Citation: YANG Shenlong, GUO Yongyu, HU Xiaoyong, SHU Shouli, LI Jing. Do lower class individuals possess higher levels of system justification? An examination from the social cognitive perspectives[J], Acta Psychologica Sinica, 2016 (11): 1467-1478.

Do lower class individuals possess higher levels of system justification? An examination from the social cognitive perspectives

YANG Shenlong[1], GUO Yongyu[1], HU Xiaoyong[1,2], SHU Shouli[1,3], LI Jing[1]

1. School of Psychology, Central China Normal University, Key Laboratory of Adolescent Cyberpsychology and Behavior, Ministry of Education, and Hubei Human Development and Mental Health Key Laboratory, Wuhan 430079, China;
2. Faculty of Psychology, Southwest University, Chongqing 400715, China;
3. School of Educational Science, Anhui Normal University, Wuhu 241000, China

Abstract: According to system justification theory, lower class individuals are more likely to view social system as legitimate than those from higher class. Yet, the opposite pattern emerged in many empirical studies suggesting that system justification was stronger among individuals from higher class relative to lower class counterparts. Recently, a cognitive perspective of system justification theory proposes that people express a salient tendency of internal attribution when explaining socioeconomic disparities, which serves as a main source of system justification. Given the fact that individuals from lower social class are characterized by contextualized cognitive style and external attribution, they may attribute socioeconomic disparities to external factors, and thereby are less likely to support the social system. Thus, we expected that 1) one's social class was positively correlated with system justification, and 2) an internal attribution for the gap between the rich and the poor played a mediating role. Moreover, studies derived from social cognitive theory of social class demonstrate that the increase in perceived control has potential to help lower class individuals shift their attributional styles from external to internal. We further hypothesized that 3) perceived control could moderate the mediation model proposed in hypothesis 2. Two studies were designed to test these three hypotheses with different strategies. In Study 1, 241 college students with different levels of subjective social class were randomly assigned into high or low perceived control priming conditions, and then assessed their attributional tendency regarding the rich-poor gap and system justification, so that the moderating effect of perceived control on the mediation model could be tested. In study 2, 829 college students from four universities of different levels received scales of social class, perceived control, attributional style for the rich-poor gap and system justification to examine the hypothesized relationships in their actual lives. The results supported all of the three hypotheses. Firstly, social class was positively associated with system justification. That is, lower social class individuals exhibited fewer tendencies to support the social system. Secondly, attributional tendency for the rich-poor gap mediated this relationship between social class and system justification. Lower class individuals were less likely to attribute the disparities between the rich and the poor to internal factors (e.g., personal striving, ability), and also displayed lower level of system justification. Thirdly, the hypothesized moderated mediation model was also supported; that is, the mediating effect of attribution between social class and system justification was moderated by perceived control. When perceived control was low, the mediating effect was significant; however, when perceived control was high, lower class individuals' internal attributional tendency would become as high as those of higher class, resulting in the absence of the mediation model. Both of the two studies supported consistenly all of the above hypotheses. These results support and expand the cognitive perspective of system justification theory, which emphasizes the cognitive basis of one's system justification but fails to consider the differences between classes. This study also proposes an extension to the social cognitive theory of social class by combining different social classes' social cognition with their system justification. In addition, the connection of the two theories forms a more comprehensive picture of class, cognition, and justification. Therefore, the present research is based on social cognitive perspectives. Furthermore, this study demonstrates that perceived control can moderate the mediation model. This is not only a further theoretical exploration, but a noteworthy suggestion for social governance that lower class individuals' internal attribution and system justification can be altered by an increased sense of mastery of themselves and a decreased sense of restriction from the society.

Keywords: social class; system justification; attribution for the gap between the rich and the poor; perceived control; social cognition

---

Received: 2016-01-27
Supported by: National Nature Science Foundation of China (Grant No. 71171094); National Social Science Foundation of China (Grant No. 13AZD087); Basal Research Fund (Humanities and Social Sciences Category) of Central China Normal University (CCNU14Z02018)
Corresponding author: Guo Yongyu, Email: Yyguo@mail.ccnu.edu.cn

1 Introduction

The disparity between the poor and the rich has become a challenge that many countries face today, usually getting worse due to class solidification (Davidai & Gilovich, 2015). The same is true in China. On the one hand, years of high Gini coefficient show the huge income inequality and great gap between the poor and the rich in our country. On the other hand, class solidification and stagnation of intergenerational mobility further underline the contradiction of economic distribution. Many studies have shown that in recent years upward mobility is becoming increasingly difficult (e.g., Li, 2014; Yu, 2014). Lower class individuals only have relatively narrow channels to higher class even if they have completed higher education. (Yue, Zhang, 2014). In this context, the attitude of contemporary lower class towards social system is worthy of our high attention. How do they feel about the fairness and legitimacy of the current social system? What's the psychological basis of such feelings? And will the feelings change under certain conditions? The discussion of these issues is not just the need to maintain stability, but also it will offer us some insights into psychological characteristics and needs of lower class people in a constructive way as well as providing a good reference for social governance.

Then what have been discussed about these issues in the past psychological studies? An idea from system justification theory must have been mentioned here that lower class individuals are more likely to view social system as legitimate and to support the existing system than those from higher class. (Jost, Pelham, Sheldon, & Sullivan, 2003). However, there has been a lot of controversy over it (Yang, Guo, L, 2013), because of the opposite conclusion in many studies suggesting that lower class individuals are more likely to oppose against the social system than those from higher class. (e.g., Brandt, 2013a). Do lower class individuals have more tendencies to view the social system as legitimate compared with those from higher class? Taking this issue as the theoretical foundation and different social classes in China as a realistic focus, this paper will study cognitive differences of higher and lower class individuals towards system justification and further explore the psychological mechanism and boundary conditions of this effect based on the latest development of system justification theory and social cognitive perspectives.

1.1 Social class and system justification

Social class is a kind of social categorization used to reflect relative position of individuals in social hierarchy, representing a person's objective social resources in his (her) possession as well as his (her) own social status in the subjective perception (Kraus, Piff, Mendoza-Denton, Rheinschmidt, & Keltner, 2012; Kraus, Tan, & Tannenbaum, 2013). System justification refers to a tendency that individuals support the existing social system and view it as impartial and legitimate (Kay & Jost, 2003, 2014). The level of general system justification can be measured by system justification scale (Kay & Jost, 2003). In addition, system justification has some specific psychological and behavior performance (Jost et al., 2014). Based on the theoretical purpose, this study focuses on the general system justification.

The system justification theory holds that individuals naturally consider the social system they are in as legitimate (Jost & Banaji, 1994). Based on this framework, Jost et al. (2003) found in a research that lower class individuals possess higher levels of system justification relative to higher class counterparts. In other words, they are more likely to consider the system as legitimate. It can be seen that this result has a relatively special value to system justification theory because it indicates that individual perception to system justification can transcend personal gains and losses (lower class individuals still consider the system as legitimate regardless of unfavorable situations they are in). Therefore, this idea "lower class individuals are more likely to consider the system as legitimate" soon becomes an significant part of system justification theory (eg., Jost, Banaji & Nosek, 2004). However, with further studies, more and more persuasive data show the opposite conclusion that lower class individuals appear to be more opposed to system (e.g., Brandt, 2013a, 2013b; Kraus & Callaghan, 2014; Lee, Pratto, & Johnson, 2011). Brandt (2013a) even directly questions the data repeatability of Jost et al. (2003).

