

## Personality and Social Psychology

# How personal relative deprivation influences moral disengagement: The role of malicious envy and Honesty–Humility

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Zhao, H. & Zhang, H. (2021). How personal relative deprivation influences moral disengagement: The role of malicious envy and Honesty–Humility. *Scandinavian Journal of Psychology*.

Scant research has investigated the potential influence of personal relative deprivation on moral disengagement, and little is known regarding the mechanisms underlying this relationship. Inspired by relative deprivation theory, this study proposed a moderated mediation model to explore the relationship between personal relative deprivation and moral disengagement by examining the mediating role of malicious envy and the moderating role of Honesty–Humility. Five hundred and eighty-nine Chinese adults completed anonymous measures of personal relative deprivation, malicious envy, Honesty–Humility, and moral disengagement. Results revealed that personal relative deprivation was positively correlated with moral disengagement and that malicious envy fully mediated this relationship. Moderated mediation analysis indicated that Honesty–Humility moderated the relationship between personal relative deprivation and malicious envy and that between malicious envy and moral disengagement. Specifically, both relationships became weaker for adults with higher levels of Honesty–Humility. These findings not only highlight the importance of identifying the underlying mechanisms between personal relative deprivation and moral disengagement, but also provide valuable implications for the effective prevention and mitigation of moral disengagement.

**Key words:** Personal relative deprivation, moral disengagement, malicious envy, Honesty–Humility.

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### INTRODUCTION

With the rapid economic development and the continuous improvement of people's living standards, social inequality and the subsequent wealth inequality have become increasingly serious in many societies over recent years. For example, data released by the National Bureau of Statistics show that the Gini coefficient in China has remained at high levels ranging from 0.4–0.5 since 2003, with a large income gap between the rich and the poor (Yang & Cao, 2019). Such an unequal distribution gap may impose a great impact on how people think, feel, and behave (Greitemeyer & Sagioglou, 2019b). When people perceive that they are unjustly worse off than others, a sense of personal relative deprivation may arise. Personal relative deprivation refers to the judgment that one is worse off compared with some referent target and the accompanying perception that one's relatively disadvantaged situation is undeserved (Smith & Huo, 2014; Smith, Pettigrew, Pippin & Bialosiewicz, 2012). Previous studies have demonstrated that personal relative deprivation has many unfavorable consequences, such as poorer mental health and cognitive function (Lyu & Sun, 2020; Smith, Ryan, Jaurique & Duffau, 2020; Zhou & Qin, 2018) and lower subjective well-being (Jin, 2016). Due to the aversive state of personal relative deprivation, individuals are often motivated to allay it through a variety of behaviors, even deviating from their moral principles to achieve what they feel they deserve (Callan, Shead & Olson, 2011).

According to relative deprivation theory, people's objective status in the social hierarchy prompts them to compare with others. If people realize that they are at an undeserved disadvantage and experiencing unfair deprivation, then they likely respond with negative emotions, such as anger and resentment, which, in turn, incite unethical behaviors (Greitemeyer &

Sagioglou, 2016, 2019a, 2019b; Smith *et al.*, 2012). Inspired by relative deprivation theory, it is reasonable to assume that personal relative deprivation may result in an increased likelihood of disengaging morality. Studies have found that moral disengagement disrupts social order and motivates people to engage in various unethical behaviors (Alessandri, Filosa, Tisak, Crocetti, Crea & Avanzi, 2020; Bandura, 1999; Detert, Trevino & Sweitzer, 2008). For instance, people with higher levels of moral disengagement violated the rules of home isolation or social distancing more frequently during the COVID-19 outbreak (Alessandri *et al.*, 2020). Therefore, recognizing the risk of personal relative deprivation and exploring its impact on moral disengagement are of great significance for developing potential measures to prevent and intervene in moral disengagement.

Considering that existing research rarely examines the relationship between personal relative deprivation and moral disengagement, the present study aims to develop a model to explore whether personal relative deprivation leads to moral disengagement and further clarify the potential psychological mechanism between the two. This work paves the way for subsequent interventions to deal with people's immoral behaviors.

### CONCEPTUAL BACKGROUND AND HYPOTHESES

#### *Personal relative deprivation and moral disengagement*

Moral disengagement is defined as a series of distorted cognitive mechanisms, which allow people to deviate from their personal moral principles in behaving immorally and reframe their immorality as socially acceptable and legitimate behaviors (Bandura, 1999). It is activated through eight interrelated

mechanisms: moral justification (i.e., reconstrue immoral behavior as morally justifiable), advantageous comparison (i.e., compare immoral behavior with more harmful behavior to make the original behavior seem good), euphemistic labeling (i.e., use morally neutral language to describe immoral behavior as harmless), disregarding or distorting the consequences (i.e., ignore or misconstrue the harmful outcomes of one's immoral behavior), diffusion of responsibility (i.e., diffuse the responsibility for harmful results of immoral behavior to organizational group), displacement of responsibility (i.e., displace the responsibility for immoral behavior to others to negate one's own responsibility), attribution of blame (i.e., exculpate oneself by enumerating fault with the victim of the immoral behavior), and dehumanization (i.e., strip people of human qualities to disengage self-sanction for immoral conduct) (Bandura, 1999; Detert *et al.*, 2008).

Although there is no direct evidence linking personal relative deprivation to moral disengagement, plenty of circumstantial evidence lends support to the idea that personal relative deprivation may cause the moral compass to deviate from its original course, such that the higher the degree of relative personal deprivation that people experience, the more likely they are to act immorally as a matter of course (Callan *et al.*, 2011; Greitemeyer & Sagioglou, 2016, 2019a, 2019b; Ma, 2012; Mishra & Novakowski, 2016; Moscatelli, Albarello, Prati & Rubini, 2014; Zhang, Liu & Tian, 2016). For example, using a Chinese sample of a nationwide panel, Ma (2012) found that individuals with a higher sense of relative deprivation are more likely to exhibit anomie in social adaptation, such as committing crimes and engaging in deviant behaviors. Moral disengagement is a malleable social cognition, which is the result of the interaction between the individual and the social context in which an individual operates (Alessandri *et al.*, 2020; Bandura, 1999; Hystad, Mearns & Eid, 2014; Zhao, Zhang & Xu, 2019a). When social context is perceived as unfair and unjust by individuals, they are more likely to disengage their morality and turn off their moral compasses (Fontaine, Fida, Paciello, Tisak & Caprara, 2014; Hystad *et al.*, 2014; Zhao *et al.*, 2019a). Research has shown that personal relative deprivation is exactly the affective consequence of unfairness and inequality (Mishra & Novakowski, 2016; Smith *et al.*, 2012), and individuals attempt to balance these feelings of unfairness and inequality by performing immoral behaviors or cognitions (Schweitzer & Gibson, 2007). The badly off situation perceived to be unjust reflects an atmosphere of self-serving, which can initiate individuals' moral disengagement (Moore & Gino, 2013). Therefore, given the malleable nature of moral disengagement, the experience of personal relative deprivation is assumed to facilitate the activation of such disengagement.

Furthermore, in social cognitive theory (Bandura, 1999), moral disengagement is a critical mechanism deactivating moral self-regulation, and immorality occurs when moral self-regulation does not work. Personal relative deprivation is often accompanied by negative emotions (Smith *et al.*, 2012), which have been proven to deplete self-regulatory resources and create conditions for cognitive distortions that are conducive to enhancing moral disengagement (He & Harris, 2014; Rubio-Garay, Carrasco & Amor, 2016; Wang, Yang, Yang, Wang & Lei, 2017). As research has noted, in ethical contexts, negative emotions can inhibit the

processing of moral information and destroy the moral cognitive function by promoting moral disengagement (He & Harris, 2014; Khan, Liang, Anjum & Shah, 2021). Integrating the evidence mentioned above, we proposed the following hypothesis:

*Hypothesis 1:* Personal relative deprivation would be positively associated with moral disengagement.

