

Research article

What gives victims satisfaction when they seek revenge?

MARIO GOLLWITZER^{1*}, MILENA MEDER² AND MANFRED SCHMITT²

¹Philipps-University Marburg, Germany; ²University of Koblenz-Landau, Germany

Abstract

The present paper aims to elucidate under what conditions victims of injustice who seek revenge feel satisfied and perceive that everybody got what he or she deserved. Two hypotheses are discussed: The comparative suffering hypothesis states that seeing the offender suffer from fate is sufficient for evoking satisfaction and perceptions of deservingness among victims. The understanding hypothesis states that revenge can only be satisfactory when the offender understands it as a response to his or her prior behavior. These hypotheses were tested in three experimental studies. The comparative suffering hypothesis received only weak support. The understanding hypothesis, on the other hand, received much stronger support: When the offender understood revenge as punishment, revenge led to satisfaction and deservingness among victims. These findings are discussed with regard to the question why people take revenge. Copyright © 2010 John Wiley & Sons, Ltd.

Revenge and retribution are topics that accompany our daily lives. Countless plays, novels, operas, movies, fairy tales, newspaper columns and even public websites deal with the idea and the practice of “getting even.” Emotions play a major role in our responses to vengeful episodes, real or fiction. We feel anger and moral outrage when we witness acts of injustice. We feel contempt for the harm-doer, and we may feel the urge to see him punished. And under certain conditions, we may also feel satisfaction, gratification, and relief when revenge succeeded and justice was eventually restored (Feather, 1999; Miller, 1998; Solomon, 1999; Tripp & Bies, 1997).

The desire to retaliate is a universal phenomenon among human and non-human primates across all ages and cultures (e.g., de Waal, 1996), and it is directly tied to our moral intuitions and our subjective notions of justice and deservingness (Bies & Tripp, 2005; Elster, 1990; Gollwitzer, 2009; McCullough, 2008; McLean Parks, 1997; Skarlicki & Folger, 1997). Issues of morality, justice, and deservingness are therefore central for a proper definition of revenge. Usually, revenge is conceptualized as “an act designed to harm someone else, or some social group, in response to feeling that oneself has been harmed by that person or group” (Frijda, 1994; p. 265). This definition fails to take into account the moral aspect of being harmed and doing harm. Harmful events only elicit vengeful reactions they imply an intentional violation of fairness norms, or, more generally, a violation of the general norm of respectful treatment (Miller, 2001; Vidmar, 2001). Thus, a first important defining feature of revenge is that it is a response to disrespectful treatment (Bies & Tripp, 1996; Gollwitzer, 2009). A second important feature of taking revenge is that it is appropriate and equitable, at least from the avenger’s perspective (Stillwell, Baumeister, & Del Priore, 2008; Tripp, Bies, & Aquino, 2002). Given that

retaliation is often more severe than the original offense, and that revenge often goes beyond restoring a former status quo (Marongiu & Newman, 1987), it is psychologically interesting to ask why and when avengers feel that they are “doing the right thing,” that they are “doing justice” (Tripp & Bies, 1997).

According to the popular saying that “revenge tastes sweet,” some recent studies suggest that taking or anticipating revenge activates reward-related areas in the brain (de Quervain et al., 2004; Knutson, 2004) and decreases the accessibility of aggressive thoughts (Denzler, Förster, & Liberman, 2009; Gollwitzer & Denzler, 2009). These findings suggest that revenge can indeed be “sweet” (but see Carlsmith, Wilson, & Gilbert, 2008). But what exactly is it that makes victims feel satisfied, that makes them think that justice has been reestablished, and that everybody got what he or she deserved? The present paper addresses this question. Finding out what gives victims satisfaction when they seek revenge may be useful for answering the question what people hope to achieve by taking revenge.

Two hypotheses are addressed in the present paper. One hypothesis is built on the notion that avengers seek to restore a balance of suffering; we refer to this hypothesis as the “comparative suffering hypothesis.” The second hypothesis is built on the notion that avengers seek to deliver a message to the offender; this hypothesis will be referred to as the “understanding hypothesis.” We will discuss both hypotheses in the following sections.

The Comparative Suffering Hypothesis: Rebalancing Pleasure and Pain

Some scholars have argued that offenses that elicit a desire for revenge are characterized by an emotional asymmetry of the

*Correspondence to: Mario Gollwitzer, Department of Psychology, Philipps-University Marburg, Gutenbergstraße 18, 35032 Marburg, Germany.
E-mail: mario.gollwitzer@staff.uni-marburg.de

kind “He walks in pleasure and I in suffering” (Frijda, 1994; p. 274). The offense caused an affective imbalance between the offender and the victim, and so the victim seeks to reduce this imbalance. This goal is fulfilled when the offender experiences an appropriate amount of harm or loss: “Those who cause pain should suffer in return, and, if possible, at least to an equal degree” (Frijda, 1994, p. 274f.). Similar ideas can be derived from balance theory (Heider, 1958), deservingness theory (Feather, 1999), the just-world hypothesis (Lerner, 1980), and equity theory (Walster, Walster, & Berscheid, 1978).

Now consider a case in which taking revenge is not possible or not feasible for the victim. In such a case—and given that the comparative suffering hypothesis is right—seeing the offender suffer from fate should also be satisfactory for the victim. In other words, if it is merely the “suffering score” that needs to be balanced, then a victim who cannot or does not want to take revenge him- or herself should experience satisfaction and deservingness if the harm-doer suffers from misfortune (see also Vidmar, 2001). Consistent with this notion, some studies found that when observers of criminal or unethical behavior learn that the offender has suffered from a fateful harm or misfortune, they impose lower amounts of punishment (Austin, 1979; Austin & Utne, 1977; Austin, Walster, & Utne, 1976). However, these effects emerged only in cases where participants were neutral observers of the offense. In studies where participants were victims, the offender’s fate did not diminish their retributive reactions (Craig et al., 1993; Johnson & Rule, 1986). In two of the studies presented in this paper, participants either retaliated against an ostensible offender or learned that the offender has suffered from misfortune. If the comparative suffering hypothesis was correct, both conditions should elicit a comparable amount of satisfaction and deservingness.