More importantly, the idea that lower class individuals possess higher levels of system justification lacks a solid theoretical foundation. Jost and his colleagues (2003) have tried to explain why lower class individuals possess higher levels of system justification from the perspective of reducing anxiety but this explanation has not been supported by direct research (e.g., Brandit, 2013a). Recently the Jost's team has admitted this and they express that the problem whether lower class individuals are more likely to view the system as legitimate is complicated. It not only involves anxiety but also needs to take other psychological processes into full consideration (Kay & Jost, 2014). But for the so called "other psychological processes", Kay & Jost (2014) have not fully explained yet. Regrettably, the opposite represented by Brandt (2013a) didn't detail in theory why lower class individuals are more opposed to the system. In other words, both sides are more concerned about direct relationship between social class and system justification but lack detailed explanation theoretically to the mechanism.

1.2 The introduction of the social cognitive perspective: difference and mechanism of system justification between the lower and the higher individuals and its mechanism

In this case, scholars (Hussak & Cimpian, 2015) recently come up with an complementary explanation based on

cognitive pathway. Although the explanation doesn't have a direct concern about the relationship between social class and system justification, its idea just can respond to "other psychological processes" as Kay and Jost (2014) expressed above.

The explanation based on the cognitive pathway also agrees with the basic idea of system justification that human beings will naturally recognize the legitimacy of system, but it makes an important complementary explanation to the theory that an emphasis on inherent cognitive tendency of individuals is the main psychological basis of system justification. Individuals pay more attention to internal features in the perception to surroundings and tend to attribute results to internal factors. When perceiving socioeconomic disparity (such as the poor and the rich) in that way, individuals naturally attribute differences to internal factors (for instance, it's the difference of inherent features between the poor and the rich that leads to wealth disparity), and thereby they consider socioeconomic difference as a normal phenomenon. Ultimately, they believe everything in social system is legitimate and should be supported (Hussak & Cimpian, 2015). In their study, Hussak and Cimpian (2015) inform participants that Blarks is far richer than Orps (two fictional characters) and find that participants indeed express a tendency of internal attribution when explaining the difference (Because Blarks is smarter and more capable than Orps) and this attribution positively proves the system justification. Ng and Allen (2005) have found in related areas that individuals who are more apt to attribute wealth disparities to internal factors (ability, personal striving) instead of external factors have a stronger sense of fairness and their attribution tendency for the rich-poor gap is more positively associated with system justification than their own benefits. This fully shows that cognitive factors (wealth attribution) play a key role in the issue and understanding the cause of system justification from cognitive pathway is worth learning.

However, the explanation based on cognitive pathway (Hussak & Cimpian, 2015) seems to have some limitations in terms of understanding system justification because it assumes that everyone is more concerned about internal factors but ignores individual differences. For lower class individuals we are concerned with, their attribution tendency may be the opposite—social cognitive theory of social class, one of the most influential theories in psychology of social class, has clearly explained that cognitive patterns of lower class individuals are characterized by contextualism and external attribution while individuals from higher class focus much on themselves and are likely to believe that human behaviors are determined by individual internal factors (Kraus et al, 2012; Hu, Li, Lu, Guo, 2014). Many studies also prove that lower class individuals indeed tend to pay more attention to external factors instead of internal factors (e.g., Grossmann & Varnum, 2011), including the their attribution towards wealth (Kraus, Piff, & Keltner, 2009; Li, 2014). This indicates that cognitive basis of system justification doesn't exist relatively for lower class individuals. In other words, the cognitive pathway explanation (Hussak & Cimpian, 2015) is reasonable that considers internal attribution for the poor-rich gap as the formation mechanism of system justification but it fails to consider different attribution tendencies of the poor and the following different results of system justification.

Now let us go back to the research question, "Do lower class individuals possess higher levels of system justification?" Based on theoretical deduction above, this study believes that individuals from lower class possess attribution tendencies that are precisely opposite to cognitive basis of system justification and thereby are less likely to view the system as legitimate. Then in terms of researches, representative studies including great samples (e.g., Brandt, 2013a; Lee et al., 2011) and intercultural data (Whyte & Han, 2008) show that lower class individuals are more opposite to the system. Finally, from a realistic point of view, individuals from lower class are exactly experiencing more injustices (e.g., Li, 2014). Therefore based on theories, researches and realities, this study proposes:

Hypothesis 1: lower class individuals posses lower levels of system justification relative to higher class individuals.

In addition, theoretical analysis above shows that attribution tendency for the gap between the poor and the rich plays a mediating role in lower class individuals' lower level of system justification: social cognitive theory of social class (Kraus et al., 2012) reveals the relationship between class and wealth attribution, and cognitive pathway explanation of system justification (Hussak & Cimpian ,2015) demonstrates the important role of wealth attribution in system justification. Combination of these two theoretical frameworks based on social cognition shows that there may exists a class–attribution–justification relation chain between one's social class, wealth attributional tendency and system justification. Thus, this study proposes:

Hypothesis 2: Wealth attribution plays a mediating role in the relationship between social wealth and system justification. Lower class individuals are less likely to express an internal attribution for the wealth gap and thereby display the tendency of lower levels of system justification.

1.3 The boundary of social cognitive process: moderating effect of perceived control

Based on hypothesis 2, this study will further examine the boundary condition of achieving mediation model. For this purpose, we still rely on theoretical frameworks of social cognition to analyze which factors can influence the cognitive mechanism of lower class people. Based the opinion of social cognitive theory of social class (Kraus et al., 2012), perceived control can play a role.

Perceived control is defined as the combination of a sense of mastery and a sense of restriction from the society (Lachman & Weaver, 1998; Skinner, 1996), a variable

involving individual difference and the influence of social environment (Turiano, Chapman, Agrigoroaei, Infurna & Lachman, 2014). In social cognitive theory of social class, perceived control is an important concept. Kraus et al. (2012) points out that the reason why lower class individuals pay much attention to external factors is related with limitations one experiences in growing up. When perceived control is high, lower class individuals' internal attributional tendency will be as high as those of higher class. The research of Kraus er al. (2009) gives support to that: lower class individuals give more attention to contextual cueing than people of higher class, but if higher and lower class individuals both experience high perceived control temporarily, the difference between the two classes will disappear and lower class individuals tend to posses "cognitive pattern of higher class" while higher class people are less influenced by perceived control. There are still many studies from different perspectives illustrating a positive effect of perceived control on lower class individuals (Lachman & Weaver, 1998; McCoy, Wellman, Cosley, Saslow, & Epel, 2013; Turiano et al., 2014) .

All these theoretical perspectives and research results indicate lower class individuals' dependence on perceived control. When perceived control is low, they posses a cognitive tendency focusing much on external contextual factors. When perceived control is high, they tend to shift to "high level mode", showing a cognitive tendency focusing much on internal characteristics. Therefore, we can conclude specifically in this study that if individuals from lower class possess more perceived control, they may change existing cognitive pattern and narrow the difference with higher class counterparts and finally alter the level of system justification. Therefore this study proposes:

Hypothesis 3: Perceived control can moderate mediation model in class–wealth attribution–system justification path and it is achievedthrough moderating attribution for the rich-poor gap, the first half of the path. When perceived control is low, this mediating mode is established. When perceived control is high, this mediating effectmode will not be established and the difference of attribution of wealth between lower and higher classes individuals was not significant.