#### *The mediating role of malicious envy*

Envy is an unpleasant emotion ensuing from unfavorable upward social comparison (Lange & Crusius, 2015; Smith & Kim, 2007). It is rooted in people's realization that they lack something that belongs to others, such as outstanding characteristic, achievement, or possession (Lange & Crusius, 2015). As a dark side of envy that is distinct from benign envy, malicious envy usually occurs when the advantaged individual's status is perceived as subjectively undeserved (van de Ven, Zeelenberg & Pieters, 2012). It involves feelings of inferiority, hostility, and resentment and often makes people regard others' gains as their own pain and try to pull the envied person down (Lange & Crusius, 2015; Smith & Kim, 2007; Takahashi, Kato, Matsuura, Mobbs, Suhara & Okubo, 2009).

On the one hand, personal relative deprivation has been found to be related with the hostile emotion of malicious envy, and both are negative reactions to the superiority of others (Neufeld & Johnson, 2015; Smith & Kim, 2007). Personal relative deprivation focuses on inequality and easily leads to anger and resentment (Greitemeyer & Sagioglou, 2019b; Smith *et al.*, 2012), which are exactly the core components of malicious envy (Lange & Crusius, 2015). Research has found that individuals appear to be more hostile when they are aware that they are at an undeserved disadvantage (Greitemeyer & Sagioglou, 2019a) and feel more envious when they perceive that the comparison targets have achieved an unfair advantage over them (Thiel, Bonner, Bush, Welsh & Pati, 2021). As Feather (2015) noted, relatively deprived individuals may feel malicious envy toward those who occupy advantaged positions when comparing with others. Thus, we expect that individuals in relatively deprived situations are more likely to experience feelings of malicious envy.

On the other hand, previous literature has clearly shown that malicious envy is positively and significantly associated with moral disengagement (Duffy, Scott, Shaw, Tepper & Aquino, 2012; Thiel *et al.*, 2021; Zhao, Zhang, He & Chen, 2020). Maliciously envious people desire the belongings of others, and they often believe that envied individuals do not deserve their current advantages (van de Ven *et al.*, 2012). Some evidence demonstrates that these maliciously envious people disassociate from their moral standards via the following ways: by devaluing the envied target (i.e., attribution of blame and dehumanization), by restructuring the unethical activity in beneficial words (i.e., moral justification, advantageous comparison, and euphemistic labeling), or by obscuring the effects of immorality into harmless ones (i.e., disregard or distortion of consequences, diffusion of responsibility, and displacement of responsibility) (Duffy *et al.*, 2012; Thiel *et al.*, 2021; Zhao *et al.*, 2020). In addition, as mentioned above, negative emotions can activate cognitive distortions and facilitate moral disengagement (He & Harris,

2014; Khan *et al.*, 2021; Rubio-Garay *et al.*, 2016; Wang *et al.*, 2017). Malicious envy, as a negative emotion, has been proven to function as a booster to make the moral disengagement more decisive (Zhao *et al.*, 2020).

Taken together, it is possible that the relatively deprived individuals may respond to the undeserved disadvantage with malicious envy, which, in turn, increases their propensity to morally disengage. According to this logic, the following hypothesis was developed:

*Hypothesis 2:* Malicious envy would mediate the relationship between personal relative deprivation and moral disengagement.

#### *The moderating role of Honesty–Humility*

Although personal relative deprivation may increase the risk of moral disengagement through the mediating role of malicious envy, not all individuals with high relative deprivation identically experience high levels of malicious envy and exhibit moral disengagement. Exploring the potential moderating factors is helpful to elucidate the relationship between personal relative deprivation and moral disengagement. Honesty–Humility, one positive personality trait, may moderate the adverse effect of personal relative deprivation on moral disengagement.

Honesty–Humility is the tendency to be fair and genuine in relationships with others (Ashton & Lee, 2007). It is one central factor of the six-dimensional HEXACO personality model (Honesty–Humility, Emotionality, eXtraversion, Agreeableness, Conscientiousness and Openness to experience) (Ashton & Lee, 2007). Prior research demonstrated that individuals with high Honesty–Humility show less moral disengagement (Ogunfowora & Bourdage, 2014). In light of the risk and protective factor framework (Masten, 2001), moral disengagement may be the result of the dynamic interaction between risk and protective factors: while risk factors such as personal relative deprivation motivate individuals to disengage their morality, protective factors such as Honesty–Humility reduce the possibility of moral disengagement. Taking that view, Honesty–Humility may serve as a protective factor to weaken the negative impacts of personal relative deprivation on moral disengagement.

The relatively deprived individuals who are maliciously envious may believe that they are entitled to be free from moral constraints to achieve the outcomes they think they deserve (Duffy *et al.*, 2012; Neufeld & Johnson, 2015), given that disengaging the morality can be seen as a reasonable retaliation for perceived unfairness (Chirumbolo, 2015; Zhao *et al.*, 2020). However, empirical evidence has indicated that people with a high degree of Honesty–Humility do not behave unethically even when they feel there is a proper and legitimate justification to do so (Chirumbolo, 2015). As Ashton and Lee (2007) found, individuals with high Honesty–Humility are cooperative, even if they are exploited by others. They tend to consider problems dialectically and globally and can manage their emotions well to achieve goals relating to harmony (Lin, Hong, Xiao & Lian, 2020; Pan & Sun, 2018; Sun, Yan & Chu, 2014). When at a disadvantage, they may choose better coping strategies, self-regulate (Wang, Dunlop, Parker, Griffin & Gachunga, 2021), and

control their emotions, thereby possibly reducing their angry and hostile feelings toward others. In this sense, Honesty–Humility may work as a psychological buffer against malicious envy among people who are in a relatively disadvantaged position.

Moreover, research has suggested that even though malicious envy induces and exacerbates moral disengagement, high degrees of Honesty–Humility can act as a positive counteracting force to attenuate the harmful effect of malicious envy on moral disengagement (Zhao *et al.*, 2020). If a low level of Honesty–Humility can lead to a more pronounced catalytic effect of personal relative deprivation on moral disengagement, then a high level of Honesty–Humility can make it more difficult to convert personal relative deprivation into moral disengagement. Therefore, it is reasonable to speculate that the effect of personal relative deprivation on moral disengagement through malicious envy may vary depending on individuals' degree of Honesty–Humility. Based on the above evidence, we further put forward the following hypothesis:

*Hypothesis 3:* The direct and indirect relationships between personal relative deprivation and moral disengagement via malicious envy would be moderated by Honesty–Humility.

#### THE PRESENT STUDY

Taken together, the purposes of this study were threefold. First, it tested whether personal relative deprivation would be positively correlated with moral disengagement. Second, it determined whether malicious envy would mediate the relationship between personal relative deprivation and moral disengagement. Third, this research examined whether Honesty–Humility would moderate the direct and indirect relationships between personal relative deprivation and moral disengagement through malicious envy. To address these research questions, our study attempted to establish a moderated mediation model, as illustrated in Fig. 1.