The Understanding Hypothesis: Knowing Why One is Punished

A second approach conceives of revenge as a form of communication between the victim and the offender (Kim & Smith, 1993). Victims seek to deliver a message to the offender, and the message has the general form of “You will be punished for what you did before.” According to this approach, the offender needs to know that revenge or punishment was imposed *because* and in virtue of his or her prior behavior (Miller, 2001). Revenge is inflicted “with the desire that the other person know why this is occurring” (Nozick, 1981; p. 368). If the message is not properly understood, that is, if the offender does not know why he or she is being punished, revenge cannot be satisfactory (French, 2001).

Empirical studies on revenge in the context of minor interpersonal transgressions show that avengers are indeed motivated to deliver a message to the offender: Crombag, Rassin, and Horselenberg (2003) asked students who had behaved vengefully in a particular situation about the purpose of doing so. A majority of respondents (53%) admitted that they “wanted to make it clear to the perpetrator that I will not allow anybody to walk all over me” (p. 340). Gollwitzer (2007) confronted participants with vignettes describing instances of minor transgressions and asked them to what degree they considered different goals of revenge as important. Among the top of the list were “preventing future harm,”

“demonstrating powerfulness,” and “inducing guilt.” These results imply that revenge aims at more than just doing harm (see also Boon, Deveau, & Alibhai, 2009).

In the present studies, we tested the understanding hypothesis empirically by manipulating whether or not the offender signaled that he or she knows why revenge has been or might have been taken. According to the understanding hypothesis, victims should only feel satisfied if the offender signaled that he or she understood revenge as a punitive response to his or her prior behavior.

The Present Studies

Three studies will be presented in which the two hypotheses (comparative suffering and understanding) are tested. The comparative suffering hypothesis states that seeing the offender suffer is a sufficient condition for experiencing satisfaction and deservingness, no matter what effect this suffering has on the offender. This hypothesis is tested in Studies 1 and 2. The understanding hypothesis states that victims feel satisfied and perceive deservingness if offenders signal that they know why they have been, will be or could be punished. This hypothesis is tested in Studies 1 and 3. The central dependent variable in all studies is to what extent participants felt satisfied and perceived that everyone got what he or she deserved. We will refer to this dependent variable as “satisfaction/deservingness” in the remainder of this paper.

STUDY 1

Method

Sample

The sample consisted of students who were recruited in classes and on campus. Ninety-one students from different disciplines agreed to take part in the experiment. After having been debriefed and interviewed, eight participants expressed having had doubts about the existence of their ostensible partner. These cases were omitted from further analyses. The final sample consisted of 83 participants (59% women). Ages ranged between 19 and 43 years ($M = 22.7$; $SD = 4.2$).

Procedure

Participants were told that the main purpose of the study was to investigate writing skills, and that the experiment would be conducted in groups of two, with another participant of the same sex being seated in a separate room. In order to increase the credibility of this setup, a second experimenter was employed. Both experimenters were instructed to pretend that they were bringing and taking material to and from the other room.

In order to make participants feel that they were treated unfairly, we used a widely used paradigm known as the essay evaluation paradigm (e.g., Bushman & Baumeister, 1998; Bushman, Baumeister, & Phillips, 2001). Participants were

asked to write a one-page essay about their personal experiences at the university. They learned that their partner had the same task, and that both essays would be exchanged afterwards for mutual evaluation.

Participants were asked to evaluate their partner's essay on a scale from 1 ("very good") to 6 ("inadequate"), whereas their own essay would be evaluated by their partner. The partner's essay was pre-written. Participants were told that the amount of money they were to receive for participation in the experiment would be contingent on how their partner evaluated their essay ("very good" = 3.00€, "good" = 2.50€, "satisfactory" = 2.00€, "acceptable" = 1.00€, "deficient" = 0.50€, "inadequate" = 0€). Whereas all participants rated their partner's essay either as "very good" (8%), "good" (68%), or "satisfactory" (24%), participants' own essays were rated as "deficient" by their ostensible partner; thus, only 0.50€ were disbursed. At the end of the experiment and after having been debriefed, however, all participants received 3€ for participating in the experiment.

Anger at t_1

Immediately after the money was disbursed by the experimenter, participants received a questionnaire including items related to anger and moral outrage (anger, fury, outrage, resentment; $\alpha = .91$). All items had a six-category response format, ranging from 0 (*not true at all*) to 5 (*absolutely true*). Filler items were included in order to minimize demand effects. These items also included two statements that indirectly referred to the perceived fairness of the evaluation they received ("I can understand the evaluation of my essay;" "In my opinion, the evaluation reflects the quality of my essay;" response scales ranged from 0 to 5).

Revenge Versus Fate

The experimenter remarked that before the experiment was finished, both participants would now participate in a lottery in which extra money could be won or lost. Participants were told that there were four categories of lots: *Win*, *lose*, *blank*, and *power* lots. The lots they drew affected their partner, not themselves. For instance, if participants drew a *win* lot, their partner would win 2€. If they drew a *lose* lot, their partner would lose 2€. If they drew a *blank* lot, their partner would neither lose nor win anything. Finally, if they drew a *power* lot, they would have the opportunity to decide themselves whether their partner would lose or win 2€, or whether simply nothing would happen. Participants were instructed that their partner would only be confronted with the result of the lottery, but that he or she would never learn what type of lot was actually drawn.