The general hypothesized model of this study is shown in Fig. 1. In order to make the result more stable, two studies are designed to test these three hypotheses above. Besides the different samples, two different operational definitions are mainly used for key variables: social class and perceived control. We firstly talk about social class, in which two main ideas can represent current mainstream research to some extent: one is that participants' subjective perception to themselves or their families' position in society (that is, subjective social class) can best reflect social position and is the most effective way to predict psychological disparity between different classes (Kraus et al., 2013); the other is to combine subjective class with objective index that shows individuals' possession of social sources (objective social class) to reflect social level (e.g., Dubois, Rucker, & Galinsky, 2015; Tan & Kraus, 2015). Both ideas are very common, so we intend to use subjective index and the connection of subjective and objective index respectively in these two studies to reflect social class of participants. About perceived control, as mentioned above, perceived control is characterized by individual characteristics and contextual variability, it is common to carry out questionnaires and experiments on it. Many studies (e.g., Kay, Gaucher, Napier, Callan, & Laurin, 2008) even comprehensively consider the two measures in different sub-studies to verify each other. Therefore, experiments and correlation methods are implemented on perceived control in Study 1 and Study 2, respectively.

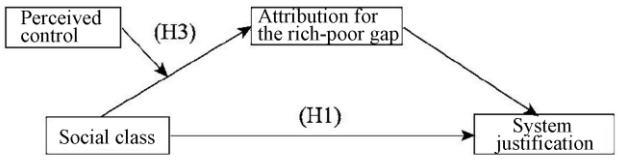

Fig. 1 The general hypothesized model of this study

In this way, the two studies can form a complementary relationship. In study 1, causal relationship between perceived control and other variables can be better revealed, but as an experiment operation, whether it's effective in common life is yet to be tested. Moreover, considering the experiment is carried in laboratories and the sample size is small, participants have low representation. However, study 2 precisely makes up the shortage of study 1 to some degree via a larger sample research and participant selection of different sources.

2 Study 1

2.1 Method

2.1.1 Participants

Students in Central China Normal University are recruited as participants. After the exclusion of data from those who have relevant research experience or have failed to complete the study, valid data are obtained from 241 participants with an average age of 21.77 (*SD* = 2.37), including 110 males.

2.1.2 Research procedures and tools

Social class, an independent variable in the study, is assessed by a scale and then are included into statistics as continuous variables while perceived control, the moderator variable, is tested by the experimental manipulation. The research process is based on the process design of Kraus et al. (2009). We first test participants in terms of basic information and families' social position in the laboratory. Then

we randomly assign participants into high or low perceived control priming conditions and assess their attribution tendency regarding the rich-poor gap and system justification levels. When all tests are done, we give participants gifts and explain research purposes to them.

Common ladder-like scale at home and abroad is used to assess the social class (Adler, Epel, Castellazzo, & Ickovics, 2000). Participants are asked to see the ladder in Fig. 2 and imagine it as different classes of various families in China. The bigger the number is, the higher status the family are in. Participants need to report which level their families belong to in 1–10.

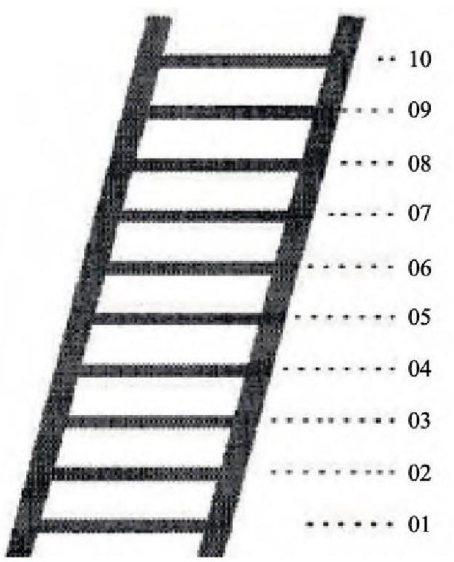

Fig. 2 Ladder-like scale

We manipulate perceived control with common recall task in this field. (e.g., Friesen, Kay, Eibach, & Galinsky, 2014; Kay et al., 2008). The task allows participants to recall and write an event that they have a sense of full control (high perceived control condition) or a sense of powerlessness (low perceived control condition) so that they can temporarily experience different perceived control. Following previous suggestions of scholars (e.g., Shepherd, Kay, Landau, & Keefer, 2011), we examine the manipulation result with pre-experiment. Totally 66 participants (different from Study 1, in which college students include 27 males, with an average age of 21) are randomly assigned into these two priming conditions and then perceived control scale developed by Lachman and Weaver (1998) are used to test those students' perceived control levels ($\alpha = 0.83$). The result indicates that perceived control is significantly higher in high perceived control priming condition relative to a low one ($t(64) = 2.92$, $p < 0.01$, $d = 0.73$), proving that the experiment indeed can affect immediate perceived control levels of participants.

We test the attribution for the rich-poor gap using wealth gap attribution questionnaire by Li (2014) with good reliability and validity, which involves two dimensions of external and internal attribution and each has eight items. Based on a wide range of urban and rural surveys and project analysis, the questionnaire lists potential reasons of socioeconomic disparity such as individual diligence, efforts, ability and other internal attributions as well as relationship and family backgrounds and other external attributions. With a 7-point scale, we allow participants to choose the level of agreement or disagreement for each attribution. On the basis of previous studies (Hussak & Cimpian, 2015) and the suggestion of the scale producer (Li, 2014), we get the total score difference between eight questions from internal attribution scale and eight questions from external attribution scales as the score of attribution regarding rich and poor gap. We focus much on internal attribution in this research theoretically in calculating total score. The higher the score is, the stronger the participants' internal attribution tendency is. In this research, Cronbach's α coefficients of internal and external attributions are 0.65 and 0.78 respectively.

System justification is tested with a common system justification scale in this field (Kay & Jost, 2003). This scale examines participants' attitude towards fairness and benefits of the system through throwing some opinions such as "most of the Chinese government policies have brought benefits to people." and "China is becoming worse and worse (reverse score)." The scale has eight questions (two of which are reverse score), using 7-point scoring. The greater the average score of all questions is, the higher justification level participants has ($\alpha = 0.75$).

Statistical analysis is done by SPSS18.0. For the question whether it is a need to apply statistical control to some factors like demographic variable, this study follows the latest suggestion of psychological statistics scholars (e.g., Becker et al., 2016; Bernerth & Aguinis, 2016) that the purpose of this research is to focus on real relations of variables above in society and there is no clear theoretical purpose to eliminate interference of certain variables. Therefore statistical control is ruled out of consideration in data processing of this research (the same is true in study 2).

