

Not So Innocent: Does Seeing One's Own Capability for Wrongdoing Predict Forgiveness?

Study 7: Could a subtle Empathy-Capability Manipulation Reduce (Men's) Vengefulness?

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Abstract—This work is an attempted reproduction of study 7 of the paper “Not So Innocent: Does Seeing One's Own Capability for Wrongdoing Predict Forgiveness?” [1]. The authors hypothesized that people are more willing to forgive an offender if they consider their own personal capability of committing a similar offense. They also proposed that men's vengefulness in particular can be reduced in this way.

We extended the study by analyzing if the perceived severity of the offense affected the willingness to forgive, vengefulness, empathy or personal capability of the subject. We also measured if the subjects perceived the severity of the offense differently after considering their personal capability.

We were unable to reproduce any of the main hypotheses of the original paper and the perceived severity of the offense didn't change significantly by considering the personal capability either.

However, we were able to show that the perceived severity of the offense correlates negatively with the willingness to forgive, personal capability and empathy, as well as positively with vengefulness.

I. INTRODUCTION

Forgiving others if they have done something to upset you can be one of the hardest things in a relationship. It can be more tempting to hang onto negative emotions, acting distant and frosty as a way of punishing the person who has upset you.

But forgiveness is a bold step in the right direction. Forgiveness is an essential feature of human life. Forming social ties by way of establishing friendships and building trust is a critical element in psycho-social development. Forgiveness has been described as a way to help groups in conflict put the past behind them and to facilitate human life interaction.

Studies indicate that people are most likely to forgive when certain conditions are met: when offenses are minor; when the offended subject cultivate empathetic feelings toward their offender, and when offenses occur within close relationships [2].

Building on this discussion, our study attempts to replicate and extend study 7 of the article “Not So Innocent: Does Seeing One's Own Capability for Wrongdoing Predict Forgiveness?” by Exline, Baumeister, Zell, Kraft and Witvliet [1].

We are interested in finding out when and under what conditions people can forgive their offenders.

A. The Original Study

In terms of forgiveness, it is crucial to identify alternatives to the processes of demonization and distancing that occur in response to an offense. The authors of the original study propose that one possibility is that people might reflect on their own capability for committing similar offenses - a perception that the authors term as personal capability through this article. The central hypothesis of the article was that people would show greater forgiveness to the extent that they could envision themselves committing similar offenses.

The article presents seven studies to test this hypothesis. In these studies, participants were asked, for instance, to think about hypothetical offenses in which they were not personally victimized. They were also asked to think about more heinous offenses such as the murder of innocent people.

Our intention will be to focus on the last study “Could a Subtle Empathy-Capability Manipulation Reduce Men's Vengefulness?”. When analyzing the data of previous studies, the authors noticed a gender difference: men rated the offense as more forgivable after considering their own misdeeds, while women gave equivalent ratings before and after considering them (Study 4). This difference in gender appeared throughout the next studies.

So the hypothesis from study 7 is that, rather than having our participants envision the offender's perspective, it would be useful to simply answer questions involving personal capability and empathetic understanding. This should lead to a

reduction in men's vengefulness while also reducing lingering feelings of transgression in both genders.

B. The Present Research

In order to replicate the study 7, we will attempt to reproduce the effect of the condition on the 18-item Transgression Related Interpersonal Motivations Inventory-Revised [3]. The TRIM 18-R consists in 18 questions to assess current motivations toward the offender.

Additionally, we extended the study by asking the subjects about the perceived severity of the offense and whether this severity changed after answering the personal capability and empathy questions.

Our main research questions are: What helps to reduce people's vengefulness? Are there gender differences in the capability to forgive? Does the severity of the offense factor in? Does the severity of the offense change when considering personal capability and empathy and would this change be linked to one of these factors?

II. METHODS

A. Participants

The participants (22 men, 45 women) took a Web-based version of the survey. We sent a link of the survey to a broad spectrum of individuals, including university students, friends and family. After assuring them that all information would be kept confidential, they could decide voluntarily if they wanted to answer the online questionnaire. Moreover, we invited them to share the survey's link with others.

We had to exclude at least 30 participants that had not completed the survey properly and/or didn't fulfill the inclusion criteria (see Data Preparation subsection). The mean age was 35.2 ($SD \pm 14.2$), and the sample was predominantly Caucasian (39%) and Hispanic/Latin (37%).

B. Materials

We used an online survey that was created through the platform "SoSci Survey". The participants could choose between Spanish and English languages to answer it.

The survey consists of six blocks:

- 1) The first block was used to inform about the intention of the experiment and to get the consent of the participants (Appendix A).
- 2) The second block was used to ask about demographic information such as age, gender, level of education and ethnicity. We also asked about the conditions in which the participants were answering the survey: the participants had to rate both the level of noise and the level of privacy on a three-point scale.
- 3) In the third block, the participants were asked to "recall a time that they were offended, harmed or hurt by someone else and as a result still have some anger or

resentment towards that person". After describing the offense, the level of severity of this offense was asked: "In your opinion, what is the level of severity of this offense?". The participants rated it on a five-point scale.

- 4) The fourth block was used to ask about the participants' personal capability of wrongdoing and their empathetic understanding. The questionnaire was organized into three subsets of questions: capability questions, similarity questions and empathy questions. Each subset of questions is organized, in turn, in four questions (Appendix B). All questions asked the participants to rate their feeling on an eleven-point scale.

