APPRAISALS AS CAUSES OF EMOTIONS

By

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There is some disagreement among emotion researchers about what appraisals cause what emotions. To contribute to the literature, in this study, we tested hypotheses from a prominent appraisal theory of emotions (Roseman, 2011) to investigate the emotions of frustration, disgust, anger, contempt, guilt, and shame. We also compared Roseman’s appraisal (2011) hypotheses to Tracy and Robins’ appraisal (2006) hypotheses for guilt and shame.

We manipulated the appraisals of agency and problem type (Roseman, 2011) to create vignettes and therefore obtain causal data. Participants were asked to compare emotions, rate emotions individually, and rate different appraisals based on the vignettes. We also investigated whether the problem type appraisal differentiates frustration from disgust, anger from contempt, and guilt from shame.

We found causal evidence that problem type contributes to differentiating frustration vs. disgust (in both samples), and guilt vs. shame (in one sample). Anger (in both samples) and contempt (in one sample) were found to be caused by other person agency, and guilt and shame by self agency (in both samples). The combinations of the agency and problem type appraisals caused the predicted emotions for anger, guilt, and
shame in both samples and for frustration, disgust, and contempt in one sample. We also
found significant results for guilt and shame differing on problem type (Roseman, 2011)
but not in controllability (Tracy & Robins, 2006).

Overall, we found some support for the emotion system model (Roseman, 2011)
and also compared two theories of appraisals for guilt and shame. These findings
contribute to the better understanding of appraisals as causes of emotions. Problem type
as being a determinant for guilt vs. shame also has implications for psychopathology,
such as depression, as shame is more dysfunctional than guilt.
Acknowledgements

Firstly, I would like to express my deepest appreciation to my advisor, Dr. Ira J. Roseman for all his guidance throughout this entire project. He has helped me overcome all the setbacks and difficulties throughout the course of this study, and has always been available to answer questions and point me in the right direction.

I would also like to thank my committee members, Dr. Daniel Hart and Dr. Kristin August for their valuable feedback that helped me improve my thesis.

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</table>
Introduction

Emotions are one of the most common experiences in our everyday life, yet one of the most complex phenomena studied in psychology. Researchers have different ideas about how they originate, their components, their role, and how they are classified, or if they even should be considered distinct from each other. Some argue that emotions are discrete whereas some consider them to be on two continua differing only in valence and intensity (e.g., Barrett, 2006; Russell, 2003). Even among researchers who consider emotions to be discrete, there is disagreement as to how many different emotions exist and what factors determine which emotion we experience in a particular situation (e.g., Lazarus, 1991; Lerner & Keltner, 2000; Moors et al., 2013; Scherer, 1984; Smith & Ellsworth, 1985; Tracy & Robins, 2006). It is clear that there is need for more research to examine the causes of discrete emotions. The present study aimed to contribute to this body of research and to address this lack of agreement among researchers in the field by testing a prominent theory of appraisals by Roseman (2011) which proposed several different appraisals as being the causes of various emotions. We tested the combinations of two of these appraisals, namely, agency (self, other, or circumstances) and problem type (instrumental or intrinsic), and whether they elicit the emotions hypothesized in this theory.

Appraisals as Cause of Emotions

The term ‘appraisal’ refers to the way we think about a particular situation or stimulus (Arnold, 1960). Appraisal theories claim that emotions occur as a result of our appraisal, or evaluation. Appraisals are thus used to explain why different people in the same situation experience different emotions. According to Richard Lazarus (1991), our
emotions are determined by how we appraise stimuli. This appraisal mediates the relationship between the stimulus and the emotional response, and is often instant and instinctive.

The Emotion System model attempts to describe how different combinations of appraisals determine different emotional responses (see Figure 1). For example, one appraisal discussed in the paper is that of the type of problem encountered in a situation. If a problem is instrumental, i.e., if it is something caused by the stimulus, versus if it is intrinsic, i.e., an undesirable attribute of the stimulus. The theory proposes that if a person has relatively high potential to control the situation, and the problem is instrumental, it will lead to an attack emotion, which acts against the stimulus to change it. On the other hand, if control potential is relatively high and the problem is something inherent to the stimulus, it will lead to a rejection emotion, which involves moving the stimulus away from oneself. Another way in which emotions are classified is by the agency of the unpleasant stimuli, or who/what has caused the situation, and toward whom the emotion is felt. The three agencies proposed by Roseman (2011) are object/circumstances, another person, or the self.
Figure 1

*Roseman's Emotion System Model of Appraisals*

The Current Study

As discussed in the context of the existing literature, there is disagreement among researchers as to how exactly emotions are caused. The current study attempted to test the combinations of two of the appraisals proposed by Roseman (2011) discussed above: agency and problem type. The emotions being tested were frustration, disgust, anger, contempt, guilt, and shame. The first appraisal, agency, evaluates whether the unpleasant outcome is caused by the self, another person, or an impersonal object or event. According to the theory, when a person’s control potential is relatively high and the agent is an object or circumstance, we feel either frustration or disgust. If the agent is another person, we feel either anger or contempt. If the agent is the self, we feel either guilt or shame. The second appraisal, problem type, assesses whether the emotion-eliciting stimulus is an undesirable outcome (instrumental) or is an undesirable quality of the agent (intrinsic). If the problem is appraised as instrumental, we feel the attack emotions of guilt, anger, or frustration. If instead the problem is appraised as intrinsic to the agent, we feel the rejection emotions of shame, contempt, or disgust.

Relevance of the Target Emotions

Based on all the different appraisals included in the paper (Roseman, 2011), the theory consists of 17 emotions. However, the current study only investigates six of these emotions: frustration, disgust, anger, contempt, guilt, and shame. It examines how different combinations of appraisals can lead to the experience of these six emotions.

A longitudinal study (Stuewig et al., 2015) with 380 children between the ages of 10 and 12 used self-report measures to assess the children’s guilt and shame proneness. In the follow-up, when the children turned 18, they found that guilt-proneness was a
predictor of fewer risky behaviors such as using drugs, having multiple sexual partners,
and involvement with the criminal justice system. On the other hand, the same study
found that shame-proneness predicted greater use of drugs, and engagement in risky
sexual behaviors. Shame, but not guilt, has also been found to be strongly related to
depression (Tangney et al., 1992).

This points out the need to distinguish between these two emotions, as one can be
healthier, e.g., leading to better regulation of risky behavior, while the other can make
one more prone to the same behaviors. However, there is disagreement in the literature
about which appraisals distinguish guilt and shame. For example, Tracy and Robins
(2006) argue that guilt and shame differ in the appraisals of stability and controllability.
Stability refers to how permanent the causes of events are. Unstable (not permanent)
causes are related to guilt, and stable (permanent) causes are related to shame.
Controllability refers to how much control the individual has over the causes of the
situation. More control is related to guilt and less or no control is related to shame.
Therefore, the theory states that unstable, controllable causes will lead to guilt, and
stable, uncontrollable causes will lead to shame. Roseman (2011) on the other hand,
argues that guilt and shame differ based on problem type, where guilt is related to more
instrumental problem type, and shame to more intrinsic problem type. Therefore, this
study aimed to contribute to the literature by testing Roseman’s appraisal theory (2011)
and also comparing it to Tracy and Robins’ (2006) theory of appraisals that lead to guilt
and shame.

The emotions of anger and contempt have been found to play an important role in
voting, among other behaviors. For example, research has found that even though anger
was felt more than contempt among respondents, contempt was more predictive of vote choice (Roseman et al., 2020). This shows a need to understand what distinguishes anger and contempt. In this study, we test whether anger is caused by more instrumental problem type and contempt by more intrinsic problem type.

No study to date has examined the emotions of frustration and disgust as being differentiated by the appraisal of instrumental versus intrinsic problem type. Thus, this study intends to test out this novel idea in Roseman’s (2011) model of emotions. Therefore, the present study focuses on the six emotions discussed above. The hypothesis is that the emotions experienced in response to each appraisal combination will be consistent with the theory. Table 1 shows the hypothesized responses.
Table 1

*Overall Hypothesized Results*

<table>
<thead>
<tr>
<th></th>
<th>Instrumental</th>
<th>Intrinsic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Towards circumstances</td>
<td>Frustration</td>
<td>Disgust</td>
</tr>
<tr>
<td>Towards other</td>
<td>Anger</td>
<td>Contempt</td>
</tr>
<tr>
<td>Towards self</td>
<td>Guilt</td>
<td>Shame</td>
</tr>
</tbody>
</table>
Method

This study used an experimental vignette methodology, in which the two appraisals of problem type and agency were manipulated to create six stories. Each participant read one of these stories about a character in a particular situation and compared two emotions, answering which one the character would feel more; rated the intensity with which the character would feel each emotion; chose what emotion term was closest to what the character would feel; and rated the extent to which various appraisals caused the character’s emotion. This method allows us to infer causality, as opposed to only providing correlational data if the participants were simply asked to state what they were thinking when they felt a particular emotion, which is what most studies have used to investigate appraisals. The vignette method has been used successfully by many researchers in the field as it is the easiest way to test causes of emotions, considering ethical issues, and has been found to provide valid results (Graham 1988; Roseman, 1991; Veloski et al., 2005; Weiner et al., 1982).

Participants

For a pilot study, we used 30 undergraduate students taking either Introduction to Psychology or Method and Theory in Psychology classes at Rutgers University-Camden, based on studies in the field using similar sample sizes (Weiner et al., 1982). They received one course credit for their participation. For the actual study, we used 90 Rutgers University-Camden students and 120 Amazon Mechanical Turk (MTurk) participants to get a broader population, and thus more generalizable data. The participants varied in demographic characteristics such as gender, socio-economic status, and age, as the study was not focused on any particular population. The study only used
data from adults, both in the pilot as well as in the final study. Three Rutgers participants were excluded because they were under 18 years of age. Additional qualifying conditions for MTurk participants were that (a) their native language must be English, and (b) they must reside in the United States. The native language being English was an important criterion as the current study asked participants to make distinctions between English language terms that are closely related, such as guilt and shame. The same was not required in the Rutgers sample because they were college students, and in order to be admitted into Rutgers, they had completed the Scholastic Aptitude Test (SAT), and international students from countries where the official language is not English had also taken an additional English proficiency test.

To ensure data quality in MTurk, participants were required to have a HIT approval rating of at least 99% and to have completed more than 50 but less than 10,000 HITs so that they are familiar with taking surveys online but are not automated bots or professional respondents. We received a total of 212 responses. Out of these, 5 were excluded because they did not report English as their native language, and an additional 87 were excluded because their responses suggested that they were “fraudulent responses” or completed by automated “bots”. These included open-ended answers that were copied from the internet, copied from the question itself, often repeated in every answer, or were nonsense answers, not related to the question. Many studies have found such responses to be an increasing problem with MTurk, and several researchers have suggested ways to deal with the issue to get better quality data (Kennedy et al., 2020; Moss & Litman, 2018; Yarrish et al., 2019).
Participants were randomly assigned to one of the six conditions. Ninety Rutgers subjects (15 in each condition) and 120 Amazon Mechanical Turk subjects (20 per experimental condition) participated in the study. Prior research has found significant relationships between appraisals and emotions with samples of this size, such as associations between the agency appraisal and the emotions of guilt, shame, anger, contempt, dislike, etc. (Roseman, 1991, 1996; Roseman et al., 1990).

Participants’ Demographics

Rutgers: The age of the 90 Rutgers participants ranged from 18 to 47 (M=21.81). The sample consisted of approximately 32% males, 62% females, 1% non-binary/third gender, and 4% that preferred not to answer.

MTurk: The age of the 120 MTurk participants ranged from 20 to 73 (M=36.62). The sample consisted of approximately 61.5% males, 36.5% females, and 2% did not answer.

Procedure

Pilot Study

The participants, Rutgers University-Camden students from Introduction to Psychology or Method and Theory in Psychology classes signed up for the study using SONA, the online experiment management system where Rutgers students can choose to participate in studies for course credit. The survey was administered online using Qualtrics. No research assistants were present at this point or throughout the study as no help was needed.

Participants were first presented with the consent form and information about the risks associated with the study. They were also informed that their responses would
remain anonymous and that they were free to withdraw from the study at any time. For this reason, they were not required to put their names on the survey. They were then shown instructions and given examples to illustrate how to answer questions in the format used in the survey (see Appendix).

The participants were then randomly given one of the six versions of the survey on their screens. In this section, they read the stories and then answered the questions that followed. First, they were asked to compare the relative intensity with which the story protagonist felt pairs of emotions that have the same agency but different problem type. So, they were asked to compare frustration vs. disgust, anger vs. contempt, and guilt vs. shame. The scales are discussed in more detail in the Dependent Variables section.

Then, participants were asked to rate the intensity with which the protagonist might feel each of the six emotions, and then indicate which one of the six emotions (Frustration, Disgust, Anger, Contempt (scorn) toward someone, Guilt, or Shame) comes closest to what the protagonist would be feeling at the end of the story. They then answered some questions about different appraisals.

At the end, they were asked about demographic information such as age, gender, education, etc. As the pilot was used as a test-run to improve the survey, they were also asked some feedback questions after they finished the entire survey. For example, one question asked, “Please write one or more sentences telling us what it was like for you to participate in this study”. Another asked, “Was there anything about the procedures or the questionnaire that you’d like to comment on?” They were then thanked and debriefed about the purpose of the survey and granted the course credit.

*Final Study*
For the final study, we used Rutgers as well as Amazon Mechanical Turk to recruit participants to complete the study. The surveys used were similar to those from the pilot study, with some vignettes and some questions modified, based on results from the pilot. They were given more details about the study after they had completed all the sections and were given the researcher’s contact details to reach out to regarding any concerns they may have. At the end of the study, MTurk participants received $3.50 each (a rate of $10 per hour), as the survey is relatively short and did not take over 15-20 minutes to complete, which is the average rate paid by researchers using Mechanical Turk (Hara et al., 2018). Rutgers participants received one course credit as compensation for participating.

