Proceedings of the 4th International Conference on Educational Innovation and Philosophical Inquiries
DOI: 10.54254/2753-7064/7/20230884

Wash Away Immorality and Double Standards

—Psychological Mechanisms by Which Cleansing Affects Moral Judgment under Different Subjects

Zhang Junpeng[1,a], Zhang Zheyuan[1,b,*], and Yan Haoyin[1,c]

[1]Department of Psychology, Beijing Normal University, 19 Xinjiekouwai Street, Beijing, China
a. junpeng.zhang0605@gmail.com, b. 201811061212@mail.bnu.edu.cn,
c. yanhaoyin2020@163.com
** corresponding author*

Abstract: Embodied cognitive and conceptual metaphor theories state that physical cleansing can influence people's moral judgments. However, the mechanism of cleansing affecting moral judgment is still not clear. Therefore, this research introduced the moral subject as a moderator of the process of cleansing affecting moral judgment and the moral self-image as a mediator to reveal the psychological mechanism by which physical cleansing affects moral judgment ("Macbeth effect"). Study 1 used the method of reading a third-person story to initiate a sense of immorality, washing hands with hand sanitizers for cleansing, to explore the moral judgment impact on different personal stories; Study 2 used the method of recalling of own immoral events to initiate immoral feelings, washing hands directly for cleansing. Both two studies failed to validate embodied cleaning effect. The findings suggest that physical cleansing does not affect moral judgment, nor does it affect the moral self-image, and cannot explore the moderating role of moral subject.

Keywords: embodied metaphor, physical cleansing, embodied morality, moral judgment, moral self-image

1. Introduction

Are the body and mind integrated? A great many phenomena in life show how physical cleansing affects people's sense of morality psychologically. Western Christianity and Islam both have the ritual of washing away sin through "baptism". Ms. Macbeth in Shakespeare's "Macbeth" also washed away her guilty of killing the king by washing her hands, freeing herself from moral torture. There are also words like "washing hands in a golden basin" in Chinese culture to describe that cleansing changes one's sense of morality. Meanwhile, words like "clean" and "pure" can be used to describe noble morality, both in the East and in the West [1,2].

Many previous empirical studies have shown that physical cleansing affects people's moral judgments, but the results of these studies are inconsistent, with some findings suggesting that physical cleansing makes people's moral judgments more rigorous, whereas others happen to do the opposite. After analyzing these findings, this research argue that the object of moral judgment - whether judged immoral event is done by oneself or others - plays a crucial role in the findings.

DOI: 10.54254/2753-7064/7/20230884

Besides, the change in moral self-image is likely the factor that produces this effect. Thus, this research argues that the object of moral judgment may moderate the relationship between cleansing and immorality, with moral self-image as a mediator, and attempts to verify it with two studies.

1.1. Moral Cleansing: Macbeth Effect

People's moral behavior is indeed volatile and unstable [3], and people's moral sense is also influenced by the current situation and recent events [4]. In addition to direct immoral event priming influencing people's moral judgments, moral cleansing can also affect people's social behaviors through conceptual metaphors, which in turn influences people's moral judgments [5]. Since people want to maintain their moral self-image, when being primed by immoral events (moral threat), they would lose their moral purity and want to re-establish it [4].

Moral cleansing is further divided into compensatory cleansing, behavioral cleansing, and symbolic cleansing. Among them, compensatory cleansing is to remove immoral feelings by changing moral judgment standards, and behavioral cleansing is to remove immoral feelings by implementing moral events, both of which are direct ways of moral cleansing; symbolic cleansing is to replace the actual compensatory behavior with physical cleansing through conceptual metaphor. Physical cleansing is also a common compensatory strategy to mitigate moral threats by enabling the washing out of not only physical but also psychological stains and soil [6]. This phenomenon that immoral behavior causes cleansing preference, and physical cleansing will compensate for moral loss is also called the "Macbeth effect".

Findings from empirical studies have demonstrated the interaction between cleansing and the sense of morality. Research by Zhong and Liljenquist found that the priming of moral threats motivates the need for physical cleansing [7]. However, there are inconsistent results on the impact of cleansing on moral standards. Following the research of Zhong and Liljenquist [7], there have been many studies on how cleansing can alter people's moral judgment standards, but some of them suggest that cleansing reduces moral standards, and some of them suggest that cleansing can improve moral standards. Schnall et al. found that the moral standards of the subjects were laxer after completing the word stem completion task related to cleansing; after the priming of aversion, washing hands can also make the subjects' moral standards laxer [8]. However, the research of Zhong et al. showed that either hand washing by themselves or viewing videos of others' hand washing led to higher moral standards for subjects [9]. These findings illustrate that cleansing can improve people's moral standards. The inconsistent results described above suggest that the direction of the impact of cleansing on moral standards is still a topic to be studied.