- One of the measures assess personal capability for committing an offense similar in severity to the one that they recalled (e.g. "Given the right circumstances, do you think that you could be capable of doing something just as bad (i.e., just as harmful or wrong) as what the other person did?").
- The second set of personal capability questions emphasize similarity in offense type rather than severity (e.g., "Given the right circumstances, could you be capable of doing something similar in type to what the other person did?").
- Lastly, the participants were asked the four items regarding empathetic understanding. Participants were asked, "To what extent can you . . ." followed by four prompts: "understand why the other person acted as s/he did"; "see the situation from the other person's perspective"; "see his/her behaviour as making sense;" and "think of valid reasons why s/he acted as s/he did."

- 5) The fifth block was used to ask if the changes in the opinion of the severity of the offense described at the beginning had changed. The participants would elect one of three options: less severe - equally severe (opinion hasn't changed) - more severe.
- 6) The sixth block was used to administer the 18-item "Transgression Related Interpersonal Motivations Inventory-Revised" [3] scale to assess current motivations toward the offender. The TRIM-18-R consists of 18 questions that, in turn, are divided into three subscales: avoidance motivations, revenge motivations, and benevolence motivations (Appendix C)

C. Procedure

All participants filled out an online questionnaire. At the beginning of the questionnaire they were asked to recall an offense in which another person was committed against them. In particular, participants will first be asked: "Please take a few minutes to recall a time in which you were deeply offended, harmed, or hurt by another person, and as a result still have some anger or resentment towards that person. You must write at least 200 characters (about 30 words) to move on."

After describing the offense, participants ranged on a five-point scale (between *not severe at all* and *extremely severe*) the level of severity of the offense that they had described previously.

Once the offense had been described and the level of the severity of the offense was rated, the participants were asked about their personal capability of wrongdoing and their empathetic understanding, where the two subsets of the personal capability questions (capability and similarity) were counterbalanced. Their current motivations toward the offender (18-R-TRIM) were asked as well. However, the order of the blocks (blocks four, five and six from the previous section) differs depending on whether the participant was part of the control group or the experimental group:

- Control group. The TRIM-18-R (block 6) was administered before the capability-empathy questions (block 4). In addition, always after the capability-empathy questions, the question about the change of the opinion of the severity of the offense was posed (block 5). Therefore, the order of the blocks for the control group is block 6 - block 4 - block 5 (see the Material section).
- Experimental group. The TRIM-18-R (block 6) was administered after the capability-empathy questions (block 4) and the question about the change of the opinion of the severity of the offense (block 5). Therefore, the order of the blocks for the experimental group is block 4 - block 5 - block 6 (see the Material section).

The two groups of the study (control and experimental group) serve as the manipulation for this study. To not have a biased study, both groups were counterbalanced.

D. Measures

1) *Unforgiveness*: To measure the unforgiveness we used TRIM-18-R [4]. In particular, we used the means of the whole TRIM, the vengeance motivations sub-scale (dependent variable of interest), the avoidance motivations sub-scale and the benevolence motivations sub-scale.

2) *Personal capability and empathy*: The questions assessing personal capability and empathy (which was used as the experimental manipulation) were used to get three different measures, the first two of which were counterbalanced. The two first measures were the capability and the similarity which were obtained from the two first subsets of the fourth block. Due to the high correlation between them, they were combined into a single measure called personal capability. After the personal capability questions, the page includes the four empathetic understanding items that were used to measure the empathy of the participants towards the offender.

3) *Contrast effect*: The original contrast effect occurs when someone sees his or her own offense as a less severe offense, and it implies that he or she will magnify the other's offenses rather than diminishing it. In our case, we are not asking the participants for recalling an offense they made in the past.

We are asking them for rating the severity of the offense they suffered, and this can result in a similar sort of contrast effect. To measure it we used the question of block 5 that asks about changes in the opinion of the severity of the offense.

E. Data preparation

All the data obtained by the online survey were prepared and invalid data points were discarded before starting the in-depth analysis.

1) *Inclusion-exclusion criteria*: The first thing that we did to prepare the data was to exclude all the data that not fulfil the inclusion criteria.

The first important thing to take into account was to exclude all the data from the participants that did not finish the questionnaire.

Secondly, we looked to the control information. The questions about the level of the noise and the level of the privacy gave us information about the surroundings where the participant was answering the questionnaire and we excluded the data from the participants that indicated low levels of privacy and/or high levels of noise.

Third, as we wanted to study the differences gender has on vengeance, we had to exclude all the data from participants that did not answer the question of gender with the options of male or female.

Lastly, we had to ensure that the offense that was described by the participants was valid, i.e. the participant described an offense and not other irrelevant information.

2) *Pre-analysis*: To measure the unforgiveness, personal capability and empathy and the contrast effect some pre-analyses had to be done to later analyse all the data of interest in an attempt to prove our hypotheses.

As in the original study, the measure of the unforgiveness is calculated using the overall TRIM-18-R scores (avoidance motivations, revenge motivations and benevolence motivations) and the sub-scale of vengeance as indicated by McCullough, Root, and Cohen (2006) [4]:

- Overall TRIM scores were calculated using the mean across all scale items, with the benevolence items reverse coded.
- Vengeance scores were calculated adding up the scores for items 1, 4, 9, 13 and 17 (Appendix C).

To measure the personal capability and empathy we had to prepare the scores of the personal capability and empathy questionnaire (block 4):

- Items that measured one's capability for the equally bad offense were averaged into a single score.
- Items that measured one's capability to commit a similar offense were also averaged.
- As in the original study, the capability to commit an equally bad and a similar offense were highly correlated,

so all eight items from the two sub-scales were averaged to form a personal capability score.

