



# Schadenfreude in powerless individuals due to malicious envy

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**Abstract**

Schadenfreude is defined as the pleasure one gets from another person's misfortune. Previous research states that people experience more schadenfreude and less sympathy toward high achievers with undeserved achievements who suffer misfortunes as opposed to those with deserved achievements. This is due to envy, which can be differentiated into malicious envy that is elicited by undeserved achievements and evokes more schadenfreude, and benign envy that is elicited by deserved achievements and evokes less schadenfreude. In the present research, we want to investigate if a high power position also evokes more schadenfreude when it is undeserved than when it is deserved. Participants completed an auction game that determined role assignment (deserved or undeserved), and a probability game, before reporting outcome satisfaction after each trial. Next, they were asked some questions about dispositional schadenfreude, sympathy, self-threat, deservingness, power and demographics. The results show no difference in schadenfreude between the undeserved and deserved power condition. This is not in agreement with previous research. Therefore, it is interesting to replicate this study with the improvements stated in the discussion of this article. It would also be interesting to investigate if undeserved power will elicit more malicious envy and deserved power more benign envy. It is also interesting which parts of the brain are involved in either malicious envy or benign envy.

## Introduction

Imagine you know people who are always lucky, have a lot of friends, are very successful in their job, and everybody likes them. When one of these persons, for example, falls in front of a group or says something stupid, you cannot help a little smile most of the time. That emotion is called schadenfreude, defined as the pleasure one gets from another person's misfortune (Heider, 1958). Previous research states that people experience more schadenfreude and less sympathy toward high achievers with undeserved achievements who suffer misfortunes as opposed to those with deserved achievements (Van Dijk, Ouwerkerk & Goslinga, 2009). Envy is a feeling that occurs when a person lacks another's superior quality, achievement, or possession and either desires it or wishes that the other lacked it (Parrott & Smith, 1993). Envy can be differentiated into malicious envy that is elicited by undeserved achievements and evokes more schadenfreude, and benign envy that is elicited by deserved achievements and evokes less schadenfreude (Van de Ven, Hoogland, Smith, van Dijk, Breugelmans, & Zeelenberg, in press; Van de Ven, Zeelenberg & Pieters, 2012). In the present research, we want to investigate if a high power position also evokes more schadenfreude when it is undeserved than when it is deserved, and if this is mediated by malicious envy.

Power is a social force that is present in a lot of situations, including those where people are high achievers. Therefore, it is important to see whether schadenfreude also occurs towards powerful high achievers. The remainder of the introduction of this thesis is organized as follows: First, we will discuss schadenfreude as an emotion. Next, we will elucidate the link between deservingness and schadenfreude. Furthermore, we will clarify the difference between benign and

malicious envy and how this relates to schadenfreude. Lastly, we will formulate the hypotheses.

In his article 'laws of emotion' Frijda (1988) describes different types of laws about emotions that are all based on the general law of situational meaning. This law states that emotions arise in response to the meaning structures of given situations (Frijda, 1988). One of those laws is the law of concern, which states that emotions in general are responses to events that are important for the individual's goals, motives, or concerns (Frijda, 1988). This holds that when something is important for an individual, it gets more emotional meaning than when it is not important. So, concerns give an event its emotional meaning. When these concerns are threatened or damaged, this evokes negative emotional responses. On the other hand, if the concerns are satisfied, positive emotions will arise. Schadenfreude is such a positive emotion. This means that something in the suffering of other people is good for your own concerns. At least two concerns are involved in schadenfreude. The first concern is justice, because people do not like unjust situations. The second concern is the relief of envious feelings, because envy is an aversive state. When at least one of these concerns is satisfied, a positive feeling will arise. When feeling schadenfreude, the reward center of the brain is even involved (Takahashi, Kato, Matsuura, Mobbs, Suhara & Okubo, 2009).

### *Deservingness*

The first reason why people can enjoy the misfortunes of others is that the misfortune can appeal to people's concern for justice. When a situation is unjust, according to Heider's (1958) balance theory principles, people see this as unfair and do not like that sort of situation. Feather (2006) found that deserved outcomes will elicit positive emotions and undeserved outcomes will be followed by negative

emotions. So, when a negative outcome follows from a negatively valued situation, people will have a positive emotion. This is due to the fact that this situation is just and deserved because a negative consequence is connected to a negatively valued situation. A positive situation in which the subsequent situation was also positive is also seen as deserved. However, if a positive consequence will follow from a negative situation, or the other way around, people will see this as unfair and undeserved. So, when the circumstances are related, or if something is based on qualities of the person oneself, this is seen as deserved. And the other way around; when the circumstances are unrelated, or if it is not based on one's own qualities, it is undeserved. In conclusion, deserved outcomes will elicit positive emotions and undeserved outcomes will be followed by negative emotions.

