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Moral Observer-Licensing in Cyberspace

Yawei Ran[1]，Yubo Hou[1, *] & Qi Wang[2]*

[1] School of Psychological and Cognitive Sciences and Beijing Key Laboratory of Behavior and Mental Health, Peking University, Beijing, China

[2] Culture & Cognition Laboratory, College of Human Ecology, Cornell University, Ithaca, New York, USA

* Corresponding authors

Email: houyubo@pku.edu.cn (YH), qiwang@cornell.edu (QW)

Abstract

Moral observer-licensing happens when people condone others' morally questionable conducts due to their history of moral behaviors. We investigated in four studies ($N = 808$) this phenomenon in the context of cyberspace and its contributing factors and boundary conditions. Study 1 determined what participants perceived as typically moral and immoral behaviors in cyberspace. Then in Study 2, participants condemned less a story character's online immoral behavior when they were informed of the character's prior online moral behavior than when they were not, which indicates moral observer-licensing in cyberspace. Study 3 confirmed the presence of moral observer-licensing in cyberspace and further demonstrated that a character's prior moral or immoral behavior online respectively reduces or intensifies the negativity of the character's subsequent immoral behavior. Finally, Study 4 showed that participants who identified with the victim in a hypothetical scenario showed less forgiveness and more condemnation of a character's immoral behavior than those who identified with the perpetrator or the bystander. These findings are of theoretical and practical significance for our understanding of cyber ethics.

Introduction

Moral licensing is the phenomenon where people permit immoral or problematic behaviors if the actor initially behaves in a moral way [1]. The most studied type of moral licensing is moral self-licensing, where individuals condone themselves to behave immorally when they hold a good record of moral behaviors in the past [2-8]. Yet research on moral observer-licensing, where individuals condone others' morally questionable conducts due to their history of moral behaviors, is relatively scarce [1,9]. The present research examined factors influencing moral observer-licensing in the context of cyberspace where behavior ethics has become an increasing concern in our digitally mediated society [10].

Moral Observer-Licensing and Theoretical Explanations

Moral observer-licensing has been observed in everyday judgment. For example, when evaluating immoral behaviors such as hit-and-run or marital infidelity, people show less condemnation if they know that the actor has previously demonstrated ethnical behaviors such as helping the homeless [1]. Similarly, subordinates are more tolerant of their supervisors' abusive behaviors if the supervisors have acted morally before [11]. According to the Moral Credentials Model, prior moral behaviors enable the actor to establish a moral image, which then serves as credentials that reflect the moral resources accumulated by the actor and prove that the actor is not an immoral person [12]. As a result, later immoral behaviors by the actor can be condoned, where observers choose to deny the immoral quality of these behaviors or to perceive the actor from a positive perspective [1,6,9,13,14].

In a similar vein, the Moral Credits Model assumes that everyone owns an account in the moral bank, consisting of moral deposits represented by moral behaviors as well as moral

debts brought by immoral behaviors [6,9,14,15,16,17]. Moral deposits and debts can cancel each other out to keep the account in balance. When moral debts are offset by moral deposits, immoral behaviors tend to be condoned. The Moral Credits Model is an extension of Nisan's moral balance theory [18,19], which argues that moral self-regard and moral equilibrium are influential factors in moral evaluation. Moral self-regard is a temporary state that varies under external influences, where it can be easily improved by moral behaviors and reduced by immoral behaviors [20]. In contrast, moral equilibrium is stable and determines the threshold of moral evaluations. Moral self-regard always fluctuates around moral equilibrium: When moral behaviors raise moral self-regard to a level higher than moral equilibrium, immoral behaviors are condoned, whereas when moral self-regard drops below moral equilibrium, more moral behaviors are expected to increase moral self-regard.

Although both the Moral Credentials Model and the Moral Credits Model could explain moral observer-licensing, there are important differences between the two theories [21,22]. According to the Moral Credentials Model, once the actor establishes a moral image, the immorality of his or her later immoral behaviors can be denied. That is, once a good person, always a good person. In contrast, according to the Moral Credits Model, although the immorality of an immoral behavior by the actor is still admitted, the behavior can be condoned if it is offset by the actor's past moral behaviors. As illustrated by the metaphor that Miller and Effron used to distinguish the two theoretical models (2010, p. 126) [1], "If moral credits function like currency that can be used to ''purchase'' a license to commit immoral behavior, moral credentials function like a character witness on which one can call

to testify that subsequent behavior is not immoral." It is theoretically important to further distinguish the two models in empirical research.