1.2. Embodied Metaphor of Moral Concept

The "Macbeth effect" can be interpreted through embodied metaphor. Embodied Cognition is the idea that cognition is formed through the experience of the body, and that the interaction between the body and the environment shapes cognition [10]. A metaphor is a conceptual mapping between a source concept and a different target concept, by which one can more easily structure and understand the target concept [11]. Embodied metaphor refers to the conceptual metaphor theory (CMT) from the perspective of embodied cognition, which is one of the important theoretical models of embodied cognition. Specifically, CMT refers to the way people express abstract concepts through metaphors with the help of concrete concepts [11,12], and characterize new concepts with concepts that have been acquired in the past [1]. For example, people use words like "warm" and "cold" which describe the body's feeling of temperature to describe a person's personality traits in interpersonal interactions [13,14].

DOI: 10.54254/2753-7064/7/20230884

Research on the embodied metaphors of moral concepts has focused on the dimensions of morality and cleanliness, color, light and dark, space, and time. For example, cleanliness is commonly used to describe morality and filth to describe immorality [12], and abstract moral concepts such as "innocence" are based on physical experiences such as cleanliness and dirtiness [15].

In addition, the results of the meta-analysis suggest that the embodied cognition study of people's moral behavior is homogeneous with the one of moral judgments [16], so both can be seen as behavioral responses to the abstract concept of "morality".

1.3. Moderator: The Object of Moral Judgment

Morality plays a different role in the face of other-centered and self-centered events. For example, Riis et al. found that when people choose to use empowering drugs with certain side effects, they tend to do so from the perspective of their own health concerns, whereas when they prohibit others from using these drugs, they often do so from the perspective of moral concerns [17]. This phenomenon of having different moral judgments on oneself and others is often called "double standard" behavior in daily life.

Zhong and Liljenquist's moral judgment material for Study 4 was whether subjects themselves would engage in moral behaviors [7]; Schnall et al.'s moral judgment material for Study 2 was a moral dilemma in which half were described in the first person and the other half were described in the third person [18]; Zhong et al.'s moral judgment materials are social issues such as alcoholism, wearing fur, and having sex during pregnancy [9]. The immoral materials in these studies are not only inconsistent in content, but also in the subjects of their immoral behavior. Therefore, to clarify exactly how cleansing influences moral judgments, it is necessary to clarify who the subject is in moral judgments.

Therefore, to clarify the specific influence of the object of moral judgment on moral judgment in the "Macbeth effect," Study 1 attempted to verify that after the priming of self-moral threat, people judge immoral events done by themselves more strictly and immoral events done by others laxer and that physical cleansing can eliminate this effect (hypothesis 1).

1.4. Mediator: Moral Self-images

Many studies have supported the idea that moral self-image is a mediator of the "Macbeth effect". Moral self-image, which is one's subjective assessment of one's morality, is an important component of self-image. One's moral self-image will be threatened when his or her feelings of immorality are primed, and because moral self-image is an important component of personality traits, when people's moral self-image is unstable, there is a tendency to improve their personality system by changing their moral self-image [19]. Specifically, Zhong and Liljenquist suggested that when moral self-image is threatened, individuals are motivated to take action to repair their moral self-image [7]; and the act of physical cleansing will largely restore the integrity of the moral self-image [4].

Other studies have directly explored the relationship between moral self-image and cleaning behavior, and moral sense. Gilchrist and Schnall showed that physical cleansing does enhance moral self-image [20]. Zhong et al. preliminarily explored this mediating mechanism, noting that moral self-image is a mediating variable in cleansing leading to more strict moral judgment standards [9]. In a theoretical analysis, Tobia found that moral self-image mediated the most significant effect between cleansing and moral judgment [21]. The weakness is that studies exploring the mediating mechanism do not indicate whether the mediating role of moral self-image persists after the priming of an immoral event. Therefore, it is necessary to investigate whether this mediating effect exists after the priming of the moral threat to the self-image.

DOI: 10.54254/2753-7064/7/20230884

In summary, changes in moral self-image can explain the effect of different moral judgment objects on the "Macbeth effect". When moral self-image is high, people are more likely to consider themselves moral and thus have laxer moral standards for themselves and stricter moral standards for others, while the opposite is true when moral self-image is low. Therefore, this research proposes hypothesis 2: Moral self-image is a mediator for the influence of cleansing on moral judgment under different moral subjects; moral self-image is lowered after the priming of self-moral threat, while cleansing restores moral self-image.

Based on the analysis above, this research propose a hypothesis framework (see Figure 1).

