

# Appraisal Trajectories in Narratives Reveal Distinct Patterns of Emotion Evocation

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## Abstract

Understanding emotion responses relies on reconstructing how individuals appraise events. While prior work has studied emotion trajectories and inherent correlations with appraisals, it has considered appraisals only in a snapshot analysis. However, because appraisal is a complex, sequential process, we argue that it should be analyzed based on how it unfolds throughout a narrative. In this study, we investigate whether trajectories of appraisals are distinctive for different emotions in five-event stories – narratives where each of five sentences describes an event. We employ zero-shot prompting with a large language model to predict appraisals on sub-sequences of a narrative. We find that this approach is effective in identifying relevant appraisals in narratives, without prior knowledge of the evoked emotion, enabling a comprehensive analysis of appraisal trajectories. Furthermore, we are the first to quantitatively identify typical patterns of appraisal trajectories that distinguish emotions. For example, a rising trajectory for self-responsibility indicates trust, while a falling trajectory suggests anger.

## 1 Introduction

Emotion analysis seeks to uncover the emotions that events evoke in individuals based on their textual descriptions. Foundational frameworks established by Ekman (1972) and Plutchik (2001) categorize emotions in a structured manner. This allows researchers to label textual data from various sources, for example social media as in the corpus by Mohammad (2012). Consider the textual examples given<sup>1</sup> in Table 1, listing five sentences in narrative order. We may suspect that the event described in sentence #1 evoked the emotion trust in the experiencer and that the event described in

sentence #5 probably evoked the emotion guilt in them (based on the given context).

Recent work by Troiano et al. (2023) has highlighted the importance of implicit emotion cues tied to appraisal theories. These theories present emotions as resulting from the cognitive evaluation of events, incorporating subjective feelings, action tendencies, physiological responses, and both vocal and bodily expressions triggered by those events (Staller and Petta, 2001; Scherer, 2005; Gratch et al., 2009). By identifying the appraisals, we can more clearly reconstruct how the emotions are shaped in the example (see Table 1): The event described in sentence #1 is likely something pleasant for the experiencer and they are taking on responsibility in connection with a relevant goal. These cognitive appraisals (pleasantness, self responsibility and goal relevance) result in the emotion trust.

Prior work mainly analyzes appraisal in isolated instances, such as single sentences, discrete events, or social media posts (e.g., Hofmann et al., 2020; Stranisci et al., 2022; Zhan et al., 2023; Troiano et al., 2023; Liu et al., 2025; Zhou et al., 2025). Notably, many of these studies build upon the work of Troiano et al. (2023) and extend their focus to longer texts, underscoring the need for a contextualized analysis.

| # | Sentence Text   |
|---|---|
| 1 | A close friend entrusted me with setting up the sound system for a charity event.                                     |
| 2 | I faced a daunting task, as the previous technician had left the equipment in disarray.                               |
| 3 | With time running out, I took a shortcut to meet the deadline, skipping some crucial safety checks.                   |
| 4 | Just before the event started, my friend reminded me of its significance and the many people counting on its success. |
| 5 | The loudspeaker suddenly malfunctioned and went silent.   |

<sup>1</sup>We provide access to the data and code of our experiments on <https://www.uni-bamberg.de/en/nlproc/resources/appraisal-trajectories/>.

Table 1: Example narrative comprising five sentences.

Appraisals and the resulting emotions often unfold as a complex process (Lewis, 2001) that can span multiple events and develop over the course of a narrative. In dialog research, emotion dynamics have been explored, e.g., by Poria et al. (2019). Debnath et al. (2025) also consider how appraisals influence these dynamics in multi-turn conversations. However, our work is the first aiming to understand how the appraisal progression of an individual develops based on narrative event sequences. To explain the emotion guilt for sentence #5 (shown in Table 1) using appraisals, we need to consider how these develop over the course of the narrative event sequence: The individual’s responsibility for the outcome becomes increasingly apparent throughout the narrative. However, the pleasantness of the events, which is positive in the beginning, shifts to negative by the end due to the event described in the final sentence. Consequently, the negative emotion guilt is suddenly triggered. We refer to these changes in appraisals over the course of an event sequence as appraisal trajectories. Prior research only conducts snapshot analyses of appraisals, neglecting their development over time. While Wemmer et al. (2024) created appraisal trajectories in a study of dreams, their analysis does not examine the connection to the evoked emotions.

In our study, we explore the dynamics of appraisals that evoke different emotions within narratives through the following research questions:

1. Can we identify appraisals from narrative text alone, or is prior knowledge of the evoked emotion necessary?
2. Do appraisal trajectories in narratives show distinct patterns for different emotions?

To this end, we conduct automatic appraisal annotation on short narratives consisting of sequences of event descriptions evoking different emotions. Our methodology utilizes zero-shot prompting with a large language model (LLM) to predict appraisals. We analyze the trajectories of different appraisal dimensions in these narratives and compare their role in evoking different emotions. We aim to identify typical patterns of appraisal trajectories associated with specific emotions, to understand how emotion responses can be modeled more precisely.

## 2 Methods

**Data and Model.** For our experiments, we require a dataset with a substantial number of narra-

tives categorized for different emotions. Given a person’s textual description of their experience, we aim to reconstruct how they appraise events resulting in that emotion. The Emotional Backstories (EBS) dataset (Schäfer and Klinger, 2025) therefore offers itself as it comprises 13,000 narratives, each structured as a sequence of five event descriptions and assigned to one of 13 emotion categories (see the first column of Table 2). The dataset consists of LLM-generated data, with its quality validated by human annotators, and is designed for a thorough investigation of how contexts influence emotion analysis. For modeling appraisals, we adopt the 21 categories used by Troiano et al. (2023) (a detailed list is given in Appendix A). Our analysis uses the instruction-tuned Llama-3.3 LLM with 70B parameters (Meta, 2025). We utilize a zero-shot prompting method due to the lack of annotated training data for contextualized appraisals. The full text prompts used are given in Appendix B.