Feather and Sherman (2002) found that schadenfreude is especially evoked when misfortune befalls a high achiever (instead of a low achiever). However, the literature states that this is not always the case with high achievers; it depends on the circumstances. Van Dijk, Ouwerkerk and Goslinga (2009) found that people experience more schadenfreude and less sympathy toward high achievers with undeserved achievements who suffer misfortunes as opposed to those with deserved achievement. This is moderated by the deservingness of the misfortune, that is, the more the misfortune is seen as deserved, the more schadenfreude is evoked. According to Feather (2006), the positive emotion schadenfreude is evoked because it is a justified situation. When a high achiever has an achievement that is not deserved, and that person gets a misfortune, this feels right and a positive emotion will be evoked. This appeals to a sense of justice. To extend this line of reasoning, we will in this study investigate if this is also the case when the achievement of the high achiever is power.

Power is the asymmetric control over valued resources in social relations (Keltner, Gruenfeld, & Anderson, 2003; Thibaut & Kelly, 1959). Power is a social force that is almost in every situation and shapes human behavior. For example, it can exist in the workplace or people can gain power with their economic resources or cultural capital (Bourdieu, 1984). Power might even be present in a sales negotiation. Power might be one of the most omnipresent social forces in the social world. Power can also be deserved or undeserved. Undeserved power is power that is unrelated to the circumstances or to the qualities of the person. In line with previous research, we expect that a misfortune of someone who has undeserved power evokes more schadenfreude than a misfortune of someone with deserved power because the misfortune is appraised as more deserved.

### *Envy*

The second reason why people can enjoy the misfortunes of others is that the misfortune of the other person is a relief from envy. Envy is a feeling that occurs when a person lacks another's superior quality, achievement, or possession and either desires it or wishes that the other lacked it (Parrott & Smith, 1993). Another definition is that envy is a negative emotion associated with a desire to reduce the gap between oneself and the superior other (Miceli & Castelfranchi, 2007; Smith & Kim, 2007). After all, envy has a negative effect on subjective well-being and life satisfaction (Belk, 1985). Most of the time envy is evoked by social comparison, which is the fact that people are driven by a desire for self-evaluation in which they compare their own situation, attributes and abilities with those of other people (Festinger, 1954). Such a comparison occurs spontaneously, even when not explicitly requested (Mussweiler, Rüter & Apstude, 2004). Comparisons with others who are better or worse off might strongly influence how people think about themselves and the emotions they

experience (Epstude & Mussweiler, 2009). In particular, upward comparison – comparison with a superior other – evokes envy by letting people think that they are worse off than others. Besides upward comparison, another factor is involved in evoking envy, namely the importance of the domain on which they compare themselves with the other. So, when a domain is important to oneself, the person will feel more envy towards the superior other (Bers & Rodin, 1984).

Research has found that there are two different types of envy: benign and malicious envy (Van de Ven, Zeelenberg & Pieters, 2009). The two different types of envy might be distinguished by feelings, thoughts, action tendencies, actions and motivations (Roseman, Wiest & Swartz, 1994). Benign and malicious envy are different in motivations because malicious envied people want to pull those others down and benign envied people try to move themselves up. But most important of all, benign and malicious envy are determined by the deservingness of the achievement. Benign envy is a feeling that is evoked by a person that deserved the achievement, whereas malicious envy is evoked when the person did not deserve the achievement (Van de Ven, Zeelenberg & Pieters, 2012). Thus, the difference between benign and malicious envy can be distinguished by the deservingness of the achievement.

It is debated for many years whether there is a relationship between envy and schadenfreude. Some researchers found that there was not a link between the two constructs (Feather & Sherman, 2002; Herali & Weiner, 2002), whereas other researchers did find a relationship (Brigham, Kelso, Jackson, & Smith, 1997; Van Dijk, Ouwerkerk, Goslinga, Nieweg & Galucci, 2006; Smith, Turner, Garonzik, Leach, Urch-Druskat, & Weston, 1996). This difference is found due to the fact that the researchers who did not find a link were measuring more benign envy and the researchers who did find a link were measuring more malicious envy. Smith and

colleagues (1996) showed that schadenfreude takes away the basis of (malicious) envy, like inferiority and feeling self-threatened, and people experience this as pleasant. Malicious envy is a more negative feeling than benign envy and therefore the relief is bigger when the other has a misfortune. This suggests that malicious envy is linked to schadenfreude and benign envy is not. Other research confirms this with the finding that malicious envy evokes more schadenfreude than benign envy and that this effect is independent of other antecedents of schadenfreude, like deservingness of the achievement or inferiority (Van de Ven, Hoogland, Smith, van Dijk, Breugelmans, & Zeelenberg, 2014).

