. To measure their social-class backgrounds, two indices of social class were used in Experiment 1. First, maternal educational attainment served as a main index of social class, following previous studies (Snibbe & Markus, 2005; Varnum, Na, Murata, & Kitayama, 2012). Education is one of the most frequently used indicators of social class including investigating social-class differences in choice (Stephens et al., 2011; Stephens et al., 2007). Specifically, maternal education was used because maternal influences are known to be stronger than paternal influences in socialization processes (e.g., Kliever, 1996). Participants were designated as middle class if their mother had at least a bachelor's degree and working class if their mother did not have a bachelor's degree. We also note that using parental education did not make any significant changes in major results. Using maternal education, 21 were classified as working class (14 females; 17 European, one African, and three Hispanic Americans) whereas 22 were classified as middle class (13 females; 17 European, four African, one Hispanic American). Neither gender nor ethnicity interacted with social-class effects reported in the present research.

Second, an additional indicator of social class was used due to diverse aspects of social class (Krieger, Williams, & Moss, 1997). Specifically, subjective social class was measured with the MacArthur Scale of Subjective Socioeconomic Status (Kraus et al., 2009). In this measure, participants were given a ladder with 10 rungs representing where people stand in terms of education, income, and occupation; 1 (the bottom rung), the people who are the worst off to 10 (the top rung), the people who are the best off. Then, they were asked to place a large X on the rung they belonged to. Larger numbers on this measure reflect higher social class.

Choice task. The experiment was introduced as a consumer survey. Then, participants performed a computer-based choice task consisting of three phases (Choice, Change, and Recognition). In each trial of the choice phase (60 trials), two products of the same kind (e.g., two pens) were shown side-by-side and participants chose one product they would like to purchase. The two products differed only in aesthetic style. Also, to make the task realistic, the images of products were acquired via online retail websites. Then, social preferences were manipulated. Specifically, participants received feedback regarding the popularity of the chosen object (i.e., percent of previous participants who had made the same choice). In one half of the trials (consistent trials), the majority of

previous participants chose the same product as the participant (i.e., percent of participants randomly varied from 75% to 95%). In the remaining half (conflicting trials), only a minority of previous participants made the same choice (i.e., percent of participants randomly varied from 5% to 25%). To ensure that participants understood the feedback, they were asked to indicate the more popular item of the two.

The change phase came next and allowed participants to reassess their choices. This phase is critical because it allowed us to examine whether choices would change in response to the consistent/conflicting feedback. In this phase, the same pairs of consumer products were given (in a different random order) and participants once again indicated which product they would purchase. They were instructed to base their new choice on their current feelings rather than their memory for their previous choices.

Finally, in the recognition phase, memory about the feedback was assessed. Participants viewed 97 pairs of consumer products, where 60 were “old” pairs used in the previous phases (i.e., the pairs in the 30 conflicting and 30 consistent trials) and 37 were “new” pairs. They were asked to indicate which product pairs were “old” and if “old,” which item was more popular according to the feedback in the choice phase.

Last, demographic information was collected and participants were debriefed.

Results

We first report findings using maternal education as an indicator of social class (binary classification of middle or working class) and then report the same findings using the subjective Social-Status scale (continuous measure) as an indicator of social class. These two indicators were closely associated, as middle-class participants based on maternal education also scored higher on the Social-Status scale than working-class participants, $M_s = 5.24$ versus 6.36 , $SD_s = 1.97$ versus 1.38 , for working class and middle class, respectively, $t(41) = 2.18$, $p = .04$, $d = 0.68$.

Changes in choice (maternal education). The number of times participants made changes during the chase phase was entered into a 2 (social class: working vs. middle) \times 2 (trial type: consistent vs. conflicting) mixed ANOVA with social class as a between-subject factor, and trial type as a within-subject factor. The only significant main effect was trial type, which occurred because participants’ choice changed more often after conflicting feedback than after consistent feedback, $F(1, 41) = 22.15$, $p < .001$, $\eta_p^2 = .35$. However, as hypothesized, this effect was qualified by a significant Social Class \times Trial Type interaction, $F(1, 41) = 16.50$, $p < .001$, $\eta_p^2 = .29$ (Figure 1a). To explore the interaction effect, a paired t test was conducted for each social-class group. Working-class Americans made more changes in the conflicting trials ($M = 4.38$, $SD = 2.40$) than in the consistent trials ($M = 1.90$, $SD = 1.76$), $t(20) = 7.72$, $p < .001$, $d = 1.68$, mean difference

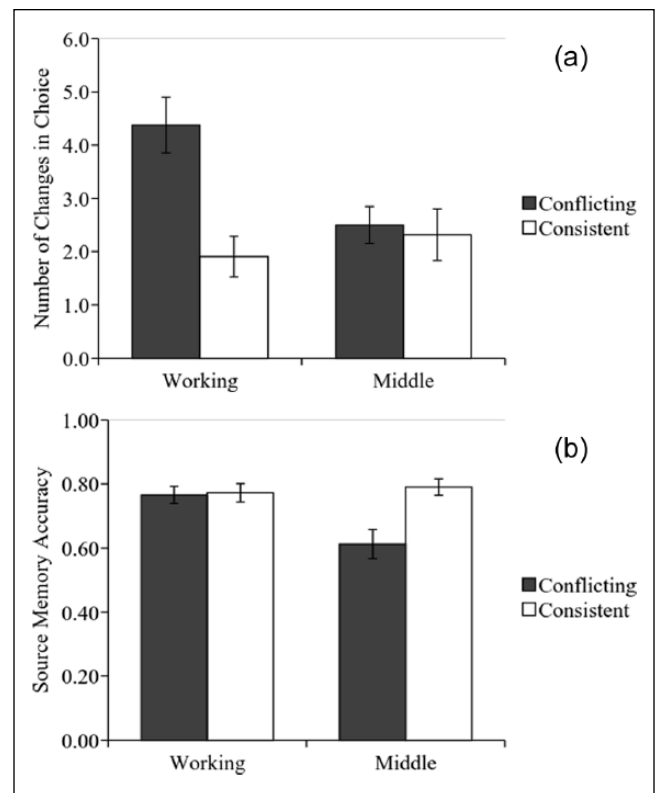


Figure 1. Results based on maternal education in Experiment 1: (a) the number of changes in choice and (b) source memory about social feedback by social class and trial type.