- Empathy was calculated using the mean of the four empathy questions.

F. Data analysis

As in the original study, we conducted a 2 (gender) by 2 (condition) ANOVA on vengeance subscale scores to see if there is some significant influence of the two different categorical independent variables: gender and condition (order of the questions) on the vengeance score (dependent variable). Also, we conducted a 2 (gender) by 2 (condition) ANOVA on the overall TRIM score to see if there was some influence of these two categorical independent variables on the unforgiveness of the subjects.

To analyse the personal capability and empathy we conducted a Kruskal-Wallis analysis to compare changes on personal capability/empathy and gender. In addition, to confirm our expectations we conducted Spearman's correlations between TRIM score and capability, TRIM score and empathy, vengeance and capability, vengeance and empathy.

For our extension of the study, we conducted a Kruskal-Wallis analysis to compare the samples of the perception of the severity associated with the offense and the capability to forgive (TRIM score). We did the same to compare the severity with the vengeance score. We posited that the severity could be associated with the capability and the empathy of the subjects. Therefore, we conducted a Kruskal-Wallis analysis to compare the samples of the perception of the severity to both the capability and empathy.

Finally, to analyze the contrast effect (one of our hypotheses) we computed a Kruskal-Wallis to compare changes of the perceived severity of the offense and the personal capability. To complete our analysis we computed a Kruskal-Wallis to compare changes of perceived severity and unforgiveness (overall TRIM) and vengeance.

To analyse the effect of the interaction gender-condition regarding both TRIM and Vengeance we assumed normality given that we have more than 30 participants, so we used 2-way ANOVA test for these two analysis. For the rest of the analysis we used the Kruskal-Wallis test and Spearman's correlations given that a Shapiro test revealed that our data is not normal.

G. Differences from the Original Study

To run our study, the questions were administrated in the form of an online survey rather than with paper-and-pencil as the authors in the original study did. However, we know that in the original study the authors used an online questionnaire in Study 1 and they did not find significant differences between the online survey and the paper-and-pencil survey. The procedure that the authors used in Study 1 were very similar to the procedure used in Study 7. In both studies, the subject had to recall an instance when they were hurt or offended. Therefore, this should likely not affect the results.

Moreover, as in the replication (not the original study), we asked the participants to write at least 200 characters (about 30 words) in order to ensure compliance with the manipulation.

To extend our study, we added two questions in the survey. The first one is related to the perceived severity of the offense and it is asked after the participant describe the offense, i.e we add a question at the end of block 3. The second question is related to the changes in the perceived severity of the offense and it is asked after the capability and empathy questions (block 5).

III. RESULTS

All the results presented in this section, as well as the data, have been computed with the code included in the Jupyter notebook `Tutorial.ipynb`, which can be found in this git-repository: <https://github.com/ealmenzar/RMHS>. The notebook can be run in a virtual executable environment by clicking on the Binder button included in the `README.md` file, as it is shown in the Appendix D.

A. Data preparation

Vengeance scores were calculated as indicated by McCullough, Root, and Cohen (2006) ($M = 1.917$, $SD = 0.9$). Overall TRIM scores were calculated using the mean across all scales items ($M = 3.083$, $SD = 0.839$), with the benevolence items reverse coded. Items that measured one's capability for *equally bad* offense were averaged into a single score. Items that measured one's capability to commit a *similar* offense were also averaged. As in the original study, capability to commit an *equally bad* and *similar* offense were correlated $r_s = 0.846$, $p < 0.0001$, so all eight items from the two scales were averaged to form a personal capability score ($M = 3.598$, $SD = 2.652$). Empathy was calculated using the mean of the four empathy questions ($M = 4.468$, $SD = 2.567$).

B. Confirmatory analysis

We conducted a 2 (gender) by 2 (condition) ANOVA on vengeance scores. The main effect of gender was not significant ($F(1, 64) = 0.059$, $p = 0.809$), so there is no evidence that males were more vengeful than females. The main effect of the condition (see Figure 2) was not significant ($F(1, 64) = 0.109$, $p = 0.742$), so those who viewed the capability questions after the TRIM ($M = 1.927$, $SD = 0.955$) had similar TRIM scores than those who viewed the capability questions before the TRIM ($M = 1.908$, $SD = 0.861$). The interaction was also not significant ($F(1, 64) = 0.505$, $p = 0.480$). The main effect of the condition was not significant neither for men nor women (see Table I).

For the overall TRIM (unforgiveness) score, the main effect of gender was not significant ($F(1, 64) = 0.0001$, $p = 0.991$), so there is no evidence that males were less forgiving than females. The effect of the condition was not significant (see Figure 1), so those who viewed the capability questions after

the TRIM ($M = 3.209$, $SD = 0.660$) had similar TRIM scores than those who viewed the capability questions before the TRIM ($M = 2.943$, $SD = 0.994$). The interaction between gender and condition was not significant for the overall TRIM score ($F(1, 64) = 0.023$, $p = 0.879$). The main effect of the condition was not significant neither for men nor women (see Table II).

Vengefulness	Men	Women
Control		
M	1.908	1.818
SD	0.940	0.670
n	13	22
Experiment		
M	1.756	2.017
SD	0.926	0.991
n	9	23
p	0.543	0.749

Table I: Differences in Vengefulness by Condition and Gender. The p -value has been calculated with the Kruskal-Wallis test. TRIM = Transgression Related Interpersonal Motivations Inventory.

