

Are individuals from lower social classes more susceptible to conspiracy theories? An explanation from the compensatory control theory

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Previous research has indicated that social class is likely to be an important factor that influences individuals' beliefs in conspiracy theories; however, the underlying psychological mechanisms between these two variables remain unclear. This study directly investigated the relationship between these two variables through questionnaires and experimental manipulation, and introduced the perspective of compensatory control theory to investigate the serial mediating role of perceived control and need for structure in the process of social class influencing individuals' belief in conspiracy theories. The results showed that social class can significantly negatively predict individuals' belief in conspiracy theories, and perceived control and need for structure played a serial mediating role between them. To some extent, these results reveal the psychological mechanism that causes the higher likelihood of people from lower social classes to believe in conspiracy theories, and advances the explanation from the compensatory control theory.

Keywords: conspiracy theories, need for structure, perceived control, social class.

Belief in conspiracy theories is an explanatory tendency to regard certain significant historical or contemporary events as premeditated actions of powerful and malicious organisations (or individuals) to achieve their intended purposes (Goertzel, 1994; Green & Douglas, 2018; Uscinski & Parent, 2014; van Prooijen & Douglas, 2018). Western researchers have extensively investigated conspiracy theories, with fruitful results. However, conspiracy theories are not unique to Western society; they are universal (van Prooijen & Douglas, 2018) and are not limited to a specific era or culture. People from all over the world are susceptible to conspiracy theories (West & Sanders, 2003). In recent years, conspiracy theories in Chinese society have emerged in an endless stream, and people from the bottom of the social hierarchy seem more likely to be persuaded by, support, and spread them. van Prooijen (2017) found that social class was correlated with the extent to which individuals believe in conspiracy theories. Social class refers to different positions in the social hierarchy, formed as a result of economic, political, and other factors, and defined in terms of objective social

resources (income, education, and occupation), and subjectively perceived social status (Kraus, Piff, Mendoza-Denton, Rheinschmidt, & Keltner, 2012). There is increasing evidence implying a negative correlation between social class and belief in conspiracy theories, where individuals from lower social classes demonstrate stronger conspiracy theory beliefs compared to individuals from higher social classes (Douglas, Sutton, Callan, Dawtry, & Harvey, 2016; Goertzel, 1994; Uscinski & Parent, 2014; van Prooijen, 2017).

Although conspiracy theories may allow individuals (especially the lower class) to question the social hierarchy and encourage governments to be more transparent (Jolley & Douglas, 2014), their adverse impacts, such as the destruction of interpersonal relationships (Douglas & Leite, 2017), reduction of environmental behaviours (Jolley & Douglas, 2014), and weakening in political participation (Douglas & Sutton, 2008), are far-reaching (Jolley, 2013; Jolley & Douglas, 2017; van Prooijen & Douglas, 2018). Given the potential negative consequences associated with conspiracy theories, it is important to understand whether the tendency to believe in conspiracy theories differs by social class to facilitate more specific and effective interventions. However, knowledge of potential causal relationships and underlying psychological mechanisms between social class and belief in conspiracy theories is limited. Thus, the current research explored a potential causal relationship between social class and belief in conspiracy theories, and the

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serial mediating role of perceived control and need for structure, by directly using social class as an independent variable.

Social Class and Belief in Conspiracy Theories

According to the definition of Kraus et al. (2012), a person's social class includes two components: objective social class and subjective social class. Objective class can be reflected by income, education, and occupational reputation whereas subjective class reflects a person's subjective assessment of where he is on the social ladder (Kraus, Tan, & Tannenbaum, 2013). Both subjective and objective social class are operational definitions that often have been used in previous studies on social class (Manstead, 2018).

Previous studies have found that social class was likely to be an important group factor that influences an individual's belief in conspiracy theories. Goertzel (1994) reported that Hispanic and African Americans, a group perceived to have relatively lower social status, had higher belief in conspiracy theories than did Caucasians in the United States. Individuals who are objectively low in status because of income (Uscinski & Parent, 2014), lower employment security (Goertzel, 1994), and lower education level (Douglas et al., 2016; van Prooijen, 2017; van Prooijen & Acker, 2015) are more likely to believe in conspiracy theories. van Prooijen (2017) further found a serial mediation model of education level → analytic thinking → belief in simple solutions → belief in conspiracy theories, showing that lower education levels resulted in a lack of analytic thinking, which led to higher belief in simple solutions and therefore higher belief in conspiracy theories. This explains the psychological mechanism by which education level predicts belief in conspiracy theory from the perspective of cognitive processes. Some circumstantial evidence also has suggested a negative predicting effect between social class and belief in conspiracy theories. For instance, people who have experienced exclusion (Graeupner & Coman, 2017) and those who have failed in the political process (Uscinski & Parent, 2014) also tend to believe and support conspiracy theories. In addition, low self-efficacy, lack of self-esteem, dissatisfaction with life, and anxiety may lead to higher belief in conspiracy theories (Brotherton & Eser, 2015; Grzesiak-Feldman, 2013; Swami et al., 2011; van Prooijen & Jostmann, 2013). These are not only a stable tendency of the lower class but also social life states that they can easily experience. These studies have tended to suggest that social class and belief in conspiracy theories are negatively correlated.

