



Materialism as compensation for self-esteem among lower-class students

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ABSTRACT

Although some studies have demonstrated that individuals from lower socioeconomic groups have higher tendencies toward materialism, it is not known whether this association is causal, and the underlying psychological mechanisms are not clear. Therefore, we examined the causal relationship between social class, materialism, and the role of self-esteem among Chinese college students. In Experiment 1, we used a priming paradigm to manipulate the perception of social class and found that materialism in the lower-class primed group was significantly higher than in the higher-class primed group and that self-esteem played a mediating role. In Experiment 2, we examined the compensatory effect of materialism on self-esteem in lower-class students by using the imagination paradigm to manipulate materialism. We found that lower-class students had elevated self-esteem in the materialism priming condition compared to the control condition. In summary, our findings indicate that lower-class college students show high materialism tendencies to compensate for low self-esteem. The implications and limitations of this study are also discussed.

1. Introduction

Materialism is a value that emphasises material wealth in personal life, in which material wealth is regarded as the centre of life, the source of happiness, and the criterion for success (Richins & Dawson, 1992). Although materialism originated in Western capitalist society, it is now prevalent in Chinese society due to economic reform and the rapid development of the market economy. A global survey performed in 2013 by IPSOS, a French research organisation, found that the Chinese ranked at the top of the list regarding the pursuit of material wealth. According to the life course perspective, the formation of materialism is largely due to the influence of the early family environment, and one of these important factors is family social class (Duh, 2016; Weaver, Moschis, & Davis, 2011). Social class is often referred to as socioeconomic status (SES), which is comprised of objective material resources (often measured by income, education level, and occupational status), and subjectively perceived social status (Kraus, Piff, Mendoza-Denton, Rheinschmidt, & Keltner, 2012). There is increasing evidence that social class is relatively solidified and has a profound and lasting effect on an individual's psychology and behaviour (Markus & Stephens, 2017). Despite the rapid economic growth in China during the past few decades, the wealth gap and class differentiation have widened. According to data released by the National Bureau of Statistics, the Gini coefficient of Chinese resident income was around 0.47 from 2012 to

2017, much higher than the international warning line of 0.40. Therefore, it is necessary to explore the influence of social class on materialism in Chinese society. Previous studies have shown that lower-class individuals have higher materialistic tendencies than higher-class individuals (e.g., Ahuvia & Wong, 2002; Rindfleisch, Burroughs, & Denton, 1997; Roberts, Manolis, & Tanner, 2003; Twenge & Kasser, 2013). However, there is still a lack of research into potential causal relationships, and their underlying psychological mechanisms remain unclear. Thus, this research examined the potential causal relationship between social class and materialism and the role of self-esteem among Chinese college students.

1.1. Social class and materialism

It has been confirmed that there is a negative correlation between family social class and materialism. Twenge and Kasser (2013) conducted a large study of American 12th grade teenagers between 1976 and 2007 and found that family economic status in childhood negatively predicted materialism in youth. Chaplin, Hill, and John (2014) found that while 8–10 year old children from poor and rich families had similar levels of materialism, adolescents and teenagers (11–17 years old) from poor families had higher levels of materialism. Other studies (e.g., Rindfleisch et al., 1997; Roberts et al., 2003) report similar findings. This may suggest that individuals who are in chronic lack of

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material resources are more likely to compensate for economic insecurity by possessing and pursuing material wealth. However, these correlational studies have not determined whether there is a causal relationship between social class and materialism.

1.2. Social class and self-esteem

Self-esteem is an individual's emotional experience and evaluation of self-worth. According to the family investment theory (Conger & Donnellan, 2007), higher-class parents have abundant material resources and can thus provide their children with high levels of social support and education, hence, promoting the development of their children's self-esteem. However, lower-class parents need to focus on earning due to economic pressures, in consequence, the levels of material resources and emotional support they can provide to their children are relatively lower, which can negatively impact the development of their children. A meta-analysis by Twenge and Campbell (2002) found that people's self-esteem levels improved when their SES improved. Other studies have shown that social class, regardless of whether subjectively or objectively ascertained, has a positive correlation with self-esteem (e.g., Chen et al., 2016; Chen, Cheng, Guan, & Zhang, 2014; Cheng & Furnham, 2017; Kraus & Park, 2014). Furthermore, lower-class individuals reported higher levels of negative self-evaluation when experimentally primed with lower-class information (Kraus & Park, 2014).