TRIM	Men	Women
Control		
M	3.209	3.182
SD	0.701	0.632
n	13	22
Experiment		
M	2.914	2.952
SD	0.867	1.079
n	9	23
p	0.422	0.658

Table II: Differences in Forgiveness by Condition and Gender. The p -value has been calculated with the Kruskal-Wallis test. TRIM = Transgression Related Interpersonal Motivations Inventory.

Regarding personal capability score (see Figure 3), the main effect of gender was marginally significant in the direction such that males scored higher personal capability than females ($H(1) = 2.931$, $p = 0.087$). There were no gender effects on empathetic understanding ($H(1) = 1.410$, $p = 0.235$). As expected, those who scored higher on capability (capability and similarity questions from the personal capability questionnaire) scored lower on TRIM: there was a significant and negative correlation between TRIM and capability ($r_s = -0.378$, $p < 0.005$), but there was not a correlation between TRIM and empathy scores. There also was a significant and negative correlation between capability and vengefulness ($r_s = -0.413$, $p < 0.0005$), but there was no correlation between vengefulness and empathy.

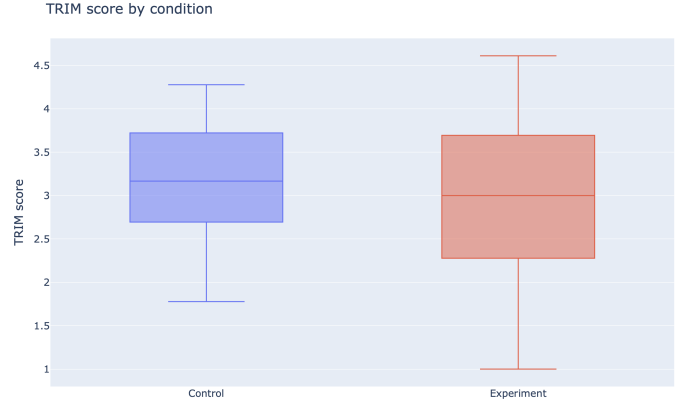


Fig. 1: Box-plot for Forgiveness (TRIM) by Condition. For the control group, the median $Q2 = 3.167$, $Q1 = 2.694$ and $Q3 = 3.722$. For the experimental group, the median $Q2 = 3$, $Q1 = 2.278$ and $Q3 = 3.694$.

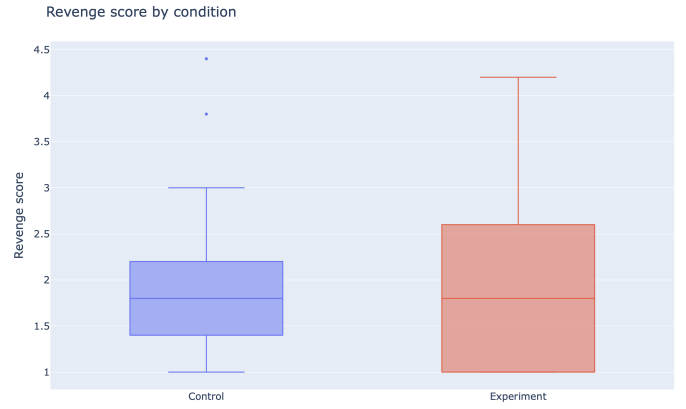


Fig. 2: Box-plot for Vengefulness by Condition. For the control group, the median $Q2 = 1.8$, $Q1 = 1.4$ and $Q3 = 2.2$. For the experimental group, the median $Q2 = 1.8$, $Q1 = 1$ and $Q3 = 2.6$.

C. Extension analysis

One of our extension hypotheses was that the perception of the severity associated to the offense would have an effect on the capability to forgive, in the direction such that those who scored a lower severity to the offense would score a lower TRIM score (they would be more capable to forgive). In this case, regarding the TRIM score, the main effect of severity was significant in the predicted direction, as we can observe in the Figure 4 ($H(4) = 18.521$, $p < 0.001$). For the vengefulness score (see Figure 5), the main effect of severity was also significant ($H(4) = 16.282$, $p < 0.05$) in a similar direction. This relation with the severity perceived by the subjects can also be observed regarding capability and empathy scores from the personal capability questionnaire (see Figures 6 and 7). Regarding personal capability score, the main effect of severity

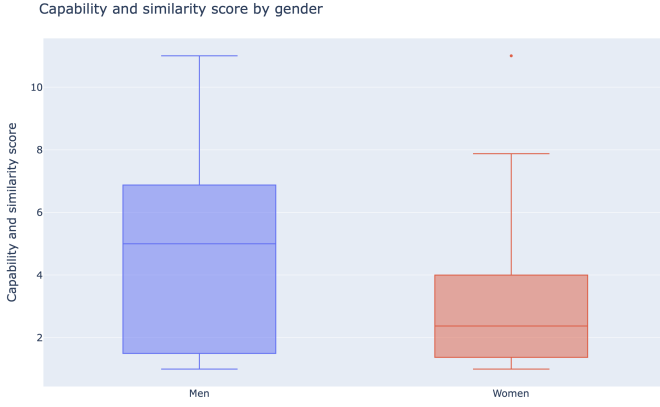


Fig. 3: Box-plot for Capability and Similarity by Condition. For the control group, the median $Q2 = 5$, $Q1 = 1.5$ and $Q3 = 6.875$. For the experimental group, the median $Q2 = 2.375$, $Q1 = 1.375$ and $Q3 = 4$.

was significant ($H(4) = 20.545$, $p < 0.001$), and marginally significant regarding empathy capability score ($H(4) = 9.438$, $p < 0.051$).

