

Small economic losses lower total compensation for victims of emotional losses

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ARTICLE INFO

Keywords:

Judgment and choice
Affect
Emotion
Heuristics and biases

ABSTRACT

This article explores an important yet understudied topic – the lay public's opinion of fair compensation for victims of emotional losses (emotional suffering). Four experiments, covering diverse contexts, find an anomalous phenomenon: laypeople would award *less* compensation to someone incurring an emotional loss if the person also incurs a small economic loss than if the person incurs little or no economic loss. We explain the effect using a reasonable-anchor account: if the victim incurs little or no economic loss, people will base their assessment of total compensation on what they consider the emotional loss is worth; if the victim also incurs a non-trivial economic loss, people will anchor their assessment on the economic loss, and if the economic loss is small, the compensation will also be small. In other words, the presence of an economic loss “crowds out” the emotional loss in assessment of total compensation. This research enriches our knowledge about how laypeople make compensation decisions for emotional losses, and when they use economic losses as anchors.

1. Introduction

Many of the losses individuals suffer are emotional rather than economic. By emotional losses we mean emotional sufferings (e.g., fear, anxiety, and sorrow), inflicted, intentionally or unintentionally, by others. A construction worker witnessing an accident may experience distress; a pedestrian hit by a careless cyclist may experience fear; a student participating in a deception-laden experiment may experience resentment. Emotional losses have grim consequences; they lower the subjective wellbeing of the affected individuals.

How much, if at all, should the affected individuals be compensated for their emotional loss? This question has been studied from the legal perspective (Avraham, 2005; Bornstein, 1998; Bublitz & Merkel, 2014; Croley & Hanson, 1995; Niemeyer, 2004; Schatman, 2009; Sunstein, 2008; Vallano, 2013; Young, 2008). For example, according to American tort laws, emotional distress should be compensated for, and can be compensated for even without proof of pecuniary loss (American Law Institute, 2012).

Nevertheless, it is important also to study this issue from the psychological perspective, specifically, to study what the lay public consider fair compensation for emotional loss. There are multiple reasons why it is important. First, many emotional losses are beyond the purview of the law, either because these losses do not involve legal

violations or because they are not severe enough to be brought to the court. Consequently, compensation for such losses often depends upon the judgment of laypersons serving as mediators, such as the recommendation of mutual friends of the parties in dispute, or the decision of an ad hoc committee in a firm.

Second, even for losses that are brought to the court, compensation is usually recommended by jurors, most of whom are also laypersons, not legal experts. Further, even if the jurors know and follow the law, there is still ample leeway to determine the award amount, because the law for suffering damages is highly flexible; for the same emotional loss, one may legally award tens of thousands of dollars or nil (Niemeyer, 2004).

Finally, understanding the lay attitude toward emotional loss sheds light not only on how mediators make compensation recommendations, but also, more broadly, on how laypeople treat emotional (versus other) factors in decisions in general.

In summary, compensation for emotional losses is not just a legal issue – it is also a psychological issue. This research studies this issue from the psychological perspective; in particular, it studies the lay psychology about emotional loss.

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2. Theory and the less-for-more effect

In this research, we focus on monetary compensation. We argue that the presence of a small economic loss can lower the total compensation for the victim of an emotional loss. To illustrate, consider two alternative situations: one in which the victim incurs both an emotional loss and an economic loss, and one in which the victim incurs only an emotional loss. Both of these situations are common in real life. For example, suppose an employee sent by her company to work in a dangerous neighborhood encounters a mugger and is psychologically devastated. Consider two alternative scenarios: in one, the mugger takes away the employee's watch, so she incurs both an emotional loss and an economic loss; in the other scenario, the mugger fails to take anything away, so the employee incurs only an emotional loss. A disinterested ad hoc committee (consisting of laypersons) is called upon to decide how much the company should compensate the employee, if at all. What would the compensation be in each case?

Normatively, *ceteris paribus*, compensation should be higher in the emotional-loss-plus-economic-loss situation than in the emotional-loss-only situation. The reason is simple: the more one loses, the more one should be compensated. But we predict that, in reality, laypeople may award lower total compensation in the emotional-loss-plus-economic-loss situation than in the emotional-loss-only situation. Why?

Unlike economic loss, emotional loss is hard to evaluate or therefore malleable. Nevertheless, people are not clueless about how much an emotional loss is worth. When a victim incurs only an emotional loss, people who make compensation decisions will base compensation on how much they *feel* the emotional loss is worth. However, if the victim also incurs an economic loss, people will base their compensation decision on the economic loss. The idea that people would base their compensation decision on the concurring economic loss is based on the extensive existing literature showing that people tend to anchor their judgment of an uncertain quantity on an externally given value, and, while they may make some adjustment, the adjustment is usually insufficient (e.g., Epley & Gilovich, 2006; Fitts & Seeger, 1953; Hsee, Dube, & Zhang, 2008; Slovic, Griffin, & Tversky, 2002; Tversky & Kahneman, 1974).

Drawing on the anchoring literature, we make the following predictions for compensation judgments. When no economic loss exists, people will base their assessment of the total compensation for the victim of an emotional loss on what they perceive the emotional loss is worth. However, when an economic loss exists, people will anchor their assessment of the total compensation on the economic loss. Thus, we predict that people will exhibit an anomalous “less-for-more effect”: They will award less total compensation if there exists an economic loss and the economic loss is small relative to the emotional loss than if there is no economic loss at all. In other words, the presence of a small economic loss drags down total compensation.

We further propose that the effect postulated above is not simply the traditional anchoring effect. In the traditional anchoring effect, an external number, no matter how extreme or implausible it is, can influence one's judgment of an uncertain value (e.g., Jacowitz & Kahneman, 1995; Mussweiler & Strack, 2001). For example, one's judgment of the year of Einstein's first visit to USA could be influenced by an implausible anchor of 1992 even more than by a plausible anchor of 1939 (Mussweiler & Strack, 1999).

Based on the traditional anchoring-and-adjustment perspective (Tversky & Kahneman, 1974), later research proposes the selective accessibility model to explain the process behind the anchoring effect (Strack, Bahnik, & Mussweiler, 2016; Strack & Mussweiler, 1997). The selective accessibility model supports that implausible anchors can produce larger effect than plausible ones. That is because when presented with implausible anchors, people adjust from the implausibly extreme values to the boundary of plausible values, and confirmatively test the hypothesis that the suitable answer is equal to the adjusted value. As a result, information supporting this hypothesis becomes

more accessible. Since the boundary of plausible values is the extreme of the possible answers, implausible anchors are likely to have a strong assimilation effect than plausible ones. Evidence has been found in several studies (Mussweiler & Strack, 1999, 2001; Strack & Mussweiler, 1997).