Role Involvement and Moral Licensing

Although observers may give license to immoral behaviors based on the actor's prior moral behaviors, differences may exist across situations [23,24]. When an immoral behavior occurs, the role that individuals may play fall into one of the three categories, the perpetrator, the victim, and the bystander. Depending on their roles, individuals judge the event from different perspectives and then give different responses [25-27]. For example, after an unfair event, perpetrators are more likely to show guilt, victims are more likely to show anger, and bystanders are more likely to show moral indignation [26]. When evaluating aggressive behaviors, victims often find the behaviors to be more unreasonable and invasive than do perpetrators who tend to downplay the harm done [28-31].

As observers of an unfair event, individuals may identify themselves with the perpetrator, the victim, or the bystander. This role involvement can, in turn, affect observers' responses or moral evaluations. Research has shown that individuals tend to perceive themselves and others in terms of particular social categories and further determine which groups they belong to [32-34]. By establishing identification with in-groups, individuals uphold values common in their groups. Moreover, they gradually perceive in themselves more in-group characteristics and less or no out-group characteristics [35], which can further lead to in-group preference and out-group bias [23,36,37]. The effect of role involvement and identification in moral observer-licensing has yet to be examined.

The Current Research

With the vast popularity of the Internet and social media, moral observer-licensing may become increasingly common in cyberspace. Although cyberspace is characterized by virtuality and anonymity [38-40], it can be seen as an extension of the real world and thus encompasses patterns of behavior common in real life [41-44]. Indeed, some patterns of behavior, including moral observer-licensing, may be even more salient in cyberspace because of its virtuality and anonymity. Individuals may feel freer in this context to express themselves without worrying about others' reactions [10,39,45]. That is, the concerns for the consequences of one's own actions and the social constraints on one's actions and judgments are reduced in cyberspace [46].

We conducted four studies to examine moral observer-licensing in the context of cyberspace. Study 1 used a survey to determine what participants typically perceived as moral behaviors and immoral behaviors in cyberspace. Based on the findings of Study 1, hypothetical scenarios were created in Study 2 in which participants were asked to judge a character's online immoral behavior when they were informed (experimental condition) or not informed (control condition) of the character's prior online moral behavior. We hypothesized that participants in the experimental condition would condemn less the character's immoral behavior than those in the control condition, thus showing moral observer-licensing in cyberspace. Study 3 further examined the mechanism underlying moral observer-licensing in cyberspace, comparing the Moral Credentials Model and the Moral Credits Model. Participants judged the online immoral behavior of a story character who had a moral history (Experimental group A), an immoral history (Experimental group B), or no

7

history (control group). We hypothesized that moral observer-licensing in cyberspace would be better explained by the Moral Credits Model, whereby online immoral behaviors would be condoned if there were prior online moral behaviors, although they would still be judged as immoral. Finally, Study 4 examined whether moral observer-licensing in cyberspace would be influenced by observers' role involvement. Participants were presented with a hypothetical scenario that involved a character with or without a moral history, in which participants would share a group identity with the perpetrator, the victim, or the bystander. We hypothesized that participants who identified with the victim would show reduced moral observer-licensing than those who identified with the perpetrator or bystander. Taken together, we expected moral observer-licensing to be prevalent in cyberspace, associated with the actor's prior good deeds, and influenced by observers' role involvement.

Ethics statement

This project was approved by the Institutional Review Board (IRB) for Human Participants of Peking University (Protocol #2015-03-03c). Participants provided informed written consent. All relevant data are within the manuscript and its Supporting Information files.

Study 1

The aim of Study 1 was to establish typically moral and immoral behaviors in cyberspace, which would then be used as materials in subsequent studies.

Method

Participants

A total of 63 undergraduate students at Peking University, China, volunteered to participate (age $M = 23.32$ years, $SD = 3.36$; 34 women, 29 men). Participants had used the Internet for 9.73 years on average ($SD = 2.95$), and they reported spending on average 30.03 hours ($SD = 18.91$) per week online. Participants were from diverse academic disciplines and were recruited through the Bulletin Board System of Peking University.

Procedure

To avoid idiosyncrasy and identify the most typical behaviors, we created a list of 16 immoral behaviors and 9 moral behaviors based on prior research [10,40,41,45] and general societal concerns regarding online behaviors (see Table 1). Participants were individually tested in the lab. They were asked to indicate which behaviors on the list were the most immoral and which the most moral in cyberspace, and to choose 3 out of the 16 immoral behaviors and 2 out of the 9 moral behaviors.

Results and Discussion

Among the 16 immoral behaviors, "Using or changing others' accounts or personal profiles online without authorization" and "Internet fraud" (e.g., setting up fake E-commerce platform) were the most frequently chosen ones. Among the moral behaviors, "Supporting social assistance and other charitable activities" was the most popular choice (see Table 1). The 2 immoral behaviors and 1 moral behavior most frequently chosen by participants were used as experimental materials in subsequent studies.