At that point, participants were assigned to one of two experimental conditions. In the fate condition ($n = 26$), all participants drew a *lose* lot. As a consequence, their partner lost 2€. The other 57 participants drew a *power* lot. Thus, they had the opportunity to take revenge by deducting 2€ from their partner. Thirty-two per cent ($n = 18$) decided to do so; these participants constituted the revenge condition. The other 39 participants decided not to take

revenge; these participants constituted the no revenge condition. Thus, the first factor in our design consists of three groups (revenge, fate, no revenge).

A few minutes later, the second experimenter entered the room and informed participants that they would neither win nor lose 2€. This implied that their ostensible partner had either drawn a *blank* lot or a *power* lot, in which case he or she must have decided that nothing should happen.

Understanding Manipulation

After the lottery was finished, half of the participants in the fate and in the revenge condition ($n = 21$) learned that they could now send a message to their partner. Participants were told that if they wanted to, they could write their message on a small sheet of paper, which the experimenter handed to them. The experimenter waited until the participant finished writing the message, took the paper, and left the room. Soon after, the other experimenter came in with a message ostensibly written by the partner, saying "*Shit happens! Too bad for me, but maybe this is the price I have to pay for being so mean to you . . .*" All other participants ($n = 62$), including those who did not take revenge, were not given the opportunity to write a message to their partner. Accordingly, they also did not receive such a message from the other person. The experimenter simply did not mention any possibility of exchanging messages. Thus, the second factor in our design consists of two groups (understanding message, no message).

Satisfaction/Deservingness at t_2

The central dependent variable, satisfaction/deservingness, was measured with three items ("I feel satisfied," "In the end, everyone got what he or she deserved," "Everything turned out to be satisfactory for me;" $\alpha = .72$). Response scales ranged from 0 to 5.

After they returned this last questionnaire, participants were thanked and partly debriefed. They were asked to leave their postal or e-mail address so that full debriefing could be sent to them as soon as the study was finished. All participants agreed to leave their e-mail address, and all participants received a complete debriefing via e-mail within 2 weeks.

Results and Discussion

In a first step, we analyzed participants' self-reported anger after the provocation (t_1) in order to test whether participants perceived their essay evaluation as unjust. On average, anger scores were relatively low ($M = 1.84$; $SD = 1.47$ on a scale from 0 to 5). This is a typical finding in many laboratory experiments involving provocation (e.g., Ohbuchi, Kameda, & Agarie, 1989). Nevertheless, participants disagreed with the statement that they could understand the evaluation of their essay, and that the evaluation reflects the quality of their essay ($M_s = 1.12$ and 1.10 , respectively). Anger scores were significantly correlated with the extent to which participants agreed with these statements ($r_s = -.38$ and $-.39$, respectively). We interpret these findings as evidence for the claim

that we successfully evoked perceptions of injustice among our participants.

Avengers reported more anger ($M = 2.47$) than non-avengers ($M = 1.87$). Although this difference was non-significant, the standardized effect size was moderate, $t(55) = 1.46$; $p = .15$; $d = 0.42$. However, since anger scores were uncorrelated with our central dependent variable, satisfaction/deservingness ($r = -.13$; $p = .24$), we decided not to use anger scores at t_1 as a covariate in our subsequent analyses.

Test of the Comparative Suffering Hypothesis

If the comparative suffering hypothesis was correct, satisfaction/deservingness scores should be higher in the revenge and in the fate condition than in the no revenge condition. This hypothesis was tested with a one-factorial analysis of variance with satisfaction/deservingness as the dependent variable and the three experimental conditions (i.e., revenge, fate, no revenge) as the independent variable. The main effect was significant, $F(2,79) = 7.70$, $p = .001$, $\eta_p^2 = .16$. Post hoc analyses (Tukey HSD tests) revealed that satisfaction/deservingness scores differed significantly between the no revenge ($M = 1.56$) and the other two conditions ($p \leq .02$), but not between the revenge ($M = 2.57$) and the fate condition ($M = 2.29$; $p = .64$). Comparing only those participants who did not receive a message from their ostensible partner did not alter this pattern of results, $F(2,58) = 3.94$, $p = .03$, $\eta_p^2 = .12$. Post hoc analyses revealed that satisfaction/deservingness scores differed significantly between the fate ($M = 2.43$) and the no revenge condition ($p = .03$), but not between the revenge condition ($M = 2.17$) and the other two conditions ($p \geq .31$). Mean values are depicted in Figure 1.

Test of the Understanding Hypothesis

If the understanding hypothesis was correct, satisfaction/deservingness should be particularly strong when avengers received an understanding message from their ostensible partner. This hypothesis was tested with a 2 (fate, revenge) \times 2 (understanding: yes/no) analysis of variance. Remember that half of those who took revenge and half of those who learned about their partner's misfortune received an understanding message; the other half did not receive any message at all. Participants who decided against taking revenge were not

included since none of them received an understanding message from their ostensible partner.

Neither the main effect of revenge vs. fate ($F[1,39] = 1.05$, $p = .31$, $\eta_p^2 = .03$) nor the main effect of understanding ($F[1,39] = 0.71$, $p = .40$, $\eta_p^2 = .02$) were significant. There was, however, a significant interaction effect ($F[1,39] = 4.24$, $p < .05$, $\eta_p^2 = .10$). Post hoc tests revealed that avengers who received an understanding message reported more satisfaction/deservingness ($M = 2.90$) than those who did not receive a message ($M = 2.17$), $t(16) = 2.02$; $p = .06$; $d = 0.96$. Among participants in the fate condition, however, understanding had no effect on satisfaction/deservingness, $t(23) = 0.90$; $p = .38$; $d = 0.36$. Additional analyses revealed that avengers who received an understanding message reported significantly more satisfaction/deservingness than non-avengers, $t(47) = 3.44$; $p = .001$; $d = 1.22$.