However, other research suggests that implausible anchors may exert less influence than plausible anchors (e.g., Blankenship, Wegener, Petty, Detweiler-Bedell, & Macy, 2008; Chapman & Johnson, 1994; Wegener, Petty, Blankenship, & Detweiler-Bedell, 2010; Wegener, Petty, Detweiler-Bedell, & Jarvis, 2001). Wegener et al. (2001) related the anchoring effect to the process of attitude change. According to this perspective, increases in anchor extremity, beyond the range of plausible values, can lead to a smaller anchoring effect. For example, in a study, the authors asked participants to make eight estimations (e.g., “The record high temperature for a day in Seattle, Washington,” and “The average starting annual salary of college graduates in the United States”) after presenting them with either extreme or moderate anchors. They found that the anchoring effect was less evident when extreme anchors were used than when moderate anchors were used. In addition, research finds that expert knowledge moderates the effect of implausible anchors on numerical evaluations (Loschelder, Frieze, Schaerer, & Galinsky, 2016; Mussweiler & Strack, 2000).

Building on this body of research, we propose that not any economic loss would anchor the judgment of total compensation. Although lay people do not know exactly how much the victim should be compensated for, common sense tells them that it should not be too small. Therefore, in order for an economic loss to produce an anchoring effect, people must consider it “reasonable,” namely, a reasonable basis for making a compensation decision. If the economic loss is so trivial that the judge does not perceive it as a reasonable basis for judging total compensation, he or she will just treat it as if it did not exist. Because a small economic loss anchors the judgment of total compensation whereas a trivial economic loss does not, the total compensation will be smaller if the economic loss is small than if it is trivial.

In short, our hypothesis is that people may award less total compensation to the victim of an emotional loss if the victim also incurs a small but non-trivial economic loss than if the victim incurs no economic or only a trivial economic loss.

In this research, we do not presume how a small economic loss is considered small or trivial; rather, we ask pretest participants to answer the questions. An economic loss in a given case is deemed small if pretest participants rate it as small relative to the emotional loss in that case. An economic loss is deemed trivial if pretest participants consider it too small to serve as a reasonable basis for judging total compensation.

We summarize our theory in Fig. 1. The figure describes how much total compensation people would award the victim of an emotional loss as a function of how much economic loss the victim also incurs. Normatively, the total compensation should be a monotonically positive function of the extra economic loss, namely, holding the emotional loss constant, the greater the economic loss, the more the total compensation. But according to our theory, the relationship is not always positive. The total compensation will be lower if the economic loss is small rather than trivial or non-existent, exhibiting the less-for-more effect. However, if the economic loss is moderate or large relative to the emotional loss, compensation judgments will still be anchored on the economic loss, but the less-for-more effect will not be observed because the economic loss is no longer smaller than the emotional loss.

3. Overview of studies

Below we report four studies, which covered contexts ranging from compensation for employees and research participants to compensation for car-accident victims. Of these studies, Study 1 included a non-economic condition and a small-economic-loss condition and tested the proposed less-for-more effect. Study 2 sought to replicate the finding of

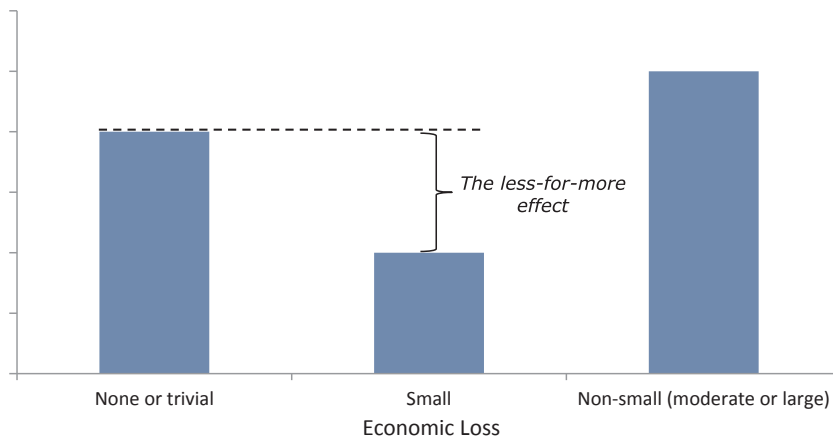


Fig. 1. Predicted total compensation at different economic loss levels.

Study 1 with potential real consequences. Study 3 included not only a non-economic-loss condition and a small-economic-loss condition, but also a trivial economic-loss condition. Study 4 included a non-small (relatively larger) economic-loss condition, and thereby provided a more comprehensive test of our theory. Study 5 elicited not only people's judgment of total compensation, but also their judgment of compensation specifically for the given emotional loss. By doing so, Study 5 was able to distinguish whether the proposed less-for-more effect was an anchoring effect or a crowding-out effect.

Because we conducted our studies on mTurk, some participants may not have carefully read the instructions (Downs, Holbrook, Sheng, & Cranor, 2010; Goodman, Cryder, & Cheema, 2013). Further, because we did not set any limits for our dependent variable (amount of compensation), some participants may have given extremely high responses. To screen out participants who were careless or outliers, we adopted two *ex-ante* exclusion criteria. First, at the end of each study, we added some comprehension questions to check whether participants had carefully read our instructions. Failure to answer these questions correctly indicates that either participants did not pay attention or might have misunderstand the scenario. Therefore, prior to data analysis, we excluded those who failed more than one comprehension question. (For a list of the comprehension questions, see Appendix.) Second, after having excluded the careless participants, we also excluded outliers, defined here as those whose responses were over three standard deviations from the mean. By these criteria, we excluded 4 from Study 1 (4%), 1 from Study 2 (1%), 10 from Study 3 (6%), 10 from Study 4 (5%), and 14 from Study 5 (3%). In describing the individual studies in the ensuing sections, we report the sample sizes pre-exclusion and the results post-exclusion.

4. Study 1

4.1. Method

Study 1 tested the hypothesized less-for-more effect. Ninety-two adults (54 men, mean age = 35.24) recruited from MTurk participated in the study for a fixed payment. They read a scenario with two between-participants versions, which represented a no-economic-loss condition and a small-economic-loss condition, respectively. The scenario read as follows; the italicization is added here to highlight the difference between the two conditions:

A reckless driver accidentally ran into the front yard of a neighboring house, when the owner, a 70-year-old woman, was relaxing there. The owner was almost killed, but narrowly escaped. Not physically injured, she was extremely scared. According to an impartial psychologist, the emotional distress the owner experienced was equivalent to that someone of her age would experience if she were forced to watch four horror movies in a row.