Note. The error bars represent SE.

$= 2.48$, 95% confidence interval [CI] = [1.81, 3.15], whereas there was no such difference between conflicting ($M = 2.50$, $SD = 1.63$) and consistent trials ($M = 2.32$, $SD = 2.28$) for middle-class Americans, $t < 1$. In other words, only working-class Americans were responsive to social preferences.

Memory (maternal education). Next, participants’ memory for social feedback was investigated. Note that there were “old” pairs (used in the previous phases) and “new” pairs of products in the recognition phase. First, there were no social-class differences in hit rates (old pairs being correctly identified as old), $M_{hit\ rates} > 0.98$, all $F_s < 2.30$. Moreover, neither false alarm rates (i.e., falsely recognizing “new” pairs as “old”) nor the discrimination indices (d') (calculated using hit and false alarm; Snodgrass & Corwin, 1988) varied as a function of social class, trial type, and their interaction, $M_{false\ alarm\ rates} < 0.06$ and $M_{d's} > 3.47$, all $F_s < 2.30$. Thus, both working-class and middle-class participants differentiated “old” and “new” pairs equally well.

Then, we analyzed source memory (which item was more popular according to social feedback). First, for each participant, we calculated the probability of accurately identifying the popular item in each pair that was correctly recognized as old. A 2 (social class) \times 2 (trial type) mixed ANOVA on these

probabilities revealed that the main effect of social class was marginally significant (accuracy: working class > middle class), $F(1, 41) = 3.43, p = .071, \eta_p^2 = .08$, and that the main effect of trial type was significant (accuracy: consistent > conflicting trials), $F(1, 41) = 10.01, p = .003, \eta_p^2 = .20$ (Figure 1b). More importantly, however, the Social Class \times Trial Type interaction was significant, $F(1, 41) = 8.66, p = .005, \eta_p^2 = .17$. The interaction occurred because middle-class Americans had worse memory for conflicting than for consistent feedback, $M_{accuracy} = 0.61$ versus $0.79, t(21) = 3.86, p = .001, d = 0.82$, mean difference = $-0.18, 95\% CI = [-0.27, -0.08]$, whereas no such difference was found among working-class Americans, $M_{accuracy} = 0.77$ versus $0.76, t < 1$. That is, middle-class Americans falsely remembered that what they chose was popular in a few conflicting trials. The finding is in line with research showing the approach tendency toward positive outcomes among those with high status (Keltner et al., 2003). Moreover, this suggests that personal choice was more likely to influence memory for others' preferences for middle-class than for working-class Americans. Therefore, it can be said that working-class Americans are more sensitive to social feedback than middle-class Americans. In this sense, the effect was in line with our theoretical reasoning. This effect is further addressed in the "Discussion" section. We also note that source memory was significantly above chance (.50) regardless of social class and trial type, all $t_s > 2.45$, all $p_s < .03$, and all $d_s > 1$.

Changes in choice (subjective socioeconomic status [SES]). Our prediction was that social status (measured with the ladder task) would be negatively associated with the number of changes in choice after conflicting feedback relative to after consistent feedback (higher SES \rightarrow fewer changes in the conflicting trials than in the consistent trials). To test this prediction, the number of changes in the consistent trials was subtracted from those in the conflicting trials and this index was regressed on social status. As expected, social status negatively predicted the difference index, $\beta = -.38, p = .012, 95\% CI = [-0.67, -0.09]$. Moreover, social status remained a significant predictor when controlling for participants' gender and ethnicity, $\beta = -.39, p = .010, 95\% CI = [-0.67, -0.10]$ (gender, $\beta = .13$, and ethnicity, $\beta = .11, p_s > .39$).

Memory (subjective SES). Next, we examined how social status was associated with the participants' memory for the conflicting and consistent feedback. Given the previous interaction effect on source memory, we predicted that those with higher social status would be more likely to falsely recognize what they had chosen was popular in the conflicting trials. In other words, higher social status would lead to lower memory accuracy in conflicting trials relative to consistent trials. To test this prediction, we first subtracted memory accuracy in conflicting trials from memory accuracy in consistent trials. This memory index was expected to be positively associated with social status. Indeed, social status

positively predicted the memory index, $\beta = .34, p = .026, 95\% CI = [0.04, 0.64]$, even after controlling for gender and ethnicity, $\beta = .31, p = .035, 95\% CI = [0.02, 0.60]$ (gender, $\beta = .29, p = .053$; and ethnicity, $\beta = .15, p = .295$). Unexpectedly, we found a marginally significant tendency that female participants falsely recognized what they chose was popular more than did male participants. This gender effect neither interacted with the social-class effect nor replicated in Experiments 2 and 3. Therefore, we chose not to interpret this effect.

In sum, Experiment 1 found that working-class Americans were willing to align their choices with social preferences even when social preferences conflicted with personal preferences. In contrast, this tendency was absent among middle-class Americans. In addition, middle-class Americans, but not working-class Americans, falsely believed that what they chose was popular in a few conflicting trials. Moreover, two different indicators of social class showed converging results, corroborating the robustness of the effects.

Experiment 2

Experiment 2 had two goals. First, we attempted to replicate the memory finding in Experiment 1. The second goal was to examine the social-class effects on choices among participants from interdependent countries. Toward this end, we recruited East Asians and Indians who have been shown to be more interdependent than Americans (Kim & Drolet, 2009; Savani et al., 2008). Because social sensitivity is highly emphasized in interdependent countries (Markus & Kitayama, 1991), we hypothesized that Asians would be more attentive to others' opinions regardless of their social class than Americans, thus showing attenuated social-class effects among Asians.