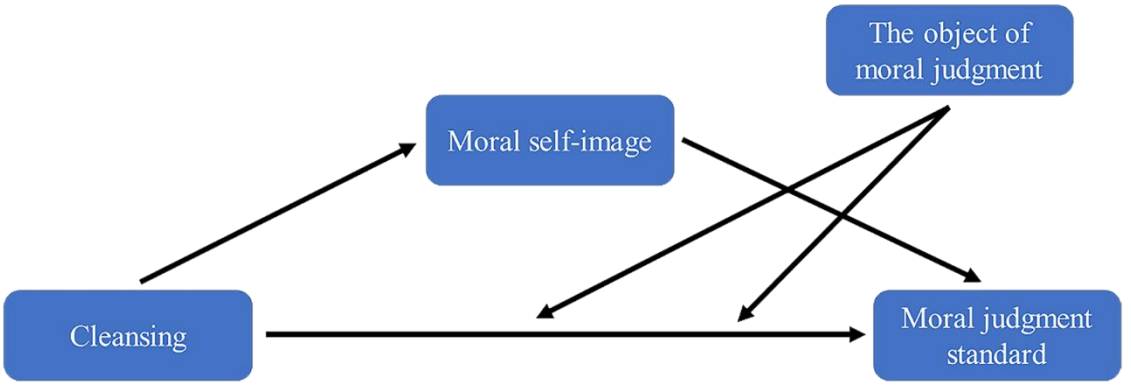

Figure 1: Hypothesis Framework.

2. Study 1

2.1. Pre-study

The purpose of the pre-study is to select six immoral stories as moral judgment materials. Ten immoral stories were first selected from Ward and King's immoral events material [22], and all stories were changed to the third person. Subsequently, 40 undergraduate psychology students were asked to rate the morality of these ten immoral stories using a 9-point scale, where 1 is very immoral and 9 is very moral. Since 5 is the middle value, it can be assumed that events with ratings less than 5 are more biased toward immorality. To avoid a ceiling effect, pre-study selected questions that were relatively more controversial in terms of morality, i.e., those with mean ratings between 3.5 and 4.9.

2.2. Method

2.2.1. Participants

Study 1 uses a two-factor mixed design of 2 (cleansing condition: cleansing, non-cleansing) *2 (the object of moral judgment: oneself, others). In this case, the cleansing condition is a between-subjects variable and the moral judgment object is a within-subjects variable. The 50 subjects were recruited from students at Beijing Normal University, including 24 in the cleansing group and 26 in the non-cleansing group.

2.2.2. Materials and Procedure

All subjects were asked to transcribe a first-person description of an immoral event and, after completing the transcription, to answer six questions about the event, with the aim of making the subjects process the event in depth in order to create a moral threat to them.

DOI: 10.54254/2753-7064/7/20230884

Only three of these questions are of interest to this study, and the other three questions were interfering questions. If two or more of the three questions of interest were answered incorrectly, the manipulation test failed and the data were excluded.

The cleansing group was then told that "the next experiment will require the use of the lab computers and according to the new laboratory hygiene regulations, you will need to wash your hands first, preferably for no less than 30 seconds" and shown a forged copy of the Laboratory Safety Regulations. This was not done for the non-cleansing group. The subjects then rated themselves on eight dimensions of traits (humor, intelligence, moral qualities, creativity, attractiveness, health, social skills, and leadership) from 1(worse than everyone else) to 100(better than everyone else), of which this study focused only on "moral qualities" (i.e., moral self-image). Finally, both groups of subjects were asked to read six immoral stories and "rate the immorality of the main character in each story; where 1 is very immoral and 9 is very moral". Three of the stories are narrated in the first person and the other three in the third person, and the stories are balanced between the two groups.

2.3. Results

The results of the three questions narrated in the third-person perspective were first averaged into a new variable (immorality of others) and the results of the three questions narrated in the first-person perspective were averaged into a new variable (immorality of oneself).

The effect of cleansing behavior on the immorality of others and the immorality of oneself was first tested using an independent samples t-test (see Table 1 for descriptive statistics). The effect of cleansing behavior on the immorality of oneself was not significant, $t\ (50) = -.792$, $p = .432$, and the effect of cleansing behavior on the immorality of others was not significant, $t\ (50) = .273$, $p = .786$.

Table 1: Means and standard deviations of moral judgment ratings in the four experimental conditions.

The object of moral judgment	Cleansing condition	*M*	*SD*	*N*
Oneself	Cleansing	2.88	0.84	24
	Non-cleansing	2.94	0.73	26
Others	Cleansing	3.01	0.83	24
	Non-cleansing	3.23	1.08	26

A repeated measure ANOVA was then used to test the interaction between the cleansing condition and the object of moral judgment. The results indicated a nonsignificant main effect of cleansing behavior, $F(1,50) = .350$, $p = .505$. The interaction between cleansing behavior and the object of moral judgment was also nonsignificant, $F(1,50) = .312$, $p = .579$. The results did not verify the hypothesis of this research.