In the present study, we provide a further examination of the relationship between power, benign and malicious envy, and schadenfreude. Envy might also be evoked in people who are in a low power position towards people who are in a high power position. Benign envy might be evoked in low power people when the position of high power people is deserved. In contrast, malicious envy might be evoked when that position is undeserved. According to the definition of malicious envy, undeserved achievement leads to more malicious envy (Van de Ven et al., 2012). For that reason, we expect that an undeserved high power position also evokes more malicious envy. This, in turn, increases schadenfreude (Van de Ven et al., 2014). In other words, we expect that undeserved high power leads to more schadenfreude than deserved power. Moreover, we expect that this is mediated by malicious envy. In contrast, we expect that deserved power leads to benign envy and that this will not affect schadenfreude. This is due to the fact that benign envy is not related to schadenfreude (Van de Ven et al., 2014). In line with these findings, the hypothesis of this study is as follows: *the misfortunes of targets with undeserved power evoke more schadenfreude than those of targets with deserved power.*

## Method

### *Participants*

This study had a 2 (deservingness of power: deserved or undeserved) x 2 (outcome: positive or negative) x 2 (person: other or self) mixed participants design. Deservingness was manipulated between subjects and outcome and person within subjects. We recruited 155 participants, of which 70 were in the deserved power condition and 85 in the undeserved power condition. More demographics about the participants can be found in table 1.

Table 1. *Demographics about the participants*

	<i>Deserved power condition (n=70)</i>	<i>Undeserved power condition (n=85)</i>
<i>Gender, n (%)</i>		
<i>Male</i>	14 (20)	11 (12.9)
<i>Female</i>	56 (80)	74 (87.1)
<i>Average age in years (SD)</i>	23.3 (8.1)	22.0 (6.4)
<i>Range age in years</i>	15-57	17-55
<i>Colorblindness, n (%)</i>	1 (1.4)	0 (0)

There were no further in- or exclusion criteria for the participants. We recruited them via posters at the university, facebook and personal social network. All the participants agreed with the informed consent. Furthermore, the ethical committee of the university gave permission to conduct this study.

### *Procedure*

This study took place online. Therefore, the participants were able to do this at home on their own computers. They were told that they played with another participant who had already given answers in the first round of the study. First of all,

the participants read the informed consent and by clicking through, they 'signed' the informed consent and thereby gave permission to use their answers as data for this study.

After the informed consent, they played the first game: the auction game. The participants first read the instructions about this game. In order to check if the participants understood the instructions, they filled out 6 multiple choice questions about the rules of the game. The auction game involved bidding on an item with an unknown monetary amount between zero and 50. They had to try to bid under and as close as possible to the amount. If the bid was more than the monetary amount, they lost. If the bid was below the monetary amount, but higher than the other person's bid, they won that trial. If the bid was below the monetary amount but lower than the other person's bid, they lost that trial. The auction game consisted of 12 trials. With each auction they won, they received 4 euros. This game was used to provide money that participants used in the second game, as well as to assign roles to the participants. For the role assignment, the participants were informed that their performance in the auction game determined whether they made decisions for themselves in the probability game (high power position) or whether another person made the decisions for them (low power position). Regardless of performance, the participants were always assigned to the low-power position. Deservingness was manipulated with the reasons for the role assignment. In the high deserving condition, participants were told that the other person deserved to be in the high power position because they had just outperformed the participant in the auction game. Therefore, the other person was assigned to the high power condition and made all the choices on behalf of the participant. In the low deserving condition, participants were told that even though

they outperformed the other, the experimenter had selected the other person to be in the high power position and to make all the decisions on behalf of the participant.