**Appraisal Manipulations**

The study used an experimental design and contained certain independent (manipulated) and dependent (measured) variables. The Independent Variable (IV) was the appraisal combination (agency and problem type). It was manipulated in six ways as follows:

1) circumstance-caused, instrumental (hypothesized to produce frustration)
2) circumstance-caused, intrinsic (hypothesized to produce disgust)
3) other-caused, instrumental (hypothesized to produce anger)
4) other-caused, intrinsic (hypothesized to produce contempt)
5) self-caused, instrumental (hypothesized to produce guilt)
6) self-caused, intrinsic (hypothesized to produce shame)

We created six stories to correspond to each of the six appraisal combinations. For example, the story for self-caused, instrumental problem (guilt) was:
“Mary went home for Christmas and her father asked how she was doing at the college she had started in September. Mary told him that she had failed the most important course that she was taking. She knew her parents were working overtime to pay for her schooling, and now they’d have to pay for her to take that class again in the summer session.”

In this case, the outcome was self-caused (Mary’s failure was presumably caused by herself, rather than someone else or by circumstances), and the problem type was an instrumental behavior (Mary has caused a negative outcome but does not necessarily have a bad quality). Similar stories were created to test the other five appraisal pairs (see Appendix).

**Dependent Measures**

The emotion comparison dependent measures were three scales that compared the emotion pairs with same agency based on problem type. All scales ranged from the instrumental problem type emotion on the left to the intrinsic problem type emotion on the right, on a 9-point scale. For example, the scale comparing frustration and disgust started from frustration on the left and went to disgust on the right. The scale used for frustration versus disgust was:

Jane was feeling
frustration very much more than disgust (revulsion) 1 2 3 4 5 6 7 8 9

In this question, if the participant thought that the protagonist would feel more frustration than disgust, then they would rate more towards the left, and if they thought that the protagonist would feel more disgust than frustration, then they would rate more towards the right. Similar measures were used for anger vs. contempt and guilt vs. shame (see Appendix).
The next dependent measure was the individual intensity ratings for each emotion. Intensity was measured using a 9-point Likert scale ranging from “not at all” (1) to “very intensely” (9). For example, the individual scales for frustration and disgust were rated as:

<table>
<thead>
<tr>
<th></th>
<th>Not at all</th>
<th>Very intensely</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frustration</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>Disgust</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
</tbody>
</table>

After rating each emotion intensity individually, participants were asked to choose which one emotion (frustration, disgust, anger, contempt, guilt, or shame) comes closest to what the protagonist would be feeling at the end of the story. This emotion that the participants chose was then piped into the appraisal manipulation check questions discussed in the next section.

**Manipulation Checks**

We used manipulation checks for each of the appraisals we wanted to test (questions 6-11). The emotion that the participant chose as what the protagonist was feeling the most was piped into where it says “<EMOTION>” in each of the examples below. Three questions evaluated the instrumental versus intrinsic problem type (questions 6-8). For example, question 8 asked:

8) Mary’s <EMOTION> was produced by thinking that she would be responsible for a harmful effect 1 2 3 4 5 6 7 8 9

In the above question, if a participant believes the problem type to be instrumental, they would rate somewhere between 1 and 4, with 1 being the most instrumental
response; if they believe the problem type to be intrinsic, they would rate somewhere between 6 and 9, with 9 being the most intrinsic response. If they believe both apply equally, they would rate it a 5.

There was also one reverse scored item which went from more intrinsic problem type on the left side to more instrumental on the right side:

6) Mary’s <EMOTION> was produced by thinking that she was unappealing 1 2 3 4 5 6 7 8 9

Mary’s <EMOTION> was produced by thinking that she was causing a bad outcome

In the above question, if a participant believes the problem type to be intrinsic, they would rate somewhere between 1 and 4, with 1 being the most intrinsic response; if they believe the problem type to be instrumental, they would rate somewhere between 6 and 9, with 9 being the most instrumental response. If they believe both apply equally, they would rate it a 5. This question was reverse scored before the analyses to match the scoring for the other questions so that higher values indicated more intrinsic problem type.

One question evaluated each agency: circumstance, self, and other (questions 9-11). For example, the question evaluating self-agency was:

10) Mary’s <EMOTION> was not at all produced by thinking that this situation was caused by herself 1 2 3 4 5 6 7 8 9

Mary’s <EMOTION> was very much produced by thinking that this situation was caused by herself
In the above question, if the participant believed the agent to be the self, they would rate the scale higher, more toward the right side. Similar questions were asked for the circumstance and other person agency (see Appendix).
Results

The data were analyzed using the Statistical Package for the Social Sciences (SPSS) version 27 software.

Testing Appraisal Manipulations

To test whether each story was being perceived as we intended, we compared the means of each appraisal question in each appraisal manipulation condition.

Agency Appraisal

For the agency appraisal, we expected that scores of the circumstance agency scale would be highest in the circumstance agency (frustration and disgust manipulation) conditions, scores of the other person agency scale would be highest in the other person agency (anger and contempt manipulation) conditions, and scores of the self agency scale would be highest in the self agency (guilt and shame manipulation) conditions. The agency appraisals for frustration, anger, and guilt (instrumental problem type emotions) were compared to each other, and the agency appraisals for disgust, contempt, and shame (intrinsic problem type emotions) were compared to each other. For example, to test circumstance agency, we compared the circumstance agency mean in the frustration condition (with contrast weight +2) to the means in the anger (contrast weight -1) and guilt (contrast weight -1) conditions. Similarly, we compared the circumstance agency mean in the disgust condition (with contrast weight +2) to the means in the contempt (contrast weight -1) and shame (contrast weight -1) conditions. The other two agencies were tested similarly, with the predicted conditions given a weight of +2, and other conditions a weight of -1.
As shown in Table 2, the agency appraisals worked significantly as predicted for the disgust (Rutgers \( t=1.81, \ p=.039 \), MTurk \( t=2.99, \ p=.002 \)), anger (Rutgers \( t=3.30, \ p=.001 \); MTurk \( t=7.33, \ p<.001 \)), contempt (Rutgers \( t=3.44, \ p<.001 \); MTurk \( t=5.07, \ p<.001 \)), guilt (Rutgers \( t=4.72, \ p<.001 \); MTurk \( t=7.38, \ p<.001 \)), and shame (Rutgers \( t=5.01, \ p<.001 \); MTurk \( t=7.62, \ p<.001 \)) manipulations in both samples. For the frustration manipulation, we found significant results in MTurk (\( t=4.91, \ p<.001 \)) but not in Rutgers (\( t=1.12, \ p=.135 \)). Thus, the agency manipulation checks were always in the predicted direction, and significant for all but one condition. Circumstance agency was not sufficiently higher in the frustration manipulation condition in the Rutgers sample to reach statistical significance.

**Problem Type Appraisal**

Question 6 (unappealing vs. bad outcome) was reverse coded, and then all three questions testing the problem type appraisal were scored from instrumental on the lower end to intrinsic on the higher end. Therefore, a higher score indicated a more intrinsic problem type appraisal. To provide the best test of the reliability of a problem type index, we combined data from the Rutgers and the MTurk samples and ran a reliability analysis on the three items. The (unstandardized) Cronbach’s alpha (reliability index) was .678, which is acceptable as a level of reliability (Ursachi et al., 2015). As the three-item scale was reliable, we created a new variable, problem type index, that averaged the scores of the three problem type questions.
<table>
<thead>
<tr>
<th>Agency Manipulation</th>
<th>Rutgers</th>
<th>Other person</th>
<th>Self</th>
<th>M Turk</th>
<th>Other person</th>
<th>Self</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frustration</td>
<td>5.53</td>
<td>4.27</td>
<td>6.07</td>
<td>6.80</td>
<td>4.35</td>
<td>4.65</td>
</tr>
<tr>
<td></td>
<td>(3.20)</td>
<td>(3.13)</td>
<td>(2.28)</td>
<td>(2.17)</td>
<td>(2.46)</td>
<td>(2.83)</td>
</tr>
<tr>
<td>Disgust</td>
<td>5.73</td>
<td>5.53</td>
<td>3.13</td>
<td>6.35</td>
<td>5.05</td>
<td>3.85</td>
</tr>
<tr>
<td></td>
<td>(2.69)</td>
<td>(3.07)</td>
<td>(2.77)</td>
<td>(2.35)</td>
<td>(2.44)</td>
<td>(2.35)</td>
</tr>
<tr>
<td>Anger</td>
<td>4.80</td>
<td>6.40</td>
<td>4.21</td>
<td>4.35</td>
<td>7.10</td>
<td>4.40</td>
</tr>
<tr>
<td></td>
<td>(2.48)</td>
<td>(2.03)</td>
<td>(2.36)</td>
<td>(2.85)</td>
<td>(2.00)</td>
<td>(2.50)</td>
</tr>
<tr>
<td>Contempt</td>
<td>4.00</td>
<td>6.53</td>
<td>4.67</td>
<td>3.95</td>
<td>7.26</td>
<td>3.47</td>
</tr>
<tr>
<td></td>
<td>(2.93)</td>
<td>(2.26)</td>
<td>(2.87)</td>
<td>(2.97)</td>
<td>(1.79)</td>
<td>(1.90)</td>
</tr>
<tr>
<td>Guilt</td>
<td>4.20</td>
<td>3.00</td>
<td>8.40</td>
<td>3.16</td>
<td>1.79</td>
<td>8.47</td>
</tr>
<tr>
<td></td>
<td>(3.03)</td>
<td>(2.67)</td>
<td>(1.84)</td>
<td>(1.92)</td>
<td>(1.44)</td>
<td>(1.43)</td>
</tr>
<tr>
<td>Shame</td>
<td>4.33</td>
<td>2.20</td>
<td>7.93</td>
<td>4.55</td>
<td>3.05</td>
<td>7.90</td>
</tr>
<tr>
<td></td>
<td>(2.61)</td>
<td>(1.86)</td>
<td>(1.87)</td>
<td>(2.31)</td>
<td>(2.50)</td>
<td>(1.77)</td>
</tr>
</tbody>
</table>

Note. Within each column, means with superscript b were predicted to be significantly higher than means with superscript a, and means with superscript d were predicted to be significantly higher than means with superscript c (e.g. for the circumstance scale scores, predicted to be significantly higher in the frustration condition than in the anger and guilt conditions, and significantly higher in the disgust condition than in the contempt and shame conditions). Boldface indicates means significantly different at p < .05 or less (one-tailed) in the predicted direction.

\( n_e = 90. n_f = 120. \)
Since a higher score indicates higher intrinsic problem type, we expected that scores of participants in the disgust manipulation condition would be higher than those of participants in the frustration manipulation condition, scores of participants in the contempt manipulation condition would be higher than those of participants in the anger manipulation condition, and scores of participants in the shame manipulation condition would be higher than those of participants in the guilt manipulation condition.

To test this, we ran three \( t \)-tests with the appraisal manipulation as the independent variable and the problem type index as the dependent variable. For example, to compare frustration and disgust on the problem type index, we ran a \( t \)-test where the independent variable was the appraisal manipulation condition, and the two groups compared were the frustration and disgust groups.

Significant results were found for frustration and disgust (Rutgers \( t=2.12, p=.022; \) MTurk \( t=5.26, p<.001 \)), and guilt and shame (Rutgers \( t= 5.96, p<.001; \) MTurk \( t=4.58, p<.001 \)) in the predicted direction in both samples. For anger and contempt, we found non-significant results in both samples (Rutgers \( t= -.39, p=.350; \) MTurk \( t= -.58, p=.282 \)). In both the Rutgers and the MTurk samples, the means for anger and contempt were in the opposite direction from what we had predicted, which explains the negative \( t \) value. We had expected the score for the problem type index (higher score meaning more intrinsic problem type) to be higher in the contempt manipulation condition, but results showed that it was non-significantly higher in the anger manipulation condition. Results are presented in Table 3.
Table 3

**Problem Type Manipulation Check Means and Standard Deviations Based on Appraisal Manipulations**

<table>
<thead>
<tr>
<th>Appraisal manipulation</th>
<th>Problem Type Appraisal Scores</th>
<th>Rutgers(^{g})</th>
<th>MTurk(^{h})</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Q6</td>
<td>Q7</td>
<td>Q8</td>
</tr>
<tr>
<td>Frustration (M)</td>
<td>3.60</td>
<td>2.87</td>
<td>6.60</td>
</tr>
<tr>
<td>(SD)</td>
<td>2.85</td>
<td>2.64</td>
<td>3.02</td>
</tr>
<tr>
<td>Disgust (M)</td>
<td>5.27</td>
<td>5.93</td>
<td>6.53</td>
</tr>
<tr>
<td>(SD)</td>
<td>3.17</td>
<td>2.87</td>
<td>2.67</td>
</tr>
<tr>
<td>Anger (M)</td>
<td>2.47</td>
<td>3.67</td>
<td>4.13</td>
</tr>
<tr>
<td>(SD)</td>
<td>1.77</td>
<td>1.88</td>
<td>2.30</td>
</tr>
<tr>
<td>Contempt (M)</td>
<td>2.53</td>
<td>3.20</td>
<td>3.87</td>
</tr>
<tr>
<td>(SD)</td>
<td>1.85</td>
<td>2.01</td>
<td>2.10</td>
</tr>
<tr>
<td>Guilt (M)</td>
<td>1.40</td>
<td>1.47</td>
<td>4.47</td>
</tr>
<tr>
<td>(SD)</td>
<td>.63</td>
<td>.74</td>
<td>2.85</td>
</tr>
<tr>
<td>Shame (M)</td>
<td>2.47</td>
<td>5.33</td>
<td>7.00</td>
</tr>
<tr>
<td>(SD)</td>
<td>1.89</td>
<td>2.47</td>
<td>2.14</td>
</tr>
</tbody>
</table>

*Note.* Q6 was on a scale from “unappealing” (1) to “bad outcome” (9). This question was reverse coded for the analyses. Q7 was on a scale from “causing an undesirable outcome” (1) to “had an undesirable quality” (9). Q8 was on a scale from “would be responsible for a harmful effect” (1) to “would be beneath a standard” (9). Overall= the index averaging scores on the three problem type questions (q6, q7, q8). Within each overall index column, means with superscript a were predicted to be significantly higher than means with superscript b were predicted to be significantly higher than means with superscript c, and means with superscript d were predicted to be significantly higher than means with superscript e. Boldface indicates means significantly different at p<.05 or less (one-tailed) in the predicted direction.