Social Class and Perceived Control

Perceived control refers to an individual's perception of his or her ability to control events and the extent of external constraints (Lachman & Weaver, 1998). Several studies have reported positive correlations between social class and perceived control (Kraus, Piff, & Keltner, 2009; Lachman & Weaver, 1998; Li, 2014). Individuals from higher social classes live in an environment of affluence, personal freedom, and social opportunity; occupy influential positions and higher status; and thus may experience a higher sense of personal control (Domhoff, 1998; Kraus et al., 2012). Individuals from lower social classes have fewer opportunities to receive education, live in a harsher environment, and often face external threats such as low-wage jobs or unemployment, which are not conducive to pursuing personal goals and may reduce their sense of control (Kraus et al., 2012; Li, 2014; Stephens, Markus, & Phillips, 2014). Even after controlling for participants' objective social class, ethnic backgrounds, and liberal political beliefs, the positive correlation between subjective social class and perceived control still exists (Kraus et al., 2009). In general, these studies have demonstrated that social class can positively predict an individual's perceived control.

Perceived Control and Belief in Conspiracy Theories

Some studies have supported the idea that individuals' belief in conspiracy theories increases in circumstances wherein they lack personal control (van Prooijen & Acker, 2015; Whitson & Galinsky, 2008; Whitson, Kim, Wang, Menon, & Webster, 2019). van Prooijen and Acker (2015) conducted two well-designed studies with experimental conditions and real situations and proposed that perceived control does predict belief in conspiracy theories; belief in conspiracy theories will increase when the individual's sense of control is threatened by manipulation and will decrease when sense of control is affirmed. This relationship is also found in belief in specific conspiracy theories such as organizational conspiracy theories and political conspiracy theories (van Prooijen & de Vries, 2016; van Prooijen & Douglas, 2018; Whitson & Galinsky, 2008). Douglas, Sutton, and Cichocka (2017) believed this stems from people's existential motives; external threats can reduce people's sense of control whereas people tend to believe in conspiracy theories in an attempt to avoid threats in the external world and perceive a safe, secure, and controllable environment (Jost & Hunyady, 2005).

Another influential explanation, which is a detailed explanation of the aforementioned existential motives, comes from compensatory control theory, where

perceived control of the external world is considered a basic human motivation. In the face of complex social situations, a sense of control is often lacking, causing people to seek order in the objective world, with the hope that the objective world is still orderly, definite, and predictable. This motivation is called *need for structure* (Landau, Kay, & Whitson, 2015). For example, when terrorist attacks threaten people's sense of control, it is difficult for them to actively compensate for the lost sense of control through personal efforts. At this time, simple, clear, and consistent explanations for the causes of events can be found to meet the need for structure and compensate for the lost sense of control from the perspective of cognitive structure. Although the interpretation of conspiracy theories is not equal to the truth, or even contrary to the truth, it just happens to satisfy the individual's need for structure and order in a timely manner (van Prooijen & van Dijk, 2014). In general, belief in conspiracy theories increases when people's sense of control decreases, whether for existential motives or need for structure.

Social Class, Perceived Control, Need for Structure, and Belief in Conspiracy Theories

Through the previous review, it can be inferred that individuals from lower social classes have a relatively low sense of control over the outside world because of their own limited resources (Kraus et al., 2012; Lachman & Weaver, 1998). In the face of sudden emergencies, individuals from lower social classes may come to feel that the world around them is beyond their control, and they seek a clear, definitive, and predictable interpretation of the outside world (need for structure). However, in many cases, the truth is not available, so believing in conspiracy theories becomes an alternative path to seek order, structure, and certainty to satisfy the need for structure (van Prooijen & van Dijk, 2014). Therefore, combined with this explanation from the compensatory control theory view, low sense of control can lead to increased need for structure (Kay, Whitson, Gaucher, & Galinsky, 2009; Landau et al., 2015), and individuals' inclination

to believe conspiracy theories may be reflected in the following motivation path: lower social class → lower perceived control → higher need for structure → higher belief in conspiracy theories, with perceived control and need for structure playing a serial mediating role. Although some studies have suggested a significant negative correlation between social class and belief in conspiracy theories (Goertzel, 1994; Uscinski & Parent, 2014; van Prooijen, 2017), we still wanted to verify the relationship between them, and to establish causality. In addition, it is necessary to further explore whether social class predicts belief in conspiracy theories based on the serial mediating effect of perceived control and need for structure. In conclusion, the current study aimed to further examine the negative correlation between social class and belief in conspiracy theories, especially the causal relationship between them, and reveal the psychological mechanism of social class influencing belief in conspiracy theories from the perspective of compensatory control theory.

Purpose and Hypothesis

The research hypothesis was as follows: Participants from lower social classes will have higher levels of belief in conspiracy theories than will those from higher social classes, with perceived control and need for structure playing a serial mediating role (Figure 1).