Table 1. Frequency Distribution of Behaviors

Type of behavior	Frequency	Percentage
Immoral behaviors		
1 Using or changing others' accounts online without authorization	32	16.93
2 Internet fraud	30	15.87
3 Spreading rumors or misinformation	27	14.29
4 Producing or spreading computer viruses	27	14.29
5 Prying into others' private lives	15	7.94
6 Browsing and spreading harmful information	14	7.41
7 Speaking impolitely online	11	5.82
8 Emotional deception online	11	5.82
9 Academic misconduct (e.g. plagiarizing papers online)	7	3.7
10 Producing and spreading information rubbish	6	3.17
11 Flooding the forum with repeated spam messages	4	2.12
12 Sex chat online	3	1.59
13 Internet prank	1	0.53
14 Online copyright piracy	1	0.53
15 Online gambling	0	0
16 Others	0	0
Moral behaviors		
1 Supporting social assistance or charitable activities	27	21.43
2 Being honest online	21	16.67
3 Upholding correct guidance of public opinion	17	13.49
4 Protecting others' intellectual property	17	13.49
5 Providing free consultation or technical support	16	12.7
6 Providing free network management keep the cyber world healthy and safe	10	7.94
7 Disclosure of misbehaviors	9	7.14
8 Speaking politely online	9	7.14
9 Others	0	0

Study 2

In Study 2, we aimed to examine whether the phenomenon of moral observer-licensing was present in cyberspace. As cyberspace is an important extension of the real world and plays an increasingly significant role in regulating individuals' sense of self and social behavior [10,41,42,44], we expected to observe moral observer-licensing in this context.

Method

Participants

A meta-analysis found that the estimated effect size of moral licensing was at $d = 0.31$ [47]. A power analysis (G*Power 3.1) [48] showed that a sample size of 330 would be needed to achieve a power of 0.8 to detect an effect with a size of $d = 0.31$ and $\alpha = 0.05$ in an independent sample t-test. We recruited 355 college students (*Mean age* = 21.26 years, *SD* = 1.75) at Peking University (113 women, 242 men) to participate in the study. Participants had used the Internet for an average of 9.46 years (*SD* = 3.09), and they spent on average 31.35 hours (*SD* = 21.38) per week online. They each received RMB 10 for their participation. Participants were from diverse academic disciplines and were recruited through the Bulletin Board System of Peking University.

Procedure

Participants were individually tested in the lab and each received a survey to complete. They were randomly assigned to an experimental or a control group. For the experimental group, participants were presented with a moral behavior scenario about a character, Li, followed by a scenario of Li's immoral behavior. For participants in the control

group, only the scenario of Li's immoral behavior was presented. The moral behavior

scenario was as follows:

> "Li supported a charitable activity online. As an experienced Internet surfer, Li
>
> launched several campaigns online for a charity to help people who suffered from the
>
> Wenchuan Earthquake. Because it was shared by many people on the Internet, the
>
> campaigns raised nearly RMB 800,000 in the end, which greatly contributed to the
>
> reconstruction of Wenchuan."

The immoral behavior scenario was as follows:

"Li used others' accounts online without authorization. To upgrade his/her individual

level in online games, Li hacked into other players' accounts and tampered their data.

What's worse, Li stole other players' accounts in online games and gave them to

his/her friends as gifts."

After reading the second scenario, participants of both groups were instructed to

evaluate Li's transgression in the scenario. Following prior research on moral observer-

licensing [49], the Condemnation Scale was used. Participants were asked to rate on 7-point

scales (from 1 = "not at all" to 7 = "very much") how much they agreed with each of the 9

statements (e.g., "How much should the target be blamed?" "How much did the target

deserve to be punished?" and "How excusable was the transgression?"- revers scored). A

mean score of Condemnation was calculated across the 9 items, with higher scores indicating

greater condemnation. The internal reliability of the scale was Cronbach's $\alpha = 0.86$ for this

sample, consistent with prior research [49].