\(^{g}\)\(n=90\). \(^{h}\)\(n=120\).
A possible explanation for the unexpected problem type appraisal ratings could be that when participants were rating the appraisal manipulation check questions, they were really rating them for the closest emotion that they had chosen for the story, which had been piped into the appraisal questions in Qualtrics, as explained in the Dependent Measures subsection in the Method section. This could be different from the emotion that the appraisal manipulations were designed to create. As will be shown below, contempt was chosen as the closest emotion much less often than anger, even in the contempt manipulation condition. Below are examples of one of the problem type manipulation checks when the closest emotion chosen by a participant was contempt, and when the closest emotion chosen was anger. For someone that chose anger instead of contempt as the emotion that comes closest to what the protagonist was feeling at the end of the story, they might rate the scale towards the left side (instrumental problem side) even in the contempt condition, because they are answering the scale for anger.

David’s contempt was produced by thinking that someone other than himself was causing an undesirable outcome

David’s anger was produced by thinking that someone other than himself was causing an undesirable outcome

1 2 3 4 5 6 7 8 9

Therefore, we also conducted t-tests as before, with the problem type index as the dependent variable and the closest emotion that was chosen by each participant as the
independent variable. We found significant results for guilt and shame in both samples (Rutgers \( t = 3.17, p = .003 \); MTurk \( t = 2.42, p = .012 \)), and for frustration and disgust in the MTurk sample \( t = 3.31, p = .001 \). The means for each emotion pair in both samples were now in the predicted direction. However, although the means were now in the predicted direction, we did not find significant results for anger and contempt in either sample (Rutgers \( t = .02, p = .492 \); MTurk \( t = .11, p = .457 \)) and for frustration and disgust in the Rutgers sample \( t = .98, p = .167 \). Results are presented in Table 4.

**Omnibus Tests of Theory Predictions**

### Does the Appraisal Manipulation Affect the Emotion Intensity Ratings?

To test this, we ran a one-way multivariate analysis of variance (MANOVA) for each sample, with the appraisal manipulation as the independent variable, and the intensity ratings of the six theory-relevant emotions (frustration, disgust, anger, contempt, guilt, and shame) as the dependent variables. In the Rutgers data, we found a significant main effect (Pillai’s Trace \( 1.104, F (30,415) = 3.922, p < .001 \)), multivariate \( \eta^2 = .221 \). In the MTurk data, we once again found a significant main effect (Pillai’s Trace \( 1.016, F (30,565) = 4.805, p < .001 \)), multivariate \( \eta^2 = .203 \). This indicates that approximately 22.1% and 20.3% of multivariate variance in the emotion intensity ratings can be explained by the appraisal manipulation in the Rutgers and MTurk data respectively.
Table 4

*Problem Type Manipulation Check Means and Standard Deviations Based on Closest Emotion Chosen*

<table>
<thead>
<tr>
<th>Problem Type</th>
<th>Rutgers</th>
<th>MTurk</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Q6</td>
<td>Q7</td>
<td>Q8</td>
<td>Overall</td>
<td>Q6</td>
<td>Q7</td>
<td>Q8</td>
<td>Overall</td>
</tr>
<tr>
<td>Frustration</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M</td>
<td>3.27</td>
<td>3.75</td>
<td>5.79</td>
<td>4.27&lt;sup&gt;a&lt;/sup&gt;</td>
<td>2.88</td>
<td>3.39</td>
<td>5.05</td>
<td><strong>3.77&lt;sup&gt;a&lt;/sup&gt;</strong></td>
</tr>
<tr>
<td>SD</td>
<td>2.59</td>
<td>2.55</td>
<td>2.74</td>
<td>1.86</td>
<td>2.55</td>
<td>2.40</td>
<td>3.06</td>
<td>2.13</td>
</tr>
<tr>
<td>Disgust</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M</td>
<td>4.00</td>
<td>6.25</td>
<td>5.50</td>
<td>5.25&lt;sup&gt;b&lt;/sup&gt;</td>
<td>4.17</td>
<td>7.50</td>
<td>8.67</td>
<td><strong>6.78&lt;sup&gt;b&lt;/sup&gt;</strong></td>
</tr>
<tr>
<td>SD</td>
<td>3.56</td>
<td>3.59</td>
<td>3.42</td>
<td>2.74</td>
<td>3.82</td>
<td>2.81</td>
<td>.82</td>
<td>1.95</td>
</tr>
<tr>
<td>Anger</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M</td>
<td>3.00</td>
<td>4.00</td>
<td>4.42</td>
<td>3.81&lt;sup&gt;c&lt;/sup&gt;</td>
<td>3.50</td>
<td>4.63</td>
<td>5.31</td>
<td>4.48&lt;sup&gt;c&lt;/sup&gt;</td>
</tr>
<tr>
<td>SD</td>
<td>2.66</td>
<td>2.63</td>
<td>2.68</td>
<td>2.45</td>
<td>2.78</td>
<td>2.96</td>
<td>2.96</td>
<td>2.52</td>
</tr>
<tr>
<td>Contempt</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M</td>
<td>3.25</td>
<td>3.25</td>
<td>5.00</td>
<td>3.83&lt;sup&gt;d&lt;/sup&gt;</td>
<td>3.75</td>
<td>4.58</td>
<td>5.42</td>
<td>4.58&lt;sup&gt;d&lt;/sup&gt;</td>
</tr>
<tr>
<td>SD</td>
<td>2.87</td>
<td>1.71</td>
<td>2.94</td>
<td>2.05</td>
<td>2.80</td>
<td>2.97</td>
<td>2.88</td>
<td>2.48</td>
</tr>
<tr>
<td>Guilt</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M</td>
<td>1.33</td>
<td>1.44</td>
<td>4.33</td>
<td>2.37&lt;sup&gt;e&lt;/sup&gt;</td>
<td>1.79</td>
<td>2.29</td>
<td>4.50</td>
<td><strong>2.86&lt;sup&gt;e&lt;/sup&gt;</strong></td>
</tr>
<tr>
<td>SD</td>
<td>.71</td>
<td>.73</td>
<td>2.74</td>
<td>1.17</td>
<td>2.12</td>
<td>1.98</td>
<td>2.90</td>
<td>1.70</td>
</tr>
<tr>
<td>Shame</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M</td>
<td>2.46</td>
<td>4.46</td>
<td>5.92</td>
<td>4.28&lt;sup&gt;f&lt;/sup&gt;</td>
<td>2.43</td>
<td>3.86</td>
<td>6.86</td>
<td><strong>4.38&lt;sup&gt;f&lt;/sup&gt;</strong></td>
</tr>
<tr>
<td>SD</td>
<td>1.76</td>
<td>2.90</td>
<td>2.96</td>
<td>1.52</td>
<td>2.28</td>
<td>2.74</td>
<td>2.11</td>
<td>1.63</td>
</tr>
</tbody>
</table>

*Note.* Q6 was on a scale from “unappealing” (1) to “bad outcome” (9). This question was reverse coded for the analyses. Q7 was on a scale from “causing an undesirable outcome” (1) to “had an undesirable quality” (9). Q8 was on a scale from “would be responsible for a harmful effect” (1) to “would be beneath a standard” (9). Overall= the index averaging scores on the three problem type questions (q6, q7, q8). Within each overall index column, means with superscript b were predicted to be significantly higher than means with superscript a, means with superscript d were predicted to be significantly higher than means with superscript c, and means with superscript f were predicted to be significantly higher than means with superscript e. Boldface indicates means **significantly different** at p<.05 or less (one-tailed) in the predicted direction. For Rutgers, n=48. For MTurk, n=57. For Rutgers, n=12. For MTurk, n=16.
Appraisal Manipulation and Closest Emotion Chosen

As shown by the data looking across the rows of Table 5, guilt and shame were chosen most often as the closest emotion in their predicted conditions for both samples. Anger was chosen as the closest emotion for the anger condition in the Rutgers sample and second most chosen emotion in the MTurk sample after frustration. Frustration was chosen as the closest emotion in both samples not only for the frustration condition, but also for the disgust and contempt conditions in both samples. Disgust and contempt were the two most rarely chosen emotions.

To assess significance, we ran a chi-square test of independence between appraisal manipulation and the closest emotion. The relationship was significant for Rutgers, $G^2 (25, N= 90) =105.506, p<.01$. The effect size, Cramer’s $V$, was moderate, .497. In the MTurk sample, $G^2 (25, N= 120) =81.264, p<.01$. The effect size, Cramer’s $V$, was moderate, .36. The likelihood ratio ($G^2$) is reported instead of the Pearson chi-square because the assumption that each cell has an expected count greater than 5 was violated in both samples (83.3% of cells in each sample had an expected count less than 5). However, because of what may be biases in choice of closest emotions (e.g. disgust and contempt were chosen rarely and frustration very often), and violating the chi-square cell counts assumption, the closest emotion variable did not seem to be the best way to test theory predictions.
Table 5

*Frequency of Closest Emotion Chosen Based on Appraisal Manipulation*

<table>
<thead>
<tr>
<th>Closest Emotion Chosen</th>
<th>Rutgers&lt;sup&gt;a&lt;/sup&gt;</th>
<th>MTurk&lt;sup&gt;b&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Appraisal Manipulation</strong></td>
<td>Fr</td>
<td>Dg</td>
</tr>
<tr>
<td>Frustration</td>
<td>15</td>
<td>0</td>
</tr>
<tr>
<td>Disgust</td>
<td>11</td>
<td>2</td>
</tr>
<tr>
<td>Anger</td>
<td>6</td>
<td>0</td>
</tr>
<tr>
<td>Contempt</td>
<td>10</td>
<td>1</td>
</tr>
<tr>
<td>Guilt</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Shame</td>
<td>5</td>
<td>1</td>
</tr>
</tbody>
</table>


<sup>a</sup><sub>n=90</sub>. <sup>b</sup><sub>n=120</sub>. 


**Does the Appraisal Manipulation Affect the Emotion Comparison Ratings?**

To test this, we ran a one-way multivariate analysis of variance (MANOVA) for each sample, with the appraisal manipulation as the independent variable, and the emotion comparison ratings (frustration vs. disgust, anger vs. contempt, and guilt vs. shame) as the dependent variables. In the Rutgers data, we found a significant main effect (Pillai’s Trace .358, $F(15,252) = 2.279, p=.005$), multivariate $\eta^2 = .119$. In the MTurk data, we once again found a significant main effect (Pillai’s Trace .211, $F(15,342) = 1.723, p=.045$), multivariate $\eta^2 = .070$. This indicates that approximately 11.9% and 7% of the multivariate variance in the emotion comparison ratings can be explained by the appraisal manipulation in the Rutgers and MTurk data respectively.

**Testing Specific Predictions of the Theory**

**Did the Problem Type Appraisal Manipulation Affect Emotion Comparison Ratings as Predicted?**

For the emotion comparison scales, we expected that the score for the frustration vs. disgust scale would be higher in the disgust than in the frustration manipulation condition, the score for the anger vs. contempt scale would be higher in the contempt than in the anger manipulation condition, and the score for the guilt vs. shame scale would be higher in the shame than the guilt manipulation condition. We found this pattern in both the Rutgers as well as the MTurk samples (see Table 6).
Table 6

*Emotion Comparison Means and Standard Deviations Based on Problem Type Appraisal*

<table>
<thead>
<tr>
<th>Appraisal Manipulation</th>
<th>Rutgers&lt;sup&gt;c&lt;/sup&gt;</th>
<th>MTurk&lt;sup&gt;d&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>FrvsDg</td>
<td>AnvsCt</td>
</tr>
<tr>
<td>Frustration &lt;i&gt;M&lt;/i&gt;</td>
<td>1.40&lt;sup&gt;a&lt;/sup&gt;</td>
<td>3.80</td>
</tr>
<tr>
<td></td>
<td>.63</td>
<td>2.73</td>
</tr>
<tr>
<td>Disgust &lt;i&gt;M&lt;/i&gt;</td>
<td>3.60&lt;sup&gt;b&lt;/sup&gt;</td>
<td>4.00</td>
</tr>
<tr>
<td></td>
<td>2.82</td>
<td>2.48</td>
</tr>
<tr>
<td>Anger &lt;i&gt;M&lt;/i&gt;</td>
<td>3.07</td>
<td>2.53&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
<tr>
<td></td>
<td>2.71</td>
<td>1.85</td>
</tr>
<tr>
<td>Contempt &lt;i&gt;M&lt;/i&gt;</td>
<td>3.00</td>
<td>3.33&lt;sup&gt;b&lt;/sup&gt;</td>
</tr>
<tr>
<td></td>
<td>2.45</td>
<td>2.16</td>
</tr>
<tr>
<td>Guilt &lt;i&gt;M&lt;/i&gt;</td>
<td>2.60</td>
<td>3.67</td>
</tr>
<tr>
<td></td>
<td>1.88</td>
<td>2.09</td>
</tr>
<tr>
<td>Shame &lt;i&gt;M&lt;/i&gt;</td>
<td>4.13</td>
<td>4.73</td>
</tr>
<tr>
<td></td>
<td>2.62</td>
<td>3.11</td>
</tr>
</tbody>
</table>

<sup>Note.</sup> FrvsDg=scores on frustration vs. disgust scale from 1 (very much more frustration than disgust) to 9 (very much more disgust than frustration). AnvsCt=scores on anger vs. contempt scale from 1 (very much more anger than contempt) to 9 (very much more contempt than anger). GuvsSh=scores on guilt vs. shame scale from 1 (very much more guilt than shame) to 9 (very much more shame than guilt). Within each column, means with superscript b were predicted to be significantly higher than means with superscript a. Boldface indicates means significantly different at p<.05 or less (one-tailed) in the predicted direction.