Taken together, the results from Study 1 seem to corroborate both the comparative suffering and the understanding hypothesis. Drawing a lot that makes the offender suffer is just as satisfactory as taking revenge. However, the highest amount of satisfaction/deservingness was observed among participants who took revenge and received a message in which their partner interpreted a loss of 2€ as punishment for his or her prior behavior. This finding is in line with the understanding hypothesis.

One might object that there are several aspects of the chosen design that limit its strength to provide a strong test of the comparative suffering hypothesis. First, whereas participants who drew a power lot were free to decide whether to take revenge or not, participants who drew a lose lot had no choice whatsoever. Thus, we do not know how participants in the fate condition would have decided if they had a chance to take revenge. Second, it is important to recall how our lottery worked: Persons who lost 2€ were merely informed about the outcome of the lottery, not about the reason for this loss. The offender (had he or she been real) did not know whether he or she lost 2€ because revenge had been taken or because a lose lot had been drawn. Thus, participants in the fate condition, particularly those who did not receive a message from their partner, could have assumed (or hoped) that their partners believed that revenge was taken on them.

Study 2 is an attempt to reconcile these difficulties. First, in order to test the comparative suffering hypothesis more precisely, participants were not given an opportunity to take revenge; they merely saw their ostensible partner suffer from

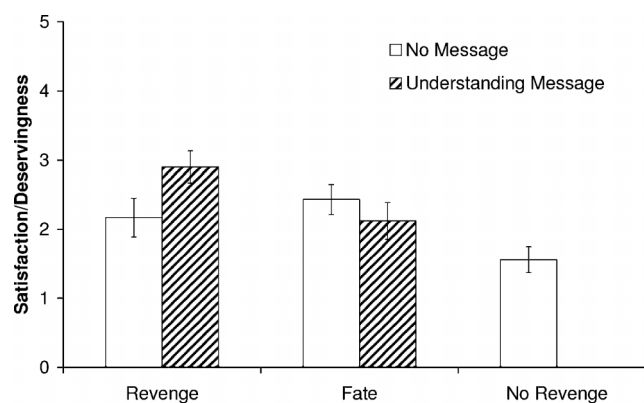


Figure 1. Mean values on satisfaction/deservingness by experimental conditions (Study 1). Vertical lines denote standard errors of means

fate. Second, since there is no revenge option in Study 2, there is no ambiguity with regard to how a loss of resources could be interpreted by the offender.

STUDY 2

Method

Sample

Students were recruited in classes and on campus in exchange for partial course credit. One-hundred and four students from different faculties agreed to take part in the experiment. After having been debriefed and interviewed, 13 participants expressed having had doubts about the existence of their ostensible partner. These cases were omitted from further analyses. The final sample consisted of 91 participants (76% women). Ages ranged between 19 and 39 ($M = 22.9$; $SD = 3.7$ years).

Procedure

The setup of this study was similar to Study 1. Participants were told that the main purpose of the study was to investigate writing skills, and that there was another participant of the same sex in a separate room. They were asked to write a one-page essay about their personal experiences at the university, that the other participant had the same task, and that essays would be exchanged afterwards for mutual evaluation. The amount of course credit they received for participating in the experiment would be contingent to the overall grade they received by their partner ("very good" = 1.5 hours of course credit, "good" or "satisfactory" = 1 hour of course credit, "deficient" = 0.5 hours of course credit, "inadequate" = no course credit). Whereas all participants rated their partner's essay either as "very good" (24%), "good" (62%), or "satisfactory" (14%), participants' own essays were rated as "inadequate" by their ostensible partner. In contrast to Study 1, participants now received the most negative feedback on the evaluation scale. This was done in order to make the provocation even more severe. The experimenter remarked that due to the low grade she could not attest any course credit at all. At the end of the experiment, however, all participants received 1 hour of course credit, which was just as much time it took them to participate in the experiment.

The experimenter remarked that before the experiment was finished, both participants would now participate in a lottery in which hours of course credit could be won or lost. She presented a bowl filled with folded sheets of paper (lots) and explained that there were three kinds of lots in the bowl: "Win" (one additional hour of course credit), "lose" (deduction of 1 hour of course credit), and blanks (no course credit won or lost). After participants drew their own lot, which was always a blank, the experimenter left the room, ostensibly in order to let the other participant draw his or her lot. When she returned, she briefly mentioned which lot the other participant had just drawn. What she said was subject to the experimental condition to which participants were assigned.

Thirty participants learned that their partner had obviously drawn a "win" lot. The other 61 learned that their partner had obviously drawn a "lose" lot. These participants constituted the fate condition.

Understanding Manipulation

Among the 61 participants in the fate condition, 30 were informed that they would now have the opportunity to send a short message to the other person. The experimenter collected the paper and brought it to the other room. Soon after, the second experimenter came in with a message ostensibly written by the other person, saying, "*Shit happens! Too bad for me, but maybe this was my punishment for being so mean to you . . .*" All other participants ($n = 30$ in the win condition, and $n = 31$ in the fate condition) did not receive a message from the other player. Thus, the design consists of three experimental conditions (win, fate without understanding, fate with understanding). The comparative suffering hypothesis would predict high satisfaction/deservingness even in the fate without understanding condition. This design also allowed us to test the possibility that satisfaction/deservingness were highest in the fate with understanding condition.

Satisfaction/Deservingness

Finally, all participants received a questionnaire including the same three items measuring satisfaction/deservingness that had been used in Study 1. These three items yielded a relatively homogeneous scale ($\alpha = .70$). Just as in Study 1, response scale ranged between 0 and 5.

After finishing the last questionnaire, participants were thanked and partly debriefed. They were asked to leave their postal or e-mail address so that full debriefing could be sent to them as soon as the study was finished. All participants agreed to leave their e-mail address, and all participants received a complete debriefing via e-mail within 2 weeks.