Results and Discussion

Inspection of the data showed that the condemnation score was approximately normally distributed within each group. An independent sample t-test on the condemnation score showed that participants in the experimental group ($M = 4.75$, $SD = .86$) scored lower than those in the control group ($M = 5.85$, $SD = .68$), $t(353) = -13.25$, $p < .001$, $d = -1.41$ (see Fig 1). In addition, the condemnation scores of both groups differed significantly from the middle point 4 of the 7-point scale of the condemnation rating, $t(177) = 11.63$, $p < .001$, $d = 0.87$ for experimental group, $t(176) = 35.89$, $p < .001$, $d = 2.70$ for control group.
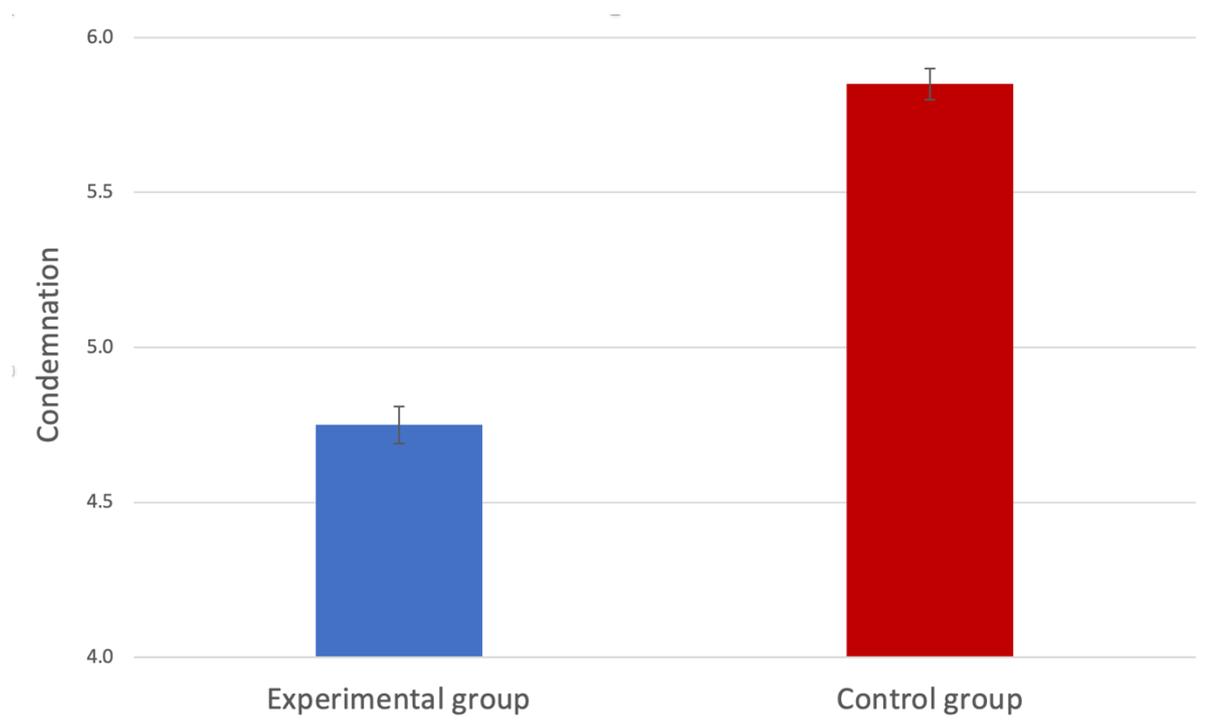
Fig 1. Condemnation to immoral behavior by condition. Error bars represent standard errors of the means.

Thus, when participants were informed of the actor's previous online moral behavior, they showed less condemnation to the actor's later online immoral behavior, compared with those who were unaware of the prior moral behavior. The finding provides evidence for moral observer-licensing in cyberspace. Although the popularity of cyberspace has changed individuals' social relations and interactive modes, moral judgment processes appear to remain the same [10,50,51,52]. The change from the reality to virtuality has not transferred the path of people's moral life from "authentic" to "virtual," but extends the moral cognitive model of observers from the real world to the digitalized space of the Internet.

Notably, although participants in the experimental group exhibited moral observer-licensing, their average condemnation score was significantly greater than 4 (i.e., neutral), which indicates that they still recognized the immorality of the actor's immoral behavior. This finding suggests that the Moral Credits Model may better explain moral observer-licensing in cyberspace. We examined this question further in Study 3.

Study 3

In Study 3, we examined moral observer-licensing in cyberspace from the perspectives of the Moral Credentials Model and the Moral Credits Model. Built on the findings of Study 2, we expected that online immoral behaviors would be condoned if there were prior online moral behaviors, although they would still be perceived as immoral. In other words, we expected moral observer-licensing in cyberspace to be better explained by the Moral Credits Model [1,14,21,22].

Method

Participants

A power analysis [48] showed that a sample size of 159 would be needed to achieve a power of 0.8 to detect an effect with a size of $f = 0.25$ and $\alpha = 0.05$ in a one-way ANOVA. We recruited a total of 170 college students at Peking University to take part in this study (*Mean age* = 21.38 years, *SD* = 2.32, 68 women, 102 men). Participants had on average used the Internet for 8.74 years (*SD* = 3.49), and they spent on average 29.84 hours (*SD* = 19.90) per week online. They each received RMB 10 for their participation. Participants were from diverse academic disciplines and were recruited through the Bulletin Board System of Peking University.