<sup>c</sup><sub>n=90</sub>. <sup>d</sup><sub>n=120</sub>.
To test the significance of the effect of the problem type appraisal on emotion comparison ratings, we ran three separate planned comparison directional $t$-tests with each relevant appraisal manipulation as the independent variable and each relevant emotion comparison scale as the dependent variable for each sample. For example, to compare frustration and disgust based on problem type, we ran a $t$-test where the independent variable was the appraisal manipulation condition, and the two groups compared were the frustration and disgust groups. The dependent variable for this was the frustration vs. disgust scale. Similar planned comparison tests were run for anger-contempt and guilt-shame. Results are presented in Table 7.

For frustration versus disgust, we found consistent, significant results in Rutgers as well as MTurk. As predicted, the mean for the frustration vs. disgust scale was significantly higher in the disgust manipulation condition than in the frustration manipulation condition. For the anger versus contempt hypothesis, although the difference between the means was in the predicted direction, the means for the anger vs. contempt scale were not significantly different between the anger and contempt manipulation conditions in either of the two samples. The means for the guilt vs. shame scale were found to be higher in the shame manipulation condition than in the guilt manipulation condition (as predicted) for both samples. The results were significant in the Rutgers sample but not in the MTurk sample. Thus, the best data for testing the theory’s problem type predictions showed that the mean comparison ratings were in the direction predicted by the theory for all hypothesized instrumental vs. intrinsic problem type emotions (frustration vs. disgust, anger vs. contempt, and guilt vs. shame). But
Table 7

*T-tests for Problem Type Differentiating Emotion Comparison Ratings*

<table>
<thead>
<tr>
<th>DV</th>
<th>Rutgers</th>
<th></th>
<th>p-value</th>
<th>MTurk</th>
<th></th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>FrvsDg</td>
<td>2.945</td>
<td></td>
<td>.005</td>
<td>2.489</td>
<td></td>
<td>.009</td>
</tr>
<tr>
<td>AnvsCt</td>
<td>1.090</td>
<td></td>
<td>.143</td>
<td>1.017</td>
<td></td>
<td>.158</td>
</tr>
<tr>
<td>GuvsSh</td>
<td>2.856</td>
<td></td>
<td>.004</td>
<td>.134</td>
<td></td>
<td>.447</td>
</tr>
</tbody>
</table>

*Note.* FrvsDg=scores on frustration vs. disgust scale. AnvsCt=scores on anger vs. contempt scale. GuvsSh=scores on guilt vs. shame scale. Boldface indicates means significantly different at p<.05 or less (one-tailed) in the predicted direction. N for each dependent variable in the Rutgers sample was 30 and in the MTurk sample was 40.
shame was not significantly higher in the intrinsic condition among MTurk participants, and contempt was not significantly higher in the intrinsic condition in either sample.

**Did the Agency Appraisal Manipulation Affect Emotion Intensity Ratings as Predicted?**

To test the effect of the agency appraisal on emotions, we used the appraisal manipulation as the independent variable and the emotion intensity ratings as the dependent variables. We used emotion intensity ratings because there were no emotion comparison questions for agency as there were for problem type. We compared emotions with the same problem type to each other. Therefore, frustration, anger, and guilt (instrumental problem type) were compared to each other, and disgust, contempt, and shame (intrinsic problem type) were compared to each other. For the comparison, we conducted six separate ANOVAs with planned comparison directional contrast tests. For example, to test agency in frustration, we conducted an ANOVA that compared frustration intensity in the frustration condition to the frustration intensity in the anger and guilt conditions. Frustration was hypothesized to have a significantly higher score in the frustration condition (contrast weight of +2) than in the other two conditions (contrast weight of -1 each). This method got around the problem of different emotions having different baselines, since we are comparing the emotion ratings of the same emotion in different appraisal manipulation conditions.

The means were in the predicted direction for 11 of the 12 comparisons for each emotion, the exception being disgust in the MTurk sample, which was highest in the shame condition (self agency) rather than the disgust condition (circumstance agency). Anger (Rutgers $t=6.89, p<.001$; MTurk $t=6.94, p<.001$), guilt (Rutgers $t=6.71, p<.001$;
MTurk $t=8.51, p<.001), and shame (Rutgers $t=3.98, p<.001; \text{MTurk} \ t=4.45, p<.001)$ were significantly higher in their respective predicted agency conditions in both the Rutgers and MTurk data. Anger was higher in other person agency, and guilt and shame were higher in the self agency conditions. Contempt was significantly higher in the predicted manipulation condition in the MTurk ($t=2.62, p=.006$) sample but not the Rutgers sample ($t=1.12, p=.134$). Frustration (Rutgers $t=.65, p=.262; \text{MTurk} \ t=1.59, p=.059$) and disgust (Rutgers $t=.97, p=.170; \text{MTurk} \ t=-.11, p=.457$) results were non-significant in both samples. Results are presented in Table 8.

Thus the best test of the theory’s agency appraisal predictions found that, as predicted, guilt and shame were always significantly higher in the self agency conditions, and anger in the other person-agency condition. Contempt was always highest in the other person agency condition, as predicted, but significantly higher only in the MTurk sample. Frustration was elevated in the circumstance-agency condition in both samples, as predicted, but not significantly. Disgust was highest in the circumstance agency condition in the Rutgers sample, as predicted, but not significant. Disgust was not highest in the circumstance agency condition in the MTurk sample, as had been predicted.

**Emotion Intensity Ratings as a Function of Appraisal Combinations**

Even though the emotion intensity ratings may have been problematic due to lower willingness to endorse contempt and disgust as felt by story characters, and higher willingness to endorse frustration (see Table 5), it is still of interest to examine how these ratings varied as a function of the combinations of the problem type and agency appraisal manipulations.
### Table 8

*Emotion Intensity Means and Standard Deviations by Appraisal Manipulation*

<table>
<thead>
<tr>
<th>Appraisal Manipulation</th>
<th>Rutgers&lt;sup&gt;c&lt;/sup&gt;</th>
<th>MTurk&lt;sup&gt;d&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Fr</td>
<td>Dg</td>
</tr>
<tr>
<td>Frustration M</td>
<td>8.53&lt;sup&gt;b&lt;/sup&gt;</td>
<td>3.00</td>
</tr>
<tr>
<td>SD</td>
<td>.92</td>
<td>2.27</td>
</tr>
<tr>
<td>Disgust M</td>
<td>7.93</td>
<td>5.40&lt;sup&gt;b&lt;/sup&gt;</td>
</tr>
<tr>
<td>SD</td>
<td>1.39</td>
<td>2.29</td>
</tr>
<tr>
<td>Anger M</td>
<td>8.33&lt;sup&gt;a&lt;/sup&gt;</td>
<td>2.93</td>
</tr>
<tr>
<td>SD</td>
<td>1.18</td>
<td>1.79</td>
</tr>
<tr>
<td>Contempt M</td>
<td>7.80</td>
<td>4.40&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
<tr>
<td>SD</td>
<td>1.82</td>
<td>2.50</td>
</tr>
<tr>
<td>Guilt M</td>
<td>8.33&lt;sup&gt;a&lt;/sup&gt;</td>
<td>4.33</td>
</tr>
<tr>
<td>SD</td>
<td>.82</td>
<td>2.94</td>
</tr>
<tr>
<td>Shame M</td>
<td>7.53</td>
<td>4.87&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
<tr>
<td>SD</td>
<td>1.96</td>
<td>2.72</td>
</tr>
</tbody>
</table>

*Note.* Fr=Frustration. Dg=Disgust. An=Anger. Ct=Contempt. Gu=Guilt. Sh=Shame. Within each column, means with superscript b were predicted to be significantly higher than means with superscript a. Boldface indicates means **significantly different** at p<.05 or less (one-tailed) in the predicted direction.

<sup>c</sup>n=90. <sup>d</sup>n=120.
In the emotion intensity ratings, we expected each emotion to be rated higher in the predicted appraisal manipulation condition (i.e. highest for the theory-specified combination of agency and problem type appraisal) as compared to all other conditions. This was true for frustration, disgust, guilt, and shame in the Rutgers sample, and for contempt and guilt in the MTurk sample (as can be seen in Table 8).

One possible reason we considered for all emotions not being highest in their predicted condition was the switch from bipolar to unipolar scales. In participants’ questionnaires, the bipolar emotion comparison scales were presented right before the unipolar individual emotion intensity scales (see Appendix). Therefore, it was possible that participants were accustomed to rating frustration, anger, and guilt as high on the left side of the bipolar scales and carried over this assumption to the unipolar scales where these emotions are rated high on the right side of the scale. For example, below are the bipolar frustration vs. disgust emotion comparison scale and the unipolar individual emotion intensity scales for frustration and disgust.

**Emotion comparison scale for frustration vs. disgust:**

Using the scale below, please compare the extent to which Jane was feeling frustration vs. disgust (revulsion) toward something at the end of the story.

<table>
<thead>
<tr>
<th>Jane was feeling frustration very much more than disgust (revulsion)</th>
<th>Jane was feeling disgust (revulsion) very much more than frustration</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>7</td>
<td>8</td>
</tr>
<tr>
<td>9</td>
<td>10</td>
</tr>
</tbody>
</table>

**Individual emotion intensity scales for frustration and disgust:**

At the end of the story, how intensely was Jane feeling each of the following emotions?

<table>
<thead>
<tr>
<th>Not at all</th>
<th>Very intensely</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frustration</td>
<td>1 2 3 4 5 6 7 8 9</td>
</tr>
<tr>
<td>Disgust (revulsion)</td>
<td>1 2 3 4 5 6 7 8 9</td>
</tr>
</tbody>
</table>
To test whether this was the case, we checked how many times a participant was inconsistent when switching from the emotion comparison to the individual emotion intensity ratings. For example, if they rated towards frustration instead of disgust in the emotion comparison but rated disgust higher than frustration in the individual ratings, they were marked as having responded inconsistently, suggesting the possibility of an error. The same was done for anger vs. contempt and guilt vs. shame. Anyone who made this error for two or more of the three emotion pairs was marked as having been possibly confused by the switch. We then removed these participants and again calculated the means for each appraisal manipulation (i.e., each combination of problem type and agency manipulations). However, in Table 9 we see that the same kind of pattern in the ratings emerged as was seen in Table 8. Only frustration, disgust, guilt, and shame were highest in their predicted appraisal manipulation conditions in the Rutgers sample, and contempt and guilt were highest in their predicted appraisal manipulation conditions in the MTurk sample. Therefore, it seems that the switch from a bipolar to a unipolar scale could not account for the emotions not being rated as predicted.

**Testing Individual Emotions: Do the Appraisal Combinations Affect the Emotion Intensity Ratings in the Predicted Way?**

To test whether the appraisal combinations had predicted effects on intensity ratings for individual emotions, we used six individual one-way Analyses of Variance (ANOVAs) with the appraisal manipulation as the independent variable and intensity ratings for frustration, disgust, anger, contempt, guilt, and shame as dependent variables in each sample. The significance of predicted relationships was tested using linear
Table 9

Emotion Intensity Means and Standard Deviations Excluding Participants Potentially Confused by Bipolar vs. Unipolar Scales

| Appraisal Manipulation | Rutgers a | | | Emotion Intensity | MTurk b | | | |
|------------------------|-----------|-----------|-----------|------------------|---------|-----------|-----------|-----------|-----------|-----------|
|                        | Fr | Dg | An | Ct | Gu | Sh | Fr | Dg | An | Ct | Gu | Sh |
| Frustration M           | 8.53 3.00 3.00 3.40 4.07 6.73 8.15 2.75 3.95 2.75 4.05 4.40 |
| SD                     | .92 2.27 2.14 2.35 1.75 2.25 1.09 2.17 3.00 2.10 2.48 2.64 |
| Disgust M               | 8.23 5.08 4.85 3.77 2.85 5.62 7.58 4.58 4.58 3.74 3.26 4.79 |
| SD                     | 1.17 2.22 3.02 2.74 2.34 1.71 1.47 2.57 2.65 2.58 2.62 3.07 |
| Anger M                 | 8.43 2.93 7.43 5.00 4.07 6.07 8.11 3.78 7.28 4.72 3.72 5.39 |
| SD                     | 1.16 1.86 1.22 2.18 2.95 2.13 .90 2.51 1.07 2.74 1.84 2.45 |
| Contempt M              | 8.14 4.36 7.64 4.71 4.07 4.71 8.47 4.21 7.53 6.21 3.37 2.89 |
| SD                     | 1.29 2.59 1.69 2.46 2.70 3.25 .77 2.51 1.17 2.25 2.50 2.18 |
| Guilt M                 | 8.33 4.33 4.27 3.00 8.00 7.47 7.42 4.00 2.79 2.63 7.84 7.58 |
| SD                     | .82 2.94 2.58 2.30 1.46 1.73 1.31 2.21 1.93 2.11 1.39 1.26 |
| Shame M                 | 7.79 4.79 2.86 3.86 5.36 7.79 7.15 5.15 4.95 4.85 6.60 6.95 |
| SD                     | 1.76 2.81 1.75 3.28 2.31 1.67 2.18 2.43 2.80 2.80 1.98 2.35 |


\( n = 85, n = 115. \)
contrasts comparing the means that were shown in Table 8 (which did not exclude any participants). Those for individual emotions (e.g., frustration) would predict significantly higher scores for the hypothesized combination (circumstance agency and instrumental problem type [+5]) than for the other five agency and problem type combinations [-1]. Results are presented in Table 10.