Results and Discussion

Mean values on satisfaction/deservingness were submitted to a one-factorial analysis of variance with the three experimental conditions (i.e., win, fate with understanding, fate without understanding) as the independent variable. The main effect was significant, $F(2,88) = 3.34$, $p = .04$; $\eta_p^2 = .07$. Post hoc (Tukey HSD) tests revealed that deservingness scores in the win ($M = 1.67$) and in the fate without understanding condition ($M = 1.74$) did not differ from each other ($p = .77$), whereas deservingness scores in the fate with understanding condition ($M = 2.28$) were significantly higher than those in the fate without understanding condition ($p = .04$).

The findings indicate that seeing offenders suffer from fate led to stronger experiences of satisfaction/deservingness among victims, but only if offenders interpreted the outcome of the lottery as punishment for their prior behavior. When offenders did not write such a message, victims perceived just as much satisfaction/deservingness as when offenders won another hour of course credit. This is remarkable since

seeing the offender “walk away in extra pleasure” should make the victim even more frustrated or angry. However, one should keep in mind that mean scores on our dependent variable were relatively low in all three conditions.

Taken together, these findings suggest that merely seeing the offender suffer from fate is not satisfactory for the victim, which speaks against the comparative suffering hypothesis. Seeing the offender suffer is only satisfactory if the offender signals that he or she understood the loss as a punitive response to his or her prior behavior. Although this particular finding is inconsistent with Study 1, it speaks for the understanding hypothesis.

Study 3 focuses entirely on the understanding hypothesis. This study also makes an attempt to reconcile some of the difficulties in the previous studies in order to provide a more compelling test of the understanding hypothesis. These improvements will be introduced in the next section.

STUDY 3

One problem we faced in Study 1 is connected to the quasi-experimental character of participants' revenge decision. Since taking revenge is a decision that participants necessarily make for themselves, this methodological problem cannot easily be resolved. However, it raises the question in what regard avengers systematically differ from non-avengers. Some studies suggest that the willingness to take revenge is related to features of one's personality (e.g., Eisenberger, Lynch, Aselage, & Rohdieck, 2004; McCullough, Bellah, Kilpatrick, & Johnson, 2001). For example, if people who are scoring high on trait-anger (Spielberger, 1988) were more likely to take revenge than people who are scoring low on trait-anger, then all effects including a difference between avengers and non-avengers could alternatively interpreted as differences between more vs. less anger-prone people. Revenge would have no causal role in this case. In order to account for such systematic interindividual differences between avengers and non-avengers, justice- and anger-related personality variables were measured beforehand in Study 3.

A second improvement of Study 3 is connected to the understanding manipulation. Since the ostensible offender in Studies 1 and 2 sent no message at all in the no understanding condition, we cannot be completely sure what participants in this condition actually thought with regard to the offender's potential understanding. In the present study, the ostensible offender sent a message in both conditions, either signaling understanding or clearly signaling no understanding.

A third improvement is that the messages that were sent by avengers were coded with regard to whether they referred to the partner's unfair behavior. This was done in order to rule out the possibility that it is not the understanding message received by the ostensible offender that enhances satisfaction and perceptions of deservingness, but rather the content of the message that avengers sent.

Fourth and finally, we do not know exactly how participants subjectively perceive an understanding message. Former studies suggest that subjective understandings of a verbal account correspond only weakly with objective components of the account (Schmitt, Gollwitzer, Förster, & Montada,

2004). In order to address this problem, we measured how the offender's message was subjectively perceived by participants.

Method

Sample

The sample consisted of 100 students that were recruited in classes and on campus. Sixteen cases had to be omitted from the analyses because they either doubted the existence of the other participant or correctly guessed that this study was designed to investigate vengeful responses. Thus, the final sample consisted of $N = 84$ students from different disciplines. Ages ranged between 18 and 32 years ($M = 21.8$; $SD = 2.74$). Women were overrepresented (73%).

Personality Measures

Students who agreed to take part during recruitment were given a questionnaire containing the following trait scales: (1) belief in a just world and (2) belief in an unjust world (Dalbert, Montada, & Schmitt, 1987), belief in ultimate justice with regard to (3) ultimate punishment and (4) ultimate compensation (Maes, 1998), justice sensitivity from (5) the observer's, (6) the victim's, and (7) the beneficiary's perspective (Schmitt, Gollwitzer, Maes, & Arbach, 2005), (8) trait-anger, the three anger expression styles (9) anger-in, (10) anger-out, and (11) anger-control (Spielberger, 1988; German version by Schwenkmezger, Hodapp, & Spielberger, 1992), and (12) attitudes toward revenge (Stuckless & Goranson, 1992).

Procedure

Participants were told that the purpose of this study was to investigate reading comprehension in a cooperation situation. They took turns solving anagrams with an ostensible partner of the same sex seated in another room. For each anagram correctly solved in 4 minutes the team earned one raffle ticket towards a 25€ book certificate. Teams solved 26.2 anagrams on average. The solving time of participants' ostensible partner was programmed to be roughly equal to their own solving time. After learning about the number of anagrams solved together, which equaled the number of raffle tickets the team had earned, both players were asked to make a recommendation for distributing the raffle tickets between them. The final distribution was obtained by averaging the two recommendations. On average, participants recommended an equal split ($M = 46.3\%$ for themselves, $SD = 7.08\%$). The ostensible partner, however, always recommended 90% for him- or herself. At this point (t_1), participants received a questionnaire measuring their current emotional state. This questionnaire included four items related to anger and moral outrage ($\alpha = .89$; see Study 1). Filler items were included in order to minimize demand effects.