2.2 Results

2.2.1 Descriptive statistics and correlation analysis

The mean value, standard deviation and correlation matrix of each variable are shown in Table 1, where the gender and perceived control are dummy variables. "1" is male, "0" is female; "1" is high perceived control group, "0" is low perceived control group and the same below. It can be seen that there is a significant positive correlation between social class and system justification ($r = 0.15$, $p < 0.05$). Thus hypothesis 1 is supported. The positive correlation between social class and wealth attribution ($r = 0.15$, $p < 0.05$), as well as between the wealth gap attribution and system justification ($r = 0.37$, $p < 0.001$) are also significant.

Table 1 Results of descriptive statistics and correlation analysis (N = 241)

Variables	M	SD	1	2	3	4	5	6
1.Gender	0.46	0.50	1					
2.Age	21.77	2.37	0.03	1				
3.Social class	4.33	1.42	−0.09	−0.02	1			
4.Perceived control	0.47	0.50	0.03	−0.06	0.08	1		
5.Attribution for the rich-poor gap	2.88	7.19	0.07	−0.19**	0.15*	0.11	1	
6.System justification	3.98	0.85	−0.09	−0.02	0.15*	0.05	0.37***	1

Note: *p < 0.05, **p < 0.01, ***p < 0.001. The same as below.

2.2.2 Mediating effect test

We examine all participants' data in the mediation model of Hypothesis 2. According to the suggestion of scholars in psychological statistics (Hayes, 2013), we use a non-parametric percentile bootstrap test (extracting 1 000 samples). The results show that social class is positively associated with the system justification (B = 0.09, SE = 0.04, p < 0.05) and 95% confidence interval (CI) is [0.01, 0.16]. Thus hypothesis 1 is supported. Social class is positively correlated with attribution for the rich-poor gap (B = 0.76, SE = 0.32, p < 0.05); 95% CI is [0.12, 1.40]. Considering social class and attribution for the rich-poor gap at the same time, social class isn't positively associated with system justification (B = 0.06, SE = 0.04, p > 0.05); 95% CI is [−0.01, 0.13] while the attribution regarding rich and poor gap is positively correlated with system justification (B = 0.04, SE = 0.01, P < 0.001) and the 95% CI is [0.03, 0.06]. The mediating effect of the wealth gap attribution is 0.032 and 95% CI is [0.006, 0.069], accounting for 35.9% of the total effect. The above results show that the wealth gap attribution plays a mediating role in the relationship between social class and system justification (but not working as a complete mediating role, see Wen and Ye (2014a), and the same is true in study 2). Thus hypothesis 2 is supported.

2.2.3 Moderated mediation test

The theoretical model of hypothesis 3 is perceived control's moderating effect on the first half of the path in mediation model. According to proposed test method of Wen and Ye (2014b), the following three equations should be tested (As shown in Table 2, results are obtain through bootstrap, using 1 000 samples). The first regression equation is system justification = c_0 + c_1 (social class) + c_2 (perceived control) + c_3 (social class × perceived control ^{0}) + e_1 (equation 1). The result shows that the interaction term of social class and perceived control isn't positively associated with system justification (B = −0.15, SE = 0.08, p > 0.05) and 95% CI is [−0.31, 0.01]. Then following two equations: wealth gap attribution = a_0 + a_1 (social class) + a_2 (perceived control) + a_3 (social class × perceived control) + e_2 (equation 2) and system justification = c_0' + c_1' (social class) + b_1 (wealth attribution) + e_3 (equation 3) are tested. The result of equation 2 indicates that the interaction term of social class and perceived control is positively associated with wealth attribution (B = −1.58, SE = 0.67, p < 0.05) and 95% CI is [−2.90, −0.26]. The result of equation 3 proves that wealth gap attribution is positively associated with system justification. (B = 0.04, SE = 0.01, p < 0.001) and 95% CI is [0.03, 0.06]. According to the criteria proposed by Wen and Ye (2014b), the moderated mediation model in this study is supported. In order to better understand the essence of moderated mediation model, we further examine the relationship between social class and wealth gap attribution under different perceived control conditions through a slope testing. The results show that social class is positively correlated with wealth gap attribution (B = 1.39, SE = 0.44, p < 0.01) and 95% CI is [0.52, 2.25] under the low perceived control, while the difference of wealth gap attribution between lower class individuals and higher class counterparts is insignificant (B = −0.20, SE = 0.51, p > 0.05) and 95% CI is [−1.20, 0.81] (as shown in Fig. 3) under the high perceived control condition. Finally we examine the mediation effect under different levels of moderator variables. The results show that mediating effect is significant under low perceived control and non-standard mediating effect is 0.06, accounting for 50.6% of the total effect and the 95% CI is [0.02, 0.11]. But the model is absent under high perceived control. The non-standard mediation effect is −0.01 and the 95% CI is [−0.06, 0.03]. The proportion of mediating effect to the total effect can be ignored because zero is included in the range of CI. All results above support hypothesis 3 consistently.

2.3 Discussion

The results of Study 1 support the three hypotheses in this study. First of all, system justification is lower among individuals from lower class relative to higher class counterparts, which is inconsistent with theory of system justification (e.g., Jost et al., 2003), but consistent with most of the researches in this field(e.g., Brandt, 2013a). We further study to find that with the help of the attribution for the rich-poor gap from social cognitive perspective, we can explain this effect better. That is, the lower class individuals

Table 2 Moderated Mediation Test (N = 241)

Predictive variable	Regression equation 1 (system justification)				Regression equation 2 (attribution for the rich-poor gap)				Regression equation 3 (system justification)			
	B	*SE*	*t*	95%CI	*B*	*SE*	*t*	95%CI	*B*	*SE*	*t*	95%CI
Social class	0.08	0.04	2.03*	[0.00, 0.16]	0.64	0.33	1.91	[−0.02, 1.29]	0.06	0.03	1.66	[−0.01, 0.13]
Perceived control	0.06	0.11	0.59	[−0.15, 0.28]	1.43	0.91	1.57	[−0.37, 3.23]				
Attribution for the rich-poor gap									0.04	0.01	5.74***	[0.03, 0.06]
Interaction item	−0.15	0.08	−1.92	[−0.31, 0.01]	−1.58	0.67	−2.36*	[−2.90, −0.26]				
R^2			0.04				0.06				0.15	
F			3.03*				4.85**				19.05***	

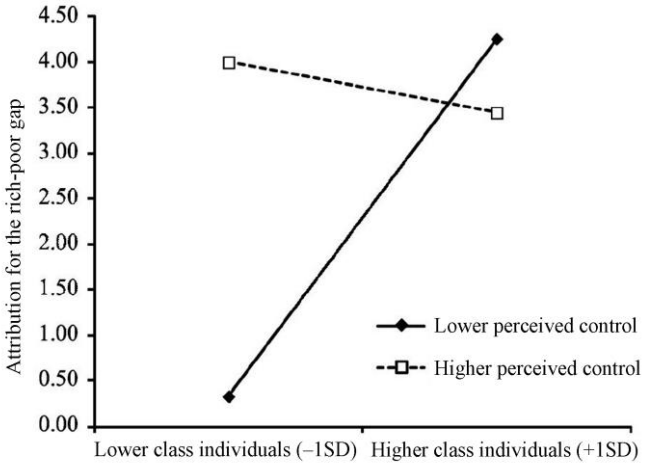

Fig. 3 Perceived control's moderating effect in the relationship between social class and attribution for the rich-poor gap (Study 1)

have relatively lower justification level because they attribute wealth gap to external factors instead of internal factors such as as abilities and efforts to a great degree. On close examination, we find that the mediation model of class-attribution-justification can be moderated by the perceived control. If the lower class individuals experience a higher sense of perceived control, the attribution difference between the poor and the rich is insignificant and thus the mediation process can be changed. The results support the moderated mediation model based on a social cognitive perspective, illustrating that it is feasible to understand this problem from the perspective of cognitive mechanism.