We found consistently significant ANOVA and contrast test results for anger, guilt, and shame. It should be noted that although the contrast tests for anger and shame were significant in both the samples, indicating that anger was significantly elevated in the anger condition and shame in the shame condition, Table 8 shows that anger was rated slightly higher in the contempt condition than in the anger condition in both samples, and shame was rated higher in the guilt condition than the shame condition in the MTurk sample. While the ANOVA results for frustration were non-significant in both samples, as frustration was rated high in all appraisal manipulation conditions, the contrast test was significant in the Rutgers sample but not in the MTurk sample. As shown in Table 8, frustration was rated higher in the contempt condition ($M=8.40$) than in the frustration condition ($M=8.15$) in the MTurk sample. While the ANOVA for disgust was significant in both samples, the contrast test was non-significant in the MTurk sample. This means that the intensity of disgust was not significantly higher in the condition with circumstance agency and intrinsic problem type. As was shown in Table 8, in the MTurk sample, disgust was rated higher in the shame condition ($M=5.15$) than in the disgust condition ($M=4.70$). The ANOVA as well as contrast test for contempt was significant in the MTurk sample, but not in the Rutgers sample.
Table 10

Omnibus and Contrast Tests for Effect of Manipulated Appraisal Combinations on Emotion Intensity Ratings

<table>
<thead>
<tr>
<th>Dependent variable</th>
<th>Rutgers&lt;sup&gt;a&lt;/sup&gt;</th>
<th></th>
<th>MTurk&lt;sup&gt;b&lt;/sup&gt;</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Omnibus test&lt;sup&gt;p&lt;/sup&gt;</td>
<td>Contrast t-value&lt;sup&gt;p&lt;/sup&gt;</td>
<td>Omnibus test&lt;sup&gt;p&lt;/sup&gt;</td>
<td>Contrast t-value&lt;sup&gt;p&lt;/sup&gt;</td>
</tr>
<tr>
<td>Frustration intensity</td>
<td>1.102 (.365)</td>
<td>1.869 (.036)</td>
<td>1.960 (.090)</td>
<td>1.427 (.078)</td>
</tr>
<tr>
<td>Disgust intensity</td>
<td>2.491 (.037)</td>
<td>2.271 (.017)</td>
<td>2.334 (.047)</td>
<td>1.141 (.128)</td>
</tr>
<tr>
<td>Anger intensity</td>
<td>12.727 (&lt;.001)</td>
<td>6.991 (&lt;.001)</td>
<td>12.834 (&lt;.001)</td>
<td>5.417 (&lt;.001)</td>
</tr>
<tr>
<td>Contempt intensity</td>
<td>1.374 (.242)</td>
<td>1.356 (.090)</td>
<td>6.515 (&lt;.001)</td>
<td>4.083 (&lt;.001)</td>
</tr>
<tr>
<td>Guilt intensity</td>
<td>9.684 (&lt;.001)</td>
<td>8.349 (&lt;.001)</td>
<td>15.425 (&lt;.001)</td>
<td>9.504 (&lt;.001)</td>
</tr>
<tr>
<td>Shame intensity</td>
<td>4.297 (.002)</td>
<td>3.010 (.003)</td>
<td>9.489 (&lt;.001)</td>
<td>3.335 (.001)</td>
</tr>
</tbody>
</table>

Note. Source of variance for all dependent variables was the appraisal manipulation. Boldface indicates means significantly different at p<.05 or less (one-tailed) in the predicted direction.

<sup>a</sup>n = 90, df=5.84. <sup>b</sup>n = 120, df=5.114.
Problem Type vs. Controllability to Explain Guilt vs. Shame

As mentioned in the introduction, different theories propose different appraisals as distinguishing guilt from shame. Roseman (2011) proposed that this appraisal is problem type, where guilt is caused by more instrumental problem type (bad outcome) and shame is caused by more intrinsic problem type (bad quality). On the other hand, Tracy and Robins (2006) proposed that guilt and shame differ on controllability, where more control is related to guilt, and less control is related to shame.

To compare these two theories, we ran two *t*-tests: one comparing the problem type index (because the three problem type appraisal check scales had internal consistency) based on the closest emotion chosen, and another comparing the controllability appraisal rating based on the closest emotion chosen. We used closest emotion as the independent variable instead of the appraisal manipulation condition because the appraisal of controllability was measured rather than manipulated in this study, and all appraisals were measured in response to the closest emotion chosen by participants.

The problem type appraisal ratings went from instrumental problem type on the left side to intrinsic problem type on the right side of the 9-point scale. Therefore, we had predicted that those who chose shame as the closest emotion would rate the problem type index significantly higher than those that chose guilt as the closest emotion. The controllability appraisal rating went from low control on the left side to high control on the right side of the 9-point scale. Therefore, we had predicted that those who chose guilt as the closest emotion would rate the controllability appraisal rating significantly higher than those that chose shame as the closest emotion.
We found that participants who chose shame as the closest emotion rated the problem type as significantly more intrinsic compared to participants who chose guilt as the closest emotion in both samples (Rutgers $t=3.17, p=.003$; MTurk $t=2.42, p=.012$). For controllability, we found results in the predicted direction, meaning participants who chose guilt as the closest emotion rated higher on the controllability scale compared to the participants who chose shame as the closest emotion. However, this difference was not significant in either of the two samples (Rutgers $t=1.08, p=.148$; MTurk $t=1.55, p=.067$). Results are presented in Table 11.
Table 11

Means and Standard Deviations for Problem Type and Controllability Based on Closest Emotion Chosen

<table>
<thead>
<tr>
<th>Closest Emotion Chosen</th>
<th>Rutgers</th>
<th>MTurk</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Guilt(^{a})</td>
<td>Shame(^{b})</td>
</tr>
<tr>
<td>Problem type (M)</td>
<td>2.37</td>
<td>4.28</td>
</tr>
<tr>
<td></td>
<td>1.17</td>
<td>1.52</td>
</tr>
<tr>
<td>Controllability (M)</td>
<td>6.44</td>
<td>5.31</td>
</tr>
<tr>
<td></td>
<td>2.01</td>
<td>2.69</td>
</tr>
</tbody>
</table>

Note. Boldface indicates means significantly different at \(p<.05\) or less (one-tailed) in the predicted direction. For Rutgers, \(^{a}n=9\), \(^{b}n=13\). For MTurk, \(^{a}n=14\), \(^{b}n=14\).
Discussion

The main aim of this study was to test the effect of two appraisals from the emotion system model (Roseman, 2011) on emotion ratings. The emotions chosen to be tested were frustration, disgust, anger, contempt, guilt, and shame. The main hypothesis was that the appraisal combinations would influence emotion ratings. For example, frustration would result from circumstance agency and instrumental problem type, disgust would result from circumstance agency and intrinsic problem type, etc. As participants showed differential willingness to endorse particular emotion terms, the best dependent variables to test the effects of the problem type appraisal were the emotion comparison ratings, which tested instrumental vs. intrinsic emotions on the same scale. As there were no questions comparing the agency-related emotions to each other, we used the individual emotion intensity ratings as dependent variables in testing those hypotheses.

Problem Type Appraisal

We tested to see whether the problem type appraisal differentiates the three emotion pairs of frustration-disgust, anger-contempt, and guilt-shame. Frustration, anger and guilt were predicted to be higher on instrumental problem type, and disgust, contempt, and shame were predicted to be higher on intrinsic problem type. Overall, in all the comparisons, the means were higher in the predicted direction, and the difference was significant for the frustration-disgust pair in both samples, and for the guilt-shame pair in the Rutgers sample.

Guilt vs. Shame. A possible reason for the guilt vs. shame result being significant in the Rutgers sample but not the MTurk sample could be how the two groups of
participants perceived the story. As seen in Table 5, in the Rutgers sample, participants in the shame condition chose shame as the closest emotion 7 out of 15 times (46.6%) and never chose guilt as the closest emotion. On the other hand, in the MTurk sample, participants in the shame condition chose shame as the closest emotion 6 out of 20 times (30%) and chose guilt as the closest emotion 4 out of 20 times (20%). So, if we look at problem type ratings as a function of the closest emotion that participants chose in the MTurk sample (Table 4), we see that participants who chose shame as the closest emotion rated problem type as significantly more intrinsic than those who chose guilt, which is consistent with the theory. The older MTurk participants might be less accepting of the “lack of ability” narrative related to a younger student failing a course in college mentioned in the vignette for the shame appraisal manipulation condition (see Appendix) than Rutgers college students. The MTurk participants might be more focused on the outcome and its implications rather than on the traits of the student, and therefore rated lower (towards the instrumental emotion of guilt) compared to Rutgers participants.

**Anger vs. Contempt.** We did not find significant differences between the anger and contempt appraisal manipulation conditions for the anger vs. contempt scale in either sample (as shown in Table 7). This could be because anger is a more accessible emotion than contempt, as was evident by the finding that very few people chose contempt as the closest emotion felt by the story protagonist (Table 5). It should be noted that although the difference was not significant, participants in the contempt manipulation condition rated more towards contempt than participants in the anger manipulation condition in both samples, as predicted (as shown in Table 6). Thus, it is possible that these differences would reach statistical significance with a larger sample.
Another possible reason could be that participants did not perceive intrinsic problem type in the contempt manipulation condition as much as we had intended, and therefore rated less towards contempt on the anger vs. contempt scale. This is evident in the problem type appraisal ratings (Table 3). Intrinsic problem type was slightly higher in the anger (instrumental) manipulation condition rather than in the contempt (intrinsic) manipulation condition, and means for both conditions were towards to low end of the scale (more towards instrumental problem type). Participants’ responses on the open ended question to explain their rating on the anger vs. contempt scale also point towards the same explanation. In the contempt manipulation condition for both samples, many participants mentioned a bad action or outcome (e.g., “the T.A. lost his paper”) instead of a bad quality of the agent (e.g., incompetence) in the story to explain their rating. It is possible that a stronger negative emotion could be felt toward the outcome than toward the agent of that outcome. Additionally, Rutgers participants in the contempt manipulation condition, who were college students, also expressed reluctance to accept a student looking down on the Teaching Assistant (TA) in the story in some open ended responses (e.g., “T.A. is someone who David should look up to, not look down on”), therefore being even more unwilling to rate towards contempt (Table 6).

**Agency Appraisal**

We tested to see whether emotions in the same problem type condition could be distinguished based on agency. The instrumental problem type emotions of frustration, anger, and guilt were compared with each other, and the intrinsic problem type emotions of disgust, contempt, and shame were compared with each other. We found significant
support for self agency in the guilt and shame manipulation conditions in both samples, and for other person agency in the anger manipulation condition in both samples.

**Other Person Agency and Contempt.** Significant support was found for contempt in the MTurk sample but not in the Rutgers sample (results shown in Table 8). Research has found that the word “contempt” is often misunderstood by participants (Matsumoto & Ekman, 2004), and therefore we had provided a definition of the term at the beginning of the survey. However, there is a possibility that the Rutgers participants ignored it or forgot it, as college subject pool participants have been found to be less attentive than MTurk participants to survey instructions (Hauser & Schwarz, 2016). This could explain why the results for contempt were significant in the MTurk sample but not in the Rutgers sample. It should be noted however, that although the results for contempt in the Rutgers sample were not significant, they were higher in the predicted direction. The contempt intensity was higher in the contempt manipulation condition (other person agency) than in the disgust (circumstance agency) and shame (self agency) manipulation conditions.

**Agency in Frustration and Disgust.** Means for the emotions of frustration and disgust were not significantly higher in the frustration and disgust manipulation conditions, respectively, than in the other agency manipulation conditions in either sample (as shown in Table 8). This does not mean that circumstance agency is unrelated to these two emotions. These results are consistent with the theoretical revision offered by Roseman et al. (1990), who proposed that “circumstance-caused” emotions can be experienced if people are more focused on the negativity of the situation, instead of who the agent was. Consistent with this possibility, in this study, we were not able to
distinguish frustration and disgust from the other emotions tested based on the circumstance agency appraisal.

*Individual Emotions Based on Appraisal Combinations*

We hypothesized that emotion intensity ratings for each emotion would be significantly higher in the predicted appraisal combination than in all other combinations. We found support for this in both samples for anger, guilt, and shame. In both samples, the ANOVAs showed that the emotion intensity ratings for anger, guilt, and shame were significantly different between the six appraisal manipulation conditions. The contrast tests for these three emotions were also significant, which means that they were significantly higher in the predicted condition when compared to all other conditions using contrast tests. However, the means in Table 8 show that in both the samples, anger was slightly higher in the contempt condition than in the anger condition, and shame was slightly higher in the guilt condition than in the shame condition in the MTurk sample.

Contempt was rated significantly higher in the other person and intrinsic problem type condition than all other conditions in the MTurk sample, but not in the Rutgers sample, in which the contempt intensity was slightly higher in the anger condition than in the contempt condition. As explained earlier, this could be because of differences in the samples. MTurk participants have been found to be more attentive than college subject pool participants (Hauser & Schwarz, 2016). The Rutgers participants might have been less attentive to the definition of contempt provided at the start of the survey and therefore misunderstood the meaning of contempt.

The ANOVAs for frustration were not significant in either sample, but frustration was rated significantly higher in the instrumental problem type and circumstance agency
condition in the Rutgers sample. This is consistent with the means shown in Table 8, where frustration intensity was highest in the frustration manipulation condition in the Rutgers sample, but was slightly higher in the contempt manipulation condition than the frustration manipulation condition in the MTurk sample. As explained earlier, frustration (like disgust) may be felt if the focus is on the negativity of the situation, so it is possible that in the contempt condition, the focus of the participants was on a negative evaluation of the situation.

Frustration was also found to be very high in all the conditions in both the samples (Rutgers $M=8.08$, MTurk $M=7.70$), thus causing somewhat of a ceiling effect on the 9-point scale. This can lead to a non-significant result in ANOVA even if the independent variable (in this case, appraisal manipulation) would have an effect on the dependent variable (frustration intensity score). Similar results of frustration being rated very highly have also been found previously, for example, when studying coping strategies related to anger, frustration, and helplessness with respect to service failure in organizations (Gelbrich, 2010). This combined with the finding that frustration was also chosen as the closest emotion much more frequently than others, suggests that it may be the most accessible negative emotion to participants, and people might use it generally to refer to negative affect. Therefore, frustration intensity ratings were likely problematic and are discussed further in the Limitations and Future Research section.