#### METHOD

##### *Participants*

A total of 598 adults were recruited from various communities in China by using the Qualtrics survey software, a professional web-based security survey data collection system. Considering that each item in our survey is set as a mandatory question, only the data of participants who have

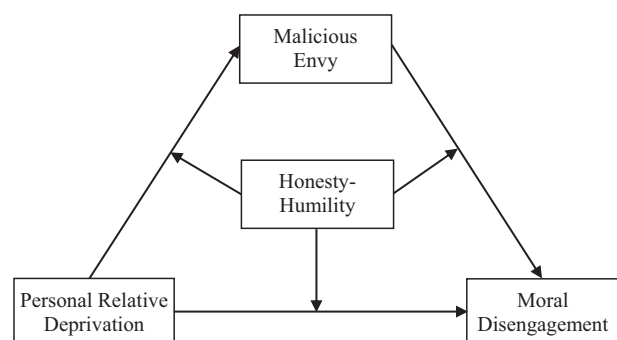


Fig. 1. Conceptual model.

completed all the answers and submitted successfully can be counted as valid data by the system. Of these participants, the data of nine participants were excluded due to quality control checks (e.g., the same response was given across most parts of the survey), whereas the data of the remaining 589 participants were used for the statistical analysis of our study. There were 269 males and 320 females, with an average age of 30.12 ( $SD = 6.95$ , range = 18–67) years. Among the participants, 89 (15.10%) had high-school diploma or below, 149 (25.30%) had junior college diploma, 294 (49.90%) had undergraduate diploma, and 57 (9.70%) had postgraduate diploma. In terms of monthly income, 47 (8.00%) of the participants earned less than 2,000 yuan, 217 (36.80%) were between 2,001 and 5,000 yuan, 164 (27.80%) were between 5,001 and 8,000 yuan, 123 (20.90%) were between 8,001 and 20,000 yuan, and 38 (6.50%) were more than 20,001 yuan.

### Procedure

This study was ethically approved by the authors' University Ethics Committee. Participants were instructed to respond to a series of measures honestly and independently after signing an informed consent. The anonymity and confidentiality of their responses were emphasized before collecting the data, which helped ensure the quality of questionnaire answers and reduce social desirability bias to some extent. The English version of measures in this study was translated into Chinese, and the back-translation procedure was strictly followed. All participants completed these measures within 35 minutes and were thanked after the investigation.

### Measures

**Personal relative deprivation.** The four-item Relative Deprivation Scale (Ma, 2012) was employed to measure the participants' personal relative deprivation. An example item is "Compared to the efforts I've made, my life should have been better than it is now." Each item was answered on a six-point scale (1 = *strongly disagree*, 6 = *strongly agree*). In this study, the index of CFA showed that this scale had an acceptable goodness of fit:  $\chi^2/df = 9.00$ , RMSEA = 0.12, CFI = 0.98, NFI = 0.98, GFI = 0.99. The Cronbach's alpha for relative deprivation was 0.82.

**Moral disengagement.** The 24-item Moral Disengagement Scale (Detert *et al.*, 2008) was used to access the participants' moral disengagement. One sample item is "Some people deserve to be treated like animals." Participants completed these items on a five-point scale (1 = *strongly disagree*, 5 = *strongly agree*). The Chinese version of the Moral Disengagement Scale has been proven to exhibit satisfactory reliability in Chinese populations (Zhao, Zhang & Xu, 2019b). In this study, the index of CFA showed that this scale had an acceptable goodness of fit:  $\chi^2/df = 2.81$ , RMSEA = 0.06, CFI = 0.93, NFI = 0.90, GFI = 0.92. The Cronbach's alpha for moral disengagement was 0.91.

**Malicious envy.** The five-item Malicious Envy Scale (Lange & Crusius, 2015) was adopted to evaluate the participants' malicious envy. A representative item is "If other people have something that I want for myself, I wish to take it away from them." The items were measured on a seven-point scale (1 = *strongly disagree*, 7 = *strongly agree*). The Chinese version of the Malicious Envy Scale has been shown to be a reliable measure in Chinese samples (Xiang, Chao & Ye, 2018). In this study, the index of CFA showed that this scale had a satisfactory goodness of fit:  $\chi^2/df = 7.11$ , RMSEA = 0.10, CFI = 0.98, NFI = 0.97, GFI = 0.98. The Cronbach's alpha for malicious envy was 0.87.

**Honesty–Humility.** The ten-item Honesty–Humility subscale from the HEXACO Personality Inventory (Ashton & Lee, 2009) was applied to measure the participants' Honesty–Humility. An example item is "I wouldn't pretend to like someone just to get that person to do favors for me." All items were rated on a seven-point scale (1 = *strongly disagree*, 7 = *strongly agree*). The Chinese version of the Honesty–Humility subscale has been showed good reliability in Chinese participants (Yang,

Zhou, Wang, Lin & Luo, 2019). In this study, the index of CFA showed that this scale had an acceptable goodness of fit:  $\chi^2/df = 2.94$ , RMSEA = 0.06, CFI = 0.94, NFI = 0.94, GFI = 0.98. The Cronbach's alpha for Honesty–Humility was 0.71.

**Control variables.** Research has shown that demographic variables such as gender, age, education, and monthly income potentially influenced personal relative deprivation and moral disengagement (Greitemeyer & Sagioglou, 2019a, 2019b; Zhang & Tao, 2013; Zhao *et al.*, 2019b), we therefore controlled these variables in our analysis to isolate the independent effect of personal relative deprivation on moral disengagement.

### Data analysis

First, common method variance and descriptive statistics were computed for variables. Second, the mediation model and the moderated mediation model were tested using the SPSS macro PROCESS based on the bias-corrected bootstrapping method (5,000 samples; Hayes, 2013). Afterwards, the multi-group analysis was adopted to ascertain the gender difference in the moderated mediation model.

## RESULTS

### Common method variance

The common method variance was statistically examined by utilizing Harman's single-factor test (Podsakoff, MacKenzie, Lee & Podsakoff, 2003). The results showed that nine factors were extracted from the non-rotated factor structure, and the first factor accounted for 26.96% of the total variance, which was less than the required threshold of 40%. Thus, common method variance in the present study was not a serious problem.

### Preliminary analyses

Descriptive statistics and correlations among the studied variables are presented in Table 1. As expected, personal relative deprivation was positively related with malicious envy ( $r = 0.55$ ,  $p < 0.001$ ) and moral disengagement ( $r = 0.38$ ,  $p < 0.001$ ); malicious envy was also positively related with moral disengagement ( $r = 0.60$ ,  $p < 0.001$ ); Honesty–Humility was negatively related with moral disengagement ( $r = -0.45$ ,  $p < 0.001$ ). The results provided preliminary support for the hypotheses.

In addition, gender was negatively related with personal relative deprivation ( $r = -0.18$ ,  $p < 0.001$ ), malicious envy ( $r = -0.25$ ,  $p < 0.001$ ) and moral disengagement ( $r = -0.39$ ,  $p < 0.001$ ), and positively related with Honesty–Humility ( $r = 0.25$ ,  $p < 0.001$ ); age was negatively related with personal relative deprivation ( $r = -0.11$ ,  $p < 0.01$ ) and malicious envy ( $r = -0.16$ ,  $p < 0.001$ ); monthly income was negatively related with personal relative deprivation ( $r = -0.15$ ,  $p < 0.001$ ).