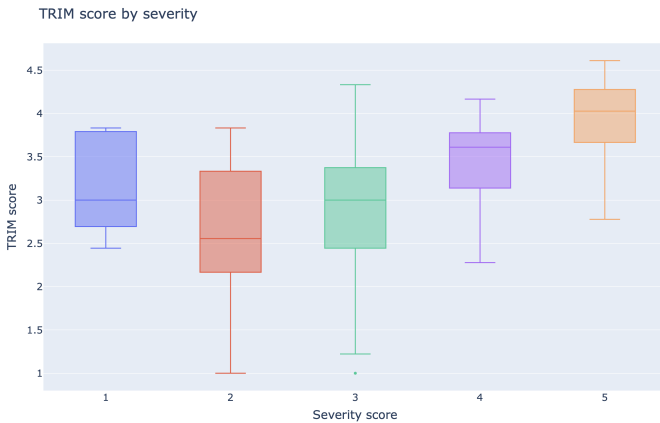


Fig. 4: Box-plot for Forgiveness (TRIM) by Severity score, where 1 means *not severe at all*, 2 means *a little severe*, 3 means *severe*, 4 means *very severe* and 5 means *extremely severe*.

Our second hypothesis was that visualizing personal capability would result in a change of perceived severity of the offense, in the direction such that those who perceived the severity the offense as *lower* after completing the questionnaire would score a higher personal capability, and those who perceived the severity the offense as *higher* after completing the questionnaire would score a lower personal capability.

Out of the 67 participants, after completing the questionnaire, 7 of them scored the severity of the offense as *lower* than the severity rated at the beginning of the questionnaire, 4 of them as *higher* and 56 as *equal*.

For the personal capability score, the main effect of the per-

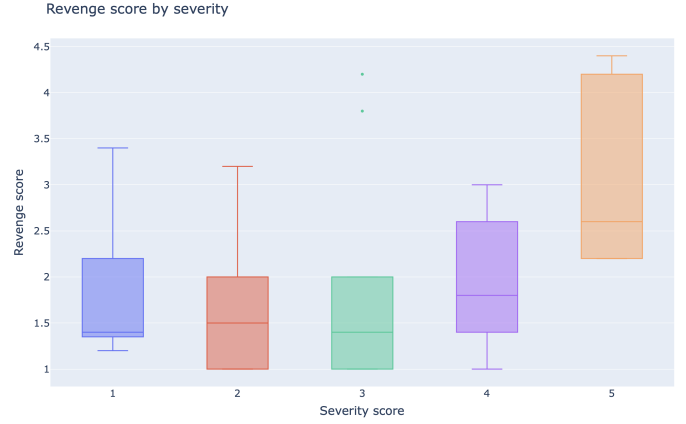


Fig. 5: Box-plot for Revenge by Severity score, where 1 means *not severe at all*, 2 means *a little severe*, 3 means *severe*, 4 means *very severe* and 5 means *extremely severe*.

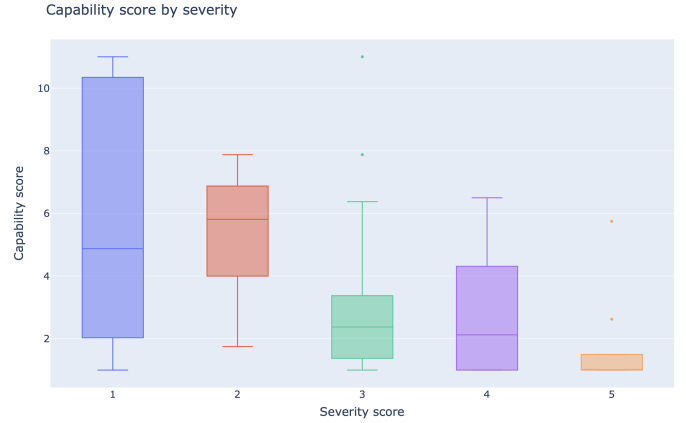


Fig. 6: Box-plot for Capability by Severity score, where 1 means *not severe at all*, 2 means *a little severe*, 3 means *severe*, 4 means *very severe* and 5 means *extremely severe*.

ceived change in severity was not significant ($H(2) = 0.611$, $p = 0.736$). This effect was neither significant regarding the overall TRIM score ($H(2) = 1.619$, $p = 0.445$) nor the revenge score ($H(2) = 0.160$, $p = 0.923$).

IV. DISCUSSION

A. Original Study

The original paper posited that merely asking questions regarding personal capability, similarity and empathy towards an offender would reduce lingering feelings of transgression and/or the desire for revenge against said person.

In particular the researchers observed that this reduction was linked to gender, making men less vengeful while women were relatively unaffected.

However, our results do not support this hypothesis. Looking at our data, we find no correlation between the condition and any of our dependent variables. There seems to be no

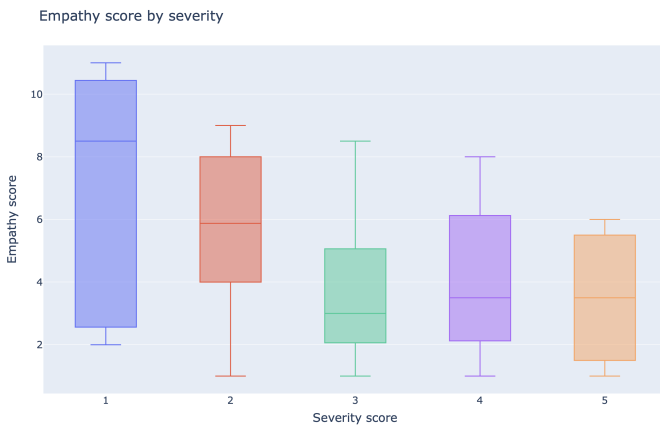


Fig. 7: Box-plot for Empathy by Severity score, where 1 means *not severe at all*, 2 means *a little severe*, 3 means *severe*, 4 means *very severe* and 5 means *extremely severe*.

effect of asking the experimental questions on feelings of transgression or the desire for vengeance and we also fail to reproduce the link between gender and the condition.