**Appraisal Detection Performance.** Our goal is to compute and analyze appraisals, requiring an effective labeling approach. Our method prompts the LLM to predict Likert scale scores (ranging from 1 to 5) for all appraisal categories given a narrative. We estimate the contextualized appraisal prediction performance of this approach by evaluating it on the crowd-enVent dataset (Troiano et al., 2023), which only contains isolated instances.

**Appraisal Correlations with Emotions.** We also need to evaluate the effectiveness of our appraisal prediction method on narratives, specifically assessing whether it performs successfully without prior knowledge of the associated emotion, relying solely on the text. We test this by allowing for the inclusion or exclusion of emotion information in the prompt. Troiano et al. (2023) show typical correlations of certain appraisals with certain emotions. We investigate whether we can find similar correlations in narratives and compare two settings: 1) Bottom-Up: the model should reconstruct the appraisals of the experiencer based on the textual sequence of event descriptions. 2) Top-Down: the model is informed about the overall emotion being evoked and is basically tasked to find related appraisals in the narrative. We hypothesize that the second approach will reveal clearer correlations due to the model’s inherent knowledge of appraisals, allowing it to predict these not only from the textual content. However, the first setting presents a more realistic scenario, as we usually

|            |         | Delta Scores |             |               |              |                |                |                  |                |                 |                |              |         |              |               |                |               |           |              |           |              |        |
|------------|---------|--------------|-------------|---------------|--------------|----------------|----------------|------------------|----------------|-----------------|----------------|--------------|---------|--------------|---------------|----------------|---------------|-----------|--------------|-----------|--------------|--------|
|            |         | suddenness   | familiarity | predict_event | pleasantness | unpleasantness | goal_relevance | chance_responsbt | self_responsbt | other_responsbt | predict_conseq | goal_support | urgency | self_control | other_control | chance_control | accept_conseq | standards | social_norms | attention | not_consider | effort |
| Appraisal  | Emotion |              |             |               |              |                |                |                  |                |                 |                |              |         |              |               |                |               |           |              |           |              |        |
| Anger      | 0.2     | -0.2         | -0.2        | -0.5          | 0.7          | 0.1            | -0.1           | -0.3             | 0.2            | -0.1            | -0.6           | 0.2          | -0.2    | 0.2          | 0.0           | -0.6           | 1.0           | 0.7       | 0.1          | 0.0       | 0.3          |        |
| Boredom    | -0.2    | 0.1          | 0.1         | -0.5          | -0.1         | -0.5           | 0.0            | -0.1             | -0.1           | -0.1            | -0.4           | -0.3         | -0.1    | 0.0          | 0.0           | -0.1           | -0.1          | 0.0       | -0.7         | 0.8       | -0.4         |        |
| Disgust    | 0.1     | -0.2         | -0.1        | -0.4          | 0.7          | 0.0            | 0.0            | -0.1             | 0.1            | 0.0             | -0.4           | 0.2          | -0.1    | 0.0          | 0.0           | -0.4           | 0.6           | 0.5       | 0.1          | 0.5       | 0.3          |        |
| Fear       | 0.1     | -0.2         | -0.1        | -0.3          | 0.4          | 0.2            | 0.1            | 0.0              | 0.0            | 0.0             | -0.3           | 0.3          | -0.1    | 0.1          | 0.3           | -0.4           | 0.4           | 0.2       | 0.1          | 0.1       | 0.2          |        |
| Guilt      | 0.1     | -0.1         | -0.1        | -0.5          | 0.6          | 0.3            | -0.1           | 0.5              | -0.4           | 0.0             | -0.6           | 0.2          | -0.1    | -0.1         | 0.0           | -0.6           | 1.1           | 0.5       | 0.1          | 0.4       | 0.3          |        |
| Joy        | -0.1    | 0.0          | 0.0         | 0.8           | -0.6         | 0.0            | 0.0            | 0.1              | 0.0            | 0.1             | 0.6            | -0.1         | 0.1     | 0.0          | -0.1          | 0.4            | -0.2          | 0.0       | -0.1         | 0.0       | -0.2         |        |
| Pride      | -0.1    | 0.0          | 0.0         | 0.6           | -0.4         | 0.2            | -0.1           | 0.3              | -0.2           | 0.2             | 0.6            | 0.0          | 0.3     | -0.1         | -0.1          | 0.5            | -0.1          | 0.0       | 0.0          | 0.0       | 0.0          |        |
| Relief     | 0.0     | 0.0          | 0.0         | 0.6           | -0.5         | 0.1            | 0.0            | 0.1              | -0.1           | 0.1             | 0.7            | 0.0          | 0.0     | 0.0          | 0.1           | 0.9            | -0.1          | 0.0       | 0.0          | 0.0       | -0.2         |        |
| Sadness    | 0.1     | -0.1         | -0.1        | -0.7          | 0.7          | 0.1            | 0.1            | -0.1             | -0.1           | 0.0             | -0.6           | 0.1          | -0.2    | 0.1          | 0.2           | -0.5           | 0.4           | 0.1       | 0.1          | 0.3       | 0.3          |        |
| Shame      | 0.1     | -0.2         | -0.2        | -0.6          | 0.7          | 0.1            | 0.0            | 0.3              | -0.3           | -0.1            | -0.8           | 0.1          | -0.4    | 0.1          | 0.0           | -0.7           | 1.4           | 0.7       | 0.1          | 0.8       | 0.3          |        |
| Surprise   | 0.8     | -0.5         | -0.4        | -0.1          | 0.0          | 0.1            | 0.2            | -0.1             | 0.0            | -0.2            | -0.1           | 0.3          | -0.1    | 0.1          | 0.3           | -0.1           | 0.2           | 0.1       | 0.2          | 0.0       | 0.1          |        |
| Trust      | -0.1    | 0.1          | 0.0         | 0.2           | -0.2         | 0.1            | -0.1           | 0.0              | 0.0            | 0.1             | 0.3            | 0.0          | 0.1     | 0.0          | 0.0           | 0.2            | -0.1          | 0.0       | 0.0          | 0.0       | -0.1         |        |
| No-Emotion | -0.2    | 0.1          | 0.1         | -0.1          | -0.2         | -0.3           | 0.0            | -0.1             | -0.1           | 0.0             | -0.2           | -0.1         | 0.0     | -0.1         | -0.1          | 0.0            | -0.2          | -0.1      | -0.2         | -0.1      | -0.2         |        |