### Testing for mediation effect

To examine whether malicious envy served as a mediator between personal relative deprivation and moral disengagement, Model 4 of the PROCESS macro was employed (Hayes, 2013). As illustrated in Table 2, in Model 1, personal relative deprivation positively predicted moral disengagement after controlling for demographic variables ( $\beta = 0.33$ ,  $SE = 0.04$ ,  $p < 0.001$ ,

Table 1. Descriptive statistics and correlations among studied variables

Variables	1	2	3	4	5	6	7	8
1. Gender	—							
2. Age	0.06	—						
3. Education	0.01	0.13**	—					
4. Monthly income	-0.06	0.38***	0.39***	—				
5. Personal relative deprivation	-0.18***	-0.11**	-0.05	-0.15***	—			
6. Malicious envy	-0.25***	-0.16***	-0.01	-0.07	0.55***	—		
7. Honesty–Humility	0.25***	0.05	-0.06	0.02	-0.27***	-0.52***	—	
8. Moral disengagement	-0.39***	-0.04	0.02	0.05	0.38***	0.60***	-0.45***	—
<i>M</i>	0.54	30.12	2.54	2.81	2.96	2.78	4.48	2.30
<i>SD</i>	0.50	6.95	0.86	1.06	1.01	1.37	0.79	0.66

Notes: *N* = 589. Gender was dummy coded as 0 = male and 1 = female.

\*\**p* < 0.01,

\*\*\**p* < 0.001.

Table 2. Testing the mediation effect of personal relative deprivation on moral disengagement

Predictors	Model 1 (Moral disengagement)		Model 2 (Malicious envy)		Model 3 (Moral disengagement)	
	$\beta$	<i>t</i>	$\beta$	<i>t</i>	$\beta$	<i>t</i>
Gender	-0.33	-9.03***	-0.15	-4.48***	-0.25	-7.70***
Age	-0.02	-0.51	-0.11	-2.89**	0.04	1.03
Education	0.003	0.08	0.03	0.83	-0.01	-0.38
Monthly income	0.09	2.17*	0.03	0.70	0.08	2.10*
Personal relative deprivation	0.33	9.01***	0.52	15.08***	0.06	1.60
Malicious envy					0.52	13.51***
<i>R</i> <sup>2</sup>	0.26		0.34		0.44	
<i>F</i>	40.97***		60.91***		75.18***	

Notes: *N* = 589.

\**p* < 0.05,

\*\**p* < 0.01,

\*\*\**p* < 0.001.

$R^2 = 0.26$ ,  $F_{(5, 583)} = 40.97$ , 95% CI = [0.26, 0.40]), supporting Hypothesis 1. In Model 2, personal relative deprivation positively predicted malicious envy ( $\beta = 0.52$ ,  $p < 0.001$ ), indicating that adults with higher personal relative deprivation were more likely to show malicious envy. In Model 3, malicious envy positively predicted moral disengagement ( $\beta = 0.52$ ,  $p < 0.001$ ), and the direct effect of personal relative deprivation on moral disengagement became non-significant ( $\beta = 0.06$ ,  $p > 0.05$ ). Moreover, the indirect effect of personal relative deprivation on moral disengagement through malicious envy was significant ( $\beta_{\text{indirect}} = 0.27$ ,  $SE = 0.03$ ,  $p < 0.001$ ,  $R^2 = 0.44$ ,  $F_{(6, 582)} = 75.18$ , 95% CI = [0.22, 0.33]). The proportion of the indirect effect to the total effect was 81.84%. These results suggested that malicious envy significantly mediated the association between personal relative deprivation and moral disengagement, in support of Hypothesis 2.

Testing for moderated mediation

To test the moderated mediation model, Model 59 of the PROCESS macro was adopted (Hayes, 2013). Collectively, as shown in Fig. 2 and Table 3, the hypothesized model accounted for 47% of the variance in moral disengagement.

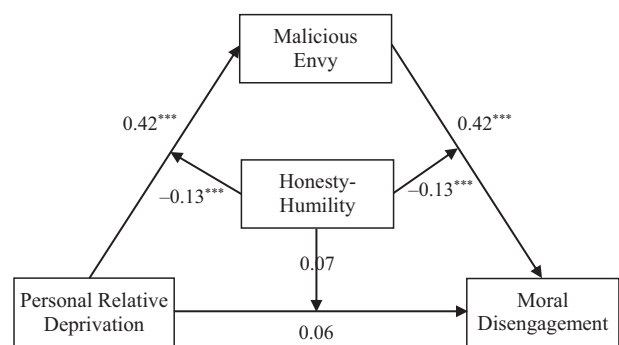


Fig. 2. Standardized path loadings.

As demonstrated in Fig. 2 and Table 3, in Model 1, the interaction effect of personal relative deprivation and Honesty–Humility on malicious envy was significant ( $\beta = -0.13$ ,  $SE = 0.03$ ,  $p < 0.001$ , 95% CI = [-0.19, -0.07]), indicating that the relationship between personal relative deprivation and malicious envy was moderated by Honesty–Humility. The simple slope analysis in Fig. 3 showed that the relationship between personal relative deprivation and malicious envy was significantly stronger for adults with low Honesty–Humility ( $B_{\text{simple}} = 0.75$ ,

Table 3. Testing the moderated mediation effect of personal relative deprivation on moral disengagement

Predictors	Model 1 (Malicious envy)		Model 2 (Moral disengagement)	
	$\beta$	$t$	$\beta$	$t$
Gender	-0.08	-2.51*	-0.23	-7.08***
Age	-0.10	-3.16**	0.03	0.78
Education	-0.004	-0.12	-0.02	-0.53
Monthly income	0.02	0.48	0.08	2.31*
Personal relative deprivation	0.42	13.13***	0.06	1.72
Honesty–Humility	-0.40	-12.67***	-0.17	-4.62***
Personal relative deprivation $\times$ Honesty–Humility	-0.13	-4.47***	0.07	1.91
Malicious envy			0.42	9.68***
Malicious envy $\times$ Honesty–Humility			-0.13	-3.62***
$R^2$	0.49		0.47	
$F$	80.18***		55.95***	

Notes:  $N = 589$ .

\* $p < 0.05$ ,

\*\* $p < 0.01$ ,

\*\*\* $p < 0.001$ .

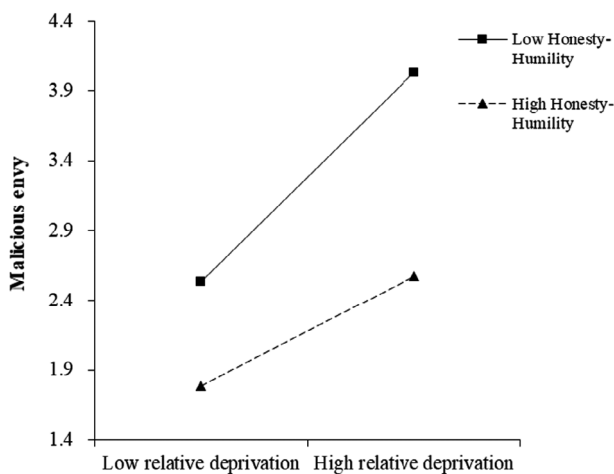


Fig. 3. Interaction effect of personal relative deprivation and Honesty–Humility on malicious envy. High and low levels of Honesty–Humility represent one standard deviation above and below the mean.

$SE = 0.06$ ,  $p < 0.001$ , 95% CI = [0.64, 0.85]), whereas this positive relationship was much weaker for adults with high Honesty–Humility ( $B_{\text{simple}} = 0.39$ ,  $SE = 0.07$ ,  $p < 0.001$ , 95% CI = [0.26, 0.52]).