1.3. Self-esteem and materialism

Kasser, Ryan, Couchman, and Sheldon (2004) argue that when individual psychological needs (such as self-esteem) cannot be satisfied, people often compensate for the unmet psychological needs by obtaining material wealth. Substantial empirical evidence supports this perspective. For example, individuals with lower self-esteem have been found to present higher levels of materialism (De Rezende Pinto, Mota, Leite, & Alves, 2017; De Veirman, Hudders, & Cauberghe, 2017). When people experience self-doubt, it has been shown that they improve their sense of self-worth, self-status, and reduce self-uncertainty by acquiring material wealth (Chang & Arkin, 2002; Noguti & Bokeyar, 2014). Finally, individuals with negative self-evaluations are more likely to consume products associated with status symbols to promote their self-image (Chaplin & John, 2007; Jiang, Zhang, Ke, Hawk, & Qiu, 2015; Lee & Shrum, 2012). Thus, materialism may act as one manner in which individuals protect and improve their self-esteem.

1.4. Social class, self-esteem, and materialism

The life course perspective (Weaver et al., 2011) proposes that early life experiences of children affect their later self-development, and further influences the formation of their behaviours, attitudes, and values. Using the life course approach, Duh (2016) found that family resources received during childhood have a significant impact on later-life money attitudes and materialism. As mentioned above, there is a close correlation between social class, self-esteem, and materialism, suggesting that self-esteem may be a potential psychological mechanism underlying the association between social class and materialism. However, only Chaplin et al. (2014) have provided supportive evidence in this regard. Conducting personal interviews with children and adolescents (8–17 years old) from impoverished and wealthy families, they found that self-esteem mediated the relationship between family income and materialism, which suggests that children from impoverished families showed higher levels of materialism partly due to their low self-esteem. However, these findings need to be replicated in other samples from different cultural backgrounds. Moreover, the study did not further test the potential compensatory effect of materialism on self-esteem in lower-class individuals.

1.5. Purpose and hypothesis

Considering the limitations of previous studies, this research adopted an experimental methodology to examine the causal relationship between social class and materialism, and verify the mediating role of self-esteem using a class-priming paradigm (Experiment 1). We also tested the potential compensatory effect of materialism on self-esteem in lower-class individuals using a materialism-priming paradigm (Experiment 2). The research hypotheses were as follows:

H1. Participants experimentally induced, using a priming paradigm to view themselves as being from a lower-class, would have higher levels of materialism than those induced to view themselves as being from a higher-class, and self-esteem would play a mediating role in this.

H2. Lower-class college students in a materialism-priming group would report higher levels of self-esteem than those in the control group.

2. Experiment 1

2.1. Methods

2.1.1. Participants

The study was approved by our institutional ethics committee, and all participants provided informed consent. The researcher also assured participants about the confidentiality of their responses. A total of 82 college students from a university in Hunan province in China volunteered to take part in the experiment. With the removal of 12 participants who had high error response rates on the experimental task (see below), the final sample consisted of 70 participants (36 male; 34 female), ranging in age from 17 to 23 years, with a mean age of 20.04 years ($SD = 1.37$).

2.1.2. Experimental design and procedures

A single factorial between-groups design was adopted, with the independent variable being an experimentally induced perception of social class (high vs. low), and the dependent variable being state materialism; trait materialism was utilised as a control variable.

After the participants arrived at the laboratory, they were informed that two independent experiments would be conducted. First, they were asked to participate in an imagination-based task designed to manipulate their subjective perception of social class. Next, all participants completed a state self-esteem scale. Then, they were told that they needed to complete a vocabulary classification task, which, unknown to the participants, was an implicit test of state materialism. Finally, participants were asked to provide basic demographic information and completed a trait materialism scale. After the experiment, each participant was given a small sum of money in appreciation.