[No economic loss] *The accident did not damage anything tangible, and caused no economic (financial or material) loss to the owner.*

[Small economic loss] *The accident damaged a section of the fence of the yard, and cost the owner \$80 to fix it (including parts and labor).*

The owner demands compensation from the driver. The driver has no insurance coverage and agrees to pay her with his own money. You know both of them. They ask you to mediate and recommend the amount of compensation. In total, how much do you think the driver should pay the owner as compensation?

Note that both conditions involved an emotional loss (emotional distress), but one version also involved an economic loss and the other did not.

4.2. Results and discussion

4.2.1. Pretest

We assumed that the economic loss was small relative to the emotional loss. To verify the assumption, we described the no-economic-loss version of the case to a group of pretest participants ($N = 50$, recruited from the same pool as those in the main study) and asked them to rate how big an economic loss of \$80 was relative to the emotional loss on a 5-point scale ranging from 1 (extremely small) to 5 (extremely large), and found that their mean rating significantly below the midpoint ($M = 2.34$, $SD = 1.30$; $t(49) = 3.58$, $p < 0.001$).

4.2.2. Total compensation

The results, summarized in Table 1, revealed the predicted less-for-

Table 1
Results of Studies 1–4.

		Economic loss (\$)	Overall compensation (\$)		
			Mdn	Mean	SD
Study 1	No		250.00	1401.56	2163.00
	Small (80)		200.00	470.67	505.19
Study 2	No		10.00	12.65	11.51
	Small (5 ⁺)		4.50	8.34	9.03
Study 3	No		100.00	598.58	1225.47
	Trivial (1)		100.00	906.18	2112.85
	Small (50)		50.00	244.82	345.13
Study 4	No		100.00	363.00	32.07
	Trivial (1)		110.00	515.63	892.10
	Small (60)		75.00	211.67	297.06
	Large (800)		1000.00	1086.17	694.60

* From pretest.

more effect: participants awarded significantly less total compensation to the emotionally-distressed woman if the accident also damaged her fence than if it did not, $M_s = \$470.67$ and $\$1401.56$, $Medians = \$200$ and $\$250$, $SDs = 505.19$ and 2163.00 ; $t(86) = 2.81$, $p < 0.01$, $d = 0.60$. Note that both the median and the mean were lower in the small-economic-loss condition than in the no-economic-loss condition, indicating that the effect was not caused by a few extreme values.

Study 1 provided initial evidence for the less-for-more effect, suggesting that laypeople care about emotional loss and would award considerable compensation if that is the only loss. However, when a small economic loss accompanies the emotional loss, the small economic loss would affect the total compensation judgment in an anomalous way—instead of adding to the total compensation, the presence of a small economic loss would lower the total compensation recommended for the victim.

5. Study 2

Study 2 extended the findings of the first study to a research-related context with potential real consequences. It asked respondents to recommend the amount of compensation we (the experimenters) should pay college students to participate in an emotionally distressing study. We used a subtle method to manipulate economic loss: whether the students needed to spend any extra time in the study beyond what they would do for course credit. We assumed that the respondents in the study (all of whom were MTurk workers) were sensitive to time and would consider the cost of time to be an economic loss.

5.1. Method

Ninety-nine adults (64 men, mean age = 32.70) from MTurk were recruited to take the study for a fixed payment. They read the following instructions, which comprised two between-participants versions – without or with an economic loss (i.e., the extra time):

We plan to run a survey study using college students. Because you have experience doing survey studies, we are soliciting your advice about how much we should compensate students to participate. Please note: we are not asking you to participate; we are only asking you for your advice.

We plan to use college students (who are taking a psychology course) as participants in our study. As a requirement of the course they are taking, these students are expected to participate in a psychology study for up to one hour (60 min) without extra compensation.

The procedure of the study is as follows. Participants will first watch a video about medical procedures and then complete a survey about personality traits. The video contains intensely visual and gruesomely bloody footage, such as cutting open one's body to remove an organ. People who watch the video will likely experience emotional distress on the day of the study as well as several days afterwards.

[No economic loss] *The entire study will take 60 min to complete – 30 min for watching the video and 30 min for completing the personality survey.*

[Small economic loss] *The entire study will take 90 min to complete – 30 min for watching the video and 60 min for completing the personality survey.*

As noted earlier, participants in our study will be college students taking a psychology course. As a requirement of the course, they are expected to participate in a psychology study for up to one hour (60 min) without extra compensation.

Given the above description about our study, do you think we

should give the students any extra compensation? If so, how much?

Note that in both conditions the students would incur an emotional loss by watching the 30-min medical-procedure video, and the only difference was that in the no-economic-loss condition, the students did not need to spend extra time in the study, and in the small-economic-loss condition, the students had to spend an extra 30 min in the study, which we assume was similar to an economic loss.

Normatively, the total cost to the students was higher in the small-economic-loss condition than in the no-economic-loss condition. But our theory predicted that our participants would advise us to give the students more compensation in the no-economic-loss condition than in the small-economic-loss condition.

5.2. Results and discussion

5.2.1. Pretests

We assessed the size of the economic-loss by asking a group of pretest participants ($N = 46$, recruited from the same pool as the participants in the main experiment) how much 30 min were worth for a college student, and found the median response to be \$5.00 ($M = \7.89; $SD = 6.84$).

We assumed that this economic loss (\$5) was small relative to the emotional loss. To verify the assumption, we conducted a pretest ($N = 51$) like the one in Study 1, and found that the respondents rated the amount indeed significantly below the midpoint of the aforementioned 5-point small-large scale ($M = 2.17$, $SD = 1.26$; $t(51) = 4.72$, $p < 0.001$).²

5.2.2. Total compensation

The result, summarized in Table 1, replicated the anomalous less-for-more effect. The MTurk workers advised us to pay the students significantly less in the small-economic-loss condition, in which the students had to spend the extra 30 min, than in the no-economic-loss condition, in which the students did not have to spend the extra time, $M_s = \$12.65$ and $\$8.34$, $Medians = \$10$ and $\$4.5$, $SDs = 11.51$ and 9.03 ; $t(96) = 2.07$, $p < 0.05$, $d = 0.42$. This finding corroborated our proposition that the extra time cost affected participants' evaluation of the compensation for emotional distress. In other words, people use the cost of time as a basis to evaluate the pain of the heart.

6. Study 3

The first two studies only demonstrated a less-for-more effect between no economic loss and a small economic loss, namely, that people would award the victim of an emotional loss less compensation if the victim incurs a small economic loss than if she incurs no economic loss.