Moreover, in Model 2, the interaction effect of malicious envy and Honesty–Humility on moral disengagement was also significant ( $\beta = -0.13$ ,  $SE = 0.04$ ,  $p < 0.001$ , 95% CI = [-0.21, -0.06]), suggesting that the relationship between malicious envy and moral disengagement was moderated by Honesty–Humility. The simple slope analysis in Fig. 4 displayed that malicious envy significantly predicted moral disengagement in high-level Honesty–Humility and low-level Honesty–Humility, but the predictive function of malicious envy on moral disengagement was much stronger for adults with low Honesty–Humility

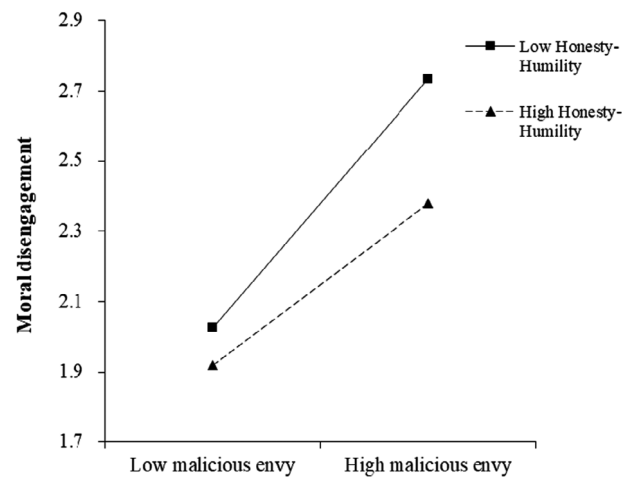


Fig. 4. Interaction effect of malicious envy and Honesty–Humility on moral disengagement. High and low levels of Honesty–Humility represent one standard deviation above and below the mean.

( $B_{\text{simple}} = 0.35$ ,  $SE = 0.03$ ,  $p < 0.001$ , 95% CI = [0.29, 0.42]) than for adults with high Honesty–Humility ( $B_{\text{simple}} = 0.23$ ,  $SE = 0.04$ ,  $p < 0.001$ , 95% CI = [0.15, 0.31]). However, the moderating effect of Honesty–Humility was insignificant in the direct association between personal relative deprivation and moral disengagement ( $\beta = 0.07$ ,  $SE = 0.04$ ,  $p > 0.05$ , 95% CI = [-0.002, 0.14]).

The conditional indirect effect analysis further showed that the indirect effect of malicious envy on the relationship between personal relative deprivation and moral disengagement was moderated by Honesty–Humility. Specifically, for adults with low Honesty–Humility, the indirect relationship between personal relative deprivation and moral disengagement was significant ( $\beta = 0.30$ ,  $SE = 0.04$ , 95% CI = [0.23, 0.38]). For adults with high Honesty–Humility, the indirect relationship between personal relative deprivation and moral disengagement was also significant but much weaker ( $\beta = 0.08$ ,  $SE = 0.02$ , 95% CI = [0.04, 0.14]). The results indicated that Honesty–Humility moderated indirect associations between personal relative deprivation and moral disengagement via malicious envy. Thus, Hypothesis 3 was partially supported.

#### Gender differences

Independent sample T-test indicated that there were significant gender differences on the four studied variables. Specifically, male participants scored higher on personal relative deprivation ( $M_{\text{male}} = 3.15$ ;  $M_{\text{female}} = 2.79$ ;  $t = 4.31$ ,  $p < 0.001$ ), malicious envy ( $M_{\text{male}} = 3.16$ ;  $M_{\text{female}} = 2.46$ ;  $t = 6.32$ ,  $p < 0.001$ ), and moral disengagement ( $M_{\text{male}} = 2.58$ ;  $M_{\text{female}} = 2.06$ ;  $t = 10.36$ ,  $p < 0.001$ ), but lower on Honesty–Humility ( $M_{\text{male}} = 4.27$ ;  $M_{\text{female}} = 4.66$ ;  $t = -6.15$ ,  $p < 0.001$ ) than female participants. Based on this, we further explored the robustness of gender differences in the moderated mediation model.

The multi-group analysis was adopted to compare the fit of the two models: one in which all the paths of interest were constrained to be equal across male and female, and one in which the paths were free to differ across gender groups. Results

demonstrated that for the moderated mediation model between personal relative deprivation and moral disengagement, the fit of the constrained model was not significantly different than that of the unconstrained model,  $\Delta\chi^2(8) = 6.70, p > 0.05$ , indicating that there was no significant gender difference in the final model. Thus we did not further examine the role of gender.

## DISCUSSION

The present study supported our hypothesis that when individuals experience personal relative deprivation, they are more prone to disengage from their morality. The moderated mediation model further provided new insights into how and when personal relative deprivation affects moral disengagement. Malicious envy served as a mediating mechanism in the relationship between personal relative deprivation and moral disengagement, and Honesty–Humility acted as a positive countervailing force in alleviating the deleterious impact of personal relative deprivation on moral disengagement.

Consistent with Hypothesis 1, personal relative deprivation promotes the activation of moral disengagement. When people perceive that they are relatively worse off than others and that this predicament is unfair, they will exhibit a greater propensity to morally disengage. Relatively deprived individuals are motivated to disengage their morality to compensate for their relative disadvantage and reduce such a disadvantage. This is somewhat similar to findings reported in previous works, which indicated the facilitating power of personal relative deprivation on antisocial or criminal behaviors (Callan *et al.*, 2011; Greitemeyer & Sagioglou, 2016, 2019a, 2019b; Mishra & Novakowski, 2016; Moscatelli *et al.*, 2014). People who feel that they have suffered in life tend to exhibit more selfish intentions and behaviors than those who do not (Zhang *et al.*, 2016; Zitek, Jordan, Monin & Leach, 2010). Moral disengagement serves as a coping strategy, albeit a maladaptive one, to deal with perceived unfair deprivation. As earlier research has implied, disengaging the morality might be a legitimate retaliatory strategy employed by individuals who perceive unfairness in their social context (Chirumbolo, 2015; Fontaine *et al.*, 2014; Hystad *et al.*, 2014; Zhao *et al.*, 2019a, 2020). Individuals who are experiencing relative deprivation often see themselves as victims of unfair treatment (Smith *et al.*, 2012) and therefore often feel more entitled than others (Feather, 2015; Zitek *et al.*, 2010) to deactivate moral self-regulation to rationalize their immorality. The result can help us gain a better understanding of the phenomenon of a general increase in immorality when personal relative deprivation is prominent.

In support of Hypothesis 2, our study shows that malicious envy fully mediates the relationship between personal relative deprivation and moral disengagement. Specifically, the subjective experience of being worse off than others evokes the hostile emotion of malicious envy which, in turn, instigates moral disengagement. Consistent with the theory of relative deprivation (Smith *et al.*, 2012), feeling at a disadvantage relative to others leads to hostile emotional reactions, which then lead to acts of immorality. In the present study, we focused on malicious envy as a critical emotional reaction to the experience of personal relative deprivation, because prior study has suggested that people feel

envy when they perceive that the comparison targets have gained an unfair advantage over them (Thiel *et al.*, 2021). Malicious envy is a hostile emotion that is always based on adverse upward social comparison (Lange & Crusius, 2015). When people perceive themselves to be at a disadvantage, they are more prone to feel malicious envy if they realize that the position of the advantaged comparison individual is undeserved. Their dissatisfaction with their own disadvantaged position develops into envy toward high achieving another person (Feather, 2015). In brief, personal relative deprivation functions as the situational prime for malicious envy.