Disgust intensity was significantly higher in the condition with circumstance agency and intrinsic problem type than all other conditions in the Rutgers sample but not in the MTurk sample. This finding is based on the emotion intensity means. In MTurk, the disgust intensity was highest in the shame condition instead of in the disgust
condition as we had predicted. This could be because in the shame condition, the focus of
the participants was on an intrinsically negative evaluation of the situation. As mentioned
before, disgust (like frustration) can be felt even if an event is caused by others or the
self, if participants focus on the negativity of the situation rather than on the agent.

**Problem Type vs. Controllability to Explain Guilt vs. Shame**

We compared guilt vs. shame on two appraisals put forth by two different
appraisal theories. Roseman (2011) proposed that the two emotions differ based on the
problem type appraisal, with guilt being related to more instrumental problem type and
shame being related to more intrinsic problem type. Tracy and Robins (2006) argue that
controllability differentiates guilt and shame, with guilt being related to more control and
shame to less control.

We found that means were in the predicted directions for both theories (shame
more intrinsic, and being related to less control than guilt). However, results were
significant for the problem type hypothesis in both samples but not for the controllability
hypothesis in either sample. This suggests that problem type may more accurately capture
what differentiates guilt from shame.

**Implications**

There is some disagreement among emotion scientists about which appraisals
relate to which emotions, and there have been various theories developed to try to answer
this question (e.g., Lerner & Keltner, 2000; Moors et al., 2013; Scherer, 1984; Smith &
Ellsworth, 1985). This study aimed to contribute to knowledge in this field by testing
hypotheses from the emotion system model of appraisals (Roseman, 2011), and a
hypothesis from the theory of Tracy and Robins (2006).
The overall results showed some support for the emotion system model. We found that guilt and shame were highest in the self agency conditions in both samples (as shown in Table 8). In the problem type emotion comparison ratings, participants in the shame appraisal manipulation condition rated more towards shame than participants in the guilt condition in both samples, as predicted (as shown in Table 6), though the results were only significant in the Rutgers sample (as shown in Table 7). When testing each emotion individually in terms of the combination of appraisals, we found support for guilt and shame in both samples, when it was compared to all other emotion conditions (as shown in Table 10). Thus, the appraisals of agency and problem type generally worked as predicted by the theory for these emotions. The combination of self agency with instrumental problem type was related to guilt, and the combination of self agency with intrinsic problem type was related to shame.

Guilt and Shame

As mentioned above, in the emotion comparison analysis, the guilt vs. shame results were in the predicted direction in both samples and significant for the Rutgers sample. When the data were analyzed in terms of the closest emotions attributed to the story protagonists by study participants, instrumental vs. intrinsic problem type significantly distinguished guilt from shame in both samples as predicted (Table 11). This is an important finding as research shows that guilt is a more functional self-directed emotion than shame, that is related to less risky behaviors, whereas shame is more dysfunctional and predicts higher involvement in these behaviors (Stuewig et al., 2015). Shame has also been found to be more strongly related to psychopathology, specifically depression, whereas guilt has not (Tangney et al., 1992).
By knowing which appraisal or appraisals determine whether an individual will feel guilt or shame in a particular situation, therapists can help people learn to appraise situations in a more functional way in order to protect against adverse consequences. This kind of approach is used in Cognitive Behavior Therapy (CBT) where individuals are taught to recognize unhelpful thoughts and train themselves to appraise the situation more functionally (Beck, 2011). For example, a person can learn to think of a particular negative situation as being caused by something that they did to cause a bad outcome (instrumental problem type), which allows them to try to rectify the situation (guilt), instead of thinking that they are a bad person having undesirable qualities (intrinsic problem type), causing rejection of the self (shame).

We also compared Roseman’s theory (2011) that problem type distinguishes guilt and shame to Tracy and Robins’ theory (2006) that controllability distinguishes guilt and shame. We found significant results for guilt and shame differing on problem type but did not find significant results for guilt and shame differing on controllability. This finding thus contributes to resolving disagreements in the field by comparing two theories and finding significant support for one but not the other.

**Frustration and Disgust**

Before this study, the two emotions of frustration and disgust had not been consistently differentiated in just one way, as in the problem type appraisal suggested by this theory. Although the effects of the appraisal combinations on the frustration intensity ratings were not conclusive, possibly due to reasons mentioned before, the emotion comparison analyses between frustration and disgust revealed interesting findings. In both the samples, we found a significant effect of problem type on the emotion
Comparison ratings: frustration resulted from more instrumental problems (i.e., undesirable outcomes) and disgust from more intrinsic problems (i.e., undesirable qualities) as shown in Table 7. This provides the first causal evidence that the problem type appraisal distinguishes the emotions of frustration and disgust, and makes a case for future research to see if this finding can be replicated.

**Anger and Contempt**

In the agency appraisal analyses, we found some support for anger and contempt being caused by other person agency. In both samples, for both emotions, means were higher in the other person agency condition than the other two agency conditions, as predicted. Anger was higher in the anger condition (other person agency) than the frustration (circumstance agency) and guilt (self agency) conditions. Contempt was higher in the contempt condition (other person agency) than the disgust (circumstance agency) and shame (self agency) conditions. Results were significant for anger in both samples, and for contempt in the MTurk sample (Table 8). These results thus provide some evidence for other person agency being related to anger and contempt, as predicted by the theory.

In the anger vs. contempt emotion comparison results, the anger vs. contempt scale was rated higher in the contempt (intrinsic problem type) condition than the anger (instrumental problem type) condition in both samples, as predicted (Table 6). However, the results did not reach significance in either of the samples (Table 7). Although a possibility, this does not necessarily mean that problem type does not have an effect on the anger vs. contempt pair ratings. As explained previously, the lack of significance could be because contempt is a relatively rarely used emotion term compared to anger (as
was shown in Table 5), or because the problem type in the vignette for the contempt manipulation condition was not perceived to be as intrinsic as we had intended, or it could be that the sample size in the present study was too small for the differences observed to reach significance.

The appraisal combination analyses found significant support for anger being caused by other person agency and instrumental problem type in both samples. We found significant support for contempt being caused by other person agency and intrinsic problem type in the MTurk sample but not in the Rutgers sample (Table 10). Future research is needed to test contempt more effectively, making sure that participants understand the term, before asking them to rate it. Some suggestions are provided in the next section.

**Limitations and Future Research**

One of the limitations of this study was that it was a survey administered online. There is a possibility for social desirability bias when using surveys, where people answer according to what they think is desirable instead of what they actually think (Holden, 2007). Although the survey was anonymous and administered online to reduce social desirability bias, there were still some other disadvantages to this method. For example, although online surveys have the advantage of reaching a more representative sample and getting quicker responses, it does increase the opportunity for fake, non-serious, random responses, and automated responses by bots, as we experienced during the data collection. Such responses add noise to the data, and can obscure relationships among the variables being studied. Future research might consider other methods of getting anonymous responses or including a social desirability scale or a “lie” scale to
make sure that these factors are not having a significant impact on participants’ responses. Another way is to ask participants to rate how often they were answering the questions seriously, instead of providing funny or insincere responses (American National Election Studies, 2020).

Another limitation of the study was the possibility that participants did not pay attention to or forgot the definitions of disgust and contempt provided at the beginning, and therefore answered questions for these emotions inaccurately. This could have affected the results for these emotions and could explain some of the inconsistencies between the samples. A way to overcome this limitation could be to have the definitions on every page of the survey, and/or to test whether participants actually understood the terms somewhere in the survey. If participants have difficulty with the term contempt, and are reluctant in using the term disgust for non-sensory stimuli, studies could also try using photos of the facial expressions of the emotions.

Finally, as seen in Table 8, frustration was rated very highly in all six appraisal manipulation conditions, not just in the predicted one (circumstance agency, instrumental problem type). In the MTurk sample, it was rated highest in the contempt manipulation condition instead of in the frustration manipulation condition, as had been predicted. These high ratings of frustration in all manipulation conditions indicates that participants might be using the term frustration to refer to a general negative affect. This would make it difficult to test the effect of the appraisals on this emotion. To address this problem, future research could include a measure of general negative affect and see how that correlates with frustration. This measure could also be used to partial out general negative affect from frustration ratings and see if that changes the results for frustration. The
general negative affect measure could then tell us whether the frustration intensity rating was higher in the contempt manipulation condition than the frustration manipulation condition because that condition was seen as the most negative (motive inconsistent).

Overall, means were generally in the predicted directions for all problem type comparisons, and for most agency comparisons (the exception being disgust rated highest in the self-agency condition in the MTurk sample). However, not all of these differences were significant. This raises the question of whether our sample size had sufficient power, suggesting future research with larger samples.

Conclusions

Although not all of the hypotheses were supported, the results showed some significant support for the emotion system model (Roseman, 2011). We found causal evidence that instrumental vs. intrinsic problem type contributes to differentiating frustration vs. disgust. The use of two different samples shows that some of the results were replicable among participants with different demographics. The evidence that the problem type appraisal may contribute to distinguishing guilt vs. shame may have important implications not just in the emotion literature, but also for psychopathology and the well-being of people in dealing with self-directed negative emotions. Future research is needed to test these hypotheses more robustly, given the limitations of the current study. Findings from this study also show the need for caution when using the words frustration, contempt and disgust to study these emotions, and the need for more research using different methods (e.g., non-verbal stimuli), as suggested in the previous section, in order to understand these emotions more comprehensively. Findings also
indicate a need for more research and replication studies to test emotion theories with larger samples.
Appendix

Appraisals in Vignettes Survey

INSTRUCTIONS FOR ANSWERING QUESTIONS ON NUMERIC SCALES

Most of the questions in this survey can be answered by choosing a point on the scale.

1) For example:

How important is it for you to drink coffee in the morning?

Not at all important for me to drink coffee in the morning 1 2 3 4 5 6 7 8 9

Very important for me to drink coffee in the morning

In the above example, the person answering the question felt that it was very important for her to drink coffee in the morning, so she answered all the way at the right end of the scale.

2) Here’s another example:

Do you prefer a movie that’s a tragedy or a movie that’s a comedy?

I very much prefer a movie that’s a tragedy 1 2 3 4 5 6 7 8 9

I very much prefer a movie that’s a comedy

In the above example, the person answering the question slightly prefers a movie that is a comedy, so she answered a little toward the right end of the scale.

3) Here’s a third example:

Which do you like more: swimming in the ocean, or swimming in a pool?

Swimming in the ocean 1 2 3 4 5 6 7 8 9

Swimming in a pool

In the above example, the person answering the question likes swimming in a pool just as much as she likes swimming in the ocean. Because both answers were equally true, she answered exactly in the middle of the scale.
4) Here’s a fourth example:

What caused you to wake up this morning?

<table>
<thead>
<tr>
<th>The sunlight shining through my window</th>
<th>My alarm clock going off</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>

In this example, the person answering the question believed that neither the sunlight shining through her window, nor her alarm clock going off, caused her to wake up. Even though her alarm clock did go off, it did not CAUSE her to wake up this morning. (She overslept the alarm and her parents woke her up.) Because the answers are both equally untrue, she answered exactly in the middle of the scale.

5) Here’s a final example:

How much is your astonishment making you feel helpless?

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not at all</td>
<td>A little</td>
<td>Somewhat</td>
<td>Pretty much</td>
<td>Very much</td>
</tr>
</tbody>
</table>

In the above example, the participant feels helpless, but not because of her astonishment; so she answered all the way at the left end of the scale.

Note. In this survey:

“Contempt (scorn)” refers to the feeling of looking down on someone when you have a very low opinion of that person
- I understand the meaning of Contempt in this survey
- I do not understand the meaning of Contempt in this survey

“Disgust (revulsion)” refers to the feeling that something is repulsive
- I understand the meaning of Disgust in this survey
- I do not understand the meaning of Disgust in this survey
Frustration Appraisal Manipulation Condition (Circumstance Agency, Instrumental Problem Type)

The house had a roof that was leaking, the wiring was frayed, and the windows didn’t keep out the cold. When Jane also discovered that the furnace didn’t provide enough heat, she thought “This house won’t be ready in time for the buyers, and I’m going to lose the sale.”

1a) Using the scale below, please compare the extent to which Jane was feeling frustration vs. disgust (revulsion) toward something at the end of the story.

<table>
<thead>
<tr>
<th>Jane was feeling frustration very much more than disgust (revulsion)</th>
<th>1 2 3 4 5 6 7 8 9</th>
</tr>
</thead>
</table>

1b) Please briefly explain your answer:

_______________________________________________________________________
_______________________________________________________________________
_______________________________________________________________________

2a) Using the scale below, please compare the extent to which Jane was feeling guilt vs. shame toward something at the end of the story.

<table>
<thead>
<tr>
<th>Jane was feeling guilt very much more than shame</th>
<th>1 2 3 4 5 6 7 8 9</th>
</tr>
</thead>
</table>

2b) Please briefly explain your answer:

_______________________________________________________________________
_______________________________________________________________________
_______________________________________________________________________

3a) Using the scale below, please compare the extent to which Jane was feeling anger vs. contempt (scorn) toward something at the end of the story.

<table>
<thead>
<tr>
<th>Jane was feeling anger very much more than contempt (scorn)</th>
<th>1 2 3 4 5 6 7 8 9</th>
</tr>
</thead>
</table>

3b) Please briefly explain your answer:

_______________________________________________________________________
4) At the end of the story, how intensely was Jane feeling each of the following emotions?

<table>
<thead>
<tr>
<th>Emotion</th>
<th>Not at all</th>
<th>Very intensely</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anger toward someone</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>Contempt (scorn) toward someone</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>Disgust (revulsion)</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>Frustration</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>Guilt</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>Shame</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
</tbody>
</table>

5) Which one word or phrase from the list below comes closest to the emotion that Jane was feeling at the end of the story?