The failure to measure an effect of our condition seems to indicate that considering personal capability does not affect the subjects feelings of transgression or vengefulness.

As always with subjective measures it's possible that the measure did not actually measure what it was designed to measure. Subjects might have over- or understated their actual feelings of personal capability or the score might not correlate with the actual feeling for some other reason. Maybe the concept of personal capability as such does not actually exist in a scientific sense and our measure could be explained with other concepts such as personality or mood.

Another reason might be that extending the study by introducing a question about severity of the offense could have influenced the outcome.

Our results also suggest that gender does not play a role in whether or not personal capability affects vengefulness.

The authors of the original paper posited that the gender effect they observed could be explained by what they called the “contrast effect”. Their idea is that when the subjects consider a *severe* offense, they might see themselves as incapable of committing something equally atrocious. The resulting contrast between what they deem themselves capable of and the offense they are considering could magnify said offense rather than diminish it. Our result strengthens the suspicion that the original finding could have a different cause than gender and that the observation was coincidental.

It should be mentioned that we observed a marginally significant effect of gender on personal capability, such that males scored higher than females. However, since this finding is only marginally significant and none of the other research measured this effect, we strongly suspect this to be merely a coincidence.

Our findings cast some doubt on the results of the original

paper and the interpretations presented there. We show that forgiveness might be more complex than anticipated and that the role personal capability plays is not entirely understood. Additionally, we feel that the operationalization of personal capability presented in the original paper should be put under scrutiny to find out whether it actually correctly measures what it intends to measure.

Since neither our nor the OSF replication reproduced the gender difference observed in the original study, the conclusions about said gender difference should be questioned.

B. Extension

We extended the original paper by postulating that the perceived severity of the offense would be correlated to the feelings of transgression, vengeance (both positively), personal capability and empathy (both negatively).

Additionally, we assumed that asking personal capability questions would affect the perceived severity, namely making the offense seem more severe if personal capability was low and vice versa. Observing this effect would support the notion of the “contrast effect”.

We were able to show a significant correlation between the perceived severity of the offense and all the other variables mentioned.

However, when asked to re-evaluate the perceived severity after answering the capability / empathy questions, most subjects did not report a change. We subsequently failed to correlate personal capability and increase / decrease in severity.

Our findings indicate that the perceived severity of the offense seems to directly affect our willingness to forgive our offender and our likelihood to seek revenge against them (see Figures 4 and 5, respectively). This is in line with the intuitive understanding of forgiveness and could simply be explained by classical conditioning - a stronger stimulus has a greater effect on the association that is being formed [5]: When we get hurt by a person our level of mistrust is in direct relation to the severity of the transgression.

Additionally, we show a correlation between the severity and the personal capability and empathy (see Figures 6 and 7, respectively). This is likely a part of “self-protection” - a mechanism that is in place to protect and enhance our own self-image [6]. This reflex also explains our hesitation to empathize with people who we feel committed a more serious offense.

Taken together, these results could also indicate that the willingness to forgive and the likelihood to seek revenge are affected by severity *because* we feel a different level of personal capability and empathy towards the offender.

Our failure to observe a change in perceived severity after answering the capability / empathy questions indicates that the “contrast effect” might not be a valid concept or does not apply in this case.

Our findings show that the perceived severity of the offense should be taken into account when analysing conducting research on forgiveness. It could be valuable to try to find

out whether the severity has a *direct* effect on willingness to forgive or whether that effect is dependent on its influence on personal capability, empathy or some other factor. While we propose explanations for said influence, it might be worthwhile to verify them through further explorations.

Additional research will be necessary to isolate and measure the “contrast effect” - if it indeed exists - and whether it has the effect the authors of the original paper suspected.

C. Limitations

Studies in the field of psychology are notoriously hard to reproduce and there are a lot of possible reasons for our failure to do so here.

Our study had a low number of participants ($n = 67$) with a significantly higher number of females (45 vs. 22). We suspect this shortcoming to be partly responsible for our data not being normally distributed.

The study was conducted as an online survey which the subjects completed without supervision under uncontrolled conditions. This could have skewed the data in many unforeseeable ways.

Extending the original research by introducing additional questions could have had an effect on the results as well.

D. Conclusions

Due to the limitations mentioned before, we are very hesitant in drawing any conclusions from the data we obtained.

However, the fact that we failed to reproduce all the key hypotheses of the original paper still casts some doubt on the findings that were originally observed and we believe they should be critically re-evaluated.

Additionally, we believe the proposed “contrast effect” might not hold up to scrutiny and we cannot support using it as an explanation for the gender difference (or anything else) as of now - not least due to the fact that we failed to observe said gender difference.

Since we gathered our data outside of the lab, the ecological validity of the original paper can be called into question.

Our findings indicate a correlation between perceived severity of the offense and our willingness to forgive, feel empathy and personal capability. While not entirely surprising, we hope that these results further our understanding of the concept of forgiveness.

While we believe that both the original paper and the OSF replication added to the understanding of the nature and mechanisms of forgiveness, work still needs to be done in order to gain a firmer grasp on the concept.