2.1.3. Materials and measures

2.1.3.1. Social class manipulation. Consistent with previous research (e.g., Kraus, Horberg, Goetz, & Keltner, 2011), we used the MacArthur scale of subjective social status (Adler, Epel, Castellazzo, & Ickovics, 2000) to manipulate the subjective perception of social class. Participants were presented a 10-tier image and asked to imagine the social classes that exist for Chinese people from level 1 to 10. A higher level represented a higher social class position, that is, greater income, higher educational level, and higher level of occupational status. By considering their own family's economic conditions, their parents' educational levels and occupational status, participants were asked to compare themselves to those at the bottom for the subjective higher-class condition, and to those at the top for the subjective lower-class condition. Participants were then asked to write down their perceived social class rank.

2.1.3.2. State self-esteem. We measured state self-esteem with the 20-

item state self-esteem scale developed by [Heatherton and Polivy \(1991\)](#). Participants responded on a 5-point Likert scale (1 = never, 5 = always). Good reliability was found in this study (Cronbach's $\alpha = 0.87$).

2.1.3.3. Trait materialism. The revised Chinese version of the material values scale ([Li & Guo, 2009](#)), originally developed by [Richins and Dawson \(1992\)](#), was used to measure trait materialism. The scale included 13 items to which participants responded on a 5-point Likert scale (1 = strongly disagree, 5 = strongly agree). The reliability of the scale in our study was good (Cronbach's $\alpha = 0.85$).

2.1.3.4. State materialism. Previous research has shown that implicit attitudes are more likely to exhibit experimental effects than explicit attitudes ([Gawronski & LeBel, 2008](#)). Therefore, we used a single category implicit association test (SC-IAT; [Karpinski & Steinman, 2006](#)) to measure implicit attitudes toward materialism ([Wang, Li, & Guo, 2016](#)). The target word was a materialistic word (e.g., money, luxuries, famous brand, luxury cars, wealth, millionaire) and the attributive words contained a negative word (e.g., mammonish, wasteful, greedy, vainglorious, mercenary) and a positive word (e.g., practical, happy, eudaemonic, open-handed, comfortable). The size of the implicit effect was indicated by the D value ($D_{\text{materialism}}$), calculated using the method proposed by [Karpinski and Steinman \(2006\)](#). If $D_{\text{materialism}}$ was positive, it represented a positive attitude toward materialism, whereas a negative $D_{\text{materialism}}$ indicated a negative attitude toward materialism. Twelve participants with high error rates (above 20%) on this test were excluded from further analysis.

2.2. Results

2.2.1. Social class manipulation check

An independent samples *t*-test was conducted to examine the efficacy of the subjective class manipulation. Results confirmed that participants induced to experience higher-level social class status believed that their position on the social ladder was significantly higher ($N = 35$, $M = 4.89$, $SD = 0.83$) than those induced to experience lower-level class status ($N = 35$, $M = 4.09$, $SD = 0.95$), $t(68) = 3.75$, $p < 0.01$, Cohen's $d = 0.90$, indicating that the experimental manipulation was effective.

2.2.2. Descriptive statistics and correlations

As shown in [Table 1](#), perceived social class was negatively correlated with implicit materialism ($r = -0.32$, $p < 0.01$), and positively correlated with self-esteem ($r = 0.33$, $p < 0.01$); self-esteem was negatively correlated with implicit materialism ($r = -0.33$, $p < 0.01$), which provided the basis for mediation analysis among the three variables. There were no significant correlations between demographic variables or the control variable (trait materialism) and the dependent variable (implicit materialism). Therefore, trait materialism was not

Table 1
Descriptive analysis and correlations.

	<i>M</i>	<i>SD</i>	1	2	3	4	5
1. Gender ^a	0.50	0.50					
2. Age	20.04	1.37	0.16				
3. Trait materialism	37.29	7.71	-0.16	0.07			
4. Perceived social class ^b	0.50	0.50	-0.03	0.07	-0.16		
5. Self-esteem	63.37	9.15	-0.13	-0.10	-0.07	0.33**	
6. $D_{\text{materialism}}$	-0.09	0.34	0.08	0.11	0.19	-0.32**	-0.33**

^a Male = 1; female = 0.