Previous studies have lacked direct evidence for a causal relationship between social class and belief in conspiracy theories, and more research is needed to uncover the psychological mechanism of this effect. Therefore, the current study used social class as an independent variable, and applied questionnaires and experimental methods to explore the causal relationship between social class and belief in conspiracy theories. We measured participants' subjective and objective social class, perceived control, and belief in conspiracy theory to verify the mediating effect of perceived control (Study 1). For the sake of conservatism, Study 1 only examined the mediating effect of perceived control at first. Moreover, the questionnaire method, which has a relatively large sample size, served as a preliminary

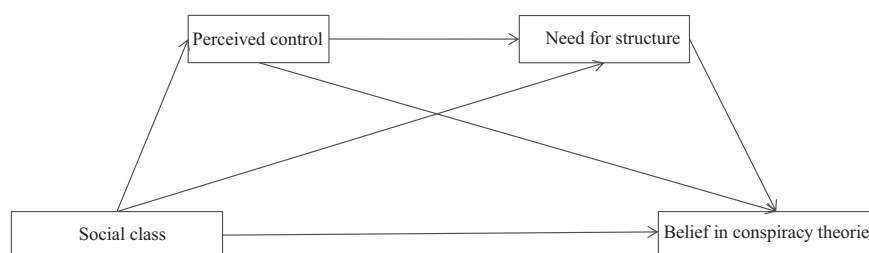


Figure 1 The model diagram of the research hypothesis.

exploration for the research hypothesis. We also used a class priming paradigm to test the compensatory effect of conspiracy theory on perceived control in individuals from lower social classes (Study 2). In other words, Study 2 further investigated the serial mediation model (social class → perceived control → need for structure → belief in conspiracy theories) through an experimental method.

STUDY 1

Methods

Participants. Our institution's research oversight committee approved the study. Participants were primarily college students. To obtain medium power (effect size $r = .30$ in a linear multiple regression analysis), a G* power analysis suggested that a total sample size of 111 participants would be needed to obtain a power of .95 (Faul, Erdfelder, Buchner, & Lang, 2009). We distributed 309 questionnaires through the Internet, excluding invalid questionnaires with incomplete answers (where one or more questions were omitted) and obvious bias (where the responses were obviously regular, e.g., all results were the same value). All participants provided written informed consent. The final sample consisted of 268 participants (104 male, 164 female), ranging in age from 17 to 31 years ($M = 23.28$, $SD = 2.45$).

Materials and Measures. *Social class.* Subjective social class was measured using the MacArthur Scale of Subjective Socioeconomic Status (Adler, Epel, Castellazzo, & Ickovics, 2000). This scale distinguishes between people in different social classes by presenting participants with a ladder ranging from 1 (*bottom*) to 10 (*top*). In specific studies, participants were asked to imagine that the 10-tier ladder reflected the different classes of Chinese people, with those at the top of the ladder having the most privileged lives, the best education, and the highest income. Those at the bottom of the ladder were the worst off, with the lowest levels of education and incomes. Finally, participants were asked to choose a value from 1 to 10 to report where they were on the ladder, according to their family status (e.g., family income level, parents' education level, and parents' occupation).

In our study, the family's annual income level was used to define participants' objective social class.¹ Annual household income was divided into 10 categories: <30,000 yuan, 30,000–60,000 yuan, 60,000–90,000 yuan, 90,000–120,000 yuan, 120,000–150,000 yuan, 150,000–180,000 yuan, 180,000–210,000 yuan, 210,000–240,000 yuan, 240,000–270,000 yuan, and

270,000 yuan or more, with an overall value ranging from 1 to 10 points.

Perceived control. The revised Chinese version of the Sense of Control Scale (Li, 2014), originally developed by Lachman and Weaver (1998), was used to measure perceived control. The scale includes 12 items such as, "If I really want to do something, I can usually find a way to succeed" and "Sometimes I feel pushed around in my life" (reverse scoring), to which participants responded on a Likert scale of 1 (*strongly disagree*) to 7 (*strongly agree*). The reliability of the scale in our study was good, Cronbach's $\alpha = .86$.

Belief in conspiracy theories. We measured belief in conspiracy theories with the 12-item Conspiracy Mentality Scale developed by Imhoff and Bruder (2014). Items include "There are many very important things happening in the world about which the public is not informed" and "I think that the various conspiracy theories circulating in the media are absolute nonsense" (reverse scoring). Participants responded on a Likert scale of 1 (*strongly disagree*) to 7 (*strongly agree*). Good reliability was found in the present study, Cronbach's $\alpha = .81$.

Results and Discussion

Descriptive Statistics and Correlations. Results of correlational analyses are shown in Table 1. Subjective social class was positively correlated with objective social class, $r = .54$, $p < .001$, and perceived control, $r = .36$, $p < .001$, but negatively with belief in conspiracy theories, $r = -.28$, $p < .001$. Objective social class was also positively correlated with perceived control, $r = .29$, $p < .001$, but negatively with belief in conspiracy theories, $r = -.20$, $p < .01$. Perceived control was negatively correlated with belief in conspiracy theories, $r = -.41$, $p < .001$, thus providing the basis for mediation analysis among these variables.