Method

Participants. The Asian participants consisted of 46 undergraduates (35 females, M age = 22.30) at University of Texas at Dallas with East Asian descent ($n = 35$) and Indian descent ($n = 11$). Of these participants, 34 were international students from the respective region (10 Indians) whereas 12 were first-generation Asian Americans (one Indian). All of them were recruited through the Asia Center at the university. The U.S. participants consisted of 61 undergraduates (49 females, M age = 24.42) from the same university. As in Experiment 1, U.S. participants were predominantly European Americans (49 European Americans, six African Americans, six Hispanic Americans).

Social class. Similar to Experiment 1, two indices of social class were used. The first index of social class was maternal education. Using this index, 32 Americans were classified as working class and 29 as middle class, 26 Asians were classified as working class and 20 as middle class. The second index

of social class was the income of their immediate family. Family income was measured with an 8-point scale (1 = less than US\$40,000 to 8 = more than US\$160,000 with a US\$20,000 interval per each scale point). One U.S. participant did not report family income. The family income did not significantly vary across the two cultural groups, $t(104) = 1.24, p = .194$, although Americans ($M = 3.47, SD = 2.27$) reported slightly higher income than Asians ($M = 2.93, SD = 2.09$). Given that the median household income in the United States was US\$51,371 in 2013 (www.census.gov), participants who selected the option 2 (US\$40,000-US\$60,000) or below on our income measure were classified as working class whereas the others were classified as middle-class. Using this income index, there were 25 working-class and 35 middle-class participants among Americans, whereas there were 25 working-class and 21 middle-class participants among Asians.

All participants performed the computer-based choice task used in Experiment 1

Results

Changes in choice (maternal education). The interaction between social class and culture was tested with a 2 (social class) \times 2 (ethnic culture) \times 2 (trial type) mixed ANOVA. We hypothesized that the social-class differences shown in Experiment 1 among Americans would be attenuated among Asians. That is, the critical test of our hypothesis was the significant three-way interaction between social class, ethnic culture, and trial type. As shown in Figure 2a, the ANOVA revealed that the three-way interaction was significant, $F(1, 103) = 13.31, p = .029, \eta_p^2 = .046$. In addition, we found a significant effect of trial type, $F(1, 103) = 50.08, p < .001, \eta_p^2 = .327$; a Culture \times Trial Type interaction effect, $F(1, 103) = 4.23, p = .042, \eta_p^2 = .039$; and a Social Class \times Culture interaction effect, $F(1, 103) = 5.96, p = .016, \eta_p^2 = .055$. To further explore the critical three-way interaction, a 2 (social class) \times 2 (trial type) mixed ANOVA was conducted within each cultural group.

Replicating Experiment 1, among U.S. participants, the trial-type effect was significant, $F(1, 59) = 13.98, p < .001, \eta_p^2 = .192$, which was qualified by a Social Class \times Trial Type interaction, $F(1, 59) = 5.18, p = .026, \eta_p^2 = .081$. Working-class Americans made more changes in the conflicting trials ($M = 4.19, SD = 3.43$) than in the consistent trials ($M = 2.34, SD = 2.40$), $t(31) = 3.76, p = .001, d = 0.67$, mean difference = 1.85, 95% CI = [0.84, 2.84], whereas middle-class Americans showed no such difference between conflicting ($M = 2.24, SD = 1.77$) and consistent trials ($M = 1.79, SD = 2.11$), $t = 1.28, p = .210$. In contrast, among Asian participants, although the ANOVA also yielded a significant effect of trial type, $F(1, 44) = 39.40, p < .001, \eta_p^2 = .472$, the effect was not qualified by a Social Class \times Trial Type interaction, $F(1, 44) < 1$. The difference between conflicting and consistent trials was significant for both working-class Asians ($M_s = 3.88$ vs. 2.11, $SD_s = 2.07$ vs. 1.48), $t(25) = 4.59, p < .001,$

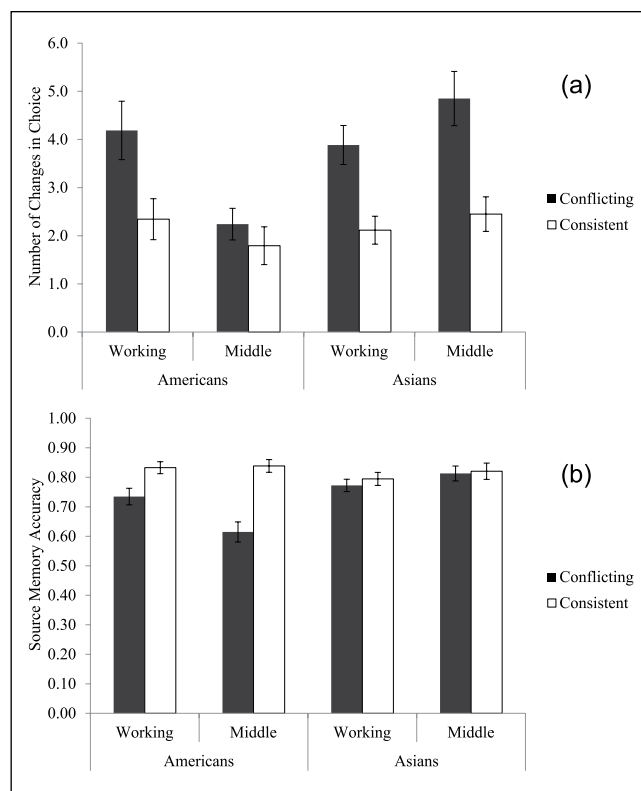


Figure 2. Results based on maternal education in Experiment 2 (the error bars represent SE): (a) the number of changes in choice and (b) source memory about social feedback by social class, culture, and trial type.

$d = 0.90$, mean difference = 1.77, 95% CI = [0.98, 2.56] and middle-class Asians ($M_s = 4.85$ vs. 2.45, $SD_s = 2.52$ vs. 1.61), $t(19) = 4.22, p < .001, d = 0.94$, mean difference = 2.40, 95% CI = [1.21, 3.59].