^b Higher-class group = 1; lower-class group = 0.

** $p < 0.01$.

used as a control variable in the subsequent mediation tests.

2.2.3. Mediation effect of self-esteem

We used the PROCESS macro for SPSS (Model 4) developed by [Hayes \(2013\)](#) to evaluate the mediation effect of self-esteem. Results showed that the total effect of perceived social class on $D_{\text{materialism}}$ was significant (total effect = -0.32 , 95% CI = -0.55 to -0.09). As shown in [Fig. 1](#), perceived social class positively predicted self-esteem ($\beta = 0.33$, $p < 0.01$), which in turn negatively predicted $D_{\text{materialism}}$ ($\beta = -0.25$, $p < 0.05$). The residual direct effect was also significant ($\beta = -0.24$, $p < 0.05$). Self-esteem, therefore, played a partial mediating role in the link between perceived social class and materialism (indirect effect = -0.08 , 95% CI = -0.22 to -0.01), and the proportion of the mediating effect was 25.46%.

[Experiment 1](#) showed that students experimentally induced to perceive themselves as being from a lower-class showed higher levels of materialism than their counterparts; self-esteem mediated the relationship between perceived social class and materialism, which supported the first hypothesis. That is, students induced to perceive themselves as lower-class showed higher levels of materialism partly due to their low self-esteem. If materialism is indeed a coping strategy to protect and enhance self-esteem, materialism should compensate for self-esteem in lower-class individuals. Therefore, [Experiment 2](#) investigated whether the activation of materialism could enhance the self-esteem of lower-class students.

3. Experiment 2

3.1. Methods

3.1.1. Participants

After obtaining the institutional ethical approval, 123 college students were recruited through an advertisement on a public social network platform. All participants provided informed consent, and the confidentiality of their responses was assured. Participants were screened for lower-social class status by completing the MacArthur scale of subjective social status ([Adler et al., 2000](#)), which requires them to imagine a 10-tier ladder of social classes occupied by Chinese families. A higher level indicates a higher social class of the family (1 being the lowest level of society; 10 being the highest level of society). In conjunction with their parents' level of education, occupational status, and family income, participants chose the stratum of their family by attributing a value ranging from 1 to 10 points. Based on this measure, we selected 66 students who scored four points or below as subjectively assessed lower-class participants, consisting of 28 males and 38 females, with a mean age of 20.11 ($SD = 1.42$).

3.1.2. Experimental design and procedures

[Experiment 2](#) adopted a single factorial between-groups design, with the independent variable being materialism (experimentally primed condition vs. control condition), and the dependent variable being the level of state self-esteem. Trait self-esteem was treated as a covariate to control for potential influence on the dependent variable of state self-esteem.

After the participants arrived at the laboratory, they were told to complete a short questionnaire to measure trait self-esteem. Next, participants underwent materialism manipulation using a priming paradigm in which they were randomly assigned to complete either the experimentally primed materialism condition or the control condition. After this, they filled out a state materialism scale to evaluate the effectiveness of the experimental manipulation. Finally, all the participants completed a state self-esteem scale. Upon the completion of the experiment, each participant received a small sum of money as a token of appreciation.

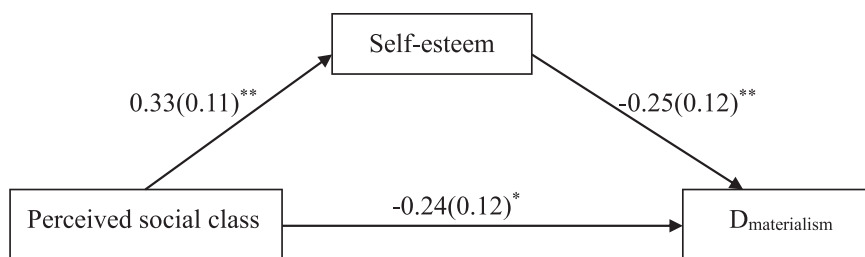


Fig. 1. Mediation model. Path values are the path coefficients with standard errors. * $p < 0.05$, ** $p < 0.01$. All variables were standardized.