Study 3 manipulated not only the absence or presence of an economic loss, but also the size of the economic loss. According to our theory, unlike the traditional anchoring effect, a trivial economic loss will not lower total compensation, because people treat it as if there were no economic loss. Thus, we would also predict a less-for-more effect between the trivial-economic-loss condition and the small-economic-loss condition, such that people would award less total compensation to the victim of an emotional loss if the victim incurred a small (but not trivial) economic loss than if the victim incurred a trivial economic loss. Experiment 3 tested this prediction.

To reiterate, Study 3 included three economic loss levels: no economic loss, a \$1 (trivial) economic loss, and a \$50 (small) economic

² We also ran a post-test ($N = 51$) for the economic loss (\$5) in this study to verify the assumption that the \$5 economic loss in this context was not trivial, namely, not perceived as too small to serve as a reasonable basis for judging total compensation. The procedure of the post-test was similar to that of the triviality pretest in Study 3. As expected, most (65%) of the participants did not consider \$5 to be too small to serve as a reasonable basis for judging total compensation ($\chi^2(1) = 4.41$, $p < 0.05$; relative to 50%).

loss. We predicted that total compensation would be higher in the small-economic-loss condition than in both the no-economic-loss and the trivial-economic-loss conditions.

6.1. Method

One hundred sixty-eight adults (102 men, mean age = 33.42) recruited from MTurk participated in the study for a fixed payment. They read an employee-related scenario similar to the employee example in the Introduction; it involved three between-participants conditions – no-economic-loss, trivial-economic-loss (\$1), and small-economic-loss (\$50):

Tina is an engineer working for a construction company. Last week, the company sent her to a rough neighborhood to fix something. After she had completed the job, Tina was walking back toward her car when a mugger approached her and threatened her with a handgun. Tina screamed for help. The mugger grabbed her purse and ran away. Although Tina was not physically injured, she was extremely scared and felt deeply depressed for the entire week.

[No economic loss] *Tina had no money in her purse. The mugger threw the purse on the street when running away.*

[Trivial economic loss] *Tina had \$1 cash in her purse. The mugger took the money, and threw the purse on the street when running away.*

[Small economic loss] *Tina had \$50 cash in her purse. The mugger took the money, and threw the purse on the street when running away.*

Assume everything above is true. As an impartial third party, do you think Tina's company should give Tina any compensation? If so, how much?

Note that in all conditions the mugger inflicted Tina an emotional loss, but the economic loss due to the event was varied, from no economic loss, through a trivial economic loss (\$1), to a small economic loss (\$50). We predicted that total compensation would be smaller in the small-economic loss condition than both the no-economic-loss and the trivial-economic-loss conditions.

6.2. Results and discussion

6.2.1. Pretest

We assumed that \$1 was trivial (i.e., would be perceived as too small to serve as a reasonable basis for judging total compensation), and \$50 was not. To test this assumption, we described the \$1 version and the \$50 version of the case to a group of participants ($N = 149$, recruited from the same pool as those in the main study) and asked them whether the monetary amount in the scenario (\$1 or \$50) was a reasonable basis for judging the total compensation for the victim. Participants chose from four options—one “not reasonable” and three “reasonable” (“slightly reasonable,” “somewhat reasonable,” and “pretty reasonable”). As expected, the majority (76%) considered \$1 not reasonable ($\chi^2(1) = 16.29, p < 0.001$; relative to 50%), and only a minority (29%) considered \$50 not reasonable ($\chi^2(1) = 9.62, p < 0.01$; relative to 50%).

Even though \$50 was not considered trivial, we assumed that it was still considered small relative to the emotional loss. To verify the assumption, we conducted another pretest ($N = 50$) like the ones we did in previous studies, and found that the respondents indeed rated \$50 below the midpoint of the aforementioned 5-point small-large scale ($M = 1.98$; $SD = 1.19$, $t(49) = 3.58, p < 0.001$).

6.2.2. Total compensation

The results, summarized in Table 1, supported our prediction. An omnibus ANOVA found a marginally significant difference across the three conditions, $F(2,157) = 2.99, p = 0.05, \eta^2 = 0.04$. Replicating the results of Study 1), participants in the small-economic-loss condition

awarded significantly less compensation than participants in the no-economic-loss condition, $M_s = \$244.82$ and $\$598.58$, $Medians = \$50$ and $\$100$, $SDs = 345.13$ and 1225.47 ; $t(157) = 2.03, p < 0.05, d = 0.40$. Moreover, participants in the small-economic-loss condition also awarded significantly less compensation than participants in the trivial-economic-loss condition, $M_s = \$244.82$ and $\$906.18$, $Medians = \$50$ and $\$100$, $SDs = 345.13$ and 2112.85 ; $t(157) = 2.44, p < 0.05, d = 0.45$. There was no significant difference between the no-economic-loss condition and the trivial-economic-loss condition, $t(157) < 1, n.s.$

The comparison between the trivial and the small economic loss conditions was consistent with our theory, and shows that our finding is not the traditional anchoring effect. This finding also casts doubt on an “averaging-effect” account. According to this account, when making compensation judgments, people adopt an averaging heuristic—basing their judgments on the average, rather than the sum, of all available losses (Chernev & Gal, 2010; Kahneman, 2003). While this account may explain why total compensation was lower in the small-economic-loss condition than in the no-economic-loss condition (because the average of \$50 and the emotional loss was smaller than that of the emotional loss alone), it would not explain why total compensation was smaller in the small-economic-loss condition than in the trivial-economic-loss condition (because the average of \$50 and the emotional loss was larger than the average of \$1 and the emotional loss).

7. Study 4

Study 4 attempted to replicate the results of Study 3 in a different context, and with a wider range of economic losses – including not only no loss, a trivial loss, and a small loss, but also a large loss. According to our prediction, when the economic loss is relatively large, assessment of total compensation will still be anchored on the economic loss, but the less-for-more effect will not occur (namely, total compensation will not be smaller in the large-economic-loss condition than in the no-economic-loss condition), because the economic loss is no longer small relative to the emotional loss.

7.1. Method

Two hundred and ten adults (115 men, mean age = 35.91) recruited from MTurk participated in the study. They read the following scenario with four economic conditions: None, \$1, \$60, and \$800:

Susan is a college student, and works part-time at a small delivery company. One evening a few days ago, her company asked her to deliver packages in one of the most dangerous neighborhoods in town. She unwillingly accepted the assignment. During her trip, three teenagers, each armed with a handgun, approached and surrounded her. They insulted and harassed her for almost half an hour before they let her go.

Susan was not physically harmed or injured, but she was extremely scared. She was shivering all night and could not get any sleep. Although the event happened a few days ago, she is still emotionally distressed.