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APPENDIX

A. Intention of the experiment and consent text

We are four students enrolled in the CSIM master at the Universitat Pompeu Fabra in Barcelona. We have to carry out a study as a homework assignment for the subject Research Methodologies in Humanities and Sciences. In the following pages we will ask you a series of questions. You may choose to stop answering them at any time and the data from incomplete questionnaires will not be used.

We would like to inform you that the recipients of the data will only be the students in question, and they will not transfer this data to any entity, except to the tutors of the project, if absolutely necessary. Likewise, the data will be anonymous at all times.

We understand that if you continue with the questionnaire from this point you accept these conditions and give your consent.

If you have questions about the project you can contact us through any of the following emails:

- olga.galii01@estudiant.upf.edu
- siwar.elghoul01@estudiant.upf.edu
- max.dieckmann01@estudiant.upf.edu
- marina.estevez01@estudiant.upf.edu

REFERENCES

- [1] Exline, J. J., Baumeister, R. F., Zell, A. L., Kraft, A. J., Witvliet, C. V. (2008). “Not so innocent: Does seeing one’s own capability for wrongdoing predict forgiveness?”. *Journal of Personality and Social Psychology*, 94(3), 495.

B. Personal capability of wrongdoing and empathetic understanding questionnaire

Exline et al. 2008 study

Note: participants read capability (cap) and similarity (sim) in random order before empathy (emp) questions. Capability, similarity and empathy questions were in one block that was counterbalanced with TRIM. In one condition, participants first read capability, similarity and empathy and then TRIM. In the other, participants read TRIM and then capability, similarity, and empathy.

Please take a few minutes to recall a time in which you were deeply offended, harmed, or hurt by another person, and as a result still have some anger or resentment towards that person. You must write at least 200 characters (about 30 words) to move on.

Cap2 Can you imagine a situation in which you could do something as bad as what the other person did?

- ☐ 0 No, definitely not (1)
- ☐ 1 (2)
- ☐ 2 (3)
- ☐ 3 (4)
- ☐ 4 (5)
- ☐ 5 (6)
- ☐ 6 (7)
- ☐ 7 (8)
- ☐ 8 (9)
- ☐ 9 (10)
- ☐ 10 Yes, definitely (11)

Cap3 Do you think it's possible that you could ever do something as bad as what the other person did?

- ☐ 0 No, definitely not (1)
- ☐ 1 (2)
- ☐ 2 (3)
- ☐ 3 (4)
- ☐ 4 (5)
- ☐ 5 (6)
- ☐ 6 (7)
- ☐ 7 (8)
- ☐ 8 (9)
- ☐ 9 (10)
- ☐ 10 Yes, definitely (11)

Cap4 Thinking back over your entire life, do you think that you have ever done anything as bad as what the other person did?

- ☐ 0 No, definitely not (1)
- ☐ 1 (2)
- ☐ 2 (3)
- ☐ 3 (4)
- ☐ 4 (5)
- ☐ 5 (6)
- ☐ 6 (7)
- ☐ 7 (8)
- ☐ 8 (9)
- ☐ 9 (10)
- ☐ 10 Yes, definitely (11)

Sim1 Given the right circumstances, do you think that you could be capable of doing something similar in type to what the other person did?

- ☐ 0 No, definitely not (1)
- ☐ 1 (2)
- ☐ 2 (3)
- ☐ 3 (4)
- ☐ 4 (5)
- ☐ 5 (6)
- ☐ 6 (7)
- ☐ 7 (8)
- ☐ 8 (9)
- ☐ 9 (10)
- ☐ 10 Yes, definitely (11)

Sim2 Can you imagine a situation in which you could do something similar in type to what the other person did?

- ☐ 0 No, definitely not (1)
- ☐ 1 (2)
- ☐ 2 (3)
- ☐ 3 (4)
- ☐ 4 (5)
- ☐ 5 (6)
- ☐ 6 (7)
- ☐ 7 (8)
- ☐ 8 (9)
- ☐ 9 (10)
- ☐ 10 Yes, definitely (11)

Sim3 Do you think it's possible that you could ever do something similar in type to what the other person did?

- ☐ 0 No, definitely not (1)
- ☐ 1 (2)
- ☐ 2 (3)
- ☐ 3 (4)
- ☐ 4 (5)
- ☐ 5 (6)
- ☐ 6 (7)
- ☐ 7 (8)
- ☐ 8 (9)
- ☐ 9 (10)
- ☐ 10 Yes, definitely (11)

Sim4 Thinking back over your entire life, do you think that you have ever done anything similar in type to what the other person did?

- ☐ 0 No, definitely not (1)
- ☐ 1 (2)
- ☐ 2 (3)
- ☐ 3 (4)
- ☐ 4 (5)
- ☐ 5 (6)
- ☐ 6 (7)
- ☐ 7 (8)
- ☐ 8 (9)
- ☐ 9 (10)
- ☐ 10 Yes, definitely (11)

emp1 To what extent can you understand why the other person acted as s/he did?

- ☐ 0Not at all (1)
- ☐ 1 (2)
- ☐ 2 (3)
- ☐ 3 (4)
- ☐ 4 (5)
- ☐ 5 (6)
- ☐ 6 (7)
- ☐ 7 (8)
- ☐ 8 (9)
- ☐ 9 (10)
- ☐ 10Totally (11)

emp2 To what extent can you see the situation from the other person's perspective?

- ☐ 0Not at all (1)
- ☐ 1 (2)
- ☐ 2 (3)
- ☐ 3 (4)
- ☐ 4 (5)
- ☐ 5 (6)
- ☐ 6 (7)
- ☐ 7 (8)
- ☐ 8 (9)
- ☐ 9 (10)
- ☐ 10Totally (11)

emp3 To what extent can you see his/her behavior as making sense?