Procedure

Participants were individually tested in the lab and each received a survey to complete. They were randomly assigned to one of the following three groups.

Experimental group A - Moral history group: This condition was identical with the Experimental condition in Study 2, where participants were presented with scenarios of a moral behavior and then an immoral behavior of the character, Li.

Experiment group B - Immoral history group: Participants were presented with scenarios of two immoral behaviors of Li. The first immoral behavior was about Li paying people to praise her/his e-shop, and the second was about Li using others' accounts online without authorization (i.e., same as the immoral behavior presented in Experimental group A). The first immoral behavior scenario was as follows:

"As the owner of an e-shop, Li would like to boost the reputation of his/her store which was very important to attract customers. Instead of asking customers for feedback, Li spent a lot of money to pay part-time workers, who were non-customers, to praise his/her e-shop online. Within a month, Li's e-shop reached the highest level of reputation."

Control group - No history group: Only the immoral behavior was presented where Li used others' accounts online without authorization (same as the immoral behavior in the experimental groups).

Participants were instructed to evaluate Li's immoral behavior on the Condemnation Scale [49]. Same as in Study 2, a mean score of Condemnation was calculated across the 9 items, with higher scores indicating greater condemnation. The internal reliability of the scale was Cronbach's $\alpha = 0.82$ for this sample.

Results and discussion

Inspection of the data showed that the condemnation score was approximately normally distributed within each group. An analysis of variance (ANOVA) revealed a significant main effect of condition on the condemnation score, $F(2, 167) = 46.15$, $p < .001$, $\eta^2 = 0.36$. Follow-up tests showed that participants in the Experimental group A ($M = 4.81$, $SD = .73$) had lower scores than those in the control group ($M = 5.71$, $SD = .69$), $t(167) = -7.12$, $p < .001$, $d = -1.27$, as well as those in the Experimental group B ($M = 5.97$, $SD = .60$), $t(167) = -9.17$, $p < .001$, $d = -1.75$ (see Fig 2). Participants in the Experiment group B and the control group did not significantly differ from each other. In addition, the condemnation scores of all groups differed significantly from the middle point 4 of the 7-point scale of the condemnation rating, $t(55) = 8.27$, $p < .001$, $d = 1.11$, for experimental group A, $t(56) =$

18.61, $p < .001$, $d = 2.46$ for control group, $t(56) = 25.00$, $p < .001$, $d = 3.31$, for experimental

group B.
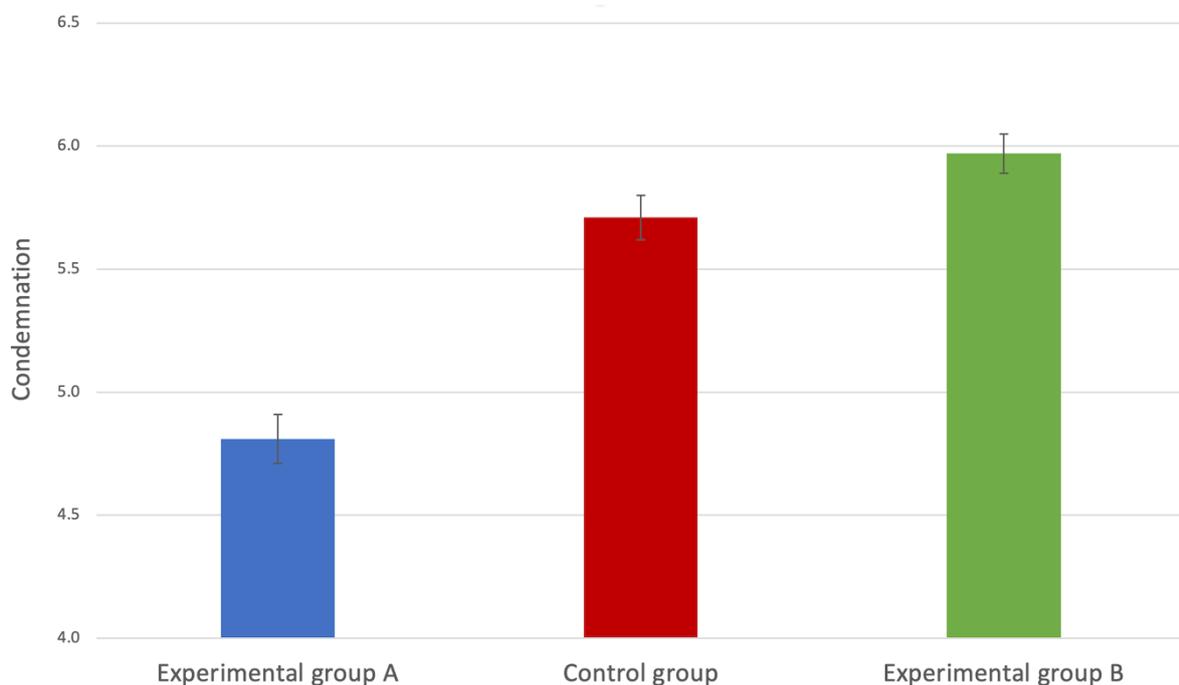
Fig 2. Condemnation to immoral behavior by condition. Error bars represent standard

errors of the means.