Malicious envy is not only an outcome of personal relative deprivation, but also a catalyst of moral disengagement. Malicious envy makes people feel justified in doing immoral behaviors (Schweitzer & Gibson, 2007). As subsidiary emotions of malicious envy, both anger and hostility have been shown to be activators of moral disengagement (He & Harris, 2014; Rubio-Garay *et al.*, 2016; Wang *et al.*, 2017). Our findings corroborate previous research (Duffy *et al.*, 2012; Thiel *et al.*, 2021; Zhao *et al.*, 2020), which reported that envy, especially malicious envy, plays a critical role in leading to moral disengagement. Individuals respond with malicious envy to the perceived undeserved disadvantages, which is then followed by an increased probability that they disengage their moral compass without self-censure and any psychological cost. The findings also further extend our understanding of the formation of moral disengagement.

In accordance with Hypothesis 3, our results also demonstrate that Honesty–Humility moderates the relationship between personal relative deprivation and malicious envy and that between malicious envy and moral disengagement. Considering that malicious envy fully mediates the association between personal relative deprivation and moral disengagement, Honesty–Humility does not moderate the direct effect of personal relative deprivation on moral disengagement but moderates the association between personal relative deprivation and moral disengagement through the mediating role of malicious envy. These results correspond well with the risk-buffering hypothesis (Hollister-Wagner, Foshee & Jackson, 2001) and indicate that the detrimental effect of personal relative deprivation on malicious envy and that of malicious envy on moral disengagement are weaker for adults with high Honesty–Humility than those with low Honesty–Humility. That is, Honesty–Humility is a protective factor that buffers the negative impact of personal relative deprivation on malicious envy and that of malicious envy on moral disengagement.

Research has shown that Honesty–Humility is an internal source of self-regulation (Wang *et al.*, 2021), people with high degrees of Honesty–Humility possess a better self-regulatory capacity and tend to be less impulsive (Thompson, Carlson, Hunter & Whitten, 2016). Even when they feel that they are in a bad situation that they should not be in, they look at the situation dialectically, regulate their emotions well (Lin *et al.*, 2020; Pan & Sun, 2018; Sun *et al.*, 2014), and less likely harbor strong malicious envy toward those in favorable situations. These people seek to balance the scales of justice by reasonable means, rather than by disengaging morality. As research has noted, individuals high on Honesty–Humility tend to see themselves as ordinary

people without any claim of entitlement (Lee & Ashton, 2004). Their innate tendency to be altruistic, genuine, and humble encourage them to deal with unfair treatment as harmoniously as possible (Ashton & Lee, 2007; Chirumbolo, 2015). Furthermore, although malicious envy is an engine of moral disengagement, this effect is largely diminished for adults with high degrees of Honesty–Humility. That is to say, even if malicious envy fans the flame of moral disengagement, it is likely that the countervailing personality factor of Honesty–Humility counteractively weakens the corresponding flame (Zhao *et al.*, 2020). The protection function of Honesty–Humility for individuals facing immoral environmental influences has been found in prior research (Chirumbolo, 2015; Zhao *et al.*, 2019b, 2020). High Honesty–Humility individuals are often insensitive to various moral disengagement tactics (Ogunfowora & Bourdage, 2014), and their integrity and fairness make it impossible for them to disengage their moral compass even when they are unjustly deprived.

Note that the relationship between personal relative deprivation and malicious envy and that between malicious envy and moral disengagement are still significant at high level of Honesty–Humility. These results do not deny the beneficial effects of Honesty–Humility on relatively deprived individuals but suggest that it may not be enough to protect these individuals from negative consequences when faced with high levels of personal relative deprivation and malicious envy.

Interestingly, in the test of gender difference, we found higher levels of personal relative deprivation, malicious envy, and moral disengagement and lower levels of Honesty–Humility among males than females, which is consistent with previous studies (Wu, Yuan & Kou, 2020; Zhang & Tao, 2013; Zhao *et al.*, 2019b). Male participants felt a stronger sense of relative deprivation than females may be due to the fact that in traditional China, the social gender identity and role determine that Chinese men would get more pressure from economic issues (Zhang & Tao, 2013). Regarding the gender difference in malicious envy, previous research has found that the fields of envy between males and females are different, and the envy-evoking events of the two genders do not stay stable across time (DePriore, Hill & Buss, 2012). Given that the general malicious envy measured in our study did not involve a specific field of social comparison, our findings thus may be an extension to the results of the prior studies, showing that male participants tended to display more malicious envy than female participants. Furthermore, females generally have higher moral identity than males (Yang & Wang, 2011), which usually activates individuals' moral self-regulation function and prevents the occurrence of moral disengagement. Although we found these gender differences in particular variables, the overall model actually showed no gender difference, demonstrating that the model was stable across genders. Future research needs to replicate and validate the results of our study on gender differences.

#### *Limitations and prospects*

Several limitations in this study warrant further investigation. First and foremost, the cross-sectional design is a potential limitation in making causal claims. Experimental or longitudinal designs should be carried out in the future to verify the reliability of the

results. Second, we used the Qualtrics survey software to collect data from various communities in order to maximize sample representation. Nonetheless, there may also be selection bias in the network sample, as only Internet users could participate in our investigation. Thus, future studies with more diverse populations are needed to establish the generalizability of our findings. Likewise, the participants in our research were mainly recruited from the collectivist culture of China. Considering that culture also has an important influence on morality (Husted & Allen, 2008), the applicability of our findings should be further verified with samples from other cultural countries. Fourth, the actual relative deprivation experience of the individual in real life may also affect the results of the research. For example, the experience of relative deprivation in childhood can affect the individual's prosocial behavior choices (Xiong, Xiao & Ye, 2021). Therefore, future studies should fully consider the influence of this factor to further test the rationality of our research results. Finally, only one moderator in the relationship between personal relative deprivation and moral disengagement was explored. Additional research should be conducted to understand this process in the future.

#### *Implications*

Despite the limitations mentioned above, the findings of this study has several theoretical and practical implications. At a theoretical level, this research is an important step in further extending relative deprivation theory (Smith *et al.*, 2012) and can act as a stepping stone to explore the potential effects of personal relative deprivation on the alternative ways of seeking personal deservingness. Moreover, this study also innovatively develops a moderated mediation model to unpack the risk and protective factors resulting in moral disengagement. The findings confirm the unique effect of personal relative deprivation on moral disengagement and elucidate how personal relative deprivation relates to moral disengagement and when the link is most potent. This can enrich the research on moral disengagement under the framework of social cognitive theory.

At a practical level, understanding the psychological factors for disadvantaged individuals who are relatively deprived is conducive to the effective implementation of intervention programs to reduce moral disengagement. Our findings provide empirical support for the necessity of a fair distribution of social wealth. By narrowing the wealth gap or guiding people to make the right internal attributions for the wealth gap (e.g., not working hard enough; Ding, Liang, Zhang & Haung, 2019), people may feel less relatively deprived and thus less disengaged from their moral compass. Relative deprivation is a potential source of moral decline and may affect the stability of social order. Monitoring relative deprivation may help the government detect such risks as early as possible and take effective measures to ease tensions. Furthermore, the mediating role of malicious envy suggests that directing interventions aimed at decreasing malicious envy may be effective in preventing people's moral disengagement. Practicing mindfulness to adjust people's hostile thoughts toward the advantages of others (Dong, Xiang, Zhao, Li, Zhao & Zhang, 2020), cultivating gratitude, and increasing people's social support (Xiang *et al.*, 2018) are all conducive to the relief of malicious envy. Likewise, the moderating role of Honesty–Humility



indicates that cultivating this trait may serve as a good avenue to weaken moral disengagement. Although personality is generally assumed to be relatively stable, there is growing evidence for personality plasticity and variability (Kalimeri, 2013; Kornadt, Siebert & Wahl, 2019). Creating a benign early-life rearing environment characterized by abundant resources, stability, and close parent–child relationships (Wu *et al.*, 2020) or carrying out personality education and value implantation (Zhao *et al.*, 2019b) can effectively facilitate people to develop Honesty–Humility trait.