In addition, this study explored the effect of cleansing behavior on moral self-image using an independent samples t-test. The effect of cleansing behavior on moral self-image was not significant, $t(51) = -.177$, $p = .860$, i.e., this study did not show that cleansing behavior can change moral self-image or moral judgment standards (either for oneself or for others). Therefore, there was also no need to further test the mediating and moderating models.

DOI: 10.54254/2753-7064/7/20230884

2.4. Discussion and Improvement

2.4.1. Situational Potency of Involvement

The failure of Study 1 may be due to the improper selection of the experimental materials. The priming materials and judgment materials used in Study 1 were directly translated from the research materials in Western countries. It is possible that the subjects did not have direct experience of the immoral events described in the materials and did not feel immoral easily.

The potency of involvement is the degree to which individuals psychologically relate to environmental information. And studies addressing situational potency of involvement have found that if subjects do not have relevant experiences with the described life events, they cannot easily make connections with the presented moral situations [23].

Therefore, Study 2 attempted to enhance subjects' potency of involvement by modifying the materials of several morality stories and experimental procedures. A major criticism of Study 1 was the selection of the moral materials, all of which had a distinctly Western context. Therefore, subjects may have had low potency of involvement in reading these materials. Study 2, on the other hand, attempted to overcome the low potency of involvement in Study 1 by using six immoral events that were appropriate for the campus context.

2.4.2. Validity of the Priming

In Study 1, this research used immoral priming stories selected from the original study testing the "Macbeth effect" as priming stories [24], and although this paradigm is more consistent across subjects in terms of priming content, the context may not be consistent with Chinese culture, and subjects may not internalize the first-person immoral story as an event of their own making due to low potency of involvement.

Qiao and Wang noted that there is a difference in the priming of compensatory behavior of subjects by generating violation guilt (violating social norms) and virtual guilt (violating one's own norms) [25]. An unclear context of immoral events may lead subjects to misjudge moral subjects [26]. Therefore, it is important to clarify the true subject of the moral event in real situations, and the subject of the paradigm that allows subjects to recall real immoral events is more explicit.

Previous research has shown that recalling one's immoral behavior threatens one's moral self-image and can produce compensatory behavior. Jordan et al. directly asked subjects to recall immoral events they had done and found that after recalling such events, subjects joined in more activities that highlighted their self-moral traits, had more pro-social intentions, and less deceptive behaviors [3]. Therefore, the paradigm of recalling events will be used in the immoral priming phase of Study 2.

2.4.3. Two Dimensions of Moral Self-image

Aquino and Reed divided moral self-image into two dimensions: the internalization dimension, which refers to the extent to which a set of moral traits is central to an individual's self-concept, and the symbolization dimension, which indicates the degree of importance of presenting moral traits to others [27]. Because people, in general, have a strong desire to have high moral self-images [27,28], recalling past immoral behavior may not change the emphasis people attach to the importance of their internal moral identity, but rather cause them to instead display a strong self-symbolic moral identity to others [3]. Thus, people would distinguish between the internalization dimension and the symbolization dimension when measuring moral self-image and argue that it is the symbolization dimension rather than the internalization dimension that is changed by the priming of the immoral event. Both two dimensions were measured by Aquino and Reed's scale [27].

DOI: 10.54254/2753-7064/7/20230884

In addition, immoral events with a large time span may make moral self-image lack volatility. Conway and Peetz suggested that individuals who recalled an immoral event experienced a week earlier produced more helpful behaviors while individuals who recalled an immoral event experienced a year earlier produced less [29]. Thus, Study 2 asked subjects to recall recent immoral events and asked them to narrate specific immoral events that they did.

2.4.4. Cleansing Method

In addition, the hand sanitizer used in Study 1 may not have been suitable for the Chinese subjects. Most Chinese people are used to using regular liquid hand soap, and many of them have difficulty accepting hand sanitizer, and some subjects even showed avoidance and disgust before and during using it, which made it difficult to successfully manipulate the cleansing condition. Therefore, in order to successfully manipulate the condition of physical cleansing, Study 2 would ask the subjects to wash their hands with water.

3. Study 2

The hypothesis of Study 2 is basically the same as that of Study 1, with the only difference being the change of moral self-image to symbolic moral self-image. That is, after moral threat priming lead to a decline in symbolic moral self-image, physical cleansing could re-elevate symbolic moral self-image, thus making people's moral judgment standards laxer for themselves and harsher for others; whereas the subjects' internalized moral self-image did not change significantly.

3.1. Pre-study

The purpose of the pre-study was to select six immoral stories in a campus context as moral judgment material. 15 immoral stories were developed basing on daily life experience and then 46 junior undergraduates were asked to rate the morality and the relevance to themselves of these 15 immoral stories with a 9-point scale. To avoid a ceiling effect, events that were relatively more controversial in terms of morality were selected, i.e., those with mean ratings between 2.5 and 4.0; in addition, events with a relevance rating of 5 or less were excluded from the selection of questions, which eventually left six immoral events in the campus context.