[No economic loss] *Besides insulting and harassing Susan, the teenagers also demanded money from her. Susan happened to have no money on her, and so the teenagers did not take away any money.*

[Trivial economic loss] *Besides insulting and harassing Susan, the teenagers also demanded money from her. Susan happened to have only \$1 on her, and the teenagers took away the \$1.*

[Small economic loss] *Besides insulting and harassing Susan, the teenagers also demanded money from her. Susan happened to have \$60 on her, and the teenagers took away the \$60.*

[Large economic loss] *Besides insulting and harassing Susan, the*

teenagers also demanded money from her. Susan happened to have \$800 on her, and the teenagers took away the \$800.

Susan asks her company for compensation. The company is small and financially struggling; its total assets are worth only a couple of thousand dollars.

Do you think Susan's company should compensate her? If so, how much compensation should the company give her in total?

7.2. Results and discussion

7.2.1. Pretest

We assumed that \$1 was trivial, and \$60 and \$800 were not. To test the assumption, we conducted a pretest ($N = 204$) similar to the one described in Study 3. As expected, the majority (69%) considered \$1 not a reasonable basis for judging total compensation ($\chi^2(1) = 7.90$, $p < 0.01$; relative to 50%), whereas only a minority (35%) considered \$60 to be not reasonable ($\chi^2(1) = 6.39$, $p < 0.05$; relative to 50%), and also only a minority (15%) considered \$800 to be not reasonable ($\chi^2(1) = 33.88$, $p < 0.001$; relative to 50%).

We also assumed that \$60 was small and \$800 was not, relative to the emotional loss. To test these assumptions, we conducted a pretest ($N = 51$) similar to the ones described in the other studies. As predicted, the respondents rated \$60 as significantly below the midpoint of the 5-point small-large scale ($M = 2.20$, $SD = 1.13$; $t(50) = 5.07$, $p < 0.001$), but rated \$800 as significantly above the midpoint ($M = 3.37$, $SD = 1.18$; $t(50) = 2.25$, $p < 0.05$).

7.2.2. Total compensation

Table 1 summarizes the results. A one-way ANOVA found a significant effect of economic loss, $F(3,196) = 10.82$, $p < 0.001$, $\eta^2 = 0.14$. Specifically, total compensation in the small-economic-loss condition ($M = \$94.82$, $Median = \$60$, $SD = 148.78$) was the lowest—lower than that in the no-economic-loss condition ($M = \$569.27$, $Median = \$150$, $SD = 1241.66$; $t(196) = 3.39$, $p = 0.001$, $d = 0.54$), lower than that in the trivial-economic-loss condition ($M = \$303.02$, $Median = \$100$, $SD = 567.22$; $t(196) = 2.44$, $p < 0.05$, $d = 0.50$), and lower than that in the large-economic-loss condition ($M = \$790.20$, $Median = \$800$, $SD = 429.07$; $t(196) = 5.39$, $p < 0.001$, $d = 2.16$). These results replicated the findings of Study 3, and supported our theory.

8. Total compensation versus emotional-loss compensation

In the experiments reported so far, we only asked participants to assess total compensation, and did not explicitly ask them about compensation for the emotional loss. We assume that because the presence of a non-trivial economic loss anchors people's assessment of total compensation, it "crowds out" potential compensation for the emotional loss. In other words, our theory predicts both an anchoring effect and a crowding-out effect—an anchoring effect on total compensation and a crowding-out effect on compensation for the emotional loss.

Specifically, suppose we first ask people to assess total compensation and then ask them to assess compensation for the emotional loss. We predict that the assessment of total compensation will show an anchoring effect, and the assessment of the emotional-loss compensation will show a crowding-out effect. An anchoring effect is such that the assessment will increase (more or less) in proportion to the size of the economic loss, whereas a crowding-out effect is such that as long as there is a non-trivial economic loss, the assessment will be low, and will stay low regardless of how large the economic loss is.

However, the above predictions apply only to situations in which people are first asked to assess total compensation and then asked to assess emotional-loss compensation. What will happen if people are first asked to assess emotional-loss compensation and then to assess

total compensation? We predict that people will anchor their assessment of the emotional-loss compensation on the economic loss (if it exists and is non-trivial), and will add the economic-loss to the emotional-loss when assessing total compensation.

Generally speaking, we posit that people will anchor whatever compensation they are first asked to assess on a non-trivial concurring economic loss. Therefore, if people are first asked to assess total compensation, and then assess emotional-loss compensation, total compensation will show an anchoring effect and emotional-loss compensation will show a crowding-out effect. If people are first asked to assess emotional-loss compensation and then assess total compensation, emotional-loss compensation will show an anchoring effect and total compensation will show an add-on effect (adding the economic loss to the emotional-loss compensation). Study 5 tested these predictions.

9. Study 5

Study 5 aimed to examine the varying effects caused by the process of either accessing total compensation first followed by emotional-loss compensation or the reversed order. With a 3 (economic loss: no vs. small vs. moderate) $\times$ 2 (compensation sequence: total first vs. emotional-loss-first) design, this study tested the following predictions. First, if total compensation is estimated first, total compensation will be anchored by a (non-trivial) economic loss if such an economic loss exists. As a result, emotional-loss compensation will be crowded out. Second, if, instead, the emotional-loss compensation is estimated first, the emotional-loss compensation will be anchored on the (non-trivial) economic loss. As a result, total compensation will be the sum of emotional-loss compensation and the economic loss.

9.1. Method

Five hundred and twenty adults (286 men, mean age = 36.27) recruited from MTurk participated in the study. The study adopted a 3 (economic loss: none, small vs. moderate) $\times$ 2 (sequence: total first vs. emotional-loss first) between-subjects design. Participants read the following scenario.

Pat, a young resident from Hawaii, stays one night at a small hotel on the East Coast. She uses a free coupon for the stay and does not pay anything.

Pat plans to fly home today. When she checks out at the front desk of the hotel, only one employee is on duty. He is drunk, and treats Pat very rudely. He blocks the door and does not let her leave. He threatens her, and insults her with dirty sexist and racist words for almost 30 min before letting her go. Although Pat is not harmed physically, she is extremely distressed psychologically.

When Pat arrives at the airport, her flight has already left. Pat has to return home today.

[No economic loss] *The airline puts her on the next flight without charging her a rebooking fee.*

[Small economic loss] *The airline puts her on the next flight and charges her a \$100 rebooking fee.*

[Moderate economic loss] *The airline puts her on the next flight and charges her a \$900 rebooking fee.*

The next morning, Pat contacts the owner of the hotel and demands compensation. Do you think the owner should pay Pat any compensation? If so, how much?