The next game was a probability game. In this game, the participants were shown a probability of losing or winning 5 euro. There was also an option to take a sure amount of 0.50 euro. The other person decided whether the participant played the gamble or took the sure amount. The participants then saw the outcome as either a gain or loss for them. They also saw whether the other person decided to play the gamble or take the sure amount for themselves, and subsequently, they saw the outcome. Pie charts were used to make the probabilities clearer; the green part was the probability to win, and the red part was the probability to lose. Because colors were used to indicate the probabilities in this study, the colorblindness of the participants was also measured. After each trial, the participants rated their satisfaction about that trial's outcome. A slider was used for this, ranging from 0 to 100, from unsatisfied to very satisfied. Before the participants started with the actual game, but after the instructions, they were first asked 5 multiple choice questions to see if they understood the rules of the game. Then, they filled out their opinion about an acceptable gamble for themselves. This allows us to determine which ratio of probabilities they would have gambled on and not taken the sure amount. They also guessed as to the other person's ratio. Then, they started with the actual probability game. The participants played 80 trials of the probability game, of which 40 trials they observed were outcomes for themselves, and 40 trials for the other person.

Next, the participants were asked some questions about dispositional schadenfreude, sympathy and self-threat. There was also a manipulation check about the manipulations of deservingness, power and control. After that, we asked some questions about the demographics. In the end, they got a debriefing, in which we

made clear what we tried to measure. The whole experiment took about 45 minutes. Participants got 5 euro for participation, or 2 credits, if they were first year students. Also they had a chance to win a voucher of 50 euro for bol.com.

### *Data Analysis Strategy*

The main question of this study is whether there is a difference in schadenfreude between participants whose opponent has deserved power and participants whose opponent has undeserved power. The expectation is that misfortunes of others with undeserved power evoke more schadenfreude than misfortunes of others with deserved power. To measure the hypothesis of this study, we carried out a MANOVA. The dependent variable is satisfaction ratings of outcomes. The independent variables are within subject variables 'person' (other or self) and 'outcome' (win or lose) and the between subject variable 'deservingness of the power of the other person', which divides the sample into a deserved power condition and an undeserved power condition. To confirm the hypothesis, an interaction effect for the 3 variables 'deservingness', 'outcome' and 'person' has to be found, and then the average of the participant's satisfaction for the other person's losses should be higher in the undeserved power condition than in the deserved power condition.

### **Results**

First of all, a manipulation check for power was carried out to see if the participants actually thought they were in the low power condition. The power was measured with 2 questions on a 7-point Likert scale. The mean of the power measures of the deserved condition was 1.76. A one-sample t-test was carried out to test if this significantly differed from the average of the 7-point Likert scale, which was 3.5. The mean of the power measures of the participants in the deserved condition was significantly lower than the average of 3.5,  $t(69) = -13.54, p = .000$ . This means that

the participants in the deserved condition actually thought they were in the low power condition. The undeserved participants rated their power with an average of 1.58. Also this mean differed significantly from the average of 3.5,  $t(84) = -22.27, p = .000$ . Both the deserved and undeserved condition were significantly below the average of 3.5, so the power manipulation worked well.

As a manipulation check for the deservingness of power, we carried out an independent samples t-test. The average of the deservingness measures was 2.85 for the undeserved condition. For the deserved condition the average of the deservingness measures was 3.15. These two averages were significantly different from each other,  $t(153) = 2.32, p = .022$ , which means that the participants in the deserved condition thought that the power was more deserved than in the undeserved condition.

To test the null hypothesis that the misfortunes of targets with undeserved power evoke equal schadenfreude as those of targets with deserved power, we carried out a MANOVA. Unfortunately, there was no significant interaction effect for the three variables person, outcome and deservingness ( $F(1,153) = 1.568, p = .212, \eta^2 = .01, \omega^2 = .238$ ). This means that the differences between the groups could not be explained by a combined effect of the variables. With this insignificant interaction effect between the three variables we showed that there is no difference between the groups for the three variables. Hereby our null hypothesis, that schadenfreude is equal in both conditions, is confirmed. When taking a closer look, it even showed that the satisfaction of the misfortune of another person is higher in the deserved condition ( $M = 59.6, SD = 24.93$ ) than in the undeserved condition ( $M = 49.5, SD = 26.50$ ). Although it's not significant, this is against our expectations.

However, there was a significant main effect for the variable outcome ( $F(1,153) = 191.67, p = .000, \eta^2 = .56, \omega^2 = 1.00$ ). This showed that the satisfaction was

significantly higher regarding wins ( $M = 59.14$ ,  $SD = 14.18$ ) than regarding losses ( $M = 35.6$ ,  $SD = 14.34$ ). This suggests that the participants were more satisfied when the outcome was positive (win) than when the outcome was negative (lose).

There was also a significant main effect of deservingness ( $F(1,153) = 4.138$ ,  $p = .044$ ,  $\eta^2 = .026$ ,  $\omega^2 = .525$ ). This means that the satisfaction in the deserved condition ( $M = 48.9$ ,  $SD = 8.33$ ) was significantly higher than in the undeserved condition ( $M = 46.7$ ,  $SD = 9.65$ ). This suggests that the participants were more satisfied with the outcomes when the power of the other person was deserved than that power was undeserved.