3.2. Method

3.2.1. Participants

Study 2 followed the same experimental design as Study 1. A total of 93 subjects participated. Subjects were excluded according to what they wrote in the recalling task, and the exclusion standards were: (1) the lines mention that they did not feel immoral; (2) the lines mention that they did compensatory behavior; (3) the content of the event was too short (less than 50 characters). Finally, there were 78 subjects, 39 in the cleansing group (5 males and 34 females) and 39 in the non-cleansing group (8 males and 31 females). Since no expected trend was found during the examination of 78 subjects, no additional subjects were recruited.

3.2.2. Materials and Procedure

Before participating in the experiment, the subjects were told that it was a "personality and memory experiment" study. After arriving at the laboratory, the two groups of subjects first performed the recalling immoral event task, recalling an immoral event they had done within a month and writing down the details and their feelings about that event. Then, participants were asked to wash their hands

DOI: 10.54254/2753-7064/7/20230884

with clean water. Ather that, the subjects rated themselves on eight dimensions (same as in study 1). Subsequently, they were shown the nine moral qualities of "caring for others, empathy, fairness, friendliness, generosity, diligence, helpfulness, honesty, and kindness" and were asked to evaluate their internalized moral self-image and their symbolic moral self-image with 10 questions. Finally, both groups read the six immoral stories selected in the pre-study and were asked to rate the immorality of the main character in each story on a 9-point scale. Three of the stories were narrated in the third person and the subjects were asked to imagine that the main character was a stranger, and the other three stories were narrated in the first person and the subjects were asked to imagine that they were the main character, and the six stories were counterbalanced between the two groups.

3.3. Results

The results of the three questions narrated from the third-person perspective were averaged to become a new variable (immorality of others), and the results of the three questions narrated from the first-person perspective were averaged to become a new variable (immorality of oneself).

Repeated measures analysis was first used to test the effects of the cleansing condition and the moral object of judgment on moral judgment (see Table 2 for descriptive statistics). The main effect of the cleansing condition was not significant, $F(1,76) = .256$, $p = .608$, the main effect of the object of moral judgment was not significant, $F(1,76) = .563$, $p = .455$, and the interaction of cleansing condition and object of judgment was not significant, $F(1,76) = .930$, $p = .338$, indicating that the embodied effect of cleansing and the " double standard effect" of the object of moral judgment was not found in this study.

To verify the existence of the basic embodied cleansing effect without considering the object of moral judgment, an independent-sample t-test was conducted on the ratings of others' immoral events and self-immoral events. The effect of cleansing behavior on ratings of self-immoral behavior was not significant, $t(1,76) = .782$, $p = .436$, and the effect of cleansing behavior on ratings of others' immoral behavior was not significant, $t(1,76) = .096$, $p = .924$.

Table 2: Means and standard deviations of moral judgment ratings in the four experimental conditions.

the object of moral judgment	cleansing condition	*M*	*SD*	*N*
Oneself	Cleansing	2.26	0.85	39
	Non-cleansing	2.44	1.07	39
Others	Cleansing	2.28	0.78	39
	Non-cleansing	2.30	0.79	39

Note: The rating in the table is the sum of the ratings of the three questions.

In addition, this study explored the effect of cleansing behaviors on moral self-image using an independent samples t-test. The effect of cleansing behaviors on overall moral self-image was not significant, $t(1,76) = 1.149$, $p = .254$. Summing the ratings for the five questions on internalized and symbolic moral self-images respectively (see Table 3), it was found that the effect of cleansing behavior on internalized moral self-images was insignificant, $t(1,76) = .967$, $p = .337$, and the effect on symbolic moral self-images was insignificant, $t(1,76) = 1.001$, $p = .320$.

Finally, this study explored the influence of moral self-image itself on the moral judgment standards of oneself and others. Linear regression was used to do regression analyses on the two objects of judgment with moral self-image as the independent variable. Moral self-image significantly influenced the moral judgment of others, $\beta = -.240$, $p = .035$, indicating that with a higher moral self-

DOI: 10.54254/2753-7064/7/20230884

image, one is more likely to judge events done by others as more immoral; moral self-image did not significantly influence moral judgment of oneself, β = -.164, *p* = .152, indicating that moral self-image does not influence judgment of what oneself does, and even when it did, the trend was opposite to the hypothesis.

Table 3: Sum and standard deviation of two moral self-image dimension ratings in the cleansing condition.

Cleansing condition	Moral self-image dimension	∑	*SD*
Cleansing	internalization	26.21	2.90
	Symbolization	16.10	3.13
Non-cleansing	internalization	25.62	2.47
	Symbolization	15.36	3.43

Since all of the above analyses are inconsistent with the hypotheses, it is not possible to proceed with the moderated mediation model.