- ☐ 0Not at all (1)
- ☐ 1 (2)
- ☐ 2 (3)
- ☐ 3 (4)
- ☐ 4 (5)
- ☐ 5 (6)
- ☐ 6 (7)
- ☐ 7 (8)
- ☐ 8 (9)
- ☐ 9 (10)
- ☐ 10Totally (11)

emp4 To what extent can you think of valid reasons why s/he acted as s/he did?

- ☐ 0 Not at all (1)
- ☐ 1 (2)
- ☐ 2 (3)
- ☐ 3 (4)
- ☐ 4 (5)
- ☐ 5 (6)
- ☐ 6 (7)
- ☐ 7 (8)
- ☐ 8 (9)
- ☐ 9 (10)
- ☐ 10 Totally (11)

*C. 18-item Transgression Related Interpersonal Motivations
Inventory-Revised*

Trim-18
(McCullough, Root, & Cohen, 2006)

For the following questions, please indicate your current thoughts and feelings about the person who hurt you; that is, we want to know how you feel about that person **right now**. Next to each item, circle the number that best describes your current thoughts and feelings.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
	1	2	3	4	5
1. I'll make him/her pay.	1	2	3	4	5
2. I am trying to keep as much distance between us as possible.	1	2	3	4	5
3. Even though his/her actions hurt me, I have goodwill for him/her.	1	2	3	4	5
4. I wish that something bad would happen to him/her.	1	2	3	4	5
5. I am living as if he/she doesn't exist, isn't around.	1	2	3	4	5
6. I want us to bury the hatchet and move forward with our relationship.	1	2	3	4	5
7. I don't trust him/her.	1	2	3	4	5
8. Despite what he/she did, I want us to have a positive relationship again.	1	2	3	4	5
9. I want him/her to get what he/she deserves.	1	2	3	4	5
10. I am finding it difficult to act warmly toward him/her.	1	2	3	4	5
11. I am avoiding him/her.	1	2	3	4	5
12. Although he/she hurt me, I am putting the hurts aside so we can resume our relationship.	1	2	3	4	5
13. I'm going to get even.	1	2	3	4	5
14. I have given up my hurt and resentment.	1	2	3	4	5
15. I cut off the relationship with him/her.	1	2	3	4	5
16. I have released my anger so I can work on restoring our relationship to health.	1	2	3	4	5
17. I want to see him/her hurt and miserable.	1	2	3	4	5
18. I withdraw from him/her.	1	2	3	4	5

Scoring Instructions

Avoidance Motivations:

Add up the scores for items 2, 5, 7, 10, 11, 15, and 18

Revenge Motivations:

Add up the scores for items 1, 4, 9, 13, and 17

Benevolence Motivations

Add up the scores for items 3, 6, 8, 12, 14, and 16

Citation:

McCullough, M. E., Root, L. M., & Cohen, A. D. (2006). Writing about the personal benefits of a transgression facilitates forgiveness. *Journal of Consulting and Clinical Psychology, 74*, 887-897.

D. Replication Study Repository on Github

30/12/2019 ealmenzar/RMHS: Research Methodologies in Humanities and Science course, final project: Replication of Study 7 by Exline, Baumeister, Zell, ...








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Research Methodologies in Humanities and Science course, final project: Replication of Study 7 by Exline, Baumeister, Zell, Kraft & Witvliet (2008, Journal of Personality and Social Psychology) [Edit](#)

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 21 commits  1 branch  0 packages  0 releases  1 contributor  MIT

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 ealmenzar	Update README.md	Latest commit 23d054d yesterday
 .ipynb_checkpoints	Update tutorial	yesterday
 LICENSE	Create LICENSE	yesterday
 README.md	Update README.md	yesterday
 Tutorial.ipynb	Update tutorial	yesterday
 data.csv	Add data.csv and Jupyter Tutorial	4 days ago
 requirements.txt	Update requirements.txt	yesterday

 README.md 


Research Methodologies in Humanities and Science

Research Methodologies in Humanities and Science course, final project: Replication of Study 7 by Exline, Baumeister, Zell, Kraft & Witvliet (2008, Journal of Personality and Social Psychology)

Original Study: "Not So Innocent: Does Seeing One's Own Capability for Wrongdoing Predict Forgiveness?"

Study 7: Could a subtle Empathy-Capability Manipulation Reduce (Men's) Vengefulness?

by Max Dieckmann, Siwar Elghoul, Marina Estévez Almenzar, Olga Galí Pérez

Results obtained in this Study are shown in the Jupyter notebook [Tutorial.ipynb](#) and can be executed interactively in an executable environment with Binder: 

This work is an attempted reproduction of study 7 of the paper "Not So Innocent: Does Seeing One's Own Capability for Wrongdoing Predict Forgiveness?" The authors hypothesized that people are more willing to forgive an offender if they consider their own personal capability of committing a similar offense. They also proposed that men's vengefulness in particular can be reduced in this way.

We extended the study by analyzing if the perceived severity of the offense affected the willingness to forgive, vengefulness, empathy or personal capability of the subject. We also measured if the subjects perceived the severity of the offense differently after considering their personal capability.

We were unable to reproduce any of the main hypotheses of the original paper and the perceived severity of the offense didn't change significantly by considering the personal capability either.

However, we were able to show that the perceived severity of the offense correlates negatively with the willingness to forgive, personal capability and empathy, as well as positively with vengefulness.