Mediation Effect of Perceived Control. We used the PROCESS macro for IBM SPSS 19.0 (Model 4) developed by Hayes (2013) to evaluate the mediation effect of perceived control between social class and belief in conspiracy theories. Results showed that the total effect of subjective social class on belief in conspiracy theories was significant, total effect = -0.28 , 95% confidence (CI) [-0.40 , -0.16]. As shown in Figure 2 and Table 2, subjective social class positively predicted perceived control, $\beta = .36$, $p < .001$, 95% CI [0.25 , 0.47], and perceived control in turn negatively predicted belief in conspiracy theories, $\beta = -.35$, $p < .001$, 95% CI [-0.47 , -0.23]. The residual direct effect was still significant,

Table 1
Descriptive Analysis and Correlations

	<i>M</i>	<i>SD</i>	1	2	3	4
1. Objective social class	4.49	2.38	1			
2. Subjective social class	4.62	1.41	.54***	1		
3. Perceived control	4.28	0.86	.29***	.36***	1	
4. Belief in conspiracy theories	4.72	0.76	-.20**	-.28***	-.41***	1

Note. * $p < .05$. ** $p < .01$. *** $p < .001$.

$\beta = -.16$, $p < .01$, 95% CI [-0.27, -0.04]. Perceived control, therefore, played a mediating role in the link between subjective social class and belief in conspiracy theories, indirect effect = -0.13, 95% CI [-0.21, -0.06], and the proportion of the mediating effect was 44.59%.²

In addition, the total effect of objective social class on belief in conspiracy theories was significant, total effect = -0.20, 95% CI [-0.32, -0.09]. As shown in Figure 3 and Table 3, objective social class positively predicted perceived control, $\beta = .28$, $p < .001$, 95% CI [0.17, 0.40], and perceived control in turn negatively predicted belief in conspiracy theories, $\beta = -.38$, $p < .001$, 95% CI [-0.49, -0.27]. The residual direct effect was not significant, $\beta = -.09$, $p > .05$, 95% CI [-0.21, 0.02]. Perceived control, therefore, also played a mediating role in the link between objective social class and belief in conspiracy theories, indirect effect = -0.11, 95% CI [-0.19, -0.05], and the proportion of the mediating effect was 53.28%.

Study 1 showed that individuals from lower social classes (whether subjective or objective) had higher beliefs in conspiracy theories than had individuals from higher social classes, and perceived control mediated the relationship between social class and belief in conspiracy theories, which preliminarily verified the research hypothesis. That is, individuals from lower

Table 2
Mediating Effect Test of Perceived Control

	Effect Value	Boot SE	Lower Boot CI	Upper Boot CI
Total effect of SSC on BICT	-0.28	0.06	-0.40	-0.16
Direct effect of SSC on BICT	-0.16	0.06	-0.27	-0.04
Indirect effect of SSC on BICT	-0.13	0.04	-0.21	-0.06

Note. Boot SE, lower Boot confidence interval (CI), and upper Boot CI refer to the SE, lower limit, and upper limit of the 95% CI, respectively, of effects estimated by the percentile Bootstrap method with deviation correction. BICT = belief in conspiracy theories; SSC = subjective social class.

social classes are more likely to believe in conspiracy theories partly because they have a lower sense of control. To some extent, the results reflect the reliability of the prediction effect of social class because the results of the two different operational definitions of social class (objective and subjective classes) were consistent. However, Study 1 did not examine the complete research hypothesis model. Cross-sectional questionnaire methods cannot provide evidence for a causal relationship between social class and belief in conspiracy theories. Therefore, Study 2 explored whether the relationship between social class and belief in conspiracy theories can be explained by compensatory control theory (i.e., the low sense of control of individuals from lower social classes precipitates their need for structure, which in turn leads to their high belief in conspiracy theories), and examined whether the results further validated the Study 1 conclusions.

STUDY 2

Methods

Participants. Our institution's research oversight committee approved the study, and all participants

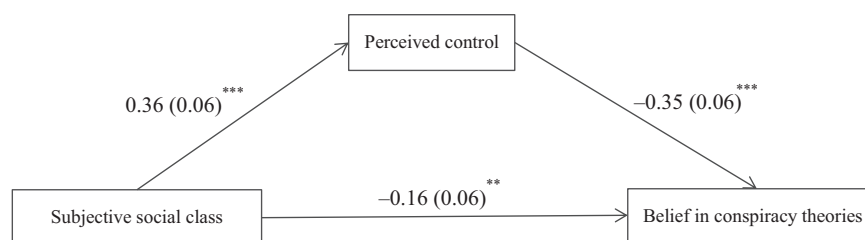


Figure 2 Mediation model. Path values are the path coefficients with SEs. ** $p < .01$. *** $p < .001$. All variables were standardised.

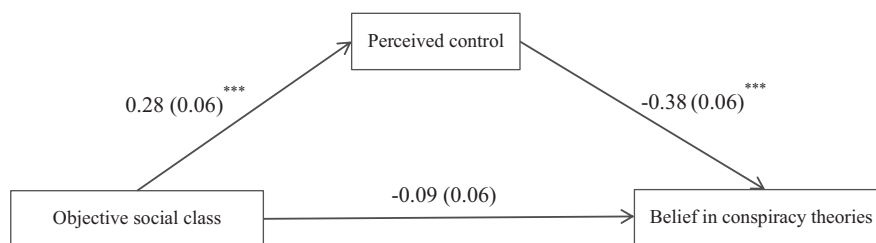


Figure 3 Mediation model. Path values are the path coefficients with SEs. *** $p < .001$. All variables were standardised.

provided verbal informed consent. An effect size (d) of .5 in an independent samples t test required a sample size of approximately 102 participants for 80% power of detecting the effect. We limited this sample to students and recruited 190 volunteer participants from a university in Jiangsu Province of China (including undergraduates, master's students, and a small number of doctoral students). We assured participants that their answers were confidential. Ten participants with missing or obviously regular (e.g., all results were the same value) responses were excluded from the analysis, resulting in a final sample of 180 participants (74 male, 106 female), ranging in age from 18 to 30 years (M age = 22.84, $SD = 2.13$).