4. General Discussion

The results of this research do not support most of the hypotheses, except for the finding that moral self-image does affect moral judgment, physical cleansing did not succeed in changing people's moral judgment, and since the original "Macbeth effect" was not significant, there is no way to talk about the "object of judgment" variable introduced in this research, which is another failed research in the field of embodied morality. The reasons why this research did not replicate the original results will be discussed later in the paper, both in terms of experimental manipulation and theoretical explanation.

4.1. Shortcomings of Experimental Manipulation

4.1.1. Judgment on the Object of Judgment

The only hypothesis confirmed in this research is that moral self-image does negatively predict people's moral judgment when the object of judgment is others. However, moral self-image did not positively predict moral judgment when the object of judgment was oneself but rather tended to negatively predict it. It is possible that the moral events in this research were unintentional acts, and therefore, subjects' moral judgments may have been directed more toward the event itself than the subject of the act [30], as a result, changes toward the object of judgment may not be able to influence subjects' judgments about the event itself.

4.1.2. Failure of the Metaphorical Association

The outbreak of COVID-19 made hand washing and disinfection essential in daily life, and in this environment, "physical cleansing" may simply mean "resistance to the virus" for each person, and the excuse to hide the real purpose of hand washing during the experiment was also "laboratory safety regulations during the outbreak", so it is likely that the subjects only interpreted "hand washing" as "hygiene" rather than "purity" through metaphorical association, which ultimately led to no significant effect of cleansing on moral self-image and subsequent moral judgment.

DOI: 10.54254/2753-7064/7/20230884

4.1.3. Limited Priming Effect

It has been suggested that the evaluation of moral values requires a combination of motivation and effect [31], which means that only those immoral behaviors that have bad motivations and achieve their goals will affect people's moral self-image. During the experiment, it was found that most of the "immoral behaviors" written by the subjects during the priming phase did not have bad motivations. Thus, the recall of events with only "immoral results" does not necessarily prime changes in moral self-image.

4.1.4. Refusal to Write about Immoral Events

Social desirability may also have influenced the subjects' response process in recalling the immoral event. Due to the needs of the research and the way subjects were recruited, the subjects of this research were all students of researcher's university, so it was inevitable that some subjects would know the experimenter or might know the experimenter in the future. Thus, although there was a prior statement that no information about the subject would be revealed, the subjects, when recalling and writing down their immoral events, might still avoid writing about the most immoral events they had done due to the influence of social desirability and self-presentation, which might affect the priming effect of immorality.

4.2. Theoretical Explanation

4.2.1. The Crisis of Reproducibility

The crisis of reproducibility in the field of embodied cognition has become widespread in recent years; for example, Bargh et al. used stereotypes of elderly people for priming and found that subjects moved slower [32], yet Doyen et al. replicated their Experiment 2 and did not reach the same conclusion [33]. The reproducibility crisis in the field of embodied cleansing-morality is even more severe, as Siev et al.'s meta-analysis lays bare the minuscule effect of embodied cleansing [26]. However, it is also important to note one thing: it is intrinsically more difficult to obtain statistical support for the original study in replication studies because of the significance criteria people often use, which makes the threshold of evidence for the experiment relatively low [34].

4.2.2. Theoretical Divergence in the Field of Morality

Although moral judgments are likely to be influenced by context, there are still many studies suggesting that morality as a personal trait is well-consistent. Goodwin et al. showed that moral qualities are less dependent on social context than warmth, the most crucial and controllable trait in interpersonal interactions; and morality is generally considered to be a deeply rooted trait that is relatively stable across contexts [35].

Furthermore, when subjects are asked to judge moral events from the first person, what is effectively measured is likely to be the subjects' imagined moral decisions rather than moral judgments [30], and decision processes that do not undergo similar cognitive processes compared to judgment processes [36]. Thus, subjects may engage in a moral judgment process based on rapid and automatic intuition when making third-person judgments, whereas they are more likely to engage in an imagined decision-making process of putting themselves into the situation when making first-person judgments. The differences between these two processes may make it difficult to compare them under the same framework. When it comes to the decision process, subjects are more likely to invoke System II of the dual-system model of cognitive processing for more detailed and rational processing [37], thus exhibiting internalized moral consistency, whereas when it comes to the

DOI: 10.54254/2753-7064/7/20230884

judgment process only, subjects are more likely to invoke the automated System I for processing, exhibiting the external and volatile moral standards. This explains one of the findings of this research: moral self-image can negatively predict others' immoral behavior but has no predictive validity for the self's immoral behavior.

4.3. Prospect

The results of this research do not imply that the subject of the immoral event should not be a factor to be considered in moral judgment. Mental states of the subject, such as motivation and intention, may determine the extent to which and the reason why people judge moral violations, so future research could reduce the influence of these factors in moral judgments for different subjects and focus subjects' attention on the object of moral judgment.