3.1.3. Materials and measures

3.1.3.1. Trait self-esteem. Trait self-esteem was measured with the 10-item Rosenberg (1965) self-esteem scale. Participants responded on a 4-point Likert scale (1 = very inconsistent, 4 = very consistent). Reliability of this scale in our study was good (Cronbach's $\alpha = 0.82$).

3.1.3.2. State self-esteem. The measure of state self-esteem was the same as in Experiment 1 and, once more, presented good reliability (Cronbach's $\alpha = 0.80$).

3.1.3.3. Materialism manipulation. We adopted the imagination-based paradigm to manipulate materialism (Ku, Dittmar, & Banerjee, 2014). Participants in the experimental group were asked to think and write about the material goods they would like to own and the benefits of possessing those goods. Then they were asked to imagine receiving a considerable sum of money and to list what they would buy with that money. Participants in the control group participated in another task in which they were asked to list several feasible route schemes, from the dormitory to the gate of the school, and to write down the buildings they would pass. Then they were told to choose a plan and state why they chose it.

3.1.3.4. State materialism. To form a state materialism scale, we modified the Chinese version of the material values scale (Li & Guo, 2009) that was used in Experiment 1. We anchored responses to each item regarding time to 'at this moment'. For example, one item was 'At this moment, if I can afford more goods, I will be happier'. Reliability of this new scale was good (Cronbach's $\alpha = 0.80$).

3.2. Results

3.2.1. Materialism manipulation check

Results of the independent samples *t*-test showed that participants in the materialism-priming group reported significantly higher levels of state materialism ($N = 33$, $M = 41.30$, $SD = 7.36$) than participants in the control group ($N = 33$, $M = 32.12$, $SD = 6.64$), $t(64) = 5.32$, $p < 0.01$, Cohen's $d = 1.31$, which indicated that the materialism manipulation was successful.

3.2.2. Influence of materialism priming on state self-esteem

Covariance analysis was conducted to examine the effect of materialism priming on state self-esteem in lower-class college students. When trait self-esteem was controlled for, the main effect of materialism priming was significant, $F(1, 63) = 4.24$, $p < 0.05$, partial $\eta^2 = 0.06$. Specifically, the level of state self-esteem in the experimental priming group ($M = 65.45$, $SD = 7.90$) was significantly higher than in the control group ($M = 60.79$, $SD = 9.51$). The results indicated that materialism priming could compensate for the self-esteem of lower-class college students, supporting hypothesis 2.

4. Discussion

We designed two experiments to examine the influence of social class on materialism and the underlying psychological mechanisms.

Consistent with our predictions, Experiment 1 showed that students induced to perceive themselves as being from a lower-class had higher materialism tendencies than students induced to perceive themselves as being from a higher-class, and that self-esteem mediated the relationship between perceived social class and materialism. Experiment 2 further demonstrated the compensatory effect of materialism on self-esteem in lower-class college students.

4.1. Relationship between family's social class and materialism

Although several studies have shown that the social class of the family negatively predicts materialism (e.g., Ahuvia & Wong, 2002; Chaplin et al., 2014; Roberts et al., 2003; Twenge & Kasser, 2013), all these studies have been correlational, in consequence, they could not identify causal relationships. To overcome this limitation, we adopted an experimental paradigm commonly used in social class research to manipulate participants' subjective perception of their social class. Results showed that students induced to perceive themselves as being from a lower-class had higher materialism tendencies than those students induced to perceive themselves as belonging to a higher-class. This is consistent with previous correlational research but further indicates a causal relationship. In addition, we adopted the SC-IAT paradigm to measure state materialism, which is a methodological improvement to avoid socially desirable responses to the explicit materialism measures commonly used in previous studies. SC-IAT is a modification of the IAT that measures the strength of evaluative associations with a single attitude object. Karpinski and Steinman (2006) have provided strong evidence for the reliability and validity of the SC-IAT as a measure of implicit social cognition. However, they also indicated that the SC-IAT scores should be interpreted cautiously due to some potential limitations. For example, much like IAT, the SC-IAT may reveal more about one's environmental associations than personal attitudes and beliefs. Additionally, although the SC-IAT is less comparative than the IAT (which requires a comparison category), it also may not be an absolute measure of associations in the purest sense.