Please note:

1. Because Pat used a free coupon to stay at the hotel, the owner could not compensate her by waiving or refunding her hotel fee.
2. Whatever amount of compensation you recommend, it must be

fair not only to Pat but also to the owner of the hotel.

In the total-first conditions, after reading the scenario, participants were first asked to estimation the total compensation for the victim. And then, on the next page, they were asked to indicate how much from the total compensation was to compensate Pat for her emotional loss and how much was for the economic loss (i.e., air-ticket rebooking).

In the emotional-loss-first conditions, after reading the scenario, participants were first asked to recommend compensation separately for the emotional loss and for the economic loss (“How much, if any, should the owner compensate Pat for her emotional suffering?” and “How much, if any, should the owner compensate Pat for her air-ticket rebooking expense?”). After having suggested compensation for each type of losses, participants were directed to the next page, and were asked to indicate the total compensation for the victim.

9.2. Results and discussion

9.2.1. Pretest

We assumed that \$100 was small and \$900 was not, relative to the perceived magnitude of the emotional loss. To test this assumption, we conducted a pretest ($N = 50$) similar to the ones for the other studies. As expected, the respondents rated \$100 to be significantly below the midpoint of the 5-point small-large scale ($M = 2.20$; $SD = 1.01$; $t(49) = 5.60$, $p < 0.001$), but did not rate \$900 to be below the midpoint ($M = 3.20$; $SD = 1.21$; $t(49) = 1.17$, $n.s.$).

9.2.2. Total compensation

As Table 2 shows, in both the total-compensation-first condition and the emotional-loss-compensation condition, we replicated the results in Study 4. A 3 (economic loss: none, small vs. moderate) $\times$ 2 (sequence: total first vs. emotional-loss first) ANOVA found a significant effect of economic loss, $F(2,500) = 10.37$, $p < 0.001$, $\varphi^2 = 0.04$, a significant effect of sequence, $F(1,500) = 23.84$, $p < 0.001$, $\varphi^2 = 0.04$, and a marginally significant effect of interaction, $F(2,500) = 2.41$, $p < 0.091$, $\varphi^2 = 0.01$. Specifically, within the total-first conditions, total compensation in the small-economic-loss condition ($M = \$299.47$, $Median = \$100$, $SD = 587.53$) was the lowest—lower than that in the no-economic-loss condition ($M = \$743.33$, $Median = \$200$, $SD = 1681.90$; $t(261) = 2.52$, $p = 0.012$, $d = 0.31$) and lower than that in the moderate-economic-loss condition ($M = \$1108.73$, $Median = \$900$, $SD = 1046.71$; $t(261) = 4.54$, $p < 0.001$, $d = 0.56$). Likewise, within the emotional-loss-first conditions, total compensation in the small-economic-loss condition ($M = \$785.06$, $Median = \$300$, $SD = 1704.55$) was also the lowest—lower than that in the no-economic-loss condition ($M = \$2510.71$, $Median = \$500$, $SD = 5516.47$; $t(239) = 2.85$, $p = 0.005$, $d = 0.37$) and lower than that in the moderate-economic-loss condition ($M = \$2509.62$, $Median = \$1400$, $SD = 3569.24$; $t(239) = 2.87$, $p = 0.004$, $d = 0.37$).

We predicted that total compensation would show an anchoring effect in the total-first condition, and an add-on-effect in the emotional-loss-first condition. The results, especially the medians, were largely consistent with these predictions. As Fig. 2A illustrates, in the total-first

condition, when there was an economic loss, the median total compensation was the same as the size of the corresponding economic loss, but in the emotional-loss-first condition, the median total compensation was greater than the size of the corresponding economic loss. (It would be ideal to have the median total compensation equals the sum of the corresponding economic loss and the median compensation for the emotional loss. The median total compensation was indeed so in the moderate-small-economic-loss condition, but it was larger than the sum in the small-economic-loss condition, and we do not know why.) We focus on medians here, because relative to means, medians are less susceptible to the influence of extreme responses, and thus more indicative of which anchor most respondents used when rendering their compensation judgments.

9.2.3. Emotional-loss compensation

A 3 (economic loss: none vs. small vs. moderate) $\times$ 2 (sequence: total first vs. emotional-loss first) ANOVA found a significant effect of economic loss, $F(2,500) = 5.53$, $p = 0.004$, $\varphi^2 = 0.02$, and a significant effect of sequence, $F(1,500) = 20.22$, $p < 0.001$, $\varphi^2 = 0.04$. The interaction between economic loss and sequence was not significant, $F(2,500) = 1.92$, $p = 0.15$, $\varphi^2 = 0.01$. Specifically, within the total-first conditions, emotional-loss compensation in the small-economic-loss condition ($M = \$214.15$, $Median = \$50$, $SD = 579.83$) was the significantly lower than that in the no-economic-loss condition ($M = \$627.24$, $Median = \$150$, $SD = 1510.13$; $t(261) = 2.68$, $p = 0.008$, $d = 0.33$), but was not significantly lower than that in the moderate-economic-loss condition ($M = \$381.93$, $Median = \$100$, $SD = 804.33$; $t(261) = 1.08$, $p = 0.284$, $d = 0.13$). However, within the emotional-loss-first conditions, emotional-loss compensation in the small-economic-loss condition ($M = \$655.17$, $Median = \$100$, $SD = 1665.98$) was the lowest—lower than that in the no-economic-loss condition ($M = \$2149.35$, $Median = \$250$, $SD = 5287.16$; $t(239) = 2.56$, $p = 0.011$, $d = 0.33$) and marginally lower than that in the moderate-economic-loss condition ($M = \$1640.63$, $Median = \$500$, $SD = 3493.16$; $t(239) = 1.70$, $p = 0.091$, $d = 0.22$).

We predicted that emotional-loss compensation would show a crowding-out effect in the total-compensation-first condition, and an anchoring effect in the emotional-loss-compensation-first condition. The results, especially the medians, were largely, but not perfectly, consistent with these predictions. As Fig. 2B displays, in both the total-first and the emotional-loss-first condition, the median emotional-loss compensation was lower when there was an economic loss than when there was none. Let us now focus on the small-economic-loss condition and the moderate-economic-loss condition, and see how the median emotional-loss compensation differed between these conditions. In the total-first condition, the median emotional-loss compensation was relatively small (\$50 and \$100) regardless of whether the economic loss was small (\$100) or not (\$900). By contrast, in the emotional-loss-first condition, the median emotional-loss compensation was small (\$100) when the economic loss was small (\$100), and was much larger (\$500) when the economic loss was larger (\$900). In other words, even though in both the total-first condition and the emotional-loss-first condition, the median emotional loss compensation was larger when the economic

Table 2
Results of Study 5.