Table 2: Difference in appraisal scores of complete narratives per emotion category of model informed about the emotion to model not informed about the emotion (absolute scores for the two methods are given in Appendix D). Positive (negative) values, marked with green (purple) background color, express that the informed model assigns a higher (lower) Likert score (range 1–5). The different appraisal categories are further specified in Appendix A.

do not have prior knowledge of the emotion that is evoked. In comparing the predictions from the two approaches, we aim to explore whether the typical correlations can still emerge in the case where the model is solely dependent on the text, without explicit information about the emotion.

**Analysis of Appraisal Trajectories.** To be able to analyze the trajectories of appraisals within narratives, we generate sub-sequences from the five-sentence text instances. We start with only the first sentence and then incrementally add sentences in narrative order, employing the technique by Wemmer et al. (2024) who study dreams. By including the previous context rather than just a sentence, we aim for a more accurate contextualized analysis. For each sub-sequence, we predict appraisal scores using the model established above where no information about the emotion is included.

### 3 Results

The evaluation on the human-annotated crowd-enVent dataset (see Appendix C) shows that the appraisal prediction performance of our zero-shot model is acceptable (RMSE 1.49/1.46) in comparison to the fine-tuned model by Troiano et al. (2023) (RMSE 1.40). We analyze appraisals in narratives by applying our model to the Emotional Backstories dataset (Schäfer and Klinger, 2025), which contains 1,000 five-sentence-narratives for

each of 13 emotion categories. In the following, we address our research questions by evaluating averages over the instances per emotion category as well as overall macro-averaged scores.

#### 3.1 Can we identify appraisals from narrative text alone, or is prior knowledge of the evoked emotion necessary?

Table 2 shows how predicted appraisal scores change when the model is informed about the evoked emotion. The results reveal only minor variations in predicted appraisal scores. For instance, the pleasantness appraisal score (see the fifth column in Table 2) slightly increases (+0.2 to +0.8 Likert score points) for positive emotions while it slightly decreases (−0.3 to −0.7 Likert scale points) for negative emotions when the model is informed about the emotion. Differences in Likert scale values of more than  $\pm 1$  are observed only for the appraisal regarding standards in negative emotions (+1.0 for anger, +1.1 for guilt and +1.4 for shame; see Table 2).

Separate values for the two settings further substantiate the trend that informing the model about the emotion is not necessary to find typical correlations of appraisals and emotions (see Appendix D). This shows that our approach is able to find indicators of appraisals in the textual content of the narratives even without prior knowledge of the emotion.

### 3.2 Do appraisal trajectories in narratives show distinct patterns for different emotions?

Table 3 shows average appraisal scores of narrative sub-sequences, analyzed as trajectories for each emotion. From these values, we can infer how certain appraisals are expressed through the narrative structure. Generally, differences in magnitude are observed across certain appraisals. For example, relevance to the experiencer’s goals is consistently scored higher than chance occurrences, aligning with expectations for experiencer-perspective text. Other appraisal categories show differences in intensity for different emotions, for example, contrasting familiarity scores; sadness exhibits higher scores compared to fear – which is consistent with established emotion-appraisal correlations.

Regarding trajectory patterns, we identify four distinct types in Table 3: Rising, Falling, Valley-shaped, Hill-shaped. These shapes arise from the variations in appraisal processes as they unfold within narrative structures. Certain appraisals display uniform patterns across all emotions. An example for this is suddenness: all Rising. Here, context is required for higher scores. In contrast, certain appraisals interestingly show variation in trajectory patterns by emotion. For example, pleasantness shows a Rising pattern for joy but a Valley-shaped pattern for relief, illustrating the complex process that involves less pleasant events before a resolution. Another example is self-responsibility, which exhibits a Falling trajectory for anger, while showing a Rising pattern for trust, yet both ultimately reach approximately the same score. This emphasizes that performing a snapshot analysis of appraisals is incomplete, as only the distinct trajectory patterns reveal deeper processes that distinguish the evocation of the different emotions.

## 4 Conclusion

Our study reveals distinct trajectories in appraisal processes that result in evoking different emotions in narratives. We demonstrate that contextualized appraisals can be effectively modeled based on narratives even without prior knowledge of the underlying emotion, suggesting that the textual content contains sufficient cues. Our identification of unique appraisal patterns – Rising, Falling, Valley-shaped, and Hill-shaped – highlights the complexity of the appraisal process leading to different emotion responses, emphasizing the need for

a dynamic perspective on appraisal. These findings carry further implications for emotion detection applications, as recognizing appraisal trajectories could enhance the accuracy of emotion classification systems.