Memory (maternal education). As in Experiment 1, memory of conflicting and consistent feedback was examined. First, to test their recognition memory, a series of ANOVAs was conducted on hit rates for old pairs, false alarm rates for new pairs, and the discrimination index (d'). For false alarm rates, we found a significant effect of culture, Americans ($M = 0.02, SD = 0.07$) $<$ Asians ($M = 0.07, SD = 0.14$): $F(1, 103) = 6.75, p = .011, \eta_p^2 = .062$. This cultural difference in false alarm rates might occur because Asian participants wanted to err on the side of reporting others' preferences for ambiguous pairs presumably due to their chronic concerns about others' opinions. Also, it may be related to the acquiescence bias (i.e., a strong tendency to agree) among Asians (Choi & Choi, 2002). However, neither hit rates for old pairs nor the d' significantly varied as a function of social class, ethnic culture, or trial type, $M_{hit\ rates} > 0.97$ and $M_{d's} > 3.65$, all $F_s < 3.30$. That is, in spite of the cultural differences in false alarms, both American and Asian participants recognized old pairs as old regardless of trial type equally well.

Next, source memory for correctly recognized old pairs was examined with a 2 (social class) \times 2 (ethnic culture) \times 2 (trial type) mixed ANOVA. Importantly, the three-way interaction between social class, culture, and trial type was significant, $F(1, 103) = 4.41, p = .038, \eta_p^2 = .041$ (see Figure 2b). In addition, the ANOVA revealed a culture effect, $F(1, 103) = 5.02, p = .027, \eta_p^2 = .046$; a trial-type effect, $F(1, 103) = 27.76, p < .001, \eta_p^2 = .212$; and a Culture \times Social Class effect, $F(1, 103) = 5.02, p = .027, \eta_p^2 = .046$. To further explore the critical three-way interaction, a 2 (social class) \times 2 (trial type) mixed ANOVA was conducted within each culture. For U.S. participants, the trial-type effect was significant, $F(1, 59) = 38.30, p < .001, \eta_p^2 = .394$, and the social-class effect was also significant, $F(1, 59) = 4.47, p = .039, \eta_p^2 = .070$. Critically, these main effects were qualified by a Social Class \times Trial Type interaction, $F(1, 59) = 5.85, p = .019, \eta_p^2 = .090$. The interaction was significant because the difference in source memory between conflicting and consistent trials was larger for middle-class Americans, $M_{accuracy} = 0.61$ versus $0.84, SDs = 0.18$ versus $0.12, t(28) = 5.58, p < .001, d = 1.04$, mean difference = $-0.23, 95\% CI = [-0.31, -0.14]$, than for working-class Americans, although the difference was also significant for working-class Americans, $M_{accuracy} = 0.73$ versus $0.83, SDs = 0.16$ versus $0.11, t(31) = 2.97, p = .006, d = 0.52$, mean difference = $-0.10, 95\% CI = [-0.17, -0.03]$. Thus, the social-class effect on memory accuracy reported in Experiment 1 was replicated. However, among Asian Americans, the accuracy of source memory was not different between conflicting and consistent trials among either working-class ($M_{accuracy} = 0.77$ vs. $0.79, SDs = 0.11$ vs. 0.11) or middle-class Asians ($M_{accuracy} = 0.81$ vs. $0.82, SDs = 0.11$ vs. 0.12), all t s < 1.10 . As inferred from this pattern, a 2 (social class) \times 2 (trial type) ANOVA did not find any significant effect among Asian participants. In sum, the analyses revealed that, middle-class Americans showed poorer memory for conflicting trials compared with other groups, as we had predicted.

Family income¹. As shown in Figure 3a and 3b, social class defined as family income produced the same pattern of results as social class based on maternal education. Most notably, the three-way interaction between social class, ethnic culture, and trial type was significant for changes in choice, $F(1, 102) = 4.12, p = .045, \eta_p^2 = .039$, and for source memory, $F(1, 102) = 4.27, p = .041, \eta_p^2 = .040$.

Overall, Experiment 2 replicated the results of Study 1 among U.S. participants. More important, however, Experiment 2 also demonstrated that these social-class differences were moderated by ethnic cultures.

Experiment 3

We argue that working-class Americans are sensitive to social preferences because of their interdependent self-construal. In support of this proposition, Experiment 2 showed

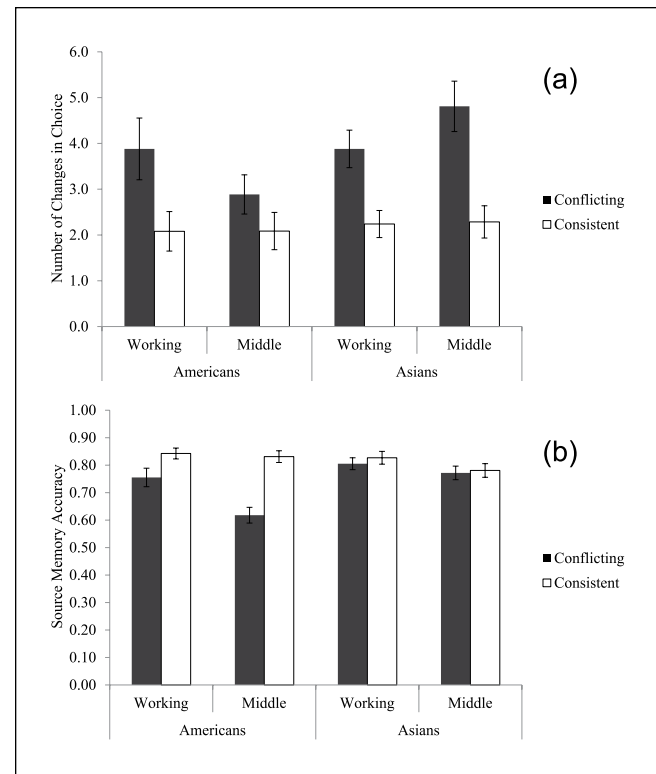


Figure 3. Results based on family income in Experiment 2 (the error bars represent SE): (a) the number of changes in choice and (b) source memory about social feedback by social class, culture, and trial type.

that even middle-class individuals from interdependent countries were responsive to conflicting social preferences. However, so far, we have not directly manipulated self-construal. Therefore, Experiment 3 attempted to do so through the similarity and difference priming (Trafimow et al., 1991). Our hypothesis was that similarity priming would induce an interdependent self-construal regardless of social class and thus, primed participants would make more changes in conflicting trials than in consistent trials. Also, they would be less likely to distort their memory of social preferences. In contrast, the opposite effects would be observed among those in the difference condition where an independent self-construal would be induced regardless of social class. In other words, we predicted that temporary changes in one's self-construal would reduce/eliminate the expected social-class differences in choice.