However, the main effect of person was not significant ( $F(1,153) = .12$ ,  $p = .74$ ,  $\eta^2 = .001$ ,  $\omega^2 = .063$ ). This reveals no difference in the ratings of satisfaction for the other person or for the self.

The interaction effect of outcome by deservingness was significant,  $F(1,153) = 5.01$ ,  $p = .03$ ,  $\eta^2 = .032$ ,  $\omega^2 = .60$ . A paired sample  $t$ -test was carried out to compare the averages (see Figure 1). In the deserved condition, the satisfaction of wins ( $M = 58.80$ ,  $SD = 11.55$ ) was significantly higher than the satisfaction of the losses ( $M = 39.37$ ,  $SD = 13.85$ ),  $t(69) = 8.94$ ,  $p = .000$ . This suggests that the satisfaction is higher regarding wins than regarding losses, if the power of the other person is deserved. In the undeserved condition, the satisfaction of wins ( $M = 59.42$ ,  $SD = 16.09$ ) was also significantly higher than the satisfaction of the losses ( $M = 32.49$ ,  $SD = 14.07$ ),  $t(84) = 10.97$ ,  $p = .000$ . This suggests that the satisfaction is again higher regarding wins than regarding losses, also if the power is undeserved.

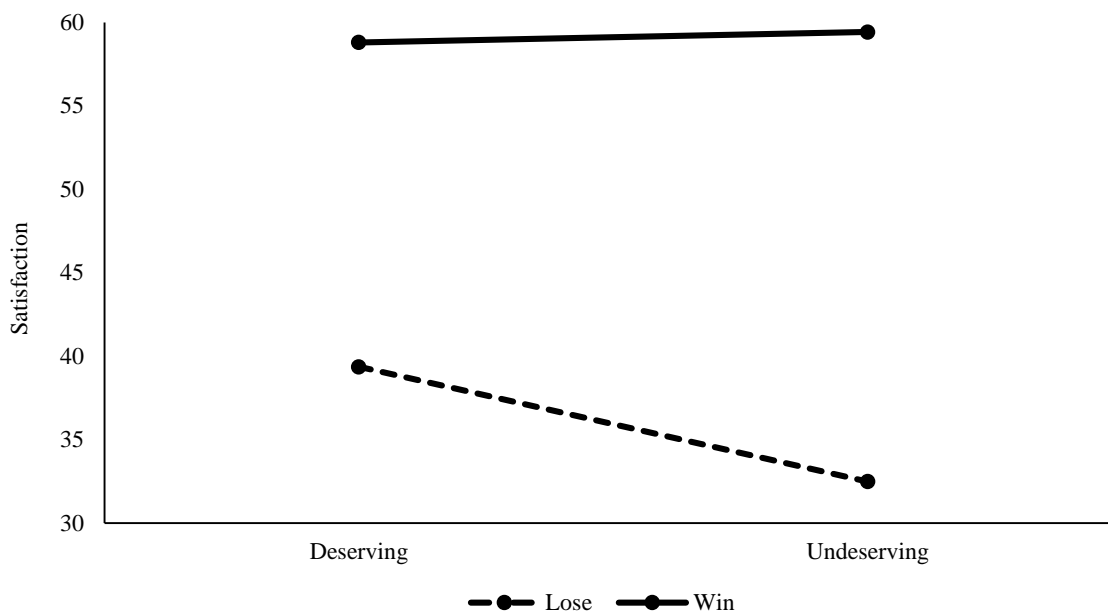


Figure 1. *The interaction effect of outcome and deservingness on satisfaction*

The satisfaction of losses in the deserved condition ( $M = 39.37$ ,  $SD = 13.85$ ) was significantly higher than the satisfaction of the losses in the undeserved condition ( $M = 32.49$ ,  $SD = 14.07$ ),  $t(153) = 3.05$ ,  $p = .003$ . This means that the satisfaction is higher when the outcome was negative (lose) in the deserved condition than in the undeserved condition. However, the satisfaction of the wins in the deserved condition ( $M = 58.8$ ,  $SD = 11.55$ ) was not different than the satisfaction of wins in the undeserved condition ( $M = 59.42$ ,  $SD = 16.09$ ),  $t(150.35) = -.27$ ,  $p = .78$ . This means that there is no difference in the ratings of wins between the deserved and undeserved condition.