Revenge Option

After the final ticket distribution was determined, participants were given the opportunity to reduce their partner's tickets by

any amount. Fifty-eight participants (69%) did so; the remaining 26 participants did not choose to deduct tickets from their partners. Next, we compared participants' original distribution recommendation with the final distribution of tickets. In line with our reasoning that revenge implies harm that goes beyond restoring a former status quo, deducting tickets from one's partner was only coded as revenge if the partner's final amount of tickets was at least 0.25 times smaller than participants' original recommendation. Among the 58 participants who decided to deduct tickets from their partners, 34 (59%) effected a final distribution that left their partners with fewer tickets than participants had originally proposed. Only these 34 participants were coded as avengers; the remaining 50 participants were coded as non-avengers. Importantly, these two groups of participants did not differ with regard to their initial distribution recommendations, $t(82) = 1.34$; $p = .18$. The first factor in our design therefore consists of two quasi-experimental groups (revenge vs. no revenge).

Messages

Finally, participants were told that they could now send a short message to the other person. Participants could send only one message; after that, they would receive the message (ostensibly) written by their partner. They could not react toward the partner's message and vice versa.

Sixty-eight participants (81%) decided to send a message to their partner. Among the 34 participants who took revenge, 29 (85%) sent a message. Avengers' messages were coded with regard to whether they entailed an explicit reference to the partner's unfair behavior. Eighteen avengers (62%) referred to the unfair distribution proposal in their message. Contents varied from snappy remarks ("You better had chosen 50%!") to accusations and justifications ("Sorry for taking tickets away, but unfortunately, you only cared about yourself"). Content codings were conducted by the first author and two independent and instructed coders. Relative inter-coder agreements ranged between 75.9 and 86.2%; values for Cohen's Kappa ranged between .53 and .72, indicating moderate inter-coder agreement.

Understanding Manipulation

All participants were randomly assigned to either an understanding or a no understanding condition. Participants in the understanding condition received the following message from their ostensible partner: "When I learned that you can take tickets from me, I thought: Well, you'll probably do that because I had divided the tickets unfairly." Participants in the no understanding condition received the following message: "When I learned that you can take tickets from me, I thought: Well, you don't have a right to do that." It is important to note that this formulation is applicable irrespective of whether participants actually took revenge or not. The second factor in our design therefore consists of two experimental groups (understanding message vs. no understanding message).

Satisfaction/Deservingness

After messages were exchanged (t_2), participants completed a final questionnaire including the same three items measuring satisfaction/deservingness that had been used in Study 1. These three items yielded a relatively homogeneous scale ($\alpha = .68$). Response scales ranged from 0 to 5.

Manipulation Check

Finally, participants were asked to answer five questions that were used as a manipulation check for the understanding manipulation. The construction of these five items was based on previous research on elements of verbal accounts and excuses (e.g., Darby & Schlenker, 1982; Ohbuchi et al., 1989; Schmitt et al., 2004). Participants were asked to which degree they believed that their partner had (1) admitted that s/he had done harm, (2) admitted his or her fault, (3) expressed remorse, (4) asked for forgiveness, and (5) offered compensation. All items had a six-category response format, ranging from 0 (*not true at all*) to 5 (*absolutely true*).

After finishing the last questionnaire, participants were thanked and partly debriefed. They were asked to leave their postal or e-mail address so that full debriefing could be sent to them as soon as the study was finished. All participants agreed to leave their e-mail address, and all participants received a complete debriefing via e-mail within 2 weeks.

Results and Discussion

Preliminary Analyses

Revenge. First, we checked in what way avengers differed from non-avengers with regard to the personality traits assessed prior to the laboratory experiment and with regard to the amount of anger they reported after having been provoked. The only significant difference between avengers and non-avengers was found on anger, $t(84) = 3.65$; $p < .01$; $d = 0.77$. Avengers experienced more anger ($M = 1.90$; $SD = 1.38$) than non-avengers ($M = 0.98$; $SD = 0.95$). However, since anger was not significantly related to our dependent variable, satisfaction/deservingness ($r = .05$; $p = .65$), we did not include it as a covariate in our main analyses. No differences between avengers and non-avengers were found on any of the personality traits ($p > .09$).

Manipulation Check for Understanding. Finally, we checked whether the understanding manipulation had any effects on the five account components items. A multivariate analysis of variance produced a highly significant main effect of understanding (Pillai's Trace = 0.57; $F[5,78] = 21.29$; $p < .001$; $\eta_p^2 = .58$). The main effect was significant on all five account components items ($p < .001$; $.25 \leq \eta_p^2 \leq .53$). This suggests that from participants' subjective experience, the offender's message not only contained an admittance of harm and fault, but also an expression of remorse, an apology, and, most strikingly, a compensation offer. In a second step, we submitted the five account component scores among participants in the understanding condition to a repeated-measures

analysis of variance. The main effect of account component was significant ($F[4,176] = 29.95$; $p < .001$; $\eta_p^2 = .40$). Post hoc analyses (t -tests for paired samples with Bonferroni correction; $\alpha = .05/10 = .005$) revealed that scores on admitting harm and admitting fault were significantly higher than scores on all other account component items ($p \leq .003$). Moreover, mean scores on admitting harm ($M = 3.96$) and admitting fault ($M = 3.04$) were significantly higher than the scale midpoint of 2.5 ($t[44] \geq 2.11$; $p \leq .04$), whereas mean scores on the other three account component items were below the scale midpoint ($M \leq 2.33$). These findings suggest that participants in the understanding condition perceived the offender to be admitting that he or she has done harm and that he or she was responsible for it.