Thus, participants who were informed of the moral history of the actor expressed least

condemnation for the actor's online immoral behavior. This finding again confirms the

presence of moral observer-licensing in cyberspace. Furthermore, across all three groups, the

average condemnation scores were significantly greater than 4 (i.e., neutral), indicating that

participants condemned the immoral behavior regardless of condition. This finding supports

the Moral Credits Model, which predicts that people do not deny the immorality of an actor's

immoral behavior even when they condemn less the immoral behavior in light of the actor's

prior moral history [14,15,17]. The finding does not support the Moral Credentials Model that predicts denial of the immorality of immoral behaviors during moral behavior licensing [1]. In contrast to moral credits that offset or reduce the negative impact of a transgression, moral credentials make a morally questionable behavior appear as if it were not a transgression at all. Our findings suggest that people give moral credits instead of credentials to others who conduct immoral deeds.

Furthermore, participants who were informed of the immoral history of the actor appeared to express the most condemnation for the actor's additional online immoral behavior, although their scores did not differ significantly from those in the control group. These findings lend additional support to the Moral Credits Model and the moral balance theory [1,18,19]. When observers are made aware of an actor's past moral behaviors, their moral evaluation of the actor is raised above the moral equilibrium and they tend to license the actor's subsequent immoral behaviors. In contrast, when observers are made aware of the actor's prior immoral behaviors, their moral evaluation of the actor is reduced to below the moral equilibrium and, in turn, they strongly condemn any additional immoral behaviors. Our findings further suggest that the moral credit provided by a prior good deed might be greater than the moral debt brought about by a prior bad deed, when compared with the control condition where the prior moral history was unknown.

Study 4

We examined in Study 4 the effect of observers' role involvement on moral observer-licensing in cyberspace. Observers may be involved in different roles given their social identification and group membership, which may further lead to different judgements of

immoral behavior. In line with prior research on in-group favoritism and out-group bias in social attribution and moral judgement [23,36,37], we expected moral observer-licensing to be less salient when participants shared a group identify with the victim than when they shared a group identity with the perpetrator or the bystander. In other words, when participants shared a group identity with the victim, they would condemn more an immoral behavior despite the actor's prior moral history.

Method

Participants

A power analysis [48] showed that a sample size of 158 would be needed to achieve a power of 0.8 to detect effects with a size of $f = 0.25$ and $\alpha = 0.05$ in a 2 x 3 ANOVA. A total of 220 undergraduate students at Peking University were recruited to take part in this study (*Mean age* = 20.77 years, $SD = 2.55$; 117 women, 103 men). Participants had on average used the Internet for 8.18 years ($SD = 2.86$) and spent on average 26.53 hours ($SD = 23.24$) per week online. They received RMB 10 for their participation. Participants were from diverse academic disciplines and were recruited through the Bulletin Board System of Peking University.

Procedure

Participants were individually tested in the lab and each received a survey to complete. They were randomly assigned to one of the 6 conditions in a 2 (history: moral behavioral history vs. no behavioral history) × 3 (role: perpetrator, victim, bystander) between-subjects design.

In the moral behavioral history condition, a scenario of the character Li's moral behavior (Li supported a charitable activity online) was first described, followed by a scenario of Li's immoral behavior (Li used others' online accounts without authorization). In the no behavioral history condition, only the scenario of Li's immoral behavior was presented. The moral and immoral behaviors were the same as those used in Study 2.

In the perpetrator condition, participants were told that the character Li was a student at Peking University and no group identity information regarding the victim was provided. In the victim condition, participants were told that the online account used by Li belonged to a student at Peking University and no group identity information regarding Li was provided. In the bystander condition, no group identity information was provided regarding either Li or the victim.

Participants were then instructed to evaluate Li's immoral behavior on the Condemnation Scale [49]. The internal reliability of the scale was Cronbach's $\alpha = 0.81$ for this sample.