3 Study 2

3.1 Method

Study 1 supports all three hypotheses, but based on general consideration of this study, study 2 will re-examine hypotheses above based on larger samples in order to make the conclusions more reliable.

3.1.1 participants

We use cluster stratified sample to select students in Huazhong University of Science and Technology, Central China Normal University, Jianghan University, and Hubei Business College and collect 829 valid questionnaires, of which we have 357 males with the average age of 20.71 (*SD* = 2.12).

3.1.2 Study tools

We comprehensively consider the subjective and objective classes in the measurement of social class. With the reference to similar research practices (Tan & Kraus,2015), we transform these two indexes to standard scores respectively, the sum of which can reflect participants' social class. Subjective class is measured with same method in study 1. The objective class is measured by class classification proposed by Lu (2002), which is classified into ten grades based on political, economic and cultural resources, from state administrator to unemployed and semi-employed people in urban and rural area with assigned values from one to ten respectively. The participants are asked to report which grades are their parents in. Thus we use reverse scoring and pick the higher score of their two parents to represent the family's objective social class.

A Chinese version (Li, 2014) of the control scale made by Lachman and Weaver (1998) is used to measure the perceived control, which involves the measurement of a sense of control and a sense of restriction (reverse scoring)—two dimensions with a total of 12 projects, scored by 7-point scoring scale. The greater the total score of two dimensions is, the higher the perceived control is. The data in this study show that the perceived control scale has a good construct validity. χ^2/df = 3.49, RMSEA = 0.06, SRMR = 0.05, CFI = 0.92, GFI = 0.96 and coefficient α is 0.77.

Research on attribution regarding the rich-poor gap is same with research in study 1. The result in study 2 shows that the scale has a good construct validity. χ^2/df = 6.37, RMSEA = 0.08, SRMR = 0.06, CFI = 0.84, GFI = 0.91 and coefficient a of external and internal attributions both are 0.78.

Research on system justification is same with study 1. The result in study 2 shows that the scale has a good construct validity. χ^2/df = 5.78, RMSEA = 0.07, SRMR = 0.04, CFI = 0.96, GFI = 0.97 and coefficient α is 0.80.

3.2 Results

3.2.1 The test and control of common method biases

In order to control common method biases, the study takes relevant control in the process such as using anonymous test, reverse questions in some items and so on. After collecting the data, we apply Harman's single factor test to common method biases and obtain the result that 9 factors have eigenvalues greater than 1 and the explained variance of the first factor is 13.73%, less than critical standard 40%. Besides, we use Mplus 7.0 to have confirmatory factor analysis (CFA) on social class, perceived control, attribution regarding the rich-poor gap and system justification, and we have a comparative analysis on fit index and single-factor model. The result shows that the fit index of four-factor model is obviously better than that of single-factor model. All results above indicate that common method bias is not a serious threat in this study.

3.2.2 Descriptive statistics and correlation analysis

The mean, standard deviation and correlation matrix of variables in this study are shown in Table 3. we can see that there is a significant positive correlation between social class and system justification (r = 0.08, p < 0.05). Thus Hypothesis 1 is supported. Significant positive correlation also exists between social class and the attribution for the rich-poor gap (r = 0.16, p < 0.001) as well as attribution for the rich-poor gap and system justification (r = 0.31, p < 0.001), which is consistent with results of the study 1.

3.2.3 Mediating effect test

The step of mediating effect test is the same with that in study 1 except that it adds consideration of the nested relation between students and schools. The results show that the total effect of social class's prediction on system justification is significant (B = 0.05, SE = 0.02, p < 0.05) and the 95% CI is [0.01, 0.08], thus proving the hypothesis 1; social class can significantly predict the attribution regarding rich-poor gap (B = 0.73, SE = 0.15, p < 0.001) and the 95% CI is [0.44, 1.01]; and after the inclusion of social class and attribution for the rich-poor gap, prediction of social class on system justification is insignificant (B = 0.01, SE = 0.02, p > 0.05) and the 95% CI is [−0.02, 0.05] while prediction of attribution for the rich-poor gap on system justification is significant (B = 0.04, SE = 0.004, p < 0.01) and the 95% CI is [0.03, 0.05]. The mediating effect of attribution for the rich-poor gap is 0.03 and the 95% CI is [0.017, 0.045], accounting for 67.6% of the total effect. Results above verify hypothesis 2.

3.2.4 Moderated mediation test

The step of the test for moderated mediating effect is the same with that in study 1 (see Table 4) except that it adds consideration of the nested relation between students and schools (Hayes, 2013). In equation 1, the interaction term of social class and perceived control predicts system justfication is insignificant (B = −0.03, SE = 0.02, p > 0.05) and the 95% CI is [−0.08, 0.02]. In equation 2, the interaction term of social class and perceived control predicts attribution for the poor-rich gap is significant (B = −0.41, SE = 0.18, p < 0.05) and the 95% CI is [−0.77, −0.05]. In equation 3, the attribution for the poor-rich gap can predict system justification significantly (B = 0.04, SE = 0.00, p < 0.001) and the 95% CI is [0.03, 0.05]. Accordingly, the expected moderated mediation model in this study is supported (Wen, Ye, 2014b). We further examine the prediction of social class on attribution regarding to the rich-poor gap through a slope testing under different perceived control condition (plus or minus one standard deviation). The results show that social class has a positive prediction on attribution regarding to the rich-poor gap under the low perceived control condition (B = 0.89, SE = 0.20, p < 0.001) and the 95% CI is [0.49, 1.29], but the difference of wealth attribution between the lower class individuals and their higher class counterparts is insignificant (B = 0.29, SE = 0.19, p > 0.05) and the 95% CI is [−0.08, 0.66] (See Fig. 4). Finally, we examine mediating effect at different levels of moderator variables. The results show that mediating effect model works under the low perceived control condition. Non-standardized mediating effect is 0.04, p < 0.05, and the 95% CI is [0.02, 0.06], accounting for 71.8% of the total effect. However, the mediation model is absent under the high perceived control condition. The standardized mediating effect is 0.01, p > 0.05, and the 95% CI is [−0.01, 0.03]. Results above support hypothesis 3 consistently.