The fixed five-sentence narrative structure we study facilitates a controlled analysis. Our findings generalize to narratives of varying lengths, provided that an additional step is taken to adapt such data into the format we use. Another option would be to align and normalize trajectories for variable-length narratives, which would further broaden their applicability, although this remains a topic for future research. Additionally, future work should study the interplay between different combinations of appraisals and how they relate to specific emotion categories. Future research is required to explore how to best leverage these trajectories to optimize emotion detection in various contexts, ultimately deepening our understanding of the interplay between appraisals in narrative structure and evoked emotions.

## Limitations

This study has some limitations worth noting. The zero-shot performance of the LLM for predicting appraisals can be nuanced; while it demonstrates potential, there seems to be considerable room for improvement. Moreover, generating Likert-scale numerical outputs with the LLM might not be an optimized approach for scoring appraisals, as it limits calibration and comparability. Analyzing output distributions and sensitivity across prompt variants or repeated runs would strengthen the robustness of our findings, as we only ran our experiments once. We also utilize only one LLM for our analysis, which may restrict the generalizability of our findings. Different models may yield varying results in predicting appraisals. Additionally, our analysis relies on data that has been automatically generated, which can include biases or inaccuracies inherent in the dataset. Human validation could, for example, strengthen the reliability of our results. To facilitate reproducibility, we provide access to our code and model predictions, enabling further exploration and validation of our findings.

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| Appraisal         | Emotion | Anger | Boredom | Disgust | Fear | Guilt | Joy | Pride | Relief | Sadness | Shame | Surprise | Trust | No-Emot. |
|-------------------|---------|-------|---------|---------|------|-------|-----|-------|--------|---------|-------|----------|-------|----------|
| Suddenness        |         |       |         |         |      |       |     |       |        |         |       |          |       |          |
| Familiarity       |         |       |         |         |      |       |     |       |        |         |       |          |       |          |
| Predict_event     |         |       |         |         |      |       |     |       |        |         |       |          |       |          |
| Pleasantness      |         |       |         |         |      |       |     |       |        |         |       |          |       |          |
| Unpleasantness    |         |       |         |         |      |       |     |       |        |         |       |          |       |          |
| Goal_relevance    |         |       |         |         |      |       |     |       |        |         |       |          |       |          |
| Chance_responsblt |         |       |         |         |      |       |     |       |        |         |       |          |       |          |
| Self_responsblt   |         |       |         |         |      |       |     |       |        |         |       |          |       |          |
| Other_responsblt  |         |       |         |         |      |       |     |       |        |         |       |          |       |          |
| Predict_conseq    |         |       |         |         |      |       |     |       |        |         |       |          |       |          |
| Goal_support      |         |       |         |         |      |       |     |       |        |         |       |          |       |          |
| Urgency           |         |       |         |         |      |       |     |       |        |         |       |          |       |          |
| Self_control      |         |       |         |         |      |       |     |       |        |         |       |          |       |          |
| Other_control     |         |       |         |         |      |       |     |       |        |         |       |          |       |          |
| Chance_control    |         |       |         |         |      |       |     |       |        |         |       |          |       |          |
| Accept_conseq     |         |       |         |         |      |       |     |       |        |         |       |          |       |          |
| Standards         |         |       |         |         |      |       |     |       |        |         |       |          |       |          |
| Social_norms      |         |       |         |         |      |       |     |       |        |         |       |          |       |          |
| Attention         |         |       |         |         |      |       |     |       |        |         |       |          |       |          |
| Not_consider      |         |       |         |         |      |       |     |       |        |         |       |          |       |          |
| Effort            |         |       |         |         |      |       |     |       |        |         |       |          |       |          |

Table 3: Averaged predicted appraisal trajectories in narratives per emotion categories in the EBS dataset. Each cell presents five appraisal values computed from sub-sequences of data instances (five sentences each), reflecting the average over 1000 instances. The bar color and height both represent the average Likert scale score from the range of 1 to 5, with blue indicating the lowest (1), white the midpoint (3), and red the highest (5) values.

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## A Appraisal Categories

Table 4 lists the 21 appraisal categories and defining statements used in our experiments.

## B Prompts

Table 5 shows the full text of the prompts we use for appraisal analysis (two variants based on whether we want to inform the model about the emotion or not). The interaction with the model uses two message types<sup>2</sup>: a “system” message that establishes the context for the interaction and includes general guidelines; a “user” message that encapsulates the

<sup>2</sup>[https://www.llama.com/docs/model-cards-and-prompt-formats/llama3\\_3/](https://www.llama.com/docs/model-cards-and-prompt-formats/llama3_3/)

| Abbreviation      | Appraisal Statement  |
|-------------------|--|
| suddenness        | The event was sudden or abrupt.  |
| familiarity       | The event was familiar to its experiencer.   |
| predict_event     | The experiencer could have predicted the occurrence of the event.                                  |
| pleasantness      | The event was pleasant for the experiencer.  |
| unpleasantness    | The event was unpleasant for the experiencer.  |
| goal_relevance    | The experiencer expected the event to have important consequences for him/herself.                 |
| chance_responsblt | The event was caused by chance, special circumstances, or natural forces.                          |
| self_responsblt   | The event was caused by the experiencer’s own behavior.  |
| other_responsblt  | The event was caused by somebody else’s behavior.  |
| predict_conseq    | The experiencer anticipated the consequences of the event.   |
| goal_support      | The experiencer expected positive consequences for her/himself.                                    |
| urgency           | The event required an immediate response.  |
| self_control      | The experiencer was able to influence what was going on during the event.                          |
| other_control     | Someone other than the experiencer was influencing what was going on.                              |
| chance_control    | The situation was the result of outside influences of which nobody had control.                    |
| accept_conseq     | The experiencer anticipated that he/she could live with the unavoidable consequences of the event. |
| standards         | The event clashed with her/his standards and ideals.   |
| social_norms      | The actions that produced the event violated laws or socially accepted norms.                      |
| attention         | The experiencer had to pay attention to the situation.   |
| not_consider      | The experiencer wanted to shut the situation out of her/his mind.                                  |
| effort            | The situation required her/him a great deal of energy to deal with it.                             |

Table 4: Appraisal categories used in our experiments.

specific inputs, requirements, and instructions for the task.