Main Analyses

If the understanding hypothesis was correct, taking revenge should only lead to satisfaction when avengers received an understanding message from the offender. This hypothesis was tested with a 2 (revenge: yes/no) \times 2 (understanding: yes/no) analysis of variance. The main effect of understanding was highly significant, $F(1,80) = 9.91$; $p < .01$; $\eta_p^2 = .11$. Satisfaction/deservingness was higher when participants received an understanding message ($M = 3.18$; $SD = 0.94$) than when they received a no understanding message ($M = 2.53$; $SD = 1.11$). Moreover, the main effect of taking revenge was significant, $F(1,80) = 4.69$; $p = .03$; $\eta_p^2 = .06$. Avengers had higher satisfaction/deservingness scores ($M = 3.21$; $SD = 1.08$) than non-avengers ($M = 2.63$; $SD = 1.01$). Most importantly, these main effects were qualified by a significant revenge \times understanding interaction effect, $F(1,80) = 4.03$; $p < .05$; $\eta_p^2 = .05$. Post hoc tests revealed that taking revenge was more satisfactory than not taking revenge only when avengers received an understanding message, $t(43) = 2.78$; $p < .01$; $d = 0.83$; but not when avengers received a no-understanding message, $t(39) = 0.36$; $p = .72$; $d = 0.12$. Mean values are depicted in Figure 2.

In order to test the possibility that it is not *receiving* an understanding message what enhances satisfaction and perceptions of deservingness among avengers, but rather *writing* a message and referring to the offender's unfair distribution proposal in one's own message, satisfaction/deservingness scores were submitted to a 2 (understanding: yes/no) \times 2 (reference to unfair distribution in participants' messages: yes/no) analysis of variance. This time, only avengers were included in the analysis. As expected, only the

main effect of our understanding manipulation was significant, $F(1,27) = 6.13$; $p = .02$; $\eta_p^2 = .19$. The main effect of participants' message content and the understanding \times message content interaction effect were not significant (p 's $> .66$).

GENERAL DISCUSSION

The present paper aimed at investigating the conditions under which victims of injustice experience satisfaction and deservingness when they seek revenge. Two hypotheses were addressed: The *comparative suffering hypothesis* states that victims feel satisfied when a balance of suffering has been restored. This hypothesis received some support in Study 1, but not in Study 2. The *understanding hypothesis* states that victims feel satisfied when the perpetrator knows why he or she has been, will be or could be punished. This hypothesis received strong support in all three studies. In the following sections, we will reflect upon our findings and offer some suggestions for future research.

The Comparative Suffering Hypothesis

In Study 1, we found that seeing the offender suffer from fate led to similar experiences of satisfaction and deservingness as taking revenge. A methodological weakness of this study, however, was that participants might have thought that their partners (i.e., the offender) interpreted their loss of money as an act of revenge, even though it was merely a misfortune. Study 2 reconciled this ambiguity. In this study, no support for the comparative suffering hypothesis was found: Participants who learned that their partners had bad luck in a lottery experienced just as much satisfaction as those who learned that their partners were lucky in the lottery. Only those participants who received a message from their partners saying that they understood their bad luck as punishment reported a much higher degree of satisfaction and deservingness.

The ambiguous results regarding the comparative suffering hypothesis contradict simple balance-theoretical accounts of vengeance. Other empirical evidence is also in line with the notion that revenge aims at more than just rebalancing pleasure and pain. In Crombag et al.'s (2003) interview study, participants were asked why they took revenge; one response

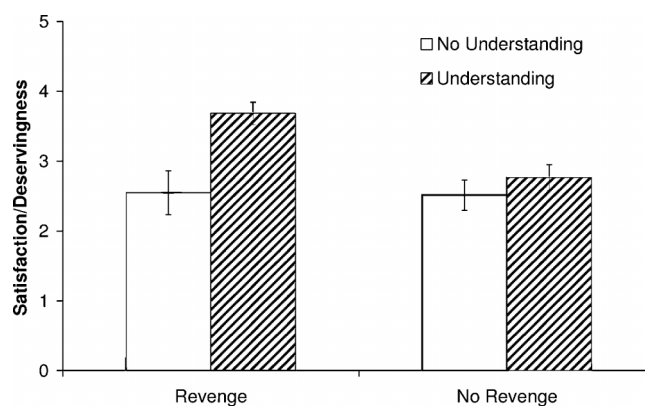


Figure 2. Mean values on satisfaction/deservingness by revenge and understanding (Study 3). Vertical lines denote standard errors of means

option was “to restore a balance by inflicting an equal amount of pain” to the offender. This response was endorsed by only 3% of Croub et al.’s (2003) respondents. In a similar vignette study (Gollwitzer, 2007) “making the offender suffer” was judged as the least important revenge goal across four offense vignettes ($M = 1.21$ on a scale from 0/“not at all important” to 5/“very important”). However, other studies suggest that avengers want the offender to feel worse (Boon et al., 2009; Schmid, 2005). How can these different findings be reconciled?

One possible answer to this question is that wanting the offender to feel bad is not the ultimate, but rather a proximal goal of revenge: Victims might want to make the offender feel bad because feeling bad indicates that the offender has learned his or her lesson. Thus, victims’ desire to worsen the offender’s emotional state might simply be a proxy for more functional latent goals—such as delivering a message to the offender (Gollwitzer, 2009).

Taken together, we found only weak support for the comparative suffering hypothesis in our studies. One might argue, however, that the way we understood and tested this hypothesis here was rather strict: Starting with Frijda’s (1994) notion that revenge aims at making the offender suffer at least to an equal degree we inferred that, if this was true, seeing the offender suffer from misfortune should elicit satisfaction and deservingness among victims. Note, however, that even a less strict interpretation of the comparative suffering hypothesis (“revenge is satisfactory if *the victim* makes the offender suffer to a comparable degree”) is not supported by our results: If this was true, then avengers should have experienced more satisfaction and deservingness than non-avengers even in the absence of an understanding message. This was, however, not the case, neither in Study 1 nor in Study 3.