Method

Participants. One hundred one UTD students participated in Experiment 3. Using maternal education, 53 were classified as working class (37 females; 38 European, nine African, six Hispanic Americans) whereas 48 were identified as middle class (35 females; 42 European, two African, four Hispanic Americans). These participants were randomly assigned to

either the difference condition (27 working-class and 24 middle-class participants) or the similarity condition (26 working-class and 24 middle-class participants). At the beginning, the assignment was purely random but later, a condition that had fewer participants within each social-class group was over-assigned.

Procedure. Participants were randomly assigned to either the similarity or the difference condition. They were asked to think and write about “what makes you similar to your family and friends” in the similarity condition and “what makes you different from your family and friends” in the difference condition. After that, they performed the same choice task as the previous experiments. Then, they filled out a manipulation-check questionnaire adapted from the Self-Construal scale (Singelis, 1994) to measure their beliefs about how to respond to a conflict with others. In this questionnaire, there were two items emphasizing “independence” (“I enjoy being unique and different from others in many respects” and “I do my own things, regardless of what others think”) and two items reflecting “interdependence” (“even when I strongly disagree with group members, I avoid an argument” and “I usually go along with what others want to do, even when I would rather do something different”). Participants indicated their agreement with each of these four items on a 7-point scale (1 = *strongly disagree* to 7 = *strongly agree*). Finally, their demographic information was collected.

Results

Beliefs about conflicts. Independent beliefs negatively correlated with interdependent beliefs derived from the manipulation-check questionnaire, $r = -.24$, $p = .017$. The index of beliefs about conflicts was calculated by subtracting interdependent beliefs from independent beliefs (higher scores → more independent and less interdependent beliefs).

To test whether the priming manipulation influenced participants’ beliefs about conflicts in the predicted way, a 2 (social class) × 2 (priming: similarity vs. difference) ANOVA was conducted on the index of beliefs. First, a social-class effect was not significant, $F < 1$. However, confirming our hypothesis, the ANOVA revealed a significant effect of priming, $F(1, 97) = 10.34$, $p = .002$, $\eta_p^2 = .096$. Further, this main effect was not qualified by a Social Class × Priming interaction, $F < 1$. That is, the index was higher in the difference condition than in the similarity condition both for working-class Americans ($M_s = 1.46$ vs. 0.40, $SD_s = 1.46$ vs. 1.81), $t(51) = 2.35$, $p = .023$, $d = 0.66$, and for middle-class Americans ($M_s = 1.58$ vs. 0.42, $SD_s = 1.94$ vs. 1.74), $t(46) = 2.20$, $p = .033$, $d = 0.65$. Thus, the similarity and difference priming successfully induced the corresponding self-construal.

Changes in choice. The number of changes in choice were entered into a 2 (priming: similarity vs. difference) × 2

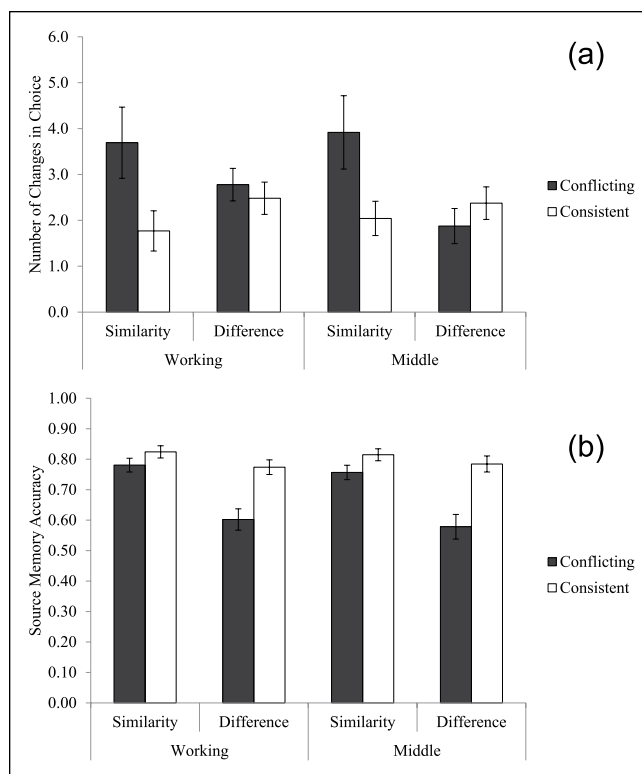


Figure 4. Results in Experiment 3 (the error bars represent SE): (a) the number of changes in choice and (b) source memory about social feedback by social class, trial type, and priming condition.

(social class: working vs. middle) × 2 (trial type: consistent vs. conflicting) mixed ANOVA with the trial type as a within-subject factor. Consistent with our predictions, the ANOVA showed a main effect of trial type, $F(1, 97) = 9.07$, $p = .003$, $\eta_p^2 = .085$, but the main effect was qualified by a Trial Type × Priming interaction, $F(1, 97) = 11.24$, $p = .001$, $\eta_p^2 = .104$ (see Figure 4a). Moreover, social class neither showed a significant main effect nor interacted with other significant effects, all $F_s < 1$. In other words, as predicted, the priming had comparable effects on both working-class and middle-class Americans.