## C Appraisal Prediction Performance on Isolated Instances

We evaluate the appraisal prediction performance of our zero-shot model on the crowd-enVent test data (Troiano et al., 2023). Results are shown in Table 7 (model not informed about emotion) and Table 6 (model informed about emotion). The predicted Likert scale points are evaluated with RMSE (Root Mean Square Error) against the gold annotations. Additionally, a classification prediction is simulated by converting predictions of 1/2/3 to a negative label, and 4/5 to a positive label (method used by Troiano et al., 2023). The result is then evaluated with Precision (P), Recall (R) and F1-score (F1) against the gold annotations.

## D Predicted Appraisals on Narratives by Emotion Category

We predict appraisal categories as Likert scale scores (range 1–5) for each of the narratives from the Emotional Backstories dataset (Schäfer and Klinger, 2025) and compute average scores for each set of narratives per emotion category. Ta-

ble 8 displays the results for the scores predicted by the model which has not been informed about the emotion. Table 9 displays the results for the scores predicted by the model which has been informed about the emotion.

| MT     | Prompt Text  |
|--------|--|
|        | You are an expert in the appraisal on event descriptions.  |
| user   | A person describes their event experience as follows: {text_instance}. Based on this text, you're asked to assess the content in terms of the appraisals it conveys. Thus, your task is to identify appraisals in texts.   |
| system | You will receive a list of appraisals and their description. For each of the following 21 appraisal assessments listed provide a score in the range of 1 (not at all) to 5 (extremely).  |
|        | <ol style="list-style-type: none"> <li>1. The event was sudden or abrupt (suddenness)</li> <li>2. The event was familiar to its experiencer. (familiarity)</li> <li>3. The experiencer could have predicted the occurrence of the event. (predict_event)</li> <li>4. The event was pleasant for the experiencer. (pleasantness)</li> <li>5. The event was unpleasant for the experiencer. (unpleasantness)</li> <li>6. The experiencer expected the event to have important consequences for him/herself. (goal_relevance)</li> <li>7. The event was caused by chance, special circumstances, or natural forces. (chance_responsblt)</li> <li>8. The event was caused by the experiencer's own behavior. (self_responsblt)</li> <li>9. The event was caused by somebody else's behavior. (other_responsblt)</li> <li>10. The experiencer anticipated the consequences of the event. (predict_conseq)</li> <li>11. The experiencer expected positive consequences for her/himself. (goal_support)</li> <li>12. The event required an immediate response. (urgency)</li> <li>13. The experiencer was able to influence what was going on during the event. (self_control)</li> <li>14. Someone other than the experiencer was influencing what was going on. (other_control)</li> <li>15. The situation was the result of outside influences of which nobody had control. (chance_control)</li> <li>16. The experiencer anticipated that he/she could live with the unavoidable consequences of the event. (accept_conseq)</li> <li>17. The event clashed with her/his standards and ideals. (standards)</li> <li>18. The actions that produced the event violated laws or socially accepted norms. (social_norms)</li> <li>19. The experiencer had to pay attention to the situation. (attention)</li> <li>20. The experiencer wanted to shut the situation out of her/his mind. (not_consider)</li> <li>21. The situation required her/him a great deal of energy to deal with it. (effort)</li> </ol> |

As your response, provide only a json object and keep the appraisal labels as they are (eg. "other\_responsblt").

**In addition to the given text, take into account the emotion: {emotion}.** To what level were the appraisals evoked in the person at the end? Take into account **both** the text **and** the emotion.

In your answer, only provide the score labels you have chosen as the output together with the input text **and emotion**. Provide the output as a json object with the top-level key being 'appraisal' and the low-level keys being the concrete appraisals. The value must be the Likert-score.

For example, given a text instance, your json object output should be:

```
{
  "chain": "{text_instance}",
  "emotion": "null{emotion}",
  "appraisals": [...]
}
```

} where [...] is a placeholder and you insert the 21 appraisals here.

The chain is: {text\_instance}.

What are the appraisal scores for this chain? Only output the json object.

Table 5: Prompts used for zero-shot appraisal analysis. “MT” refers to the prompt message type as specified in the input for the instruction-tuned LLM. “{text\_instance}” and “{emotion}” are variables. The text marked in **red** is only inserted when the model should not be informed about the emotion. The text marked in **blue** is only inserted if the model should be informed about the emotion.