The Understanding Hypothesis

The understanding hypothesis, on the other hand, received much stronger support in the present studies. Study 1 suggests that if offenders interpret revenge as a response to their prior behavior, then avengers feel more satisfied and experience more deservingness. Study 2 shows that satisfaction/deservingness scores are high if offenders interpret their bad luck as a response to their prior behavior. Study 3 confirms the notion that receiving an understanding message from the offender (but not referring to the offender’s behavior in one’s own message) increases satisfaction/deservingness among avengers. This study clearly shows that revenge can only be satisfactory when the offender knows why revenge has been taken. In this regard, the findings of our three studies resonate well with recent research and theorizing on laypersons’ punitive attitudes: Retributive punishment is considered an appropriate response to criminal transgressions, but it can only be fully satisfactory if offenders understand *why* they are being punished (Duff, 2001; Durkheim, 1964; French, 2001; Nozick, 1981).

What Do These Findings Tell Us?

The answer to the question what these findings tell us is at least two-fold. First, our findings might provide an answer to the question why some studies found that taking or anticipating

revenge can have positive effects on the avenger (e.g., Denzler et al., 2009; de Quervain et al., 2004; Gollwitzer & Denzler, 2009), whereas other studies found that taking revenge is not beneficial for the avenger (e.g., Carlsmith et al., 2008). In line with the understanding hypothesis, we argue that revenge cannot be satisfying unless the offender knows why revenge has been taken. For example, in the studies reported by Carlsmith et al. (2008), participants had the opportunity to punish a person who behaved egoistically in a social dilemma situation. The authors found that those who decided to punish the free-rider felt even worse than those who did not punish. These authors did not manipulate any effects the punishment might have had on the offender. Possibly, avengers might have felt better in these studies if their punishment had been effective in delivering a message to the offender.

Second, our findings suggest that a central goal of revenge is to make the offender aware that he or she has caused harm and did something wrong. In other words: Revenge does not seem to be merely about paying back, it is also about delivering a message. As Adam Smith (1869) put it, “To bring him [i.e., the offender] back to a more just sense of what he owes us, and of the wrong that he has done to us, is frequently the principal end posed in our revenge, which is always imperfect when it cannot accomplish this” (p. 139).

The idea that revenge entails a message to the offender and that this message must be understood by the offender has been formulated by philosophers (e.g., French, 2001; Nozick, 1981), psychologists (e.g., Heider, 1958; Miller, 2001), and sociologists (e.g., Durkheim, 1964). The findings from our studies are in line with this idea. However, having demonstrated that victims perceive satisfaction and deservingness if the offender knows why he or she has been, will be, or could be punished, our research also leaves some questions unanswered, and it even brings about some new questions.

What Do These Findings Not Tell Us?

Probably the most important question that has not been addressed in our research is what it is that makes receiving an understanding message a positive experience for the victim. Remember that the understanding messages that we used in our studies only implied that the offender understood revenge as punishment. What else does such an understanding message communicate to the victim? First, the message could imply a reaffirmation of the victim’s status. Being a victim is associated with a threat to one’s status, self-esteem, and power (Bies & Tripp, 1996; Shnabel & Nadler, 2008; Wenzel, Okimoto, Feather, & Platow, 2008). Receiving an understanding message might redress this status and power imbalance between the victim and the offender. In line with this assumption, Shnabel and Nadler (2008) found that when victims engaged in a social interaction in which status threats were removed, they were more willing to reconcile with their partner. Future studies should therefore investigate whether perceived removal of status threats mediates the effect of receiving an understanding message on satisfaction/deservingness.

Second, the message could imply that the offender has been successfully reeducated, and that he or she will be less likely to commit a similar offense in the future. Possibly, it is the implicit promise that “I will not do it again” that makes the

message satisfying for the victim. If this was the case, victims should be less likely to take revenge if they have reason to believe that the offender has learned his or her lesson and will refrain from behaving unfairly again in the future. This would be consistent with Heider's (1958) notion of revenge as a way to exert behavior control over the offender, to change his "belief-attitude structure" (p. 267).

One methodological weakness in Studies 1 and 3 is that the factor "revenge" vs. "no revenge" has not been manipulated in a randomized fashion; rather, participants chose for themselves whether they wanted to take revenge or not. Although we did not find any systematic differences between avengers and non-avengers with regard to justice-related personality traits in Study 3, there might be other threats to the validity of our design. An alternative interpretation of our findings that we cannot fully rule out is that avengers simply rationalized their vengeful behavior by agreeing with the statement that the offender "got what he or she deserved." One should, however, mention that other studies that used a more unobtrusive measure of "successful goal fulfillment" found a similar pattern of results (Gollwitzer & Denzler, 2009). Nonetheless, ruling out alternative explanations remains a task for future studies which should find a way to manipulate revenge vs. no revenge in a truly experimental fashion. For example, participants could be asked to fantasize that they would take revenge (or not), and satisfaction and deservingness could be measured in the course of this fantasized social episode. Another, admittedly more fragile possibility could be to give participants false feedback that an "implicit measure" has revealed that they had unconsciously decided to take revenge (or not). A third possible solution would be to restrict the design to participants who actually took revenge and to experimentally manipulate to what degree this revenge was effective in (a) equaling the "suffering score" and (b) delivering a message to the offender. In line with our present findings, we suppose that only the second factor influences avengers' satisfaction and perceptions of deservingness.

Conclusion

Our findings have implications both for theory on retributive justice and for practical applications. Perceptions of reestablished justice demand more than just an equalization of suffering. Contrary to Frijda's (1994) notion, retributive justice is thus not only (or, not ultimately) about getting equal in suffering; rather, it seems to be about making the offender aware that his or her actions were wrong and that retributive punishment (or revenge) is a necessary response to his or her wrongful action. Achieving such a form of understanding can therefore be regarded an effective element in restorative justice or mediation procedures. Revenge can be satisfactory to victims, but only if offenders understand why punishment has been inflicted on them.

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