Experimental design and procedures. Study 2 adopted a single factorial between-groups experimental design, with experimentally induced subjective social class (low vs. high) as the independent variable and belief in conspiracy theories as the dependent variable.

When participants arrived at the laboratory, they were told that two separate tasks would be completed. First, they were asked to participate in an imagination-based task designed to manipulate their subjective perceptions of social class. The manipulation test of subjective social

class was then conducted. Next, in "another task", participants were asked to complete a questionnaire about their personal life feelings and social beliefs, unaware that this was a measure of personal sense of control, need for structure, and belief in conspiracy theories. Next, we asked participants if they knew the purpose of the experiment, and no one could say for sure. Finally, participants were asked to provide basic demographic information, including their family's annual income, as in Study 1. For this study, we added the highest level of parents' education as an additional measure of objective social class. Participants received a small monetary reward for participating.

Materials and measures. Subjective social class manipulation. Consistent with previous studies (Cheon & Hong, 2017; Li, Lu, Xia, & Guo, 2018), we used the MacArthur Scale of Subjective Socioeconomic Status (Adler et al., 2000) to manipulate the subjective perception of social class. We showed participants a 10-tier ladder and asked them to imagine Chinese people at a social class of 1 to 10. A higher level indicated higher social class status; namely, higher income, higher education level, and higher occupational status. By considering their own family's economic status, parents' education levels, and occupational status, participants were asked to compare themselves either with those at the bottom for the subjective higher class-priming condition or with those at the top for the subjective lower class-priming condition. Participants were then asked to imagine talking to someone at the bottom (for the higher class priming group) or the top (for the lower class-priming group) to enhance priming. They were finally asked to choose a value from 1 to 10 to report their perceived social class for the manipulation check.

Perceived control. The measure of perceived control was the same as in Study 1, and it presented good reliability, Cronbach's $\alpha = .91$.

Need for structure. Need for structure was measured with the 11-item revised Chinese version of the Personal Need for Structure Scale (Zhang, 2005), originally

Table 3
Mediating Effect Test of Perceived Control

	Effect Value	Boot SE	Lower Boot CI	Upper Boot CI
Total effect of OSC on BICT	-0.20	0.06	-0.32	-0.09
Direct effect of OSC on BICT	-0.09	0.06	-0.21	0.02
Indirect effect of OSC on BICT	-0.11	0.04	-0.19	-0.05

Note. Boot SE, lower Boot confidence interval (CI), and upper Boot CI respectively refer to the standard error, lower limit, and upper limit of the 95% CI, respectively, of effects estimated by the percentile Bootstrap method with deviation correction. BICT = belief in conspiracy theories; OSC = objective social class.

developed by Neuberg and Newsom (1993). Items on the scale included “I don’t like uncertain situations” and “I won’t be upset because of the disruption of regular life” (reverse scoring). Participants responded on a Likert scale of 1 (*strongly disagree*) to 6 (*strongly agree*). Reliability of this scale in our study was good, Cronbach’s $\alpha = .87$.

Belief in conspiracy theories. The measure of belief in conspiracy theories was also the same as that in Study 1, and reliability was still good in this sample, Cronbach’s $\alpha = .89$.

Results and discussion

Subjective social class manipulation check. Independent samples *t* tests (bilateral) were used to confirm that there was no difference in family income level between the two experimental groups, $t = 0.47$, $p > .05$, Cohen’s $d = .07$. Including parents’ highest education level as the dependent variable, results showed that the difference between the two groups was still not significant, $t = 1.24$, $p > .05$, Cohen’s $d = .19$, indicating that there was no difference in objective social class level between the two groups of participants.

Second, we tested the effectiveness of the subjective social class manipulation. Results of the independent samples *t* test (bilateral) showed that participants in the higher class priming group reported higher levels of social class ($n = 90$, $M = 5.19$, $SD = 1.45$) than did participants in the lowerclass priming group ($N = 90$, $M = 4.32$, $SD = 1.54$), $t(178) = 3.88$, $p < .001$, Cohen’s $d = .58$, which indicated that the experimental manipulation of social class changed the perceived level of participants’ own class. Therefore, we marked high subjective social class as 1 and low subjective social class as 0 in the following test.