| Appraisal         | Ours | Troiano et al. (2023) | $\Delta$ | Ours |     |     | Troiano et al. (2023) |     |     | $\Delta$ |
|-------------------|------|-----------------------|----------|------|-----|-----|-----------------------|-----|-----|----------|
|                   | RMSE | RMSE                  | RMSE     | P    | R   | F1  | P                     | R   | F1  | F1       |
| Suddenness        | 1.44 | 1.33                  | -.11     | .72  | .65 | .68 | .70                   | .79 | .74 | .06      |
| Familiarity       | 1.54 | 1.42                  | -.12     | .51  | .64 | .57 | .77                   | .82 | .79 | .22      |
| Predict_event     | 1.45 | 1.47                  | .03      | .59  | .55 | .57 | .76                   | .74 | .75 | .18      |
| Pleasantness      | 1.42 | 1.30                  | -.12     | .79  | .89 | .84 | .88                   | .87 | .88 | .04      |
| Unpleasantness    | 1.18 | 1.26                  | .08      | .87  | .85 | .86 | .79                   | .80 | .80 | -.06     |
| Goal_relevance    | 1.62 | 1.57                  | -.05     | .53  | .91 | .67 | .73                   | .69 | .71 | .04      |
| Chance_responsblt | 1.55 | 1.43                  | -.12     | .61  | .37 | .46 | .83                   | .87 | .85 | .39      |
| Self_responsblt   | 1.37 | 1.40                  | .03      | .72  | .69 | .70 | .81                   | .77 | .79 | .09      |
| Other_responsblt  | 1.50 | 1.57                  | .07      | .80  | .66 | .72 | .74                   | .72 | .73 | .01      |
| Predict_conseq    | 1.46 | 1.50                  | .04      | .59  | .44 | .50 | .67                   | .71 | .69 | .19      |
| Goal_support      | 1.50 | 1.33                  | -.17     | .68  | .71 | .69 | .80                   | .82 | .81 | .12      |
| Urgency           | 1.77 | 1.43                  | -.34     | .77  | .30 | .44 | .63                   | .60 | .61 | .17      |
| Self_control      | 1.46 | 1.35                  | -.11     | .59  | .56 | .57 | .78                   | .81 | .79 | .22      |
| Other_control     | 1.63 | 1.36                  | -.27     | .79  | .58 | .67 | .64                   | .60 | .62 | -.05     |
| Chance_control    | 1.55 | 1.35                  | -.20     | .59  | .29 | .39 | .84                   | .90 | .87 | .48      |
| Accept_conseq     | 1.77 | 1.36                  | -.41     | .52  | .60 | .55 | .63                   | .65 | .64 | .09      |
| Standards         | 1.30 | 1.34                  | .04      | .69  | .65 | .67 | .82                   | .83 | .82 | .15      |
| Social_norms      | 1.13 | 1.44                  | .31      | .59  | .58 | .58 | .90                   | .95 | .92 | .34      |
| Attention         | 1.43 | 1.27                  | -.16     | .68  | .87 | .77 | .50                   | .48 | .48 | -.29     |
| Not_consider      | 1.52 | 1.53                  | .01      | .60  | .26 | .37 | .83                   | .71 | .77 | .40      |
| Effort            | 1.37 | 1.38                  | .01      | .67  | .66 | .66 | .69                   | .70 | .70 | .04      |
| Macro average     | 1.46 | 1.40                  | -.06     | .66  | .60 | .62 | .75                   | .75 | .75 | .13      |

Table 6: Appraisal prediction performance of our zero-shot model (setting with mention of emotion in prompt) on the crowd-enVent test data in comparison to the fine-tuned model by Troiano et al. (2023).

| Appraisal         | Ours | Troiano et al. (2023) | $\Delta$ | Ours |     |     | Troiano et al. (2023) |     |     | $\Delta$ |
|-------------------|------|-----------------------|----------|------|-----|-----|-----------------------|-----|-----|----------|
|                   | RMSE | RMSE                  | RMSE     | P    | R   | F1  | P                     | R   | F1  | F1       |
| Suddenness        | 1.55 | 1.33                  | -.22     | .76  | .60 | .67 | .70                   | .79 | .74 | .07      |
| Familiarity       | 1.61 | 1.42                  | -.19     | .49  | .65 | .56 | .77                   | .82 | .79 | .23      |
| Predict_event     | 1.50 | 1.47                  | -.03     | .58  | .59 | .59 | .76                   | .74 | .75 | .16      |
| Pleasantness      | 1.14 | 1.30                  | .16      | .78  | .86 | .82 | .88                   | .87 | .88 | .06      |
| Unpleasantness    | 1.26 | 1.26                  | -.00     | .87  | .81 | .84 | .79                   | .80 | .80 | -.04     |
| Goal_relevance    | 1.58 | 1.57                  | -.01     | .55  | .87 | .68 | .73                   | .69 | .71 | .04      |
| Chance_responsblt | 1.59 | 1.43                  | -.16     | .65  | .44 | .52 | .83                   | .87 | .85 | .33      |
| Self_responsblt   | 1.41 | 1.40                  | -.01     | .72  | .68 | .70 | .81                   | .77 | .79 | .09      |
| Other_responsblt  | 1.55 | 1.57                  | .02      | .79  | .68 | .73 | .74                   | .72 | .73 | -.00     |
| Predict_conseq    | 1.54 | 1.50                  | -.04     | .57  | .41 | .48 | .67                   | .71 | .69 | .21      |
| Goal_support      | 1.47 | 1.33                  | -.14     | .68  | .68 | .68 | .80                   | .82 | .81 | .13      |
| Urgency           | 1.88 | 1.43                  | -.45     | .79  | .28 | .41 | .63                   | .60 | .61 | .20      |
| Self_control      | 1.50 | 1.35                  | -.15     | .58  | .58 | .58 | .78                   | .81 | .79 | .21      |
| Other_control     | 1.68 | 1.36                  | -.32     | .78  | .57 | .66 | .64                   | .60 | .62 | -.04     |
| Chance_control    | 1.56 | 1.35                  | -.21     | .62  | .35 | .44 | .84                   | .90 | .87 | .43      |
| Accept_conseq     | 1.76 | 1.36                  | -.40     | .52  | .60 | .56 | .63                   | .65 | .64 | .08      |
| Standards         | 1.30 | 1.34                  | .04      | .74  | .54 | .62 | .82                   | .83 | .82 | .20      |
| Social_norms      | 1.11 | 1.44                  | .33      | .62  | .52 | .56 | .90                   | .95 | .92 | .36      |
| Attention         | 1.43 | 1.27                  | -.16     | .68  | .87 | .76 | .50                   | .48 | .48 | -.28     |
| Not_consider      | 1.57 | 1.53                  | -.04     | .75  | .18 | .29 | .83                   | .71 | .77 | .48      |
| Effort            | 1.39 | 1.38                  | -.01     | .69  | .61 | .65 | .69                   | .70 | .70 | .06      |
| Macro average     | 1.49 | 1.40                  | -.09     | .68  | .59 | .61 | .75                   | .75 | .75 | .14      |