Table 3 Results of descriptive statistics and correlation analysis (N = 829)

Variables	*M*	*SD*	1	2	3	4	5	6
1.Gender	0.43	0.50	1					
2.Age	20.71	2.12	−0.01	1				
3.Social class	0.00	1.71	−0.06	−0.04	1			
4.Perceived control	4.73	0.73	−0.03	0.00	0.15***	1		
5.Attribution for the rich-poor gap	4.09	7.38	−0.06	−0.12**	0.16***	0.25***	1	
6.System justification	4.03	0.94	−0.04	0.05	0.08*	0.24***	0.31***	1

Table 4 Moderated mediation test (N = 829)

Predictive variable	Regression equation 1 (system justification)				Regression equation 2 (attribution for the rich-poor gap)				Regression equation 3 (system justification)			
	B	*SE*	*t*	95%CI	*B*	*SE*	*t*	95%CI	*B*	*SE*	*t*	95%CI
Social class	0.03	0.02	1.51	[–0.01, 0.06]	0.59	0.14	4.09***	[0.31, 0.87]	0.01	0.02	0.80	[–0.02, 0.05]
Perceived control	0.28	0.04	6.42***	[0.19, 0.37]	2.35	0.34	6.96***	[1.68, 3.02]				
Attribution for the rich-poor gap									0.04	0.00	9.90***	[0.03, 0.05]
Interaction item	–0.03	0.02	–1.33	[–0.08, 0.02]	–0.41	0.18	–2.24*	[–0.77, –0.05]				
R^2			0.08				0.11				0.13	
F			12.18***				17.54***				25.65***	

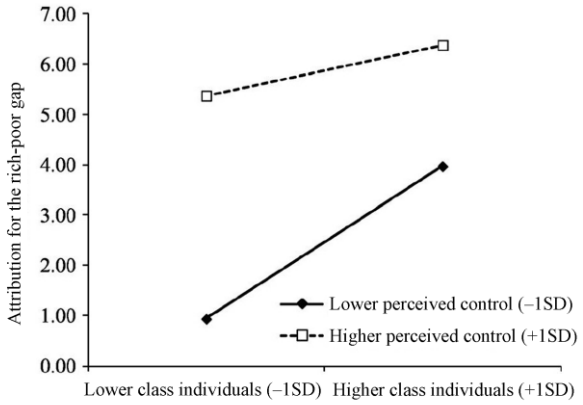

Fig. 4 Perceived control's moderating effect in the relationship between social class and attribution for the rich-poor gap (Study 2)

3.3 Discussion

Based on study 1, we also prove the prediction effect of social class on system justification and the mediation model of social class—attribution for the rich-poor gap—system justification with a greater sample size in study 2, and the results indicate again that mediating effect can be moderated by perceived control. In study 2, a greater sample size and the test of generalized state make it more persuasive than study 1. However, in study 1, the operation of perceived control better displays causal relationship among the perceived control, attribution regarding the rich-poor gap and the system justification. In a word, two studies are mutually verificated, providing a solid support for three hypotheses above consistently.

4 General discussion

4.1 The relationship between social class and system justification

Two sets of data in this study show that lower class individuals are less likely to support the social system, which is obviously against the theory of system justification that "lower class individuals are more likely to view social system as legitimate" (Jost et al., 2003). But from the recent expression of the system justification theory, we see that the theory doesn't emphasize the absolute establishment of that effect. (Kay & Jost, 2014). Therefore, it is necessary to test this effect based on Chinese samples. Moreover, lower class individuals in China have unique research value for the system justification theory and the problem. System justification theory originates from America, where the popularity of "American dream" encourages people to believe that one can succeed in life if he/she makes great efforts (Kraus & Stephens, 2012) . Therefore, lower class individuals in America optimistically expect to be in a higher position of social class (Kraus & Tan, 2015). It can be said that the idea "the lower class individuals are more likely to support the social system" has its profound cultural background. But in China, the background of class solidification has weakened lower class individuals' confidence to move upward in social class to a certain degree (Yu, 2014), which is the obvious difference between lower class individuals in China and in America [1]. Thus, data in this research are valuable for the theory of system justification. Also, the results of this research don't support the view that the "lower class individuals are more likely to support the system justification", showing clearly that it is necessary to consider more different groups and cultures in system justification (e.g., Cichocka & Jost, 2014).

Obviously, results of this study are far from enough to overthrow theoretical view of Jost et al. (2003), but they are beneficial for further exploration of this issue: it is inevitable to involve specific cultural groups when we explore the relation between social class and system justification, that is, lower class individuals are more likely to view the system as legitimate in some certain social system while the contrary is the case in other systems. It is worth mentioning that relation between social class and system justification may be uncertain according to views of Jost's team recently. For lower class individuals, that relation depends on a sense of mastery and the dependence degree to economic results in that system. Although Jost's team only pays much attention to the influence of a sense of mastery and economic result dependence on system justification without exploring

social class (van der Toorn et al., 2015), they have some common ideas with us, that is, we need to consider the issue more comprehensively and carefully instead of stressing that lower class individuals are more likely to support the system in a general way. That might be a research direction we can further examine in the future.

4.2 Mediating role of attribution for the rich-poor gap

On the basis of hypothesis 1, the research results further support that attribution for the rich-poor gap mediates the relationship between social class and system justification and illustrate an important role of the cognitive pathway on that model. For a long time, system justification theory stresses much on that people support the social system because they want to reduce the anxiety from their powerlessness towards system (e.g., Jost & Hunyady, 2005), but the theory ignores the role of cognitive factors (Hussak & Cimpian, 2015). We don't mean to deny the theoretical value of the idea of reducing anxiety. But when referring to the specific issue of relationship between social class and system justification, even Kay and Jost (2014) have to admit that the idea of reducing anxiety is incomplete. Also, the study of Hussak and Cimpian (2015) proves that internal attribution still predicts system justification well even if the anxiety factor is controlled. Thus, from the perspective of cognitive pathway, this study connects the social cognitive theory of social class and cognitive pathway explanation to form a comprehensive logic chain of class, attribution and justification. It can be said that this study explains a long-standing and controversial issue through the use of the latest idea (cognitive pathway) of system justification theory.

In addition, study results support and propose an extension to two social cognitive theories above. In the social cognitive theory of social class, the core idea is that higher and lower class individuals have radical cognitive differences, which can explain social classes' differences in many other aspects (Kraus, Piff, & Keltner, 2011). The study in this paper extends explanation mechanism of that cognitive differences to system justification, thus developing the connotation of the theory. At the same time, this study partially supports and develops the cognitive pathway explanation of system justification (Hussak & Cimpian, 2015). The cognitive pathway explanation mainly emphasizes on a typical cognitive tendency (internal attribution) of higher class individuals. But we stress much that lower class individuals don't view the system as legitimate because they exhibit a weaker internal attribution tendency for the rich-poor gap, which is a necessary supplement for biases of the cognitive pathway explanation.

4.3 Moderating effect of perceived control

Then, when do changes happen in the mediating process above? Or how can we change lower class individuals' external attribution tendency and negative attitude towards the system? This study finds that an increased sense of perceived control can work in that, which again support the idea of social cognitive theory of social class that higher perceived control can alter cognitive tendencies of lower class individuals (Kraus et al., 2009, 2012). But that theory doesn't directly examine the influence of perceived control on wealth attribution of lower class individuals, which we have supplemented in this paper. We also examine the aftereffect, finding that the level of system justification expands perceived control's influence. It is worth mentioning that social cultural perspectives, another important theory in psychological field, also attach great importance to perceived control's moderating effect and stress that lower class individuals can shift to "higher class pattern" when the perceived control is high (Stephens, Markus, & Phillips, 2014). In fact, what we can do to help lower class individuals transform their inherent psychological patterns and move upward in social class has been social class psychology's new direction (e.g., Stephens et al., 2014), in which more considerations can be given to perceived control's effect.