## CONCLUSION

The present study corroborates the key role of personal relative deprivation in upholding moral disengagement, and sheds light on how and when personal relative deprivation results in moral disengagement. It shows that malicious envy fully mediates the relation between personal relative deprivation and moral disengagement, and that Honesty–Humility moderates the relationship between personal relative deprivation and malicious envy and that between malicious envy and moral disengagement. Specifically, both relationships appear to be weaker for adults with high Honesty–Humility than for those with low Honesty–Humility. These findings not only identify the psychological processes that underlie the relationship between personal relative deprivation and moral disengagement, but also offer important implications for alleviating moral disengagement effectively.

The data and materials in the present research were transparent. The data that support the findings of this study are available on request from the authors.

Huanhuan Zhao: Conceptualization, Funding acquisition, Investigation, Methodology, Project administration, Writing - original draft, Writing - review & editing. Heyun Zhang: Conceptualization, Funding acquisition, Methodology, Project administration, Writing - review & editing, Supervision.

This work was supported by the Humanity and Social Science Youth Foundation of Ministry of Education of China [grant number 19YJC190032]. There is no financial interest.

The authors declare that there are no conflict of interests.

## REFERENCES

- Alessandri, G., Filosa, L., Tisak, M. S., Crocetti, E., Crea, G. & Avanzi, L. (2020). Moral disengagement and generalized social trust as mediators and moderators of rule-respecting behaviors during the COVID-19 outbreak. *Frontiers in Psychology, 11*, <https://doi.org/10.3389/fpsyg.2020.02102>.
- Ashton, M. C. & Lee, K. (2007). Empirical, theoretical, and practical advantages of the HEXACO model of personality structure. *Personality and Social Psychology Review, 11*, 150–166.
- Ashton, M. C. & Lee, K. (2009). The HEXACO-60: A short measure of the major dimensions of personality. *Journal of Personality Assessment, 91*, 340–345.
- Bandura, A. (1999). Moral disengagement in the perpetuation of inhumanities. *Personality and Social Psychology Review, 3*, 193–209.
- Callan, M. J., Sheard, N. W. & Olson, J. M. (2011). Personal relative deprivation, delay discounting, and gambling. *Journal of Personality and Social Psychology, 101*, 955–973.
- Chirumbolo, A. (2015). The impact of job insecurity on counterproductive work behaviors: The moderating role of Honesty–Humility personality trait. *The Journal of Psychology, 149*, 554–569.
- DelPriore, D. J., Hill, S. E. & Buss, D. M. (2012). Envy: Functional specificity and sex-differentiated design features. *Personality and Individual Differences, 53*, 317–322.
- Detert, J. R., Trevino, L. K. & Sweitzer, V. L. (2008). Moral disengagement in ethical decision making: A study of antecedents and outcomes. *Journal of Applied Psychology, 93*, 374–391.
- Ding, Q., Liang, Y., Zhang, Y. & Haung, F. (2019). The impact of attribution for the rich-poor gap on psychological entitlement among low social class college students: The mediating effect of relative deprivation. *Chinese Journal of Clinical Psychology, 27*, 1041–1044.
- Dong, X., Xiang, Y., Zhao, J., Li, Q., Zhao, J. & Zhang, W. (2020). How mindfulness affects benign and malicious envy from the perspective of the mindfulness re-perceiving model. *Scandinavian Journal of Psychology, 61*, 436–442.
- Duffy, M. K., Scott, K. L., Shaw, J. D., Tepper, B. J. & Aquino, K. (2012). A social context model of envy and social undermining. *Academy of Management Journal, 55*, 643–666.
- Feather, N. T. (2015). Analyzing relative deprivation in relation to deservingness, entitlement and resentment. *Social Justice Research, 28*, 7–26.
- Fontaine, R. G., Fida, R., Paciello, M., Tisak, M. S. & Caprara, G. V. (2014). The mediating role of moral disengagement in the developmental course from peer rejection in adolescence to crime in early adulthood. *Psychology, Crime & Law, 20*, 1–19.
- Greitemeyer, T. & Sagioglou, C. (2016). Subjective socioeconomic status causes aggression: A test of the theory of social deprivation. *Journal of Personality and Social Psychology, 111*, 178–194.
- Greitemeyer, T. & Sagioglou, C. (2019a). The experience of deprivation: Does relative more than absolute status predict hostility? *British Journal of Social Psychology, 58*, 515–533.
- Greitemeyer, T. & Sagioglou, C. (2019b). The impact of personal relative deprivation on aggression over time. *The Journal of Social Psychology, 159*, 664–675.
- Hayes, A. F. (2013). *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach*. New York: Guilford Press.
- He, H. & Harris, L. (2014). Moral disengagement of hotel guest negative WOM: Moral identity centrality, moral awareness, and anger. *Annals of Tourism Research, 45*, 132–151.
- Hollister-Wagner, G. H., Foshee, V. A. & Jackson, C. (2001). Adolescent aggression: Models of resiliency. *Journal of Applied Social Psychology, 31*, 445–466.
- Husted, B. W. & Allen, D. B. (2008). Toward a model of cross-cultural business ethics: The impact of individualism and collectivism on the ethical decision-making process. *Journal of Business Ethics, 82*, 293–305.
- Hystad, S. W., Mearns, K. J. & Eid, J. (2014). Moral disengagement as a mechanism between perceptions of organisational injustice and deviant work behaviours. *Safety Science, 68*, 138–145.
- Jin, L. (2016). Migration, relative deprivation, and psychological well-being in China. *American Behavioral Scientist, 60*, 750–770.
- Kalimeri, K. (2013). *Towards a dynamic view of personality: Multimodal classification of personality states in everyday situations*. Paper presented at the Proceedings of the 15th ACM on International conference on multimodal interaction, Sydney, Australia.
- Khan, S., Liang, D., Anjum, M. A. & Shah, S. J. (2021). Linking perceived market competition threat to moral disengagement: The roles of fear of failure and moral relativism. *Current Psychology, 40*(8), 4086–4100.
- Kornadt, A. E., Siebert, J. S. & Wahl, H.-W. (2019). The interplay of personality and attitudes toward own aging across two decades of later life. *PLoS One, 14*, e0223622.
- Lange, J. & Crusius, J. (2015). Dispositional envy revisited: Unraveling the motivational dynamics of benign and malicious envy. *Personality and Social Psychology Bulletin, 41*, 284–294.
- Lee, K. & Ashton, M. C. (2004). Psychometric properties of the HEXACO personality inventory. *Multivariate Behavioral Research, 39*, 329–358.