Working-class Americans in the similarity condition made significantly more changes in the conflicting trials than in the consistent trials, $M_s = 3.69$ versus 1.77, $SD_s = 3.96$ versus 2.23, $t(25) = 2.16$, $p = .040$, $d = 0.42$, mean difference = 1.92, 95% CI = [0.09, 3.75], whereas the difference was not significant in the difference condition, $M_s = 2.78$ versus 2.48, $SD_s = 1.85$ versus 1.83, $t < 1$. A similar pattern was found among middle-class Americans in the similarity condition who made more changes after the conflicting feedback than after consistent feedback, $M_s = 3.92$ versus 2.04, $SD_s = 3.92$ versus 1.83, $t(23) = 3.52$, $p = .002$, $d = 0.72$, mean difference = 1.88, 95% CI = [0.77, 2.98], but not in the difference condition, $M_s = 1.88$ versus 2.38, $SD_s = 1.87$ versus 1.74, $t(23) = -1.28$, $p = .213$. As inferred from these patterns,

a 2 (priming) \times 2 (trial type) mixed ANOVA within each social-class group showed that the Priming \times Trial Type interaction was at least marginally significant for both groups: working-class Americans, $F(1, 51) = 2.84, p = .098, \eta_p^2 = .053$ and middle-class Americans, $F(1, 46) = 12.97, p = .001, \eta_p^2 = .022$. In addition, a 2 (social class) \times 2 (trial type) mixed ANOVA within each priming condition showed that the Social Class \times Trial Type interaction was not significant in the two priming conditions, all $F_s < 2$. That is, manipulating self-construal eliminated the social-class differences among Americans.

Memory. As in Experiments 1 and 2, all participants showed good recognition performance across the various measurements: old pairs as old, $M_{hit\ rates} > 0.98$, new pairs as old, $0.055 < M_{false\ alarm} < 0.098$, and $3.44 < M_d < 3.59$. Then, we examined whether source memory, the correct memory for the social feedback, varied as a function of social class and priming. As shown in Figure 4b, a 2 (priming) \times 2 (social class) \times 2 (trial type) mixed ANOVA on source memory found a main effect of trial type, $F(1, 97) = 37.92, p < .001, \eta_p^2 = .281$, and a main effect of priming, $F(1, 97) = 32.00, p < .001, \eta_p^2 = .248$. More important, the interaction between trial type and priming was significant, $F(1, 97) = 12.61, p = .001, \eta_p^2 = .115$. Finally, social class did not show any significant effect, all $F_s < 1$. In other words, the priming manipulation again had comparable effects on both social-class groups.

Working-class Americans in the difference condition had lower accuracy in the conflicting trials than in the consistent trials, $M_s = 0.60$ versus $0.77, SD_s = 0.18$ versus $0.12, t(26) = 4.16, p < .001, d = 0.80$, mean difference = $-0.17, 95\% CI = [-0.26, -0.09]$, whereas the difference was not significant in the similarity condition, $M_s = 0.78$ versus $0.82, SD_s = 0.11$ versus $0.10, t(25) = 1.63, p = .115$. Likewise, accuracy in the difference condition was lower in the conflicting trials than in the consistent trials among middle-class Americans, $M_s = 0.58$ versus $0.78, SD_s = 0.20$ versus $0.13, t(23) = -3.87, p = .001, d = 0.79$, mean difference = $-0.20, 95\% CI = [-0.32, -0.10]$. However, the effect was reduced in the similarity condition although it was still marginally significant, $M_s = 0.76$ versus $0.81, SD_s = 0.12$ versus $0.10, t(23) = -1.99, p = .059, d = 0.40$, mean difference = $-0.05, 95\% CI = [-0.10, 0.01]$. As inferred from these patterns, a 2 (priming) \times 2 (trial type) mixed ANOVA within each social-class group showed that the Priming \times Trial Type interaction was significant: working-class Americans, $F(1, 51) = 6.70, p = .013, \eta_p^2 = .116$ and middle-class Americans, $F(1, 46) = 5.93, p = .019, \eta_p^2 = .114$. Moreover, a 2 (social class) \times 2 (trial type) mixed ANOVA within each priming condition showed that social class did not interact with trial type in either priming conditions, $F_s < 1$. Thus, the priming manipulation eliminated the social-class differences among Americans.

Mediation. We reasoned that participants in the similarity and difference conditions behaved differently due to the

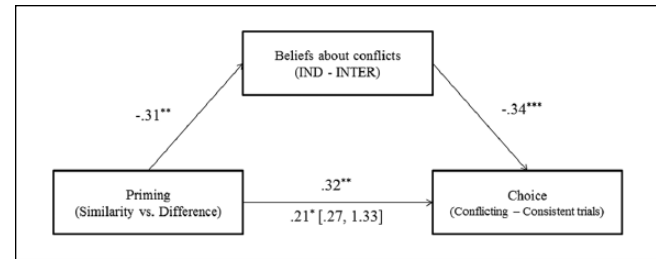


Figure 5. Mediation analyses in Experiment 3.

priming-induced interdependent or independent self-construal. According to this logic, the behavioral differences in choice and memory should be mediated by the corresponding differences in independent/interdependent beliefs about conflicts. To test this prediction, two mediations analyses were conducted: change in choice and source memory. In these mediation analyses, the social-class groups were collapsed together because social class did not interact with the priming effect.

The first mediation analysis examined how participants changed their choices in response to conflicting versus consistent feedback. The independent variable of this mediation analysis was the priming condition (similarity or difference). The dependent variable was the index of choice, which was calculated by subtracting the number of changes in consistent trials from those in conflicting trials (i.e., higher number \rightarrow more changes in conflicting trials relative to consistent trials). The mediating variable was the differences in independent/interdependent beliefs about conflicts. As shown in Figure 5, the difference condition led to more independent beliefs, $\beta = -.31, p = .002$, which, in turn, led to fewer changes in conflicting trials (relative to consistent trials), $\beta = -.34, p < .001$, after controlling for the priming condition. Moreover, the association between the priming condition and the index of choice decreased from $\beta = .32, p = .001$, to $\beta = .21, p = .027$ after controlling for independent/interdependent beliefs. Finally, a bootstrap analysis (Preacher, Rucker, & Hayes, 2007) showed that the indirect effect of the priming through independent versus interdependent beliefs was significant in that a 95% confidence interval did not include zero [0.27, 1.33] (bootstrap sample = 2,000). Thus, as hypothesized, the priming influenced participants' choice at least partially through the independent versus interdependent self-construal induced by the priming.