Of course, the class mobility is concerned both with personal factors of lower class individuals and social system factors, just as the definition of perceived control in this study includes a sense of mastery to society and a sense of restriction from society (Lachman & Weaver, 1998). With the combination of these two points, we see that the moderating effect of perceived control in this study can control of the role of control in this study is inspiring: to make lower class individuals change attribution tendencies and then view the system as legitimate, joint efforts from individuals and society are necessary. On the one hand, individuals can improve perceived control through simple and easy self-regulation, such as self-affirmation, implementation intention, and so on (e.g., Arbour & Martin Ginis, 2009; Harris Mayle, Mabbott, & Napper, 2007). On the other hand, the impact of the social system is also very important. In a sense, the objective social conditions play a more constructive role in improving individuals' perceived control relative to individuals' mere self-regulation. For example, Zhao, Qu and Chen (2008) find that participants' perceived control is higher when external environmental constraints are less through scenario-simulated method. Li (2014) further finds that environment restriction degree can influence participants' attribution to tokens they obtain in the experiment via using experimental pattern of Zhao Zhiyu et al (2008). All these results can be helpful references to social governance. When lower class individuals self-regulate moderately, society should make great efforts to reduce restrictions for those people in order to improve their perceived control and encourage them to believe that they can obtain wealth and success through their efforts. That might be one of the most important inspirations this study brings.

4.4 The lack of research and prospects

There are some inadequacies in this study, which requires further research in the future. First of all, the study samples are college students. Although there are no significant differences in psychological characteristics between students who are from higher (lower) class families and higher (lower) class individuals stepping into society. (Krausetal., 2012) and taking students as participants to reflect social class effect is common in researches (e.g., Na & Chen, 2016; Stephens, Fryberg, Markus, Johnson, & Covarrubias, 2012), we should be cautious when conclusions in this study are generalized to a wider range of people and we can choose people in different groups as participants to verify conclusions of this study in the future. Secondly, this study uses a system justification scale to reflect dependent variables, representing system justification in the most general sense, but in fact, system justification can also be reflected in some specific details, such as political conservatism (Jetten, Haslam, & Barlow, 2013), Social dominance orientation (Carvachoetal., 2013) and so on. Thus, we can have plenty of explorations on this issue through combining different operational definitions. Finally, this study uses the latest cognitive pathway explanations in system justification theory, focusing much on the mediating role of attribution for the rich-poor gap. But no matter from the point of theory or data, we can't think that attribution regarding the rich-poor gap is the only effective mechanism in the relationship between social class and system justification. As Kay and Jost (2014) say, this process can be complex and we can explore the root of system justification for different classes from other psychological factors in the future.

5 Conclusions

Firstly, social class of individuals is positively associated with system justification.

Secondly, attribution tendency for the rich-poor gap mediates the relationship between social class and system justification. Lower class individuals are less likely to attribute the disparities between the rich and the poor to internal factors, and also display lower level of system justification.

Thirdly, the mediating effect of attribution between social class and system justification is moderated by perceived control. When perceived control is low, the mediating effect is significant. That is, the difference of internal attribution tendency between people from lower class and higher class. When perceived control is high, lower class individuals' attribution tendency becomes as high as those of higher class, resulting the absence of the mediation model.

References

Adler, N. E., Epel, E. S., Castellazzo, G., &Ickovics, J. R. (2000). Relationship of subjective and objective social status with psychological and physiological functioning: Preliminary data in healthy, white women. Health Psychology, 19, 586–592.

Arbour, K. P., &Martin Ginis, K. A. (2009). A randomised controlled trial of the effects of implementation intentions on women's walking behaviour. Psychology & Health, 24, 49–65.

Becker, T. E., Atinc, G., Breaugh, J. A., Carlson, K. D., Edwards, J. R., & Spector, P. E. (2016). Statistical control in correlational studies: 10 essential recommendations for organizational researchers. Journal of Organizational Behavior, 37, 157–167.

Bernerth, J. B., &Aguinis, H. (2016). A critical review and best-practice recommendations for control variable usage. Personnel Psychology, 69, 229–283.

Brandt, M. J. (2013a). Do the disadvantaged legitimize the social system? A large-scale test of the status-legitimacy hypothesis. Journal of Personality and Social Psychology, 104, 765–785.

Brandt, M. J. (2013b). Low status legitimacy of the government and of business: A reanalysis of Brandt (2013). Available at SSRN 2275189.

Carvacho, H., Zick, A., Haye, A., González, R., Manzi, J., Kocik, C., & Bertl, M. (2013). On the relation between social class and prejudice: The roles of education, income, and ideological attitudes. European Journal of Social Psychology, 43, 272–285.

Cichocka, A., &Jost, J. T. (2014). Stripped of illusions?Exploring system justification processes in capitalist and post-Communist societies. International Journal of Psychology, 49, 6–29.

Davidai, S., & Gilovich, T. (2015). Building a more mobile America-one income quintile at a time. Perspectives on Psychological Science, 10, 60–71.

Dubois, D., Rucker, D. D., & Galinsky, A. D. (2015). Social class, power, and selfishness: When and why upper and lower class individuals behave unethically. Journal of Personality and Social Psychology, 108, 436–449.

Friesen, J. P., Kay, A. C., Eibach, R. P., &Galinsky, A. D. (2014). Seeking structure in social organization: Compensatory control and the psychological advantages of hierarchy. Journal of Personality and Social Psychology, 106, 590–609.

Grossmann, I., & Varnum, M. E. W. (2011). Social class, culture, and cognition. Social Psychological and Personality Science, 2, 81–89.

Harris, P. R., Mayle, K., Mabbott, L., & Napper, L. (2007). Self-affirmation reduces smokers'defensiveness to graphic on-pack cigarette warning labels. Health Psychology, 26, 437–446.

Hayes, A. F. (2013). Introduction to mediation, moderation, and conditional process analysis: A regression-based approach. New York: The Guilford Press.

Hu, X. Y., Li, J., Lu, X. Z., & Guo, Y. Y. (2014). The psychological study of social class: Social cognitive perspective. Journal of Psychological Science, 37, 1509–1517. (in Chinese)

Hussak, L. J., & Cimpian, A. (2015). An early-emerging explanatory heuristic promotes support for the status quo. Journal of Personality and Social Psychology, 109, 739–752.

Jetten, J., Haslam, S. A., & Barlow, F. K. (2013). Bringing back the system: One reason why conservatives are happier than liberals is that higher socioeconomic status gives them access to more group memberships. Social Psychological and Personality Science, 4, 6–13.

Jost, J. T., & Banaji, M. R. (1994). The role of stereotyping in system-justification and the production of false consciousness. British Journal of Social Psychology, 33, 1–27.

Jost, J. T., Banaji, M. R., & Nosek, B. A. (2004). A decade of system justification theory: Accumulated evidence of conscious and unconscious bolstering of the status quo. Political Psychology, 25, 881–919.