Additionally, the interaction effect of person by outcome was also significant,  $F(1,153) = 237.29$ ,  $p = .000$ ,  $\eta^2 = .61$ ,  $\omega^2 = 1.00$ . A paired sample  $t$ -test with 4 pairs was carried out as a post hoc test to compare the averages (see Figure 2). The satisfaction when the other person won ( $M = 40.38$ ,  $SD = 25.41$ ) was significantly lower than when the other person lost ( $M = 54.07$ ,  $SD = 26.22$ ),  $t(154) = -3.73$ ,  $p = .000$ .

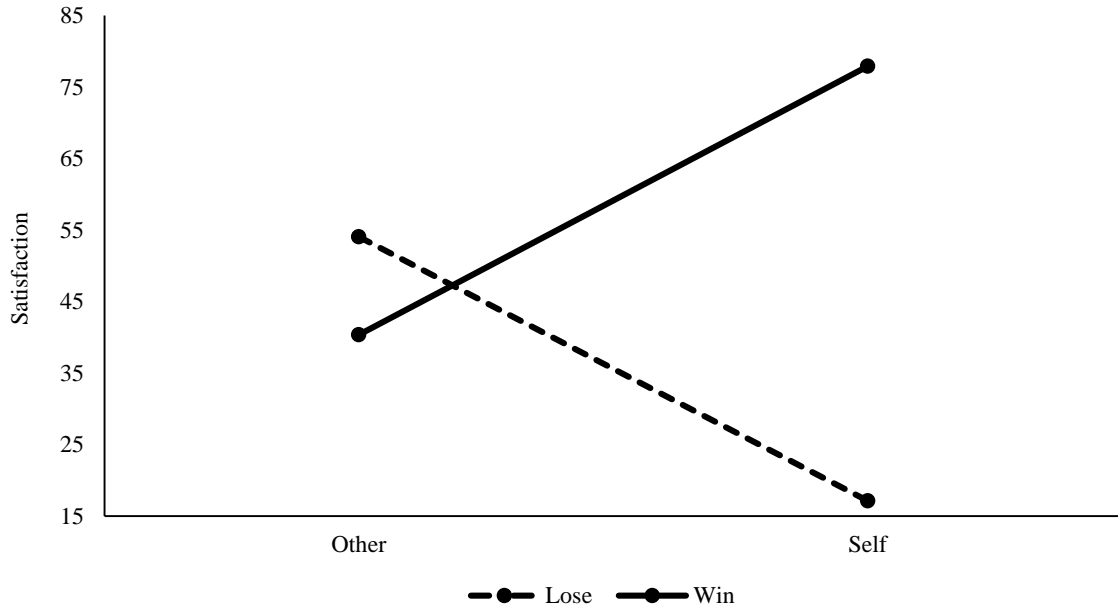


Figure 2. *The interaction effect of person and outcome on satisfaction*

The satisfaction when the participant won ( $M = 77.9$ ,  $SD = 16.40$ ) was significantly higher than when the participant lost ( $M = 17.13$ ,  $SD = 14.76$ ),  $t(154) = 30.19$ ,  $p = .000$ . When the other person won ( $M = 40.38$ ,  $SD = 25.41$ ) the satisfaction was significantly lower than when the participant won ( $M = 77.9$ ,  $SD = 16.40$ ),  $t(154) = -14.59$ ,  $p = .000$ . The satisfaction when the other person lost ( $M = 54.07$ ,  $SD = 26.21$ ) was significantly higher than when the person itself lost ( $M = 17.13$ ,  $SD = 14.76$ ),  $t(154) = 14.64$ ,  $p = .000$ . Lastly, the interaction effect of person by deservingness was not significant,  $F(1,153) = .082$ ,  $p = .78$ ,  $\eta^2 = .001$ ,  $\omega^2 = .06$ .

### Discussion

In this study we examined whether misfortunes of others with undeserved power evoke more schadenfreude than those with deserved power. We showed that there is no significant difference in schadenfreude between the two groups. This means that there was not more schadenfreude in the undeserved power condition than in the deserved power condition. A possible explanation for not finding this effect could be the fact that the participants are already irritated by the fact that they are in

the powerless condition, and their irritation might influence their rating of satisfaction. Because they are irritated, they might rate the satisfaction of the other person's misfortune high, no matter which condition they are in.

Another explanation could be that people do not really think they are playing against another person. In this experiment we show the participants that the answers of the other person were acquired before, which might be slightly unbelievable. Less emotions will be elicited when they think they are playing against a computer and therefore, it is better to set a timer for each trial to make the participants think that they have to wait for another participant to give answers, so that they think they are really playing with another participant.