Next, we examined whether more independent/interdependent beliefs would mediate the effects of priming on source memory for the social feedback. For this, the index of source memory was calculated by subtracting accuracy in the consistent trial from accuracy in the conflicting trials. More independent beliefs were associated with less differences in memory accuracy between the conflicting and the consistent trials, $\beta = -.21, p = .034$. However, the association became non-significant when controlling for the priming, $\beta = -.12, p = .239$. Furthermore, the association between the priming

and the index of memory only slightly decreased from $\beta = .34, p = .001$, to $\beta = .31, p = .003$, when controlling for beliefs. Hence, a bootstrap analysis (bootstrap sample = 2,000) showed that the indirect effect of priming through independent versus interdependent self-construal was not significant in that a 95% confidence interval included zero $[-0.004, 0.052]$.

Taken together, Experiment 3 showed the critical role of self-construal in one's sensitivity to social preferences; the priming had significant effect on choice and memory and further, the priming effect on choice (but not on memory) indeed occurred indirectly through the corresponding differences in self-construal.

Discussion

We examined how working-class and middle-class Americans would react to social preferences that were either consistent or conflicted with their own personal preferences. The results showed that working-class Americans were more likely to take social preferences into account and thus, overrode their personal preferences more frequently than middle-class Americans. Moreover, such social-class differences paralleled the corresponding differences in the independent versus interdependent self-construal. Specifically, working-class Americans changed their choices of consumer products more often after learning their chosen product was not popular than after learning that what they chose was popular; the same effect was not found among middle-class Americans. In addition, middle-class Americans were more likely to falsely remember that the product they chose was popular than working-class Americans. Experiment 2 demonstrated that these social-class effects were qualified by ethnic cultures such that Asians of all classes were sensitive to social preferences. Finally, Experiment 3 established the importance of self-construal in this process. It is also noteworthy that the results based on various indicators of social class (e.g., education, income, and social status) converged.

First, we show that working-class Americans sometimes override their personal choices to be aligned with social preferences. Numerous studies have shown that once a choice is made, individuals make substantial psychological investments toward the chosen option (e.g., Patall, Cooper, & Robinson, 2008), such that people significantly increase the liking of a chosen option after the choice is made (Brehm, 1956). Then, our findings suggest that the psychological effects of choice should be attenuated among working-class Americans as it is among Asians (Na & Kitayama, 2012). Furthermore, the findings are consistent with an emerging literature showing that working-class individuals are more likely to focus on various forms of social or contextual factors than middle-class individuals (Kraus et al., 2012; Stephens et al., 2012).

In addition, we identified another intriguing effect of social class on remembering social preferences. Namely,

middle-class Americans falsely believed that what they had chosen was also popular. In contrast, this tendency was not observed among working-class Americans. This finding may seem inconsistent with the previous research showing that middle-class individuals value "uniqueness" (Snibbe & Markus, 2005; Stephens et al., 2007). However, the question in the recognition phase was not whether their choice was merely shared with others. The question was much more positively framed as popularity. That is, participants were asked to indicate whether their choice was popular or not. The literature on the false consensus effect shows that people tend to overestimate the extent to which their opinions are typical, especially when the similarity to others is perceived as either normal, better, or simply positive (Gilovich, 1990; Marks & Miller, 1987; Ross, 1977). Thus, this result suggests that middle-class Americans would like to feel good about their choices and even go so far as to distort their memory. Overall, the current result is in line with the findings that social power and social status are associated with one's approach tendency toward positive outcomes (Keltner et al., 2003).

Combining the results from the choice and memory data, it can be concluded that the way we respond to social influences is significantly affected by our social-class backgrounds. Classic studies in social psychology demonstrate that people are highly susceptible to social influences (Asch, 1956; Milgram, 1965). However, the present work suggests that the way individuals deal with social influences differs by social class. In our data, depending on their social-class backgrounds, participants in the United States reacted differently toward others' preferences that were in conflict with their choices. Working-class Americans changed their behaviors in accordance with others' opinions, thus adapting their choices to their social world. In contrast, middle-class Americans distorted their memory of social preferences, thus adjusting their social world to fit their choices. In this sense, the overall findings support our theoretical argument that social sensitivity is higher for working-class Americans than for middle-class Americans.

Another contribution of the current findings is the demonstration of the interaction between social class and ethnic culture in determining one's sensitivity to social preferences. Previous findings in the literature showed that social-class differences often resembled cross-cultural differences between independent and interdependent cultures (Kraus et al., 2012; Na et al., 2010; Stephens et al., 2007; Varnum et al., 2012). For example, working-class Americans prefer situational explanation for social events more than middle-class Americans who prefer dispositional explanations (Kraus et al., 2009), just as Asians prefer situational explanations more than do Americans (Choi, Nisbett, & Norenzayan, 1999). Although these parallels between the effects of social class and culture have been emerging, the way social class and cultures influence each other has been largely ignored. A rare exception is a study by Grossmann and Varnum (2011)

who examined Americans and Russians to test an interaction between social class and ethnic culture in cognitive style and social orientation. The findings in that study were consistent with a so-called additive hypothesis. That is, on top of cultural differences that Russians were more situational in social attribution than Americans, working-class participants were more situational than middle-class participants in both cultures. In other words, the social-class effects were independent of the cultural effects in their study.

In contrast, we found that social-class differences were significantly moderated by culture. The different effects of ethnic cultures on social class could be because the interdependent view of the self is valued in Asian cultures so strongly that influences of Asian cultures may overshadow other factors that are otherwise relevant such as social class. In a similar vein, although Russian cultures also endorse an interdependent view of the self, there is room for other variations because Russian endorsement of interdependence is not as strong as in Asian cultures (Hofstede, 1980; Suh, Diener, Oishi, & Triandis, 1998). Alternatively, individuals need to internalize cultural ideals (independence in the United States and interdependence in Asia) to climb social hierarchy and this may explain cross-cultural variations in social-class differences.² These kinds of reasoning suggest that the nature of social-class effects can be modulated by macro-cultural contexts in which social-class effects are embedded. In other words, the current findings show that social-class effects on one's psychological processes may be often determined within his or her cultural milieu. Moreover, this indicates that the arguments on social-class differences in social sensitivity should be tone-downed as working-class individuals are not necessarily more sensitive to social feedback than middle-class individuals in interdependent cultures. We also admit that cross-cultural differences in the link between social class and choice should be further studied.