Jost, J. T., Hawkins, C. B., Nosek, B. A., Hennes, E. P., Stern, C., Gosling, S. D., & Graham, J. (2014). Belief in a just God(and a just society): A system justification perspective on religious ideology. Journal of Theoretical and Philosophical Psychology, 34, 56–81.

Jost, J. T., & Hunyady, O. (2005). Antecedents and consequences of system-justifying ideologies. Current Directions in Psychological Science, 14, 260–265.

Jost, J. T., Pelham, B. W., Sheldon, O., & Sullivan, B. (2003). Social inequality and the reduction of ideological dissonance on behalf of the system: Evidence of enhanced system justification among the disadvantaged. European Journal of Social Psychology, 33, 13–36.

Kay, A. C., Gaucher, D., Napier, J. L., Callan, M. J., & Laurin, K. (2008). God and the government: Testing a compensatory control mechanism for the support of external systems. Journal of Personality and Social Psychology, 95, 18–35.

Kay, A. C., & Jost, J. T. (2003). Complementary justice: Effects of"poor but happy"and"poor but honest"stereotype exemplars on system justification and implicit activation of the justice motive. Journal of Personality and Social Psychology, 85, 823–837.

Kay, A. C., & Jost, J. T. (2014). Theoretical integration in motivational science: System justification as one of many“autonomous motivational structures”. Behavioral and Brain Sciences, 37, 146–147.

Kraus, M. W., & Callaghan, B. (2014). Noblesse oblige?Social status and economic inequality maintenance among politicians. PLo S One, 9, e85293.

Kraus, M. W., Piff, P. K., & Keltner, D. (2009). Social class, sense of control, and social explanation. Journal of Personality and Social Psychology, 97, 992–1004.

Kraus, M. W., Piff, P. K., & Keltner, D. (2011). Social class as culture: The convergence of resources and rank in the social realm. Current Directions in Psychological Science, 20, 246–250.

Kraus, M. W., Piff, P. K., Mendoza-Denton, R., Rheinschmidt, M. L., & Keltner, D. (2012). Social class, solipsism, and contextualism: How the rich are different from the poor. Psychological Review, 119, 546–572.

Kraus, M. W., & Stephens, N. M. (2012). A road map for an emerging psychology of social class. Social and Personality Psychology Compass, 6, 642–656.

Kraus, M. W., & Tan, J. J. X. (2015). Americans overestimate social class mobility. Journal of Experimental Social Psychology, 58, 101–111.

Kraus, M. W., Tan, J. J. X., & Tannenbaum, M. B. (2013). The social ladder: A rank-based perspective on social class. Psychological Inquiry, 24, 81–96.

Lachman, M. E., & Weaver, S. L. (1998). The sense of control as a moderator of social class differences in health and well-being. Journal of Personality and Social Psychology, 74, 763–773.

Lee, I. C., Pratto, F., & Johnson, B. T. (2011). Intergroup consensus/disagreement in support of group based hierarchy: An examination of socio-structural and psycho-cultural Factors. Psychological Bulletin, 137, 1029–1064.

Li, C. L. (2014). Education experience and inequality of opportunity among the post-80s generation: With comments on“The Silent Revolention”. Social Science in China, (4), 66–77. (in Chinese)

Li, J. (2014). Study on the tendency of attribution on the gap between the rich and the poor in different social strara. Guangzhou, China: World Publishing Corporation. (in Chinese)

Lu, X. Y. (Ed.). (2002). Contemporary Chinese social class research report. Beijing, China: Social Sciences Academic Press. (in Chinese)

McCoy, S. K., Wellman, J. D., Cosley, B., Saslow, L., & Epel, E. (2013). Is the belief in meritocracy palliative for members of low status groups?Evidence for a benefit for self-esteem and physical health via perceived control. European Journal of Social Psychology, 43, 307–318.

Na, J., & Chan, M. Y. (2016). Subjective perception of lower social-class enhances response inhibition. Personality and Individual Differences, 90, 242–246.

Ng, S. H., & Allen, M. W. (2005). Perception of economic distributive justice: Exploring leading theories. Social Behavior and Personality: An International Journal, 33, 435–454.

Shepherd, S., Kay, A. C., Landau, M. J., & Keefer, L. A. (2011). Evidence for the specificity of control motivations in worldview defense: Distinguishing compensatory control from uncertainty management and terror management processes. Journal of Experimental Social Psychology, 47(5), 949–958.

Skinner, E. A. (1996). A guide to constructs of control. Journal of Personality and Social Psychology, 71, 549–570.

Stephens, N. M., Fryberg, S. A., Markus, H. R., Johnson, C. S., & Covarrubias, R. (2012). Unseen disadvantage: How American universities'focus on independence undermines the academic performance of first-generation college students. Journal of Personality and Social Psychology, 102, 1178–1197.

Stephens, N. M., Markus, H. R., & Phillips, L. T. (2014). Social class culture cycles: How three gateway contexts shape selves and fuel inequality. Annual Review of Psychology, 65, 611–634.

Tan, J. J. X., & Kraus, M. W. (2015). Lay theories about social class buffer lower-class individuals against poor self-rated health and negative affect. Personality and Social Psychology Bulletin, 41, 446–461.

Turiano, N. A., Chapman, B. P., Agrigoroaei, S., Infurna, F. J., & Lachman, M. (2014). Perceived control reduces mortality risk at low, not high, education levels. Health Psychology, 33, 883–890.

van der Toorn, J., Feinberg, M., Jost, J. T., Kay, A. C., Tyler, T. R., Willer, R., & Wilmuth, C. (2015). A sense of powerlessness fosters system justification: Implications for the legitimation of authority, hierarchy, and government. Political Psychology, 36, 93–110.

Wen, Z. L., & Ye, B. J. (2014a). Analyses of mediating effects: The development of methods and models. Advances in Psychological Science, 22, 731–745. (in Chinese)

Wen, Z. L., & Ye, B. J. (2014b). Different methods for testing moderated mediation models: Competitors or backups? Acta Psychologica Sinica, 46, 714–726. (in Chinese)

Whyte, M. K., & Han, C. P. (2008). Popular attitudes toward distributive injustice: Beijing and Warsaw compared. Journal of Chinese Political Science, 13, 29–51.

Yang, S. L., Guo, Y. Y., & Li, J. (2013). Whether lower social class individuals are more likely to believe the social system to be justified. Advances in Psychological Science, 21, 2245–2255. (in Chinese)

Yu, X, L. (2014). Can education still promote the social mobility. Journal of Higher Education, 35, 9–15. (in Chinese)

Yue, C. J., & Zhang, K. (2014). Research on job-hunting result and starting salary of college graduates and its influential factors. Educational Research, 35, 72–83. (in Chinese)

Chiu, C-y., Au, E. W-M., & Chen, J. (2008). How to study the relationships between society, culture and thought?The contributions of shared implicit theories. Chinese Social Psychology Review, 4, 147–170. (in Chinese)

Zhou, H., & Long, L. R. (2004). Statistical remedies for common method biases. Advances in Psychological Science, 12, 942–950. (in Chinese)

(Translated by ZENG F)

1. The difference between America and China we refer here to belongs to psychological aspect instead of objective social mobility. In fact, some researches show that the issue of class solidification in America is also serious and Americans merely overestimate possibilities of class mobility. (Kraus & Tan)