Other variables’ independent samples *t* test. We conducted a bilateral independent samples *t* test on participants’ perceived control, need for structure, and belief in conspiracy theories. Results showed that participants had higher levels of perceived control in the higher class priming group ($N = 90$, $M = 4.69$, $SD = 0.93$) than that in the lower class priming group ($N = 90$, $M = 4.29$, $SD = 1.04$), $t(178) = 2.68$, $p < .01$, Cohen’s $d = .40$; lower levels of need for structure in the higher class priming group ($N = 90$, $M = 3.95$, $SD = 0.73$) than that in the lower class priming group ($N = 90$, $M = 4.30$, $SD = 0.74$), $t(178) = -3.27$, $p < .01$, Cohen’s $d = .49$; and lower levels of belief in conspiracy theories in the higher class priming group ($N = 90$, $M = 4.42$, $SD = 0.87$) than that in the lower class priming group ($N = 90$, $M = 4.92$, $SD = 0.88$), $t(178) = -3.79$, $p < .001$, Cohen’s $d = .57$.

Descriptive statistics and correlations. Correlation analysis results are shown in Table 4. All variables were significantly correlated.

Serial mediation effect of perceived control and need for structure. The PROCESS macro for IBM SPSS 19.0 (Model 6) developed by Hayes (2013) was used to test the serial mediating effect of perceived control and need for structure between subjective social class and belief in conspiracy theories. Regression analysis results (see Table 5) showed that the direct prediction effect of subjective social class on belief in conspiracy theories was significant, $\beta = -.13$, $p < .05$, 95% CI $[-0.26, -0.01]$, and subjective social class also had significant effects on perceived control, $\beta = .20$, $p < .01$, 95% CI $[0.05, 0.34]$, and need for structure, $\beta = -.18$, $p < .05$, 95% CI $[-0.32, -0.04]$; perceived control significantly predicted need for structure, $\beta = -.31$, $p < .001$, 95% CI $[-0.45, -0.17]$; both perceived control, $\beta = -.38$, $p < .001$, 95% CI $[-0.51, -0.25]$, and need for structure, $\beta = .28$, $p < .001$, 95% CI $[0.15, 0.41]$, had significant effects on belief in conspiracy theories.

The analysis results of the serial mediating effect (Table 6 and Figure 4) showed that subjective social class directly affected belief in conspiracy theories, with a direct effect size of -0.13 . Perceived control and need for structure played a partial mediating role between subjective social class and belief in conspiracy theories, with a mediating effect size of -0.14 , accounting for 51.61% of the total effect, -0.27 , of subjective social class on belief in conspiracy theories. Specifically, Indirect Effects 1 generated by subjective social class \rightarrow perceived control \rightarrow belief in conspiracy theories, -0.07 ; Indirect Effects 2 generated by subjective social class \rightarrow perceived control \rightarrow need for structure \rightarrow belief in conspiracy theories, -0.02 ; Indirect Effects 3 generated by subjective social class \rightarrow need

Table 4
Descriptive Analysis and Correlations

	<i>M</i>	<i>SD</i>	1	2	3	4
1. Subjective social class	0.50	0.50	1			
2. Perceived control	4.49	1.01	.20**	1		
3. Need for structure	4.12	0.75	-.24**	-.34**	1	
4. Belief in conspiracy theories	4.67	0.91	-.27**	-.50**	.44**	1

Note. High subjective social class group = 1; low subjective social class group = 0.

** $p < .01$.

Table 5
Regression Analysis of Variables in the Model

Regression Equation		Overall Fit Index		Significance of Regression Coefficient		
Outcome Variable	Predictor Variable	<i>R</i>	<i>R</i> ²	<i>F</i>	β	<i>t</i>
Perceived control	SSC	.20	.04	7.19**	.20	2.68**
Need for structure	Perceived control	.39	.15	15.46***	-.31	-4.38***
	SSC				-.18	-2.50*
BICT	Perceived control	.59	.35	31.41***	-.38	-5.79***
	Need for structure				.28	4.23***
	SSC				-.13	-2.10*

Note. BICT = belief in conspiracy theories; SSC = subjective social class.

All variables in the model were standardized and then inserted into the regression equation for analysis.

p* < .05. *p* < .01. ****p* < .001.

Table 6
Serial Mediating Effect Test of Perceived Control and Need for Structure

	Indirect Effect Value	Boot SE	Lower Boot CI	Upper Boot CI	Relative Mediating Effect
Total indirect effect	-0.14	0.05	-0.25	-0.06	51.61%
Indirect Effect 1	-0.07	0.03	-0.15	-0.02	27.29%
Indirect Effect 2	-0.02	0.01	-0.05	-0.004	6.23%
Indirect Effect 3	-0.05	0.02	-0.11	-0.01	18.10%

Note. Boot SE, lower Boot confidence interval (CI) and upper Boot CI respectively refer to the SE, lower limit, and upper limit of 95% CI of indirect effects estimated by the percentile Bootstrap method with deviation correction.

for structure → belief in conspiracy theories, -0.05. If the bootstrap 95% CI for indirect effects did not contain 0, this indirect effect reached a significant level. Therefore, Indirect Effects 1, 95% CI [-0.15, -0.02], 2, 95% CI [-0.05, -0.004], and 3, 95% CI [-0.11, -0.01], all had significant mediating effects, accounting for 27.29, 6.23, and 18.10% of the total effect, respectively. Results indicated that perceived control and need for structure played a serial mediation role between subjective social class and belief in conspiracy theories, which was consistent with the explanation of compensatory control theory and supported the research hypothesis.³

Discussion

We conducted two studies (questionnaire and experimental) to examine the influence of social class on belief in conspiracy theories and the underlying psychological mechanisms. Consistent with our prediction, Study 1 (questionnaire method) showed that individuals from lower social classes had higher beliefs in conspiracy theories as compared to individuals from higher social classes, and perceived control played a mediation role between social class and belief in conspiracy theories. Study 2 (experimental method) further verified that this relationship can be explained by compensatory control theory by experimental manipulation of participants' subjective social class.