Assessment sequence	Economic loss (\$)	Overall compensation (\$)			Emotional loss compensation (\$)			Economic loss compensation (\$)		
		Mdn	Mean	SD	Mdn	Mean	SD	Mdn	Mean	SD
Total compensation first	No	200.00	743.33	1681.90	150.00	627.24	1510.13	0.00	106.09	294.07
	Small (100)	100.00	299.47	587.53	50.00	214.15	579.83	100.00	85.53	47.54
	Moderate (900)	900.00	1108.73	1046.71	100.00	381.93	804.33	900.00	732.83	582.48
Emotional-loss compensation first	No	500.00	2510.71	5516.47	250.00	2149.35	5287.16	100.00	354.87	580.14
	Small (100)	300.00	785.06	1704.55	100.00	655.17	1665.98	100.00	128.14	118.30
	Moderate (900)	1400.00	2509.62	3569.24	500.00	1640.63	3493.16	900.00	834.81	275.42

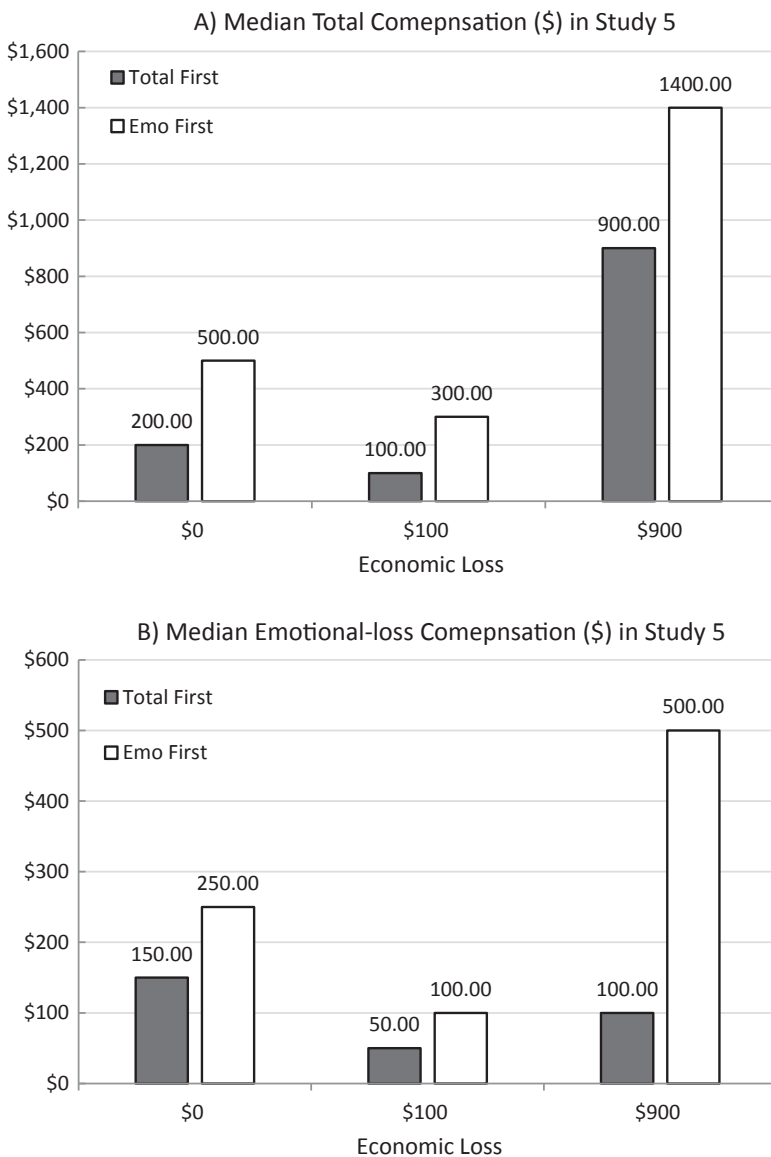


Fig. 2. Results for Study 5.

loss was \$900 than when the economic loss was \$100, the difference in median emotional-loss compensation between the two economic-loss conditions was much smaller when total compensation was assessed first than when emotional loss compensation was assessed first. Indeed, a 2 (economic loss: small versus moderate) $\times$ 2 (sequence: total compensation first versus emotional loss compensation first) ANOVA on emotional loss compensation showed a significant interaction effect, $F(1,338) = 4.42, p < 0.05, \eta^2 = 0.01$. Although not perfect, these results provided some support to our proposition that the presence of a non-trivial economic loss crowds out emotional-loss compensation when total compensation is assessed first, and anchors emotional-loss compensation when emotional loss is assessed first.

We also want to mention a main effect of sequence on compensation: Overall, people awarded higher compensation in the emotional-loss-first condition than in the total-first condition ($F(1,500) = 23.84, p < 0.001, \eta^2 = 0.04$, for total compensation; and $F(1,500) = 20.22, p < 0.001, \eta^2 = 0.04$, for emotional-loss compensation). In fact, even the emotional-loss compensation in the emotional-loss-first condition was higher than the total compensation in the total-first condition ($t(504) = 3.08, p < 0.01, d = 0.27$). That happened, probably because asking people to assess emotional loss first made the emotional loss more salient.

10. General discussion

Across different contexts, from car accidents to mugging to harassment, we found a counter-normative less-for-more effect in compensation decisions: laypeople awarded less compensation for a victim if the victim incurred both an emotional loss and a small economic loss than if the victim only incurred an emotional loss or an emotional loss plus a trivial economic loss. We explain the effect using a reasonable-anchor account, according to which, the presence of a non-trivial economic loss anchors people's assessment of total compensation for the victim of an emotional loss. The present research contributes to the literature on anchoring effects (Mussweiler & Strack, 2000; Strack & Mussweiler, 1997; Wegener et al., 2010) by showing a non-monotonic relationship between the value of an anchor (the size of an economic loss) and the value of the associated judgment (the assessment of total compensation).

Our research leaves many important questions unanswered. One question is whether our theory applies to other types of losses than emotional loss? We suspect it does, as long as the loss is difficult to evaluate. The more difficult it is to evaluate a certain loss, the more likely people making compensation decisions will anchor their compensation decision on economic losses, and therefore the more likely

they will exhibit the less-for-more effect. We focus on emotional loss in this research, because it is an important and ubiquitous issue in real life, yet it is overlooked in the psychological literature.