Furthermore, the fact that it is an online study could also be an explanation for not finding evidence for the hypothesis. People doing online studies might want to finish it quickly and might not read everything carefully. The difference in the deserved and undeserved power condition is explained in two sentences, and when people do not read it carefully but scan through it quickly, less emotions will be elicited. For future research, it might be interesting to ask a question about this, to make them aware of the condition they are in. Making the participants more aware of their condition may elicit more intense emotions.

Another explanation for the fact that we did not find evidence for our hypothesis is that only a few men participated. Men might be more susceptible for power because they are evolutionarily designed to be dominant. In former times, men could better be dominant because of the women who sought out the most dominant men to make it more likely to survive and replicate. Because evolutionarily men try to have the dominant position over another person, they may find it more important to have power than women. Therefore, the difference in deservingness of power may

elicit stronger emotions in men. So, when more men participate in the study, a significant difference may be found between the deserved and undeserved condition.

Furthermore, an explanation could be the usage of the word 'satisfied' in the question 'Are you satisfied with the outcome of this trial?'. Because the measurement of this question is schadenfreude, 'pleasure' might be a better word to describe schadenfreude. Heider (1958) describes schadenfreude as the pleasure one gets from another person's misfortune. So, when you feel schadenfreude, pleasure is a more applicable word than satisfaction. For further research, it might be interesting to use the word 'pleasure' to measure schadenfreude instead of satisfaction.

Although it is not significant, it is even shown that the satisfaction of the misfortune of another person is slightly higher in the deserved condition than in the undeserved condition. A possible explanation could be the fact that the 'anger' of the participant is directed to experimenter instead of the other person, because in the study the following sentence is shown to the undeserved condition to distinguish deservingness of the power: 'Despite you outperforming the other person, the experimenter chose the other person to be in the high power position'. This distracts the attention from the other person, and this might lead the 'anger' of the unfairness towards the experimenter. Because of this, the participants might not be mad at other person, but at the experimenter because the experimenter is the cause of the unfairness and not the other person. Therefore, in the undeserved condition might be less schadenfreude towards the other person, because the other person has nothing to do with the unfairness. Although it is the power of the other person, the other did not decide to have it. However, in the deserving condition, the experimenter did nothing wrong, so all the anger they have, for not being in the high power condition, is directed to the other person, instead of to the experimenter. This might explain the

reversed findings. For future research, this might be shown: ‘Despite you outperforming the other person, the other person is in the high power position’. With this there are no statements about who is the cause of the undeserved position, so then the ‘anger’ will probably be directed to the person with the power.

Another explanation could be the fact that participants in undeserved condition are so unsatisfied about the whole situation, that they only filled out unsatisfied with all the trials, instead of satisfied with the misfortunes of the other person. Therefore, this causes a low satisfaction, even when it’s regarding a misfortune of another person.

With all the information above, it might be interesting to replicate this study, to actually confirm the hypothesis based on all the theory that is already found. Besides, there are a few other things that might be interesting to investigate. Even if this is already examined with other conditions than power, it might be interesting to measure benign and malicious envy and test the following hypothesis: *Undeserved power will elicit more malicious envy and deserved power will elicit more benign envy*. Other thing that might be interesting to investigate in future research is how this works in the brain. It might be interesting to examine which parts of the brain are involved in unfairness, envy and schadenfreude.

### **Conclusion**

In conclusion can be said that this research does not provide evidence for the theory that misfortunes of others with undeserved power evoked more schadenfreude as those of others with deserved power. This is not in agreement with previous research. Previous research states that people experience more schadenfreude and less sympathy toward high achievers with undeserved achievements who suffer misfortunes as opposed to those with deserved achievements (Van Dijk, Ouwerkerk &

Goslinga, 2009). Therefore, it is interesting to replicate this study. In future, it might be better to set a timer to make it more believable for the participants that there actually is another person they are playing with. Furthermore, it might be interesting to make the participants more aware of the condition they are in by making that part of the study bigger and asking questions about their condition. It also might be better to let more men participate in the study and to use the word 'happy' instead of 'satisfied' in the measurement of schadenfreude. A different sentence to distinguish the deservingness of power would also be better, so there are no statements about who the cause of the undeserved position is and the 'anger' will be directed to the person with the power. It would also be interesting to investigate if undeserved power will elicit more malicious envy and deserved power more benign envy and also which parts of the brain are involved in this. Finally, given all information above, there is enough reason for further research.