Relationship Between Social Class and Belief in Conspiracy Theories

From a historical point of view, whenever there was a major social or political event that threatened, or when a conspiracy theory was in full bloom, it was often people at the bottom of society who were easily convinced by others. Previous studies have found that conspiracy theories are often associated with negative life experiences and inferior personal traits such as low income level (Uscinski & Parent, 2014), unstable occupation (Goertzel, 1994), low education level (Douglas et al., 2016), low self-efficacy, and low self-esteem (Brotherton & Eser, 2015), which has provided evidence that people from lower social classes are more likely to embrace conspiracy theories. van Prooijen (2017) also investigated the two variables of subjective social class (as a mediation variable) and belief in conspiracy theories, but only found a correlation between them, without in-depth exploration of whether there was a causal relationship. To confirm the inferences based on previous studies and

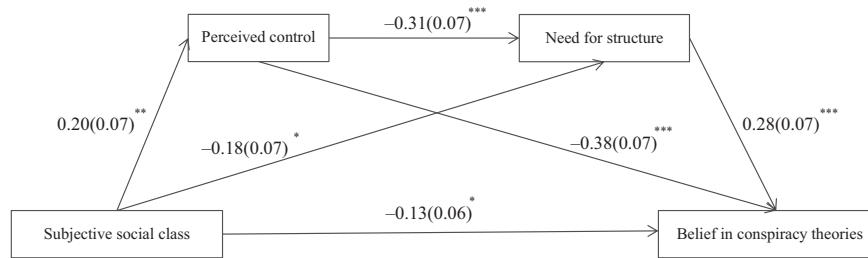


Figure 4 Serial mediation model. Path values are the path coefficients with SEs. All variables were standardised. * $p < .05$. ** $p < .01$. *** $p < .001$.

overcome the existing limitations, we determined through questionnaires in Study 1 that there was a significant negative correlation between social class and belief in conspiracy theories; on that basis, we designed Study 2, using the experimental paradigm commonly used in social class research to manipulate participants' subjective perceptions of their own social class. Results showed that participants who perceived themselves as coming from a lower class showed higher beliefs in conspiracy theories. This was consistent with previous research results.

In Study 1, we reported the results of both the subjective social class's and the objective social class's influence on belief in conspiracy theories, and found that these two results were consistent. According to Kraus et al. (2012), social class contains subjective and objective aspects, both of which are operational indicators of social class. Examining the subjective and objective social class at the same time is more comprehensive than just focussing on one index or one dimension of social class, which also made our research results more solid. In previous studies on social class psychology, many studies also have examined the indicators of both aspects at the same time (Côté et al., 2017; Dubois, Rucker, & Galinsky, 2015) to make a consistency test on the results. This study was based on such a research idea by investigating the effect of objective and subjective social class, respectively (Study 1), to strive to make the results more robust. In conclusion, based on different operational definitions, this study provided more robust research evidence for the relationship between social class and belief in conspiracy theories.

In addition, previous studies were based on samples from Western countries, so our use of Chinese samples supported the conclusion that individuals from lower social classes were more inclined to embrace conspiracy theories, indicating that there is no cross-cultural difference in this relationship. This also seemed to reflect that belief in conspiracy theories is universal in that it is not restricted to time, space, or culture (van Prooijen & Douglas, 2018).

Psychological Mechanisms of How Social Class Influences Belief in Conspiracy Theories

Previous studies have found a positive correlation between social class and perceived control (Kraus et al., 2009), and a negative correlation between perceived control and belief in conspiracy theories (Douglas et al., 2017; van Prooijen & Acker, 2015; Whitson et al., 2019). On the basis of these studies, we examined the mediating role of perceived control between social class and belief in conspiracy theories through questionnaires and experiments.

Consistent with our prediction, the mediating mechanism of perceived control shown in Study 1 combined with compensatory control theory to provide explanatory perspectives for this psychological mechanism. When the need for personal control cannot be satisfied, people seek order in the objective world, hoping that the objective world is still orderly, definite, and predictable, which is known as a need for structure (Landau et al., 2015). Conspiracy theories are not necessarily based on truth but they can quickly provide an explanation of events, appealing to people with a high need for structure. Therefore, conspiracy theories are regarded as a prominent manifestation of people with a low sense of control seeking structure and certainty (van Prooijen & van Dijk, 2014). To further explore this motivational path, we directly verified the interpretation from compensatory control theory in Study 2. If there is indeed a compensating effect, then the serial mediation model of social class \rightarrow perceived control \rightarrow need for structure \rightarrow belief in conspiracy theories should be established. Results were consistent with our hypothesis and revealed a serial mediation role of perceived control and need for structure between subjective social class and belief in conspiracy theories. However, also note that in addition to perceived control, there should be other psychological mechanisms between the two, which should be addressed in future research.