Results and Discussion

Inspection of the data showed that the condemnation score was approximately normally distributed within each group. A 2 (history) $\times$ 3 (role) analysis of variance (ANOVA) on the condemnation score revealed a significant main effect of history, $F(1, 214) = 46.39, p < .001, \eta^2 = .178$. As predicted, participants in the moral behavioral history condition ($M = 4.85, SD = .87$) condemned the actor's immoral behavior less than those in the no behavioral history condition ($M = 5.62, SD = .80$). There was also a significant main effect of role involvement, $F(2, 214) = 4.01, p = .020, \eta^2 = .036$. Follow-up tests revealed that

participants in the victim condition (M = 5.45, SD = .87) condemned the actor's immoral

behavior more than those in the perpetrator condition (M = 5.05, SD = .95), $t(139)$= 2.85, p

= .005, d = .44, and those in the bystander condition (M = 5.17, SD = .91), $t(146)$ = 2.01, p

= .046, d = .31. The difference between the perpetrator and the bystander conditions was not

significant. There was no significant History x Role interaction (see Fig 3).
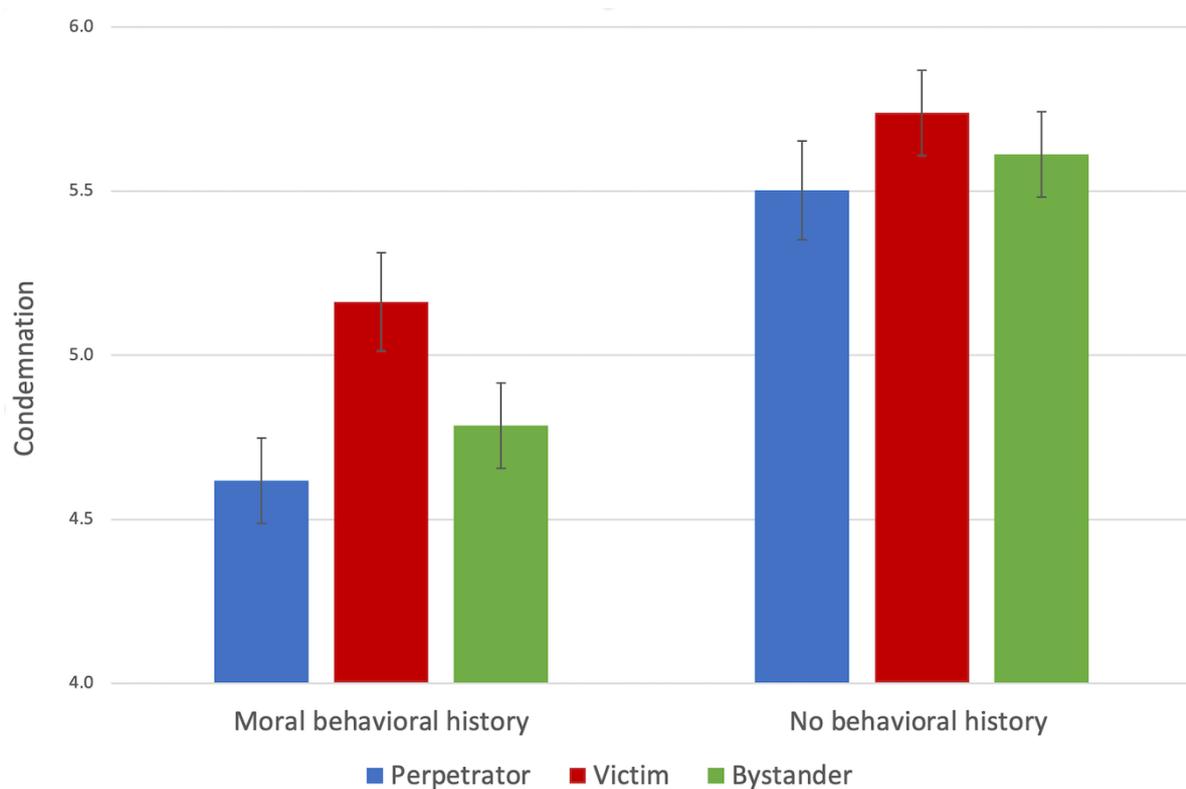
Fig 3. Condemnation to immoral behavior by condition. Error bars represent standard

errors of the means.

Consistent with Studies 2 and 3, when participates were made aware of the actor's

previous moral behavior, their condemnation of the actor's subsequent immoral online

behavior was attenuated, regardless of their role involvement. This finding provides further evidence for moral observer-licensing in cyberspace. Furthermore, participants' role involvement influenced their degree of moral observer-licensing. When participants shared the victim's group identity and membership, their condemnation on the actor's immoral online behavior was the harshest. In contrast, when participants shared the perpetrator (actor)'s group identity and membership, their condemnation on the actor's immoral online behavior was the most lenient, although they did not differ significantly from the bystander group. These findings reflect in-group favoritism and out-group bias in social attribution and moral judgement [23,36,37]. When people take the role of the victim, they tend to perceive greater harm done by the perpetrator and thus give hasher moral judgement on the transgression and make less moral observer-licensing [28,29,30,31,53].