Another open question is whether the less-for-more effect will occur if compensation is non-monetary. We speculate that it depends on what the compensation is. If it is something that can be easily converted into money, such as time of service, people would still anchor their compensation decisions on economic losses, and would still exhibit the less-for-more effect. On the other hand, if compensation is something that cannot be easily converted into money, such as number of apologies, people would be unlikely to anchor their compensation decisions on economic losses, and hence unlikely to exhibit the less-for-more effect.

A related question is whether the less-for-more effect will occur if the small loss that accompanies the emotional loss is not economic, but something else. The answer depends on the nature of the small loss. Assuming that compensation is monetary, then if the small loss can be easily monetized (e.g., time), the less-for-more effect would still occur (see Study 2), but if the small loss cannot be easily monetized (e.g., a physical injury), the less-for-more effect may not occur.

Readers may also wonder what factors influence people's perception of the size of an economic loss. As noted earlier, the size of an economic loss is relative to the size of the corresponding emotional loss. Thus, any factors that influence the perception of the size of the emotional loss may also influence the perception of the size of the economic loss. Those factors could include the actual magnitude of the emotional loss, the way the emotional loss is described, the identifiability of the victim, and so on.

More generally, we speculate that if the small loss that accompanies the emotional loss is compatible with compensation (e.g., both are monetary), people will likely anchor their compensation decision on the small loss, and exhibit the less-for-more effect, but if the small loss that accompanies the emotional loss is incompatible with compensation, people will be unlikely to anchor their compensation decision on the small loss, and unlikely to exhibit the less-for-more effect.

Is the less-for-more effect found in the present research related to the crowding-out effect in motivation? At a specific level, these effects are quite different, both in terms of independent variable and dependent variables. The crowding-out effect in motivation shows that the presence of extrinsic rewards crowd out one's intrinsic motivation in how hard one works on a task. The less-for-more effect in this research implies that the presence of an economic loss crowds out the emotional loss in how much compensation one awards a victim. But at a more general level, these two effects are similar. Both suggest that the presence of something objective reduces the impact of something subjective, and both seem to reflect a conflict in individuals—that they care about subjective experiences but base their decisions on objective factors.

Is the less-for-more effect in this present research related to Tsai and Hsee's (2009) finding regarding compensation for lost items? In a typical study, Tsai and Hsee found that participants awarded less compensation for a lost item worth \$500 if the original cost of the item was \$200 than if it was zero. Tsai and Hsee's research is similar to the present research in that both show that people base compensation decisions on objective economic quantities. However, the two streams of research are different. Tsai and Hsee (2009) studied compensation for a lost object, whereas the present research studies compensation for emotional loss, a much broader topic. Tsai and Hsee compared two alternative aspects of the same item—its original cost versus its current value, and demonstrated that unless the original cost is zero, compensation for the lost item depends on the original cost rather than on the current value of the item. In contrast, the present research involves two different types of losses—emotional loss versus economic loss, and shows that unless there is no economic loss, total compensation is anchored by the economic loss. Moreover, Tsai and Hsee documented a less-for-more effect only between a non-zero-cost condition and a zero-cost condition, whereas the current research shows a less-for-more

effect not only between a no-economic-loss condition and a small-economic-loss condition, but also between a trivial-economic-loss condition and a small-economic loss condition. By doing so, and also by separately measuring compensation specifically for emotional loss, the present research supports our theory, and distinguishes our findings from the traditional anchoring effect and the averaging effect.

Our research carries practical implications for what victims of both emotional and economic losses should do when seeking compensation. Our research suggests that they refrain from mentioning economic losses unless the economic losses are large. It would be better to say "I was so scared that I lost two nights' sleep" than to say "I was so scared that I lost two nights' sleep and one day's work." If the victim mentions one day's work, the mediator would likely compensate the victim for only her one day's pay. If the victim does not mention one's day work, the mediator would likely award more, unless the victim has a high-paying job and the judge is aware of it.

Assessing emotional loss is difficult, and is prone to biases. The less-for-more effect investigated in this research is not the only bias. Other factors may lead people to either under-assess or over-assess an emotional loss. For example, people may under-assess an emotional loss because of an empathy gap (failure to feel what the victim feels) (Loewenstein, 2000), or lack of objectivity (Hsee, Zhang, Yu, & Xi, 2003), or may over-assess an emotional loss because of outrage toward the perpetrator (Kahneman, Schkade, & Sunstein, 1998), or an affection effect (Hsee & Kunreuther, 2000; Pham, 2007).

However, the fact that assessing psychological bias is difficult does not mean we can ignore it, or subsume it in a concurring economic loss. Emotional loss is real and ubiquitous. We hope this research will draw the attention of psychologists to this important topic, and draw the attention of the public to the potential neglect of emotional losses, especially in the presence of economic losses.

Acknowledgements

The authors thank the Templeton Foundation and their respective schools for research support. The authors also thank Dan Bartels and Michael Ingram for their extensive and helpful comments on early versions of this article.

Appendix A. Comprehension questions

Unless otherwise specified, we asked the following questions at the end of each study when participants had indicated the compensation amount and were no longer able to see the original instructions.

Study 1

1. According to the scenario, what was the woman doing when the accident happened?
 - a. She was relaxing in the front yard.
 - b. She was out of town.
2. According to the scenario, was the woman physically injured during the accident?
 - c. Yes
 - d. No

Study 2

1. According to the instructions, how much extra compensation are the students supposed to receive by participating in a 60-min psychology study?
 - a. \$0
 - b. \$6
2. According to the instructions, how long a study will we ask the students to participate in?
 - c. 60 min
 - d. 90 min

Study 3

1. According to the scenario, what happened to Tina?
 - a. Tina was scared by an anti-Western riot.
 - b. Tina was scared by a mugger.
 - c. Tina was scared by an unexpected earthquake.
2. According to the scenario, did Tina incur any emotional distress from the event?
 - d. Yes
 - e. No
3. According to the scenario, how much cash did Tina lose?
 - f. \$0
 - g. \$1
 - h. \$50
 - i. \$100

Study 4

1. According to the scenario, did Susan incur any emotional distress from the event?
 - a. Yes
 - b. No
2. According to the scenario, did Susan incur any economic loss from the event?
 - c. Yes
 - d. No
3. According to the scenario, how much money did the teenagers take from Susan? (Only in the conditions with economic losses)
 - e. \$1
 - f. \$60
 - g. \$800

Study 5

1. According to the scenario, did Pat miss her flight and had to rebook another one?
 - a. Yes
 - b. No
2. According to the scenario, has Pat been insulted when she check out at the hotel?
 - c. Yes
 - d. No
3. According to the scenario, how much was the rebooking fee?
 - e. \$0
 - f. \$100
 - g. \$900

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