Currently, most of the research in the field of metaphor is based on a metaphor-centered approach. However, it is difficult to construct models of metaphorical components in social information processing because a metaphor can involve multiple concepts, the influence of other metaphors needs to be excluded, and complex abstract social concepts are also difficult to model. Future research could be based more on a phenomenon-centered approach, i.e., starting with the observed phenomenon, identifying multiple metaphors surrounding the phenomenon, and then examining a range of contextual and individual factors that determine whether or not to use a particular metaphor, and what the consequences of using the metaphor are [5].

5. Conclusion

Given the findings of previous studies, cleansing should be able to influence moral judgment. Although this research did not verify the influence of the subject of moral judgment on this process, this does not indicate that this factor is not a factor that should be considered in moral judgment. To fully understand the embodied effects of morality, it is important to continue to identify the mechanisms associated with it.

References

[1] *Yin, R., Su, D.Q. and Ye, H.S. (2013). Conceptual Metaphor Theory in Embodied Cognition Perspective. Advances in Psychological Science, 2, 220–234.*

[2] *Ye, H.Y. and Zhang, F.H. (2015). Embodiment in Moral Judgment. Advances in Psychological Science, 23(8), 1480–1488. https://doi.org/10.3724/SP.J.1042.2015.01480*

[3] *Jordan, J., Mullen, E. and Murnighan, J. K. (2011). Striving for the moral self: The effects of recalling past moral actions on future moral behavior. Personality and Social Psychology Bulletin, 37(5), 701–713. https://doi.org/10.1177/0146167211400208*

[4] *West, C. and Zhong, C.B. (2015). Moral cleansing. Morality and Ethics, 6, 221–225. https://doi.org/10.1016/j.copsyc.2015.09.022*

[5] *Landau, M. J., Meier, B. P. and Keefer, L. A. (2010). A metaphor-enriched social cognition. Psychological Bulletin, 136(6), 1045–1067. https://doi.org/10.1037/a0020970*

[6] *Lee, S. W. S. and Schwarz, N. (2011). Wiping the slate clean: Psychological consequences of physical cleansing. Current Directions in Psychological Science, 20(5), 307-311. http://dx.doi.org/10.1177/0963721411422694*

[7] *Zhong, C. and Liljenquist, K. (2006). Washing Away Your Sins: Threatened Morality and Physical Cleansing. Science, 313(5792), 1451-1452. http://dx.doi.org/10.1126/science.1130726*

[8] *Schnall, S., Benton, J. and Harvey, S. (2008). With a clean conscience: Cleanliness reduces the severity of moral judgments. Psychological Science, 19(12), 1219–1222. https://doi.org/10.1111/j.1467-9280.2008.02227.x*

[9] *Zhong, C.B., Strejcek, B. and Sivanathan, N. (2010). A clean self can render harsh moral judgment. Journal of Experimental Social Psychology, 46(5), 859–862. https://doi.org/10.1016/j.jesp.2010.04.003*

[10] *Ye, H.S. (2010). Embodied Cognition: A New Approach in Cognitive Psychology. Advances in Psychological Science, 18(5), 705–710.*

[11] *Lakoff, G. and Johnson, M. (1980). Metaphors we live by. Chicago: University of Chicago Press.*