General Discussion

The current research is the first to investigate moral observer-licensing in the context of cyberspace. When evaluating immoral behaviors in cyberspace, observers made less condemnation to the actor if they knew that the actor had a prior moral history. Although cyberspace has many characteristics such as virtuality and anonymity that differentiate it from the real world, individuals appear to exhibit many similar behavioral patterns online and offline [38,39,45,51], including moral observer-licensing as revealed in our studies. Furthermore, consistent with the Moral Credits Model, although people condoned immoral behaviors in light of the actor's prior moral history, they still recognized the immorality of the actor's immoral behaviors [1,14,15,17]. In other words, our findings support the Moral Credits Model, not the Moral Credentials Model. In line with the Moral Credits Model, prior

good deeds reduced observers' condemnation of a subsequent transgression. Prior good deeds did not change the perceived meaning of the transgression to be non-transgression, contrary to what the Moral Credentials Model would predict. It appears that prior moral behaviors do not necessarily cloud people's moral judgments on subsequent immoral behaviors. They simply make people more forgiving.

The current research further revealed the influence of role involvement on moral observer-licensing, in cyberspace in particular. When people shared the group identity with the victim, they were less forgiving and condemned more strongly immoral behaviors during moral observer-licensing, compared with when they shared the group identity with the perpetrator or the bystander. This finding is in line with the literature showing that people's perceptions and judgements are biased towards their in-group members [23,36,37,54]. Interestingly, role involvement only influenced the observers' degree of condemnation; it did prevent moral observer-licensing from happening. Regardless of roles, observers made less condemnation to the actor based on the actor's prior moral behavior. This suggests the robustness of moral observer-licensing in moral reasoning.

Although moral self-licensing has been extensively studied [1,4,47], research on moral observer-licensing is limited. The current studies contribute to the nascent literature. Notably, the moral self-licensing effect is not always found [55,56,57] and the effect sizes exhibit a wide range of variation across studies, with a modest effect size estimate from meta-analyses [47,58]. The current studies on moral observer-licensing showed robust effects, consistent with previous studies on moral observer-licensing [11,54]. It is also important to note that most prior studies on moral licensing focus on participants from *WEIRD* (Western-

Educated-Industrialized-Rich-Democratic) populations [59]. The current studies add to the literature by examining moral observer-licensing in Chinese participants. The strong effects might also reflect the cultural characteristics of the sample, in alignment with prior research with similar samples [11]. This demonstrates the critical importance of examining psychological phenomena beyond *WEIRD* populations [60,61]. Taken together, future studies should compare moral self-licensing and moral observer-licensing in diverse populations and examine the unique boundary conditions of each phenomenon.

Although the current studies yielded original findings about moral observer-licensing in cyberspace and its mechanisms and boundary conditions, there are important limitations. In particular, although conducting the studies in the lab provides experimental control, it also limits the ecological validity of the research. Additional research to examine moral observer-licensing in actual online contexts such as social media will help to corroborate the current findings. Furthermore, future research should examine not only how people perceive an actor's immoral behaviors in light of prior moral history but also how they subsequently interact with the actor (e.g., whether and how they inflict punishment) [62], which will have important practical implications in real-life settings (e.g., the court). In addition, it will be fruitful to further examine the type and severity of transgressions in relation to moral observer-licensing online, taking into consideration the social-political issues central in the contemporary society.

In conclusion, the current findings contribute to our understanding of cyber ethics and have important implications for regulating online behavior. They further shed critical light on moral licensing theories in explaining attitudes and behaviors in cyberspace. Although prior

good deeds may help individuals gain others' understanding and forgiveness for subsequent

transgressions, it should not be used as an excuse to conduct immoral behaviors. As

observers, we need to judge immoral behaviors in cyberspace from a neutral and unbiased

perspective. The society should also promote healthy network culture and regulate the cyber

environment, reducing and eliminating irrational behaviors such as cyberbullying and cyber-

violence. As the Internet continues to exert overarching influences on people's lives, more

research is called for to understand how people think, act, and interact in the cyberspace.

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Supporting information

S1 File. Study 1 data.

S2 File. Study 2 data.

S3 File. Study 3 data.

S4 File. Study 4 data.

Author Contributions

All authors contributed to the conceptualization and research design of the study. Y.R. collected data and performed data analysis. Y.H. and Q.W. provided supervision and funding support. Y.R. and Y.H. drafted the paper and Q.W. made revisions. All authors have read and agreed to the published version of the manuscript.