Compared with previous studies, our study directly examined the relationship between social class and belief

in conspiracy theories, and revealed the potential psychological mechanism of social class influences on belief in conspiracy theories. Individuals from lower social classes are in a state of low perceived control, given the limitations of their conditions and their low mastery of tangible and intangible resources. In threatening social events, it is easy to lose one's sense of control. When experiencing a low sense of control, individuals will create structure in cognition through a simple and clear explanation of external events. Conspiracy theories meet the needs of these individuals both in long-term life experience and sudden social situations. Some researchers have interpreted this motivational process as satisfying the individuals' existential motives (Douglas et al., 2017), which is of great significance to the physiological needs and social survival of people at the bottom.

Previous studies have explored the predictive effect of social class (take education level as a measure) on belief in conspiracy theories. van Prooijen (2017) once found that education level could predict belief in conspiracy theories through the serial mediation effect of analytic thinking and belief in simple solutions. In fact, there are two perspectives that explain the generation mechanism of belief in conspiracy theories in previous studies. One focusses on cognitive mechanism (Douglas & Sutton, 2018; van Prooijen, 2017), and the other focuses on motivation mechanism (Douglas et al., 2017; Landau et al., 2015; van Prooijen & van Dijk, 2014). Analytic thinking and belief in simple solutions investigated by van Prooijen were typical explanatory thinking of cognitive mechanism. However, the motivation mechanism on which this study focussed emphasised that when the individual's control motivation cannot be satisfied, it appeals to need for structure and then triggers belief in conspiracy theories. This is an explanation based on motivation, which is a new discovery compared to the results of van Prooijen. Perhaps future research can combine cognitive and motivation mechanisms to devise a more integrated mediation model. In addition, the advancement of this study compared with that by van Prooijen is shown in the following two points. First, this study explored the prediction effect of social class by investigating both subjective class and objective class, assuring that the results were more robust. Second, through the manipulation of subjective social class, this study also investigated the causal relationship between social class and the outcome variables, which is a further extension of the conclusion of van Prooijen (2017).

In sum, our findings have theoretical significance. First, we established the causal effect of social class on belief in conspiracy theories, expanding the understanding of the relationship between the two, established in previous studies. Second, this study more clearly revealed social class differences in the psychological

mechanism underlying belief in conspiracy theories, which advances social class psychology research. We found that different social classes form different social mentalities based on different motivational processes, such as perceived control and need for structure. Third, this study also supported the compensatory control theory, and empirically verified that a belief in conspiracy theories may be the result of a process of compensation for perceived control. Furthermore, we linked this process with social class, extending the application scope of compensatory control theory.

Our findings also have important practical implications at the social level. Conspiracy theories have a negative impact on important life areas such as personal health, interpersonal relationships, and security as well as social development areas such as political participation and environmental attitudes (Imhoff & Bruder, 2014; Silva, Vegetti, & Littvay, 2017; van Prooijen & Douglas, 2018). Moreover, belief in conspiracy theories has more negative than positive effects (Brotherton & Eser, 2015; Del Vicario et al., 2016; Jolley & Douglas, 2014). Therefore, our research first helps identify the population that needs intervention regarding conspiracy theories, the people at the bottom of society. van Prooijen and Acker's (2015) study found that when subjects were endowed with a sense of control, their belief in conspiracy theories decreased. We propose that enhancing a sense of control in real situations can effectively intervene in conspiracy theory beliefs. The current research further provides the theoretical basis for this practical intervention direction.

Limitations and Future Directions

Our two studies have limitations that can be solved by future research. First, our samples were mainly college students, which limits the generalisation of our research results. A larger sample from the general population may lead to stronger conclusions in future research. Second, Study 1 was not longitudinal, which is a deficiency in the whole field of conspiracy theory psychology research. Previous research on conspiracy theories have been mostly correlation studies, lacking causal analysis (Douglas et al., 2017; van Prooijen & de Vries, 2016; Ståhl & van Prooijen, 2018). Longitudinal research design needs to be applied in future research to improve ecological validity. Moreover, as we mentioned earlier, there are other psychological mechanisms between social class and belief in conspiracy theories, in addition to perceived control and need for structure, that depend on future research. Finally, research on the psychology of conspiracy theories in China is still in its infancy, and our measurement of belief in conspiracy theories relies on existing Western scales, resulting in a single measurement tool. In the future, we should

develop additional measurement tools that better fit the context and individuality of the participants.

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Conflict of Interest

The authors declared that they had no conflicts of interest with respect to their authorship or the publication of this article.

Notes

- ¹ For a long time, income has been the most intuitive indicator to reflect the objective social class, and many studies on the objective class only take income or family income as the operational definition of the objective social class (Bianchi & Vohs, 2016; Côté, House, & Willer, 2015; Ding, Wu, Ji, Chen, & van Lange, 2017; Rheinschmidt & Mendoza-Denton, 2014). In addition, the participants in this study were all Chinese with a background of collectivism culture, and most of the participants were college students, so the total income level of family members could better reflect their social class than individual income level.
- ² When income levels were controlled for, the predictive effect of subjective social class was the same as when they were not.
- ³ When income levels and the highest level of parents' education were controlled for, the predictive effect of subjective social class was the same as when they were not.

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