Table 7: Appraisal prediction performance of our zero-shot model (setting without mention of emotion in prompt) on the crowd-enVent test data in comparison to the fine-tuned model by Troiano et al. (2023).

| Emotion \ Appraisal | Suddenness | Familiarity | Predict_event | Pleasantness | Unpleasantness | Goal_relevance | Chance_responsbt | Self_responsbt | Other_responsbt | Predict_conseq | Goal_support | Urgency | Self_control | Other_control | Chance_control | Accept_conseq | Standards | Social_norms | Attention | Not_consider | Effort |
|---------------------|------------|-------------|---------------|--------------|----------------|----------------|------------------|----------------|-----------------|----------------|--------------|---------|--------------|---------------|----------------|---------------|-----------|--------------|-----------|--------------|--------|
| Emotion             |            |             |               |              |                |                |                  |                |                 |                |              |         |              |               |                |               |           |              |           |              |        |
| Anger               | 2.9        | 2.7         | 2.2           | 1.7          | 3.8            | 4.3            | 1.9              | 2.3            | 4.0             | 2.8            | 1.9          | 3.1     | 2.3          | 3.8           | 1.7            | 2.6           | 3.1       | 2.1          | 4.7       | 1.5          | 4.0    |
| Boredom             | 3.1        | 2.7         | 2.3           | 2.0          | 3.5            | 3.7            | 2.4              | 2.3            | 3.5             | 2.6            | 2.2          | 3.0     | 2.3          | 3.5           | 2.1            | 3.0           | 2.3       | 1.4          | 4.4       | 1.5          | 3.7    |
| Disgust             | 2.7        | 2.5         | 2.0           | 1.5          | 4.0            | 3.8            | 1.8              | 1.9            | 4.0             | 2.8            | 1.6          | 2.9     | 2.1          | 3.8           | 1.6            | 2.4           | 3.7       | 3.1          | 4.6       | 1.5          | 3.7    |
| Fear                | 3.0        | 2.5         | 2.2           | 1.5          | 3.9            | 4.4            | 2.3              | 2.3            | 3.3             | 3.1            | 1.8          | 3.6     | 2.5          | 3.5           | 2.0            | 2.5           | 2.8       | 1.9          | 4.9       | 1.4          | 4.2    |
| Guilt               | 2.6        | 3.0         | 2.5           | 1.9          | 3.4            | 4.2            | 1.8              | 3.7            | 2.8             | 2.9            | 2.2          | 3.2     | 3.0          | 3.1           | 1.6            | 2.8           | 2.8       | 1.7          | 4.6       | 1.4          | 3.8    |
| Joy                 | 2.8        | 2.9         | 2.4           | 2.9          | 3.0            | 4.4            | 2.2              | 2.8            | 3.1             | 3.1            | 3.3          | 3.3     | 3.2          | 3.1           | 1.9            | 3.5           | 1.9       | 1.2          | 4.7       | 1.1          | 3.9    |
| Pride               | 2.6        | 3.1         | 2.7           | 3.4          | 2.4            | 4.5            | 1.9              | 3.7            | 2.9             | 3.5            | 3.9          | 3.3     | 4.2          | 2.6           | 1.5            | 4.0           | 1.6       | 1.1          | 4.7       | 1.0          | 4.1    |
| Relief              | 3.3        | 2.4         | 1.9           | 1.8          | 3.9            | 4.4            | 2.6              | 2.4            | 3.3             | 2.8            | 2.1          | 4.0     | 2.7          | 3.4           | 2.2            | 2.7           | 2.5       | 1.4          | 4.9       | 1.2          | 4.4    |
| Sadness             | 2.5        | 3.5         | 2.6           | 2.5          | 3.1            | 4.2            | 2.3              | 2.3            | 3.0             | 2.9            | 2.7          | 2.4     | 2.6          | 3.1           | 1.9            | 3.3           | 2.0       | 1.2          | 4.5       | 1.4          | 3.5    |
| Shame               | 2.7        | 2.9         | 2.4           | 1.9          | 3.6            | 4.3            | 1.8              | 3.8            | 2.7             | 2.9            | 2.1          | 3.2     | 2.9          | 3.1           | 1.5            | 2.8           | 2.9       | 1.7          | 4.7       | 1.5          | 3.9    |
| Surprise            | 2.9        | 2.7         | 2.2           | 2.3          | 3.3            | 3.7            | 2.4              | 2.1            | 3.5             | 2.7            | 2.4          | 3.0     | 2.4          | 3.5           | 2.1            | 3.1           | 2.2       | 1.4          | 4.5       | 1.2          | 3.6    |
| Trust               | 2.7        | 2.8         | 2.2           | 3.0          | 2.8            | 3.9            | 2.0              | 2.3            | 3.5             | 2.9            | 3.2          | 2.9     | 2.7          | 3.5           | 1.7            | 3.6           | 2.0       | 1.4          | 4.5       | 1.1          | 3.5    |
| No-Emotion          | 3.0        | 3.0         | 2.6           | 2.5          | 3.1            | 4.0            | 2.3              | 2.9            | 3.1             | 3.0            | 2.7          | 3.3     | 3.1          | 3.1           | 1.9            | 3.4           | 2.0       | 1.3          | 4.5       | 1.4          | 3.9    |