Last, the present research revealed a critical role of self-construal in consumer behaviors. First, experimentally manipulating self-construal led to the corresponding differences in consumer behaviors. Second, induced self-construal mediated the priming effect on the extent to which participants changed their choices according to social preferences. This finding is consistent with an emerging literature that one's self-construal can be temporarily changed (Oyserman & Lee, 2008). Also, this finding implies that social-class differences can be temporarily offset and even reversed. More specifically, after thinking of what makes them different from friends and family, working-class Americans did not align their choice with social preferences. Likewise, middle-class Americans adjusted their choice to conflicting social preferences after thinking of what makes them similar to friends and family. All in all, our data suggest that one's consumer choices vary between working-class and middle-class Americans because Americans are chronically exposed to different socio-cultural contexts associated with the independent versus interdependent self-construal (Markus & Conner,

2013; Stephens et al., 2012). But at the same time, our data also indicate that these chronic tendencies are also situated in a given context and consequently, can fluctuate due to the moment-to-moment salience of the independent versus interdependent self-construal (Oyserman & Lee, 2008).

Alternative Explanations³

Before closing, we discuss several alternative explanations. First, the minority status of working-class and Asian students, rather than the interdependent self-construal, may contribute to their sensitivity to social preferences. Although this explanation is possible, our manipulation of self-construal in Experiment 3 was independent of majority versus minority status and yet, still resulted in the predicted effects on choice and memory. However, future work might examine the robustness of this effect in non-American samples (e.g., Asians in Asia).

Second, self-esteem differences, rather than self-construal differences, may be a more parsimonious explanation. Consistent with this idea, higher social class is associated with higher self-esteem at least among adults (Rosenberg & Pearlman, 1978) and also, higher self-esteem leads to less conformity to social feedback (Baumeister, 1982) and more distortion of memory (Tafarodi, Marshall, & Milne, 2003). We do not think that the self-esteem account is incompatible with our explanation based on self-construal because independent (or interdependent) self-construal is closely linked to high (or low) self-esteem (Heine, Lehman, Markus, & Kitayama, 1999). However, as with the other alternatives, it is not straightforward how the manipulation of self-construal in Experiment 3 would concomitantly alter self-esteem. Nevertheless, it would be useful to systematically investigate the independent (or joint) influences of self-esteem and social class.

Finally, we should point out potential demand characteristics in our experimental design. Because we provided conflicting social feedback, participants might feel that they should change their second choice in the conflicting trials. Then, it may be that our working-class Americans changed their choice after conflicting feedback because of their vulnerability to this demanding characteristic, not because of their sensitivity to social feedback. Although this seems plausible, the demand characteristic account does not explain our memory finding. There is no a priori reason to believe that observing conflicting feedback (and resulting demanding characteristics) would make middle-class Americans distort their memory to be consistent with personal preferences. Thus, we do not think that this alternative explanation fully explains our results. Furthermore, even if our results were driven by demand characteristics of providing conflicting feedback, our results clearly demonstrated social-class differences among Americans in one's reaction to demand characteristics. Thus, this does not change our main conclusion that working-class Americans are more sensitive to social

influences considering demand characteristics are a form of social influences. Another related issue is that the priming procedure in Experiment 3 was semantically associated with the choice task in that both of them are related to the concepts of similarity and difference. According to this view, participants in Experiment 3 just made choices similar to or different from others in the respective priming condition because of the simple semantic association. However, we do not think that there may be a clear semantic association between the priming procedure and the memory findings. Why would one believe that their choice was shared with others after thinking about their uniqueness more than after thinking about their similarities? Thus, it is difficult to believe that the observed effects were just driven by the semantic association between the priming procedure and dependent measures.

Concluding Remarks

Notwithstanding the above alternative explanations, the current research shows social-class differences among Americans in one's sensitivity to social influences. The past decade has observed an explosion of research on social class across diverse domains such as health (Stephens et al., 2012), cognitive tendency (Kraus et al., 2012), and subjective well-being (Diener, Ng, Harter, & Arora, 2010). Together, this literature points to the conclusion that personal/internal factors are more valued among middle-class Americans but social/contextual factors are more important among working-class Americans. Based on these initial demonstrations of social-class effects, the present research shows that working-class and middle-class Americans systematically differ in terms of the degree to which their choices are influenced by others' opinions.

Declaration of Conflicting Interests

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Notes

1. Family income was not used as a continuous variable because of positive skewness. When log transformed, continuous family income showed the expected Culture \times Income interaction effect on the difference index for change in choice (conflicting – consistent trials), $\beta = -.38$, $p = .019$, 95% confidence interval [CI] = [-0.69, -0.06] and a marginal effect for source memory (consistent – conflicting trials), $\beta = .27$, $p = .076$, 95% CI = [-0.03, 0.56].
2. An anonymous reviewer discussed another and more provocative possibility that the effect of social class may take an entirely different form in interdependent cultures. More specifically, higher social status or more resources may lead to interdependence, not

independence in interdependent cultures. The reviewer provided suggestive evidence (a) across cultures—mainland Chinese are more independent than Hong Kong Chinese (Chen, Bond, Chan, Tang, & Buchtel, 2009) and Japanese (Yamaguchi et al., 2007) although China is the least economically developed and (b) within a culture—the rich southern part of China is more interdependent than the relatively poor northern part of China (Talhelm et al., 2014). Although consistent with the reviewer's argument, factors other than social status may explain the differences (e.g., one child policy in mainland China or rice farming in southern China). Nevertheless, it can be said that the pattern in Experiment 2 is consistent with the reviewer's perspective in that the difference between consistent and conflicting trials in Figure 2a was slightly larger among middle-class Asians than among working-class Asians. Although the difference was not statistically significant, it is worth investigating the argument systematically in future work.

3. Critical comments raised by anonymous reviewers inspired this section.

Supplemental Material

The online supplemental material is available at <http://pspb.sagepub.com/supplemental>.

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