4.2. Psychological mechanisms of how family social class influences materialism

Chaplin et al. (2014) identified, through personal interviews, a mediating role of self-esteem in the relationship between family income and teenager materialism. Using an experimental methodology and college students as participants, we confirmed that self-esteem mediated the influence of family social class on materialism, which further supports the family investment theory (Conger & Donnellan, 2007) and the life course perspective (Weaver et al., 2011).

However, we believe that proving a mediating role for self-esteem is not sufficient, as we can only speculate that lower-class college students demonstrate higher materialism tendencies to compensate for low self-esteem. Previous studies have not examined directly the potential compensatory effect of materialism on self-esteem. To address this subject, we directly verified the compensatory effect in Experiment 2. Understandably, if there was indeed a compensatory effect, the levels of self-esteem for lower-class college students would rise significantly

when primed by materialism. The results were consistent with our hypothesis: We found that increasing perceptions around material possession can compensate for self-esteem in lower-class individuals, at least in the short term. Consistent with this result, Zhang (2009) proposes the exchange theory, which suggests that there is a mutual enhancement relationship between money and self-esteem.

Compared with previous studies, our research suggests potential psychological mechanisms concerning the influence of social class on materialism. Due to the lack of tangible and intangible resources, lower-class individuals face high levels of pressure, and their psychological needs are not fully satisfied, leading to lower self-esteem. As material wealth is widely regarded as a symbol of status and success in today's society, lower-class individuals may rely on material possessions to construct their sense of self and increase positive self-evaluation. Thus, the individual identifies with the materialistic values and gradually internalises them. It is deduced that lower-class individuals desire material wealth not only to meet basic physiological needs but more importantly, to compensate for unmet psychological needs (e.g., evaluation of self-worth) due to poverty at an early period of development.

The findings of our research also have significant practical implications. Our results suggest that pursuing material wealth may be used as a coping strategy that lower-class college students use to compensate for low self-esteem. However, this approach may be detrimental to individual happiness and mental health in the long run (Dittmar, Bond, Hurst, & Kasser, 2014; Kasser, 2016; Park, Ward, & Naragon-Gainey, 2017; Wang, Liu, Jiang, & Song, 2017). Chaplin and John (2007) found that inducing high self-esteem could significantly reduce the level of materialism for adolescents, which suggests that more effective approaches can be adopted to improve the self-esteem of lower-class college students and reduce materialistic tendencies. One of the main factors affecting adolescent self-esteem is parental input (Chaplin & John, 2010). Lower-class parents are often living under economic pressure, which may lead them to ignore the importance of providing emotional support for their children. Therefore, it may be useful to help lower-class parents improve their parenting skills, and learn to give their children emotional support and encouragement, which is beneficial for developing positive self-evaluation. In addition, communities and schools could guide lower-class students in taking an active part in cooperative learning, collective and social practice activities, to help them obtain a sense of accomplishment and self-worth (Chaplin et al., 2014).

4.3. Limitations and future directions

There are several limitations in this research, which can be addressed by future research. First, although we have identified a causal relationship between family's social class and materialism using an experimental methodology, the ecological validity was not high. Longitudinal research is needed to identify the long-term impact of family's social class on materialism. Second, we only used college students as participants, which limits the generalisation of the results. Future studies should test our hypotheses in a broader range of participants from various backgrounds. Finally, Experiment 2 only examined the compensation effect of materialism on self-esteem in the short term. According to self-determination theory, excessive pursuit of material wealth is chronically harmful to the satisfaction of basic psychological needs, which may damage individuals' healthy growth (Ryan & Deci, 2000). Therefore, the long-term effect of materialism on self-esteem requires further exploration.

5. Conclusion

This study explored the impact of social class on materialism and their underlying psychological mechanisms by conducting two experiments among Chinese college students. Results showed that materialism in the lower-class primed group was significantly higher than in

the higher-class primed group, and self-esteem played a mediating role. Moreover, the compensatory effect of materialism on self-esteem in lower-class students was significant. In summary, our findings indicated that lower-class college students showed high materialism tendencies that were used to compensate for their low self-esteem, at least in the short term.

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