Table 8: Appraisal scores of narratives per emotion category of model **not** informed about the emotion. Positive (negative) values are marked with red (blue) background color.

| Emotion \ Appraisal | Suddenness | Familiarity | Predict_event | Pleasantness | Unpleasantness | Goal_relevance | Chance_responsbt | Self_responsbt | Other_responsbt | Predict_conseq | Goal_support | Urgency | Self_control | Other_control | Chance_control | Accept_conseq | Standards | Social_norms | Attention | Not_consider | Effort |
|---------------------|------------|-------------|---------------|--------------|----------------|----------------|------------------|----------------|-----------------|----------------|--------------|---------|--------------|---------------|----------------|---------------|-----------|--------------|-----------|--------------|--------|
| Emotion             |            |             |               |              |                |                |                  |                |                 |                |              |         |              |               |                |               |           |              |           |              |        |
| Anger               | 3.0        | 2.5         | 2.0           | 1.2          | 4.5            | 4.4            | 1.8              | 2.0            | 4.2             | 2.8            | 1.4          | 3.3     | 2.1          | 4.0           | 1.7            | 2.0           | 4.1       | 2.7          | 4.9       | 1.5          | 4.3    |
| Boredom             | 2.8        | 2.8         | 2.4           | 1.5          | 3.4            | 3.2            | 2.5              | 2.2            | 3.4             | 2.6            | 1.7          | 2.7     | 2.2          | 3.5           | 2.2            | 2.9           | 2.2       | 1.4          | 3.8       | 2.3          | 3.3    |
| Disgust             | 2.8        | 2.3         | 1.9           | 1.1          | 4.6            | 3.9            | 1.8              | 1.8            | 4.1             | 2.8            | 1.2          | 3.1     | 2.0          | 3.8           | 1.7            | 2.0           | 4.4       | 3.5          | 4.8       | 2.0          | 4.0    |
| Fear                | 3.2        | 2.3         | 2.1           | 1.2          | 4.3            | 4.6            | 2.4              | 2.3            | 3.3             | 3.0            | 1.4          | 3.9     | 2.3          | 3.5           | 2.2            | 2.1           | 3.2       | 2.1          | 4.9       | 1.5          | 4.4    |
| Guilt               | 2.7        | 2.9         | 2.4           | 1.4          | 4.0            | 4.4            | 1.7              | 4.2            | 2.5             | 2.9            | 1.6          | 3.3     | 2.9          | 3.0           | 1.5            | 2.3           | 3.9       | 2.2          | 4.7       | 1.8          | 4.0    |
| Joy                 | 2.8        | 2.9         | 2.4           | 3.7          | 2.3            | 4.4            | 2.2              | 2.9            | 3.1             | 3.2            | 3.9          | 3.2     | 3.3          | 3.0           | 1.8            | 4.0           | 1.7       | 1.2          | 4.6       | 1.1          | 3.7    |
| Pride               | 2.5        | 3.1         | 2.7           | 4.0          | 2.0            | 4.7            | 1.8              | 4.1            | 2.8             | 3.7            | 4.5          | 3.3     | 4.4          | 2.5           | 1.4            | 4.4           | 1.4       | 1.1          | 4.6       | 1.0          | 4.1    |
| Relief              | 3.3        | 2.4         | 1.9           | 2.4          | 3.4            | 4.5            | 2.6              | 2.5            | 3.2             | 2.9            | 2.8          | 4.1     | 2.7          | 3.3           | 2.2            | 3.6           | 2.4       | 1.4          | 4.9       | 1.3          | 4.2    |
| Sadness             | 2.5        | 3.4         | 2.6           | 1.8          | 3.9            | 4.4            | 2.4              | 2.2            | 2.9             | 2.9            | 2.0          | 2.5     | 2.4          | 3.1           | 2.2            | 2.8           | 2.4       | 1.2          | 4.6       | 1.7          | 3.7    |
| Shame               | 2.7        | 2.7         | 2.3           | 1.3          | 4.3            | 4.4            | 1.7              | 4.1            | 2.4             | 2.7            | 1.3          | 3.3     | 2.5          | 3.2           | 1.6            | 2.1           | 4.2       | 2.4          | 4.8       | 2.3          | 4.2    |
| Surprise            | 3.7        | 2.2         | 1.8           | 2.2          | 3.3            | 3.8            | 2.6              | 2.0            | 3.4             | 2.4            | 2.4          | 3.3     | 2.2          | 3.5           | 2.3            | 3.0           | 2.4       | 1.5          | 4.7       | 1.2          | 3.7    |
| Trust               | 2.6        | 2.9         | 2.2           | 3.2          | 2.6            | 4.0            | 1.9              | 2.3            | 3.5             | 3.0            | 3.5          | 2.9     | 2.9          | 3.5           | 1.6            | 3.8           | 1.9       | 1.4          | 4.4       | 1.1          | 3.4    |
| No-Emotion          | 2.9        | 3.1         | 2.7           | 2.3          | 2.9            | 3.7            | 2.2              | 2.8            | 3.0             | 3.0            | 2.5          | 3.2     | 3.1          | 3.0           | 1.9            | 3.4           | 1.8       | 1.2          | 4.3       | 1.3          | 3.7    |

Table 9: Appraisal scores of narratives per emotion category of model informed about the emotion. Positive (negative) values are marked with red (blue) background color.