### References

- Belk, R. W. (1985). Materialism: Trait Aspects of Living in the Material World. *Journal of Consumer Research*, 12, 265-280.
- Bers, S., & Rodin, J. (1984). Social Comparison Jealousy: A Developmental and Motivational Study. *Journal of Personality and Social Psychology*, 47, 766-779.
- Bourdieu, P. (1984). The social space and the genesis of classes. *Actes De La Recherche En Sciences Cosiales*, 3-15.
- Brigham, N. L., Kelso, K. A., Jackson, M. A., & Smith, R. H. (1997). The roles of invidious comparisons and deservingness in sympathy and Schadenfreude. *Basic and Applied Social Psychology*, 19, 363–380.
- Epstude, K., & Mussweiler T. (2009). What you feel is how you compare: How comparisons influence the social induction of affect. *Emotion*, 9 (1), 1-14.
- Feather, N. T. (2006). Deservingness and emotions: Applying the structural model of deservingness to the analysis of affective reactions to outcomes. *European Review of Social Psychology*, 17, 38–73.
- Feather, N. T., & Sherman, R. (2002). Envy, resentment, schadenfreude, and sympathy: Reactions to deserved and undeserved achievement and subsequent failure. *Personality and Social Psychology Bulletin*, 28, 953–961.
- Festinger, L. (1954). A Theory of Social Comparison Processes. *Human Relations*, 7 (2), 117–140.
- Frijda, N. H. (1988). The laws of emotion. *American Psychologist*, 43 (5), 349-358.
- Hareli, S., & Weiner, B. (2002). Dislike and envy as antecedents of pleasure at another's misfortune. *Motivation and Emotion*, 26, 257–277.
- Heider, F. (1958). *The psychology of interpersonal relations*. New York: Wiley.

- Keltner, D., Gruenfeld, D. H., & Anderson, C. (2003). Power, approach and inhibition. *Psychological Review*, *110*(2), 265-284.
- Miceli, M. & Castelfranchi, C. (2007). The Envious Mind. *Cognition and Emotion*, *21* (3), 449-479.
- Mussweiler, T., Rüter, K., & Epstude, K. (2004). The man who wasn't there: subliminal social comparison standards influence self-evaluation. *Journal of Experimental Social Psychology*, *40* (5), 689-696.
- Parrott, W. G. & Smith, R. H. (1993). Distinguishing the experiences of envy and jealousy. *Journal of Personality and Social Psychology*, *64*, 906-920.
- Roseman, I. J., Wiest, C., & Swartz, T. S. (1994). Phenomenology, Behaviors and Goals Differentiate Discrete Emotions. *Journal of Personality and Social Psychology*, *67*, 206-221.
- Smith, R. H. & Kim, S. H. (2007). Comprehending Envy. *Psychological Bulletin*, *133*, 46-64.
- Smith, R. H., Turner, T. J., Garonzik, R., Leach, C. W., Urch-Druskat, V., & Weston, C. M. (1996). Envy and Schadenfreude. *Personality and Social Psychology Bulletin*, *22*, 158-168.
- Takahashi, H., Kato, M., Matsuura, M., Mobbs, D., Suhara, T., & Okubo, Y. (2009). When your gain is my pain and your pain is my gain: neural correlates of envy and Schadenfreude. *Science*, *323*, 937-939.
- Tesser, A. (1988). Toward a self-evaluation maintenance model of social behavior. *Advances in experimental social psychology*, *21*, 181-226.
- Thibaut, J. W., & Kelley, H. H. (1959). *The social psychology of groups*. New Brunswick, NJ US: Transaction Publishers.

- Van de Ven, N., Hoogland, C. E., Smith, R. H., van Dijk, W. W., Breugelmans, S. M., & Zeelenberg, M. (2014). When Envy Leads to Schadenfreude. Manuscript on review.
- Van de Ven, N., Zeelenberg, M. & Pieters, R. (2009). Leveling Up and Down: The Experience of Benign and Malicious Envy. *Emotion*, 9, 419-429.
- Van de Ven, N., Zeelenberg, M. & Pieters, R. (2012). Appraisal Patterns of Envy and Related Emotions. *Motivation and Emotion*, 36, 195-204.
- Van Dijk, W. W., Ouwerkerk, J. W., Goslinga, S., Nieweg, M., & Gallucci, M. (2006). When people fall from grace: Reconsidering the role of envy in schadenfreude. *Emotion*, 6, 156–160.
- Van Dijk, W., Ouwerkerk, J. W., Goslinga, S. (2009). The Impact of Deservingness on Schadenfreude and Sympathy: Further Evidence. *The Journal of Social Psychology*, 149(3), 290–292.