[12] Lakoff, G. and Johnson, M. (1999). Philosophy in the flesh: The embodied mind & its challenge to Western thought. Chicago: University of Chicago Press.
[13] Inagaki, T. K. and Eisenberger, N. I. (2013). Shared neural mechanisms underlying social warmth and physical warmth. Psychological Science, 24(11), 2272-2280. http://dx.doi.org/10.1177/0956797613492773
[14] Zhong, C. and Leonardelli, G. J. (2008). Cold and Lonely: Does Social Exclusion Literally Feel Cold? Psychological Science, 19(9), 838-842. http://dx.doi.org/10.1111/j.1467-9280.2008.02165.x
[15] Haidt, J. and Joseph, C. (2004). Intuitive ethics: How innately prepared intuitions generate culturally variable virtues. Daedalus, 133(4), 55–66. https://doi.org/10.1162/0011526042365555\
[16] Su, Y.J. and Sun, F.F. (2014). A Meta-Analysis of the Moral Embodied Cognition. Journal of East China Normal University (Educational Sciences), 32(2), 88–96. https://doi.org/10.3969/j.issn.1000-5560.2014.02.013
[17] Riis, J., Simmons, J. P. and Goodwin, G. P. (2008). Preferences for enhancement pharmaceuticals: The reluctance to enhance fundamental traits. Journal of Consumer Research, 35(3), 495-508. http://dx.doi.org/10.1086/588746
[18] Schnall, S., Haidt, J., Clore, G. L. and Jordan, A. H. (2008). Disgust as Embodied Moral Judgment. Personality and Social Psychology Bulletin, 34(8), 1096–1109. https://doi.org/10.1177/0146167208317771
[19] Blasi, A. (2004). Moral Functioning: Moral Understanding and Personality. In Moral development, self, and identity. Lawrence Erlbaum Associates Publishers.
[20] Gilchrist, P. T. and Schnall, S. (2018). The paradox of moral cleansing: When physical cleansing leads to increased contamination concerns. Journal of Behavior Therapy and Experimental Psychiatry, 61, 38–44. https://doi.org/10.1016/j.jbtep.2018.06.002
[21] Tobia, K. P. (2015). The effects of cleanliness and disgust on moral judgment. Philosophical Psychology, 28(4), 556-568. http://dx.doi.org/10.1080/09515089.2013.877386
[22] Ward, S. J. and King, L. A. (2018). Individual differences in reliance on intuition predict harsher moral judgments. Journal of Personality and Social Psychology, 114(5), 825-849. http://dx.doi.org/10.1037/pspp0000153
[23] Denton, K. and Krebs, D. (1990). From the scene to the crime: The effect of alcohol and social context on moral judgment. Journal of Personality and Social Psychology, 59(2), 242-248. http://dx.doi.org/10.1037/0022-3514.59.2.242
[24] Earp, B. D., Everett, J. A. C., Madva, E. N. and Hamlin, J. K. (2014). Out, damned spot: can the ‘‘Macbeth Effect’’ be replicated? Basic and Applied Social Psychology, 36(1), 91–98. https://doi.org/10.1080/01973533.2013.856792
[25] Qiao, J.Z. and Wang, B. (2003). An Overview on Hoffman’s Virtual Guilt Theory. Psychological Exploration, 23(3), 25–28. https://doi.org/10.3969/j.issn.1003-5184.2003.03.006
[26] Siev, J., Zuckerman, S. E. and Siev, J. J. (2018). The Relationship Between Immorality and Cleansing. Social Psychology, 49(5), 303–309. https://doi.org/10.1027/1864-9335/a000349
[27] Aquino, K. and Reed, A. (2002). The self-importance of moral identity. Journal of Personality and Social Psychology, 83(6), 1423–1440. https://doi.org/10.1037/0022-3514.83.6.1423
[28] Monin, B. and Jordan, A. H. (2009). The dynamic moral self: A social psychological perspective. In D. Narvaez and D. K. Lapsley (Eds.), Personality, identity, and character: Explorations in moral psychology (pp. 341-354, Chapter viii, 456 Pages). Cambridge University Press, New York, NY. http://dx.doi.org/10.1017/CBO9780511627125.016
[29] Conway, P. and Peetz, J. (2012). When does feeling moral actually make you a better person? conceptual abstraction moderates whether past moral deeds motivate consistency or compensatory behavior. Personality and Social Psychology Bulletin, 38(7), 907. http://dx.doi.org/10.1177/0146167212442394
[30] Malle, B. (2021). Moral Judgments. Annual Review of Psychology, 72, 293–318. https://doi.org/10.1146/annurev-psych-072220-104358
[31] Zeng, Z.X., Tu, Z.M. and Lv, Y.H. (1992). Lun Daode Zhijve [On Moral Perception]. Jianghan Tribune, 8, 29–34.
[32] Bargh, J. A., Chen, M. and Burrows, L. (1996). Automaticity of social behavior: direct effects of trait construct and stereotype activation on action. Journal of Personality and Social Psychology, 71(2), 230-244. https://doi.org/10.1037/0022-3514.71.2.230
[33] Doyen, S., Klein, O., Pichon, C. and Cleeremans, A. (2012). Behavioral priming: It’s all in the mind, but whose mind? PLoS ONE, 7(1), 7. http://dx.doi.org/10.1371/journal.pone.0029081
[34] Stanley, David J and Spence, Jeffrey R. (2014). Expectations for Replications: Are Yours Realistic? Perspectives on Psychological Science, 9(3), 305-318. http://dx.doi.org/10.1177/1745691614528518
[35] Goodwin, G. P., Piazza, J. and Rozin, P. (2014). Moral character predominates in person perception and evaluation. Journal of Personality and Social Psychology, 106(1), 148–168. https://doi.org/10.1037/a0034726
[36] Schaich Borg, J., Hynes, C., Van Horn, J., Grafton, S. and Sinnott-Armstrong, W. (2006). Consequences, action, and intention as factors in moral judgments: An FMRI investigation. Journal of Cognitive Neuroscience, 18(5), 803–817. https://doi.org/10.1162/jocn.2006.18.5.803
[37] Morewedge, C. K. and Kahneman, D. (2010). Associative processes in intuitive judgment. Trends in Cognitive Sciences, 14(10), 435-440. http://dx.doi.org/10.1016/j.tics.2010.07.004