- Anger toward someone
- Contempt (scorn) toward someone
- Disgust (revulsion)
- Frustration
- Guilt
- Shame
Part 2

ANSWER EACH OF THE FOLLOWING QUESTIONS BY CHOOSING ONE NUMBER ON THE SCALE PROVIDED FOR THE QUESTION:

6) Jane’s <EMOTION> was produced by thinking that something was unappealing 1 2 3 4 5 6 7 8 9

7) Jane’s <EMOTION> was produced by thinking that something was causing an undesirable outcome 1 2 3 4 5 6 7 8 9

8) Jane’s <EMOTION> was produced by thinking that something would be responsible for a harmful effect 1 2 3 4 5 6 7 8 9

9) Jane’s <EMOTION> was not at all produced by thinking that this situation was caused by something other than a person 1 2 3 4 5 6 7 8 9

10) Jane’s <EMOTION> was not at all produced by thinking that this situation was caused by herself 1 2 3 4 5 6 7 8 9

11) Jane’s <EMOTION> was not at all produced by thinking that this situation was caused by someone other than herself 1 2 3 4 5 6 7 8 9
12) Jane’s <EMOTION> was produced by thinking that something was not good, though there will eventually be something that can be done about it.

13) Jane’s <EMOTION> was produced by thinking that she has to accept something.

14) Jane’s <EMOTION> was produced by thinking that something was not good, and she should be able to do something about it.

15) Jane’s <EMOTION> was produced by believing that what was happening improved things.

16) Jane’s <EMOTION> was produced by thinking that she was unable to predict what was going to happen in this situation.

17) Jane’s <EMOTION> was produced by wanting to get or keep something pleasurable.

18) Does Jane feel like she was in control of the situation (or the cause) that elicited her <EMOTION>? In other words, does she seem to think that she could have prevented the event from occurring?

Not at all in control

Completely in control
19) At the end of the story, how intensely was Jane feeling each of the following emotions?

<table>
<thead>
<tr>
<th>Emotion</th>
<th>Not at all</th>
<th>Very intensely</th>
</tr>
</thead>
<tbody>
<tr>
<td>Joy</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>Sadness</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>Regret</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>Relief</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>Fear</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>Pride</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>Hope</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>Surprise</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>Distress (emotional pain)</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>Affection toward someone</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>Dislike toward someone</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>Physical Pain</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
</tbody>
</table>
20) Which one word or phrase from the list below comes closest to describing the emotion that Jane was feeling at the end of the story?

- Affection toward someone
- Anger toward someone
- Contempt (scorn) toward someone
- Disgust (revulsion)
- Dislike toward someone
- Distress
- Fear
- Frustration
- Guilt
- Hope
- Joy
- Physical Pain
- Pride
- Regret
- Relief
- Sadness
- Shame
- Surprise

21) Is there another word that better describes the emotion that Jane was feeling at the end of the story?

- No
- Yes (please specify)
Disgust Appraisal Manipulation Condition (Circumstance Agency, Intrinsic Problem Type)

The house had a worn-out roof that was leaking, the shoddy wiring was inadequate, the cheap windows didn't keep out the cold, and the ancient furnace didn't provide the amount of heat that the building code required. Jane thought “this whole house is just one big piece of junk!”

1a) Using the scale below, please compare the extent to which Jane was feeling frustration vs. disgust (revulsion) toward something at the end of the story.

<table>
<thead>
<tr>
<th>Jane was feeling frustration</th>
<th>Jane was feeling disgust (revulsion)</th>
</tr>
</thead>
<tbody>
<tr>
<td>very much more than disgust (revulsion)</td>
<td>1  2  3  4  5  6  7  8  9 frustration</td>
</tr>
</tbody>
</table>

1b) Please briefly explain your answer:
_______________________________________________________________________
_______________________________________________________________________
_______________________________________________________________________

2a) Using the scale below, please compare the extent to which Jane was feeling guilt vs. shame toward something at the end of the story.

<table>
<thead>
<tr>
<th>Jane was feeling guilt</th>
<th>Jane was feeling shame</th>
</tr>
</thead>
<tbody>
<tr>
<td>very much more than shame</td>
<td>1  2  3  4  5  6  7  8  9 guilt</td>
</tr>
</tbody>
</table>

2b) Please briefly explain your answer:
_______________________________________________________________________
_______________________________________________________________________
_______________________________________________________________________

3a) Using the scale below, please compare the extent to which Jane was feeling anger vs. contempt (scorn) toward something at the end of the story.

<table>
<thead>
<tr>
<th>Jane was feeling anger</th>
<th>Jane was feeling contempt (scorn)</th>
</tr>
</thead>
<tbody>
<tr>
<td>very much more than contempt (scorn)</td>
<td>1  2  3  4  5  6  7  8  9 anger</td>
</tr>
</tbody>
</table>

3b) Please briefly explain your answer:
_______________________________________________________________________
_______________________________________________________________________
_______________________________________________________________________
4) At the end of the story, how intensely was Jane feeling each of the following emotions?

<table>
<thead>
<tr>
<th></th>
<th>Not at all</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Anger toward someone</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>Contempt (scorn) toward someone</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>Disgust (revulsion)</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>Frustration</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>Guilt</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>Shame</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td>9</td>
</tr>
</tbody>
</table>

5) Which one word or phrase from the list below comes closest to the emotion that Jane was feeling at the end of the story?

- o Anger toward someone
- o Contempt (scorn) toward someone
- o Disgust (revulsion)
- o Frustration
- o Guilt
- o Shame
**Part 2**

**ANSWER EACH OF THE FOLLOWING QUESTIONS BY CHOOSING ONE NUMBER ON THE SCALE PROVIDED FOR THE QUESTION:**

<table>
<thead>
<tr>
<th>Emotion</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jane’s</td>
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<td>was</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>produced by thinking that something was unappealing</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td>9</td>
</tr>
</tbody>
</table>

6) Jane’s <EMOTION> was produced by thinking that something was unappealing. Jane’s <EMOTION> was produced by thinking that something was causing a bad outcome.

<table>
<thead>
<tr>
<th>Emotion</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jane’s</td>
<td></td>
<td></td>
<td></td>
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<td></td>
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<td>was</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>produced by thinking that something was causing an undesirable outcome</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td>9</td>
</tr>
</tbody>
</table>

7) Jane’s <EMOTION> was produced by thinking that something was causing an undesirable outcome. Jane’s <EMOTION> was produced by thinking that something had an undesirable quality.

<table>
<thead>
<tr>
<th>Emotion</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jane’s</td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>was</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>produced by thinking that something would be responsible for a harmful effect</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td>9</td>
</tr>
</tbody>
</table>

8) Jane’s <EMOTION> was produced by thinking that something would be beneath a standard. Jane’s <EMOTION> was produced by thinking that something would be beneath a standard.

<table>
<thead>
<tr>
<th>Emotion</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jane’s</td>
<td></td>
<td></td>
<td></td>
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<td></td>
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<tr>
<td>was</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>produced by thinking that this situation was caused by something other than a person</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td>9</td>
</tr>
</tbody>
</table>

9) Jane’s <EMOTION> was not at all produced by thinking that this situation was caused by something other than a person. Jane’s <EMOTION> was very much produced by thinking that this situation was caused by something other than a person.

<table>
<thead>
<tr>
<th>Emotion</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jane’s</td>
<td></td>
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<td>was</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>produced by thinking that this situation was caused by herself</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td>9</td>
</tr>
</tbody>
</table>

10) Jane’s <EMOTION> was not at all produced by thinking that this situation was caused by herself. Jane’s <EMOTION> was very much produced by thinking that this situation was caused by herself.

<table>
<thead>
<tr>
<th>Emotion</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jane’s</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>was</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>produced by thinking that this situation was caused by someone other than herself</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td>9</td>
</tr>
</tbody>
</table>

11) Jane’s <EMOTION> was not at all produced by thinking that this situation was caused by someone other than herself. Jane’s <EMOTION> was very much produced by thinking that this situation was caused by someone other than herself.
12) Jane’s <EMOTION> was produced by thinking that something was not good, though there will eventually be something that can be done about it.

13) Jane’s <EMOTION> was produced by thinking that she has to accept something.

14) Jane’s <EMOTION> was produced by thinking that something was not good, and she should be able to do something about it.

15) Jane’s <EMOTION> was produced by believing that what was happening improved things.

16) Jane’s <EMOTION> was produced by thinking that she was unable to predict what was going to happen in this situation.

17) Jane’s <EMOTION> was produced by wanting to get or keep something pleasurable.

18) Does Jane feel like she was in control of the situation (or the cause) that elicited her <EMOTION>? In other words, does she seem to think that she could have prevented the event from occurring?

Not at all in control

Completely in control
At the end of the story, how intensely was Jane feeling each of the following emotions?

<table>
<thead>
<tr>
<th>Emotion</th>
<th>Not at all</th>
<th>Very intensely</th>
</tr>
</thead>
<tbody>
<tr>
<td>Joy</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>Sadness</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>Regret</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>Relief</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>Fear</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>Pride</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>Hope</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>Surprise</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>Distress (emotional pain)</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>Affection toward someone</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>Dislike toward someone</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>Physical Pain</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
</tbody>
</table>
20) Which one word or phrase from the list below comes closest to describing the emotion that Jane was feeling at the end of the story?

- Affection toward someone
- Anger toward someone
- Contempt (scorn) toward someone
- Disgust (revulsion)
- Dislike toward someone
- Distress
- Fear
- Frustration
- Guilt
- Hope
- Joy
- Physical Pain
- Pride
- Regret
- Relief
- Sadness
- Shame
- Surprise

21) Is there another word that better describes the emotion that Jane was feeling at the end of the story?

- No
- Yes (please specify)
Anger Appraisal Manipulation Condition (Other Person Agency, Instrumental Problem Type)

The Teaching Assistant didn’t read David’s paper and gave him a zero, because she said it should have been submitted as a pdf file. David reformatted the paper and submitted it again. But David’s revision was rejected by the T.A., who said she didn’t have time to read resubmissions.

1a) Using the scale below, please compare the extent to which David was feeling frustration vs. disgust (revulsion) toward something at the end of the story.

David was feeling frustration very much more than disgust (revulsion) 1 2 3 4 5 6 7 8 9

1a) Using the scale below, please compare the extent to which David was feeling guilt vs. shame toward something at the end of the story.

David was feeling guilt very much more than shame 1 2 3 4 5 6 7 8 9

2b) Please briefly explain your answer:

______________________________________________________________________
______________________________________________________________________
______________________________________________________________________

3a) Using the scale below, please compare the extent to which David was feeling anger vs. contempt (scorn) toward something at the end of the story.

David was feeling anger very much more than contempt (scorn) 1 2 3 4 5 6 7 8 9

3b) Please briefly explain your answer:

______________________________________________________________________
______________________________________________________________________
______________________________________________________________________
4) At the end of the story, how intensely was David feeling each of the following emotions?

<table>
<thead>
<tr>
<th></th>
<th>Not at all</th>
<th>Very intensely</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anger toward someone</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>Contempt (scorn) toward someone</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>Disgust (revulsion)</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>Frustration</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>Guilt</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>Shame</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
</tbody>
</table>

5) Which one word or phrase from the list below comes closest to the emotion that David was feeling at the end of the story?

- o Anger toward someone
- o Contempt (scorn) toward someone
- o Disgust (revulsion)
- o Frustration
- o Guilt
- o Shame
PART 2

ANSWER EACH OF THE FOLLOWING QUESTIONS BY CHOOSING ONE NUMBER ON THE SCALE PROVIDED FOR THE QUESTION:

6) David’s <EMOTION> was produced by thinking that someone other than himself was unappealing.

   1 2 3 4 5 6 7 8 9

7) David’s <EMOTION> was produced by thinking that someone other than himself was causing an undesirable outcome.

   1 2 3 4 5 6 7 8 9

8) David’s <EMOTION> was produced by thinking that someone other than himself would be responsible for a harmful effect.

   1 2 3 4 5 6 7 8 9

9) David’s <EMOTION> was not at all produced by thinking that this situation was caused by something other than a person.

   1 2 3 4 5 6 7 8 9

10) David’s <EMOTION> was not at all produced by thinking that this situation was caused by himself.

   1 2 3 4 5 6 7 8 9

11) David’s <EMOTION> was not at all produced by thinking that this situation was caused by someone other than himself.

   1 2 3 4 5 6 7 8 9
12) David’s <EMOTION> was produced by thinking that something was not good, though there will eventually be something that can be done about it.  

13) David’s <EMOTION> was produced by thinking that he has to accept something.  

14) David’s <EMOTION> was produced by thinking that something was not good.  

15) David’s <EMOTION> was produced by believing that what was happening improved things.  

16) David’s <EMOTION> was produced by thinking that he was unable to predict what was going to happen in this situation.  

17) David’s <EMOTION> was produced by wanting to get or keep something pleasurable.  

18) Does David feel like he was in control of the situation (or the cause) that elicited his <EMOTION>? In other words, does he seem to think that he could have prevented the event from occurring?  

Not at all in control  
1 2 3 4 5 6 7 8 9  

Completely in control
19) At the end of the story, how intensely was David feeling each of the following emotions?

<table>
<thead>
<tr>
<th>Emotion</th>
<th>Not at all</th>
<th>Very intensely</th>
</tr>
</thead>
<tbody>
<tr>
<td>Joy</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>Sadness</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>Regret</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>Relief</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>Fear</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>Pride</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>Hope</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>Surprise</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>Distress (emotional pain)</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>Affection toward someone</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>Dislike toward someone</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>Physical Pain</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
</tbody>
</table>
20) Which one word or phrase from the list below comes closest to describing the emotion that David was feeling at the end of the story?

- Affection toward someone
- Anger toward someone
- Contempt (scorn) toward someone
- Disgust (revulsion)
- Dislike toward someone
- Distress
- Fear
- Frustration
- Guilt
- Hope
- Joy
- Physical Pain
- Pride
- Regret
- Relief
- Sadness
- Shame
- Surprise

21) Is there another word that better describes the emotion that David was feeling at the end of the story?

- No
- Yes (please specify)
Contempt Appraisal Manipulation Condition (Other Person Agency, Intrinsic Problem Type)

The Teaching Assistant didn’t read David’s paper and gave him a zero, because she said it should have been submitted as a pdf file. David reformatted the paper and submitted it again. But David’s revision was mistakenly deleted by the T.A., who was very careless and completely incompetent.