- Lin, R., Hong, Y., Xiao, H. & Lian, R. (2020). Honesty-Humility and dispositional awe in Confucian culture: The mediating role of Zhong-Yong thinking style. *Personality and Individual Differences, 167*, 110228.
- Lyu, S. & Sun, J. (2020). How does personal relative deprivation affect mental health among the older adults in China? Evidence from panel data analysis. *Journal of Affective Disorders, 227*, 612–619.
- Ma, A. (2012). Relative deprivation and social adaption: The role of mediator and moderator. *Acta Psychologica Sinica, 44*, 377–387.
- Masten, A. S. (2001). Ordinary magic: Resilience processes in development. *American Psychologist, 56*, 227–238.
- Mishra, S. & Novakowski, D. (2016). Personal relative deprivation and risk: An examination of individual differences in personality, attitudes, and behavioral outcomes. *Personality and Individual Differences, 90*, 22–26.
- Moore, C. & Gino, F. (2013). Ethically adrift: How others pull our moral compass from true North, and how we can fix it. *Research in Organizational Behavior, 33*, 53–77.
- Moscatelli, S., Albarello, F., Prati, F. & Rubini, M. (2014). Badly off or better off than them? The impact of relative deprivation and relative gratification on intergroup discrimination. *Journal of Personality and Social Psychology, 107*, 248–264.
- Neufeld, D. C. & Johnson, E. A. (2015). Burning with envy? Dispositional and situational influences on envy in grandiose and vulnerable narcissism. *Journal of Personality, 84*, 685–696.
- Ogunfowora, B. & Bourdage, J. S. (2014). Does Honesty-Humility influence evaluations of leadership emergence? The mediating role of moral disengagement. *Personality and Individual Differences, 56*, 95–99.
- Pan, W. & Sun, L.-Y. (2018). A self-regulation model of Zhong Yong thinking and employee adaptive performance. *Management Organization Review, 14*, 135–159.
- Podsakoff, P. M., MacKenzie, S. B., Lee, J. Y. & Podsakoff, N. P. (2003). Common method biases in behavioral research: A critical review of the literature and recommended remedies. *Journal of Applied Psychology, 88*, 879–903.
- Rubio-Garay, F., Carrasco, M. A. & Amor, P. J. (2016). Aggression, anger and hostility: Evaluation of moral disengagement as a mediational process. *Scandinavian Journal of Psychology, 57*, 129–135.
- Schweitzer, M. E. & Gibson, D. E. (2007). Fairness, feelings, and ethical decision-making: Consequences of violating community standards of fairness. *Journal of Business Ethics, 77*, 287–301.
- Smith, H. J. & Huo, Y. J. (2014). Relative deprivation: How subjective experiences of inequality influence social behavior and health. *Policy Insights from the Behavioral and Brain Sciences, 1*, 231–238.
- Smith, H. J., Pettigrew, T. F., Pippin, G. M. & Bialosiewicz, S. (2012). Relative deprivation: A theoretical and meta-analytic review. *Personality and Social Psychology Review, 16*, 203–232.
- Smith, H. J., Ryan, D., Jaurique, A. & Duffau, E. (2020). Personal relative deprivation and mental health among university students: Cross-sectional and longitudinal evidence. *Analyses of Social Issues and Public Policy, 20*, 287–314.
- Smith, R. H. & Kim, S. H. (2007). Comprehending envy. *Psychological Bulletin, 133*, 46–64.
- Sun, X., Yan, M. & Chu, X. (2014). Passive mood and work behavior: The cross-level mediating effect of Zhong-Yong thinking style. *Acta Psychologica Sinica, 46*, 1704–1718.
- Takahashi, H., Kato, M., Matsuura, M., Mobbs, D., Suhara, T. & Okubo, Y. (2009). When your gain is my pain and your pain is my gain: Neural correlates of envy and schadenfreude. *Science, 323*, 937–939.
- Thiel, C. E., Bonner, J., Bush, J. T., Welsh, D. T. & Pati, R. (2021). Rationalize or reappraise? How envy and cognitive reappraisal shape unethical contagion. *Personnel Psychology, 74*(2), 237–263.
- Thompson, M., Carlson, D., Hunter, E. & Whitten, D. (2016). We all seek revenge: The role of Honesty-Humility in reactions to incivility. *Journal of Behavioral and Applied Management, 17*, 50–65.
- van de Ven, N., Zeelenberg, M. & Pieters, R. (2012). Appraisal patterns of envy and related emotions. *Motivation and Emotion, 36*, 195–204.
- Wang, X., Yang, L., Yang, J., Wang, P. & Lei, L. (2017). Trait anger and cyberbullying among young adults: A moderated mediation model of moral disengagement and moral identity. *Computers in Human Behavior, 73*, 519–526.
- Wang, Y., Dunlop, P. D., Parker, S. K., Griffin, M. A. & Gachunga, H. (2021). The moderating role of honesty-humility in the association of agreeableness with interpersonal competency: A study of managers in two countries. *Applied Psychology, 1–24*. <https://doi.org/10.1111/apps.12318>
- Wu, J., Yuan, M. & Kou, Y. (2020). Disadvantaged early-life experience negatively predicts prosocial behavior: The roles of Honesty-Humility and dispositional trust among Chinese adolescents. *Personality and Individual Differences, 152*(1), 109608.
- Xiang, Y., Chao, X. & Ye, Y. (2018). Effect of gratitude on benign and malicious envy: The mediating role of social support. *Frontiers in Psychiatry, 9*, <https://doi.org/10.3389/fpsy.2018.00139>.
- Xiong, M., Xiao, L. & Ye, Y. (2021). Relative deprivation and prosocial tendencies in Chinese migrant children: Testing an integrated model of perceived social support and group identity. *Frontiers in Psychology, 12*, <https://doi.org/10.3389/fpsyg.2021.658007>.
- Yang, J. & Wang, X. (2011). Interparental conflict and aggressive behavior: The mediating effect of the moral disengagement. *Psychological Development & Education, 27*, 498–505.
- Yang, K., Zhou, L., Wang, Z., Lin, C. & Luo, Z. (2019). The dark side of expressed humility for non-humble leaders: a conservation of resources perspective. *Frontiers in Psychology, 10*, <https://doi.org/10.3389/fpsyg.2021.658007>.
- Yang, T. & Cao, Z. (2019). Why China's Gini coefficient has been falling? In D. He & C. Wang (Eds.), *A New Era* (pp. 59–82). Singapore: Palgrave Macmillan.
- Zhang, H., Liu, M. & Tian, Y. (2016). Individual-based relative deprivation (IRD) decreases prosocial behaviors. *Motivation and Emotion, 40*, 655–666.
- Zhang, J. & Tao, M. (2013). Relative deprivation and psychopathology of Chinese college students. *Journal of Affective Disorders, 150*, 903–907.
- Zhao, H., Zhang, H. & Xu, Y. (2019a). Effects of perceived descriptive norms on corrupt intention: The mediating role of moral disengagement. *International Journal of Psychology, 54*, 93–101.
- Zhao, H., Zhang, H. & Xu, Y. (2019b). How social face consciousness influences corrupt intention: Examining the effects of Honesty-Humility and moral disengagement. *The Journal of Social Psychology, 159*, 443–458.
- Zhao, H., Zhang, H., He, W. & Chen, N. (2020). Subjective well-being and moral disengagement in Chinese youths: The mediating role of malicious envy and the moderating role of Honesty-Humility. *Children and Youth Services Review, 119*, 105655–<https://doi.org/10.1016/j.childyouth.2020.105655>.
- Zhou, Q. & Qin, X. (2018). To worry more about unequal distribution of wealth than poverty – impact of relative living standard on mental health among Chinese population. *Economic Theory and Business Management, 37*, 48–63.
- Zitek, E. M., Jordan, A. H., Monin, B. & Leach, F. R. (2010). Victim entitlement to behave selfishly. *Journal of Personality and Social Psychology, 98*, 245–255.

Received 14 February 2021, Revised 6 September 2021, accepted 27 October 2021