1a) Using the scale below, please compare the extent to which David was feeling frustration vs. disgust (revulsion) toward something at the end of the story.

<table>
<thead>
<tr>
<th>Disgust (revulsion)</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frustration</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

David was feeling very much more than disgust (revulsion) 1 2 3 4 5 6 7 8 9

1b) Please briefly explain your answer:

______________________________________________________________________
______________________________________________________________________
______________________________________________________________________

2a) Using the scale below, please compare the extent to which David was feeling guilt vs. shame toward something at the end of the story.

<table>
<thead>
<tr>
<th>Shame</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
</tr>
</thead>
<tbody>
<tr>
<td>Guilt</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

David was feeling very much more than shame 1 2 3 4 5 6 7 8 9

2b) Please briefly explain your answer:

______________________________________________________________________
______________________________________________________________________
______________________________________________________________________

3a) Using the scale below, please compare the extent to which David was feeling anger vs. contempt (scorn) toward something at the end of the story.

<table>
<thead>
<tr>
<th>Contempt (scorn)</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anger</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

David was feeling very much more than contempt (scorn) 1 2 3 4 5 6 7 8 9

3b) Please briefly explain your answer:

______________________________________________________________________
______________________________________________________________________
______________________________________________________________________
4) At the end of the story, how intensely was David feeling each of the following emotions?

<table>
<thead>
<tr>
<th></th>
<th>Not at all</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th>Very intensely</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anger toward someone</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>Contempt (scorn) toward someone</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>Disgust (revulsion)</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>Frustration</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>Guilt</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>Shame</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td>9</td>
</tr>
</tbody>
</table>

5) Which one word or phrase from the list below comes closest to the emotion that David was feeling at the end of the story?

- Anger toward someone
- Contempt (scorn) toward someone
- Disgust (revulsion)
- Frustration
- Guilt
- Shame
Part 2

ANSWER EACH OF THE FOLLOWING QUESTIONS BY CHOOSING ONE NUMBER ON THE SCALE PROVIDED FOR THE QUESTION:

6) David’s <EMOTION> was produced by thinking that someone other than himself was unappealing

7) David’s <EMOTION> was produced by thinking that someone other than himself was causing an undesirable outcome

8) David’s <EMOTION> was produced by thinking that someone other than himself would be responsible for a harmful effect

9) David’s <EMOTION> was not at all produced by thinking that this situation was caused by something other than a person

10) David’s <EMOTION> was not at all produced by thinking that this situation was caused by himself

11) David’s <EMOTION> was not at all produced by thinking that this situation was caused by someone other than himself
12) David’s <EMOTION> was produced by thinking that something was not good, though there will eventually be something that can be done about it.  
1  2  3  4  5  6  7  8  9

13) David’s <EMOTION> was produced by thinking that he has to accept something.  
1  2  3  4  5  6  7  8  9

14) David’s <EMOTION> was produced by thinking that something was not good, and he should be able to do something about it.  
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15) David’s <EMOTION> was produced by believing that what was happening improved things.  
1  2  3  4  5  6  7  8  9

16) David’s <EMOTION> was produced by thinking that he was unable to predict what was going to happen in this situation.  
1  2  3  4  5  6  7  8  9

17) David’s <EMOTION> was produced by wanting to get or keep something pleasurable.  
1  2  3  4  5  6  7  8  9

18) Does David feel like he was in control of the situation (or the cause) that elicited his <EMOTION>? In other words, does he seem to think that he could have prevented the event from occurring?

Not at all in control 1  2  3  4  5  6  7  8  9

Completely in control
At the end of the story, how intensely was David feeling each of the following emotions?

<table>
<thead>
<tr>
<th>Emotion</th>
<th>Not at all</th>
<th>Very intensely</th>
</tr>
</thead>
<tbody>
<tr>
<td>Joy</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>Sadness</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>Regret</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>Relief</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>Fear</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>Pride</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>Hope</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>Surprise</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>Distress (emotional pain)</td>
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<td></td>
</tr>
<tr>
<td>Affection toward someone</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>Dislike toward someone</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>Physical Pain</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
</tbody>
</table>
20) Which one word or phrase from the list below comes closest to describing the emotion that David was feeling at the end of the story?

- Affection toward someone
- Anger toward someone
- Contempt (scorn) toward someone
- Disgust (revulsion)
- Dislike toward someone
- Distress
- Fear
- Frustration
- Guilt
- Hope
- Joy
- Physical Pain
- Pride
- Regret
- Relief
- Sadness
- Shame
- Surprise

21) Is there another word that better describes the emotion that David was feeling at the end of the story?

- No
- Yes (please specify)
Guilt Appraisal Manipulation Condition (Self Agency, Instrumental Problem Type)

Mary went home for Christmas and her father asked how she was doing at the college she had started in September. Mary told him that she had failed the most important course that she was taking. She knew her parents were working overtime to pay for her schooling, and now they’d have to pay for her to take that class again in the summer session.

1a) Using the scale below, please compare the extent to which Mary was feeling frustration vs. disgust (revulsion) toward herself at the end of the story.

Mary was feeling
frustration
very much more than
disgust (revulsion) 1 2 3 4 5 6 7 8 9

Mary was feeling
disgust (revulsion)
very much more than
frustration

1b) Please briefly explain your answer:

______________________________________________________________________
______________________________________________________________________
______________________________________________________________________

2a) Using the scale below, please compare the extent to which Mary was feeling guilt vs. shame toward herself at the end of the story.

Mary was feeling
guilt
very much more than
shame 1 2 3 4 5 6 7 8 9

Mary was feeling
shame
very much more than
guilt

2b) Please briefly explain your answer:

______________________________________________________________________
______________________________________________________________________
______________________________________________________________________

3a) Using the scale below, please compare the extent to which Mary was feeling anger vs. contempt (scorn) toward herself at the end of the story.

Mary was feeling
anger
very much more than
contempt (scorn) 1 2 3 4 5 6 7 8 9

Mary was feeling
contempt (scorn)
very much more than
anger

3b) Please briefly explain your answer:

______________________________________________________________________
______________________________________________________________________
______________________________________________________________________
4) At the end of the story, how intensely was Mary feeling each of the following emotions?

<table>
<thead>
<tr>
<th></th>
<th>Not at all</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th>Very intensely</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anger toward someone</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>Contempt (scorn) toward someone</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>Disgust (revulsion)</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>Frustration</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>Guilt</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>Shame</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
</tbody>
</table>

5) Which one word or phrase from the list below comes closest to the emotion that Mary was feeling at the end of the story?

- Anger toward someone
- Contempt (scorn) toward someone
- Disgust (revulsion)
- Frustration
- Guilt
- Shame
Part 2

Answer each of the following questions by choosing one number on the scale provided for the question:

6) Mary’s <emotion> was produced by thinking that she was unappealing
   1 2 3 4 5 6 7 8 9

7) Mary’s <emotion> was produced by thinking that she was causing an undesirable outcome
   1 2 3 4 5 6 7 8 9

8) Mary’s <emotion> was produced by thinking that she would be responsible for a harmful effect
   1 2 3 4 5 6 7 8 9

9) Mary’s <emotion> was not at all produced by thinking that this situation was caused by something other than a person
   1 2 3 4 5 6 7 8 9

10) Mary’s <emotion> was not at all produced by thinking that this situation was caused by herself
    1 2 3 4 5 6 7 8 9

11) Mary’s <emotion> was not at all produced by thinking that this situation was caused by someone other than herself
    1 2 3 4 5 6 7 8 9
12) Mary’s <EMOTION> was produced by thinking that something was not good, though there will eventually be something that can be done about it

13) Mary’s <EMOTION> was produced by thinking that she has to accept something

14) Mary’s <EMOTION> was produced by thinking that something was not good

15) Mary’s <EMOTION> was produced by believing that what was happening improved things

16) Mary’s <EMOTION> was produced by thinking that she was unable to predict what was going to happen in this situation

17) Mary’s <EMOTION> was produced by wanting to get or keep something pleasurable

18) Does Mary feel like she was in control of the situation (or the cause) that elicited her <EMOTION>? In other words, does she seem to think that she could have prevented the event from occurring?

Not at all in control

Completely in control
19) At the end of the story, how intensely was Mary feeling each of the following emotions?

<table>
<thead>
<tr>
<th>Emotion</th>
<th>Not at all</th>
<th>Very intensely</th>
</tr>
</thead>
<tbody>
<tr>
<td>Joy</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>Sadness</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>Regret</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>Relief</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>Fear</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>Pride</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>Hope</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>Surprise</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>Distress (emotional pain)</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>Affection toward someone</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>Dislike toward someone</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>Physical Pain</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
</tbody>
</table>
20) Which one word or phrase from the list below comes closest to describing the emotion that Mary was feeling at the end of the story?

- Affection toward someone
- Anger toward someone
- Contempt (scorn) toward someone
- Disgust (revulsion)
- Dislike toward someone
- Distress
- Fear
- Frustration
- Guilt
- Hope
- Joy
- Physical Pain
- Pride
- Regret
- Relief
- Sadness
- Shame
- Surprise

21) Is there another word that better describes the emotion that Mary was feeling at the end of the story?

- No
- Yes (please specify)
Shame Appraisal Manipulation Condition (Other Person Agency, Intrinsic Problem Type)

Mary went home for Christmas and her father asked how she was doing at the college she had started in September. Mary told him that she had failed the most important course that she was taking. She knew this showed her lack of ability, and when she thought about it, she really believed that she was stupid and pathetic.

1a) Using the scale below, please compare the extent to which Mary was feeling frustration vs. disgust (revulsion) toward herself at the end of the story.

<table>
<thead>
<tr>
<th>Mary was feeling frustration</th>
<th>Mary was feeling disgust (revulsion)</th>
</tr>
</thead>
<tbody>
<tr>
<td>very much more than disgust (revulsion)</td>
<td>very much more than frustration</td>
</tr>
<tr>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
</tbody>
</table>

1b) Please briefly explain your answer:

______________________________________________________________________
______________________________________________________________________
______________________________________________________________________

2a) Using the scale below, please compare the extent to which Mary was feeling guilt vs. shame toward herself at the end of the story.

<table>
<thead>
<tr>
<th>Mary was feeling guilt</th>
<th>Mary was feeling shame</th>
</tr>
</thead>
<tbody>
<tr>
<td>very much more than shame</td>
<td>very much more than guilt</td>
</tr>
<tr>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
</tbody>
</table>

2b) Please briefly explain your answer:

______________________________________________________________________
______________________________________________________________________
______________________________________________________________________

3a) Using the scale below, please compare the extent to which Mary was feeling anger vs. contempt (scorn) toward herself at the end of the story.

<table>
<thead>
<tr>
<th>Mary was feeling anger</th>
<th>Mary was feeling contempt (scorn)</th>
</tr>
</thead>
<tbody>
<tr>
<td>very much more than contempt (scorn)</td>
<td>very much more than anger</td>
</tr>
<tr>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
</tbody>
</table>

3b) Please briefly explain your answer:

______________________________________________________________________
______________________________________________________________________
______________________________________________________________________
4) At the end of the story, how intensely was Mary feeling each of the following emotions?

<table>
<thead>
<tr>
<th>Emotional Response</th>
<th>Not at all</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anger toward someone</td>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>Contempt (scorn) toward someone</td>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>Disgust (revulsion)</td>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>Frustration</td>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>Guilt</td>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>Shame</td>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
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5) Which one word or phrase from the list below comes closest to the emotion that Mary was feeling at the end of the story?

- Anger toward someone
- Contempt (scorn) toward someone
- Disgust (revulsion)
- Frustration
- Guilt
- Shame
Part 2

ANSWER EACH OF THE FOLLOWING QUESTIONS BY CHOOSING ONE NUMBER ON THE SCALE PROVIDED FOR THE QUESTION:

6) Mary’s <EMOTION> was produced by thinking that she was unappealing 1 2 3 4 5 6 7 8 9

7) Mary’s <EMOTION> was produced by thinking that she was causing an undesirable outcome 1 2 3 4 5 6 7 8 9

8) Mary’s <EMOTION> was produced by thinking that she would be responsible for a harmful effect 1 2 3 4 5 6 7 8 9

9) Mary’s <EMOTION> was not at all produced by thinking that this situation was caused by something other than a person 1 2 3 4 5 6 7 8 9

10) Mary’s <EMOTION> was not at all produced by thinking that this situation was caused by herself 1 2 3 4 5 6 7 8 9

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Not at all in control  1 2 3 4 5 6 7 8 9  
Completely in control
19) At the end of the story, how intensely was Mary feeling each of the following emotions?

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- Surprise

21) Is there another word that better describes the emotion that Mary was feeling at the end of the story?

- No
- Yes (please specify)
1) What is your date of birth?  
Month:  
Year:___.
January.....( ).
February....( ).
March.......( ).
April........( ).
May.........( ).
June.........( ).
July.........( ).
August......( ).
September...().
October.....( ).
November....( ).
December....( ).

2) What is your age (in years)? __________________________years old

3) What is your native language?
English..................................................( ).
Spanish..................................................( ).
Chinese..................................................( ).
French..................................................( ).
Other (please specify) __________

4) In what country were you born? ______________________________.

5) Are you male or female?
Female..................................................( ).
Male.....................................................( ).
Non-binary/third gender..................................( ).
Prefer to self-describe (please specify): [text box]....( ).
Prefer not to say........................................( ).

6) Are you currently:
Married..................................................{ }. 
Widowed..................................................{ }.
Divorced................................................{ }.
Separated...............................................{ }.
Never Married........................................{ }.

7a) Where did you receive the major part of your education up to high school?
In a rural area.................................................( ).
In a small city or town (population under 50,000)........( ).
In a medium-size city (population of 50,000-250,000).....( ).
In a suburb near a large city............................( ).
In a large city (population over 250,000)................( ).

7b) In what country was this place located? __________________________
References


