

RUNNING HEAD: Appraisal-emotion dissociations

**Relations and Dissociations Between Appraisal and Emotion Reports for
Reasonable and Unreasonable Instances of Anger and Guilt**

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Abstract

Recent studies have used self-report methods to defend a close descriptive or causal connection between appraisal and emotion. The two experiments reported here used similar procedures to investigate remembered experiences of reasonable and unreasonable anger and guilt, and of non-emotional other-blame and self-blame. Results suggest that different reported instances of the same emotion are not always characterised by the same patterns of rated appraisals, that similar patterns of appraisal may be reported for non-emotional as well as emotional incidents, and that appraisals are not always considered to be the most important causes of emotion. These findings demonstrate either that the relationship between certain appraisals and emotions is less tight than implied in some contemporary versions of appraisal theory, or that there are problems with the validity of existing self-report measures of the underlying processes in question. I conclude that appraisal as usually measured in emotion research represents neither a necessary nor a sufficient condition for the self-ascription of emotion.

Relations and Dissociations Between Appraisal and Emotion Reports for Reasonable and Unreasonable Instances of Anger and Guilt

When people report feeling or having felt a particular kind of emotion, they also tend to report a relatively distinctive pattern of interpretation and evaluation that goes along with it (e.g., Smith & Ellsworth, 1985; Smith, Haynes, Lazarus, & Pope, 1993). Further, this same characteristic appraisal pattern is often said to have been one of the reasons why the emotion came about in the first place (e.g., Roseman, Antoniou, & Jose, 1996). For example, when people describe themselves as angry, they are also likely to say that they blame someone else for something unpleasant that has happened and that the fact that they blame this other person is part of what led them to become angry.

What do these generally accepted facts tell us about the processes underlying emotion as it actually happens? Assuming for the moment that people's representations of their emotions and appraisal bear some correspondence to the represented processes themselves, it seems reasonable to conclude that different appraisal patterns may accompany different emotions and that emotions may be caused to some degree by prior appraisals. Few psychologists would argue with this basic conclusion that appraisal processes of some kind often contribute to emotion causation and differentiation (cf. Salovey & Sanz, 1995).

However, such a formula clearly leaves many questions about the specific nature of appraisal-emotion connections unanswered (Parkinson, 1997). For example, are emotions entirely determined by appraisal in all cases as some of the stronger versions of appraisal theory imply (e.g., Lazarus, 1991), or do appraisals often interact with other factors as they influence the course of emotion over time (e.g., Parkinson & Manstead, 1992)?

Correspondingly, does the occurrence of an emotionally-relevant appraisal pattern necessarily imply that the specified emotion will also follow (Lazarus, 1991; Ortony, Clore, & Collins, 1988; Reisenzein, 1994)? In more general terms, how close is the relationship between

appraisal and emotion that has been identified in self-report studies? Does appraisal as operationalized constitute either a necessary or sufficient condition for emotion as some previous accounts have seemed to suggest (e.g., Lazarus, 1991)? In the present investigations, I attempt to find some provisional answers to these questions using the same kind of self-report methodology favoured by previous appraisal researchers.

There are a number of reasons to doubt whether earlier investigations tell the whole story about all occurrences of emotion (see Parkinson, 1997 for a review). One important concern relates to whether the emotional incidents sampled in self-report studies of emotional differentiation by appraisal are genuinely representative of the range of everyday emotional experiences. In this regard, three main methods have been employed, and each of them potentially suffers from some form of sampling bias.

The most common way of investigating appraisal-emotion relations is to ask participants to recall instances of target emotions (e.g., Roseman et al, 1996; Smith & Ellsworth, 1985). In these studies, the fact that reports are clearly being gathered for the purposes of a scientific experiment may implicitly encourage respondents to retrieve reasonable and understandable examples of emotion rather than experiences that are more difficult to interpret or represent (Levine, 1996). This potential bias may be exacerbated by experimental instructions telling participants that they should describe their reactions as if explaining them to someone who has never experienced an emotion like Mr Spock from Star Trek (Smith & Ellsworth, 1985), or to report on how and why specific events led to the emotions in question (Roseman et al, 1996). Selective remembering of emotions in such studies need not only depend on deliberate self-presentational processes arising from demand characteristics, however. It may also be the case that reasonable emotions are inherently easier to retrieve because they were more readily assimilated to prototypic representations at the time of their original encoding.

The second method involves asking participants to report on their concurrent appraisals and emotions in response to prespecified naturalistic events such as academic examinations (Smith & Ellsworth, 1987) or the actions of well-known public figures (Levine, 1996). This technique reduces memory biases and apparently has greater potential for uncovering the grain and texture of actual ongoing emotions, which are usually found to be less unitary and more mixed than is implied by the results of the retrospective research (Ellsworth & Smith, 1988). However, since only a limited number of contexts have been studied in this way, it is difficult to be certain about the generalisability of the resulting findings. Indeed, because the investigated situations are selected precisely because they are predictable occasions for emotionality, the reported episodes seem likely to involve emotions that are more reasonable and expected than might be the case in other situations. In effect, the results of these investigations may provide little information about emotions arising under circumstances where expectations concerning emotionality are unclear.

Diary studies using time-sampling methodologies may provide more complete information about the full range of emotional episodes (e.g., Lavalley & Campbell, 1995), but as yet too little research of this kind has been conducted to allow firm conclusions about emotional differentiation resulting from appraisal. Even with this third method, there is a potential bias in reporting to the extent that participants try to make their emotional experiences interpretable for the investigators by attaching undue weight to their more obviously rational causes. Again, emotions that occur in less predictable or reasonable ways are likely to be underemphasised in such research.

In contrast to the potentially restrictive focus of most appraisal studies, other self-report evidence confirms that people's everyday emotions are not always experienced as rational or predictable (Parrott, 1995a). For example, Parrott (1995b) found that informants considered irrationality and lack of control as important defining features of what it meant to

be emotional, and as key characteristics of remembered anger experiences (see also Hall, 1899; Kassinove, Sukhodolsky, Tsytarev, & Solovyova, 1997). Relatedly, Frijda (1993) cited data from a study by Kroon (1988) suggesting that people often feel irrationally guilty about events for which they do not believe they are personally responsible (see also Baumeister, Stillwell, & Heatherton, 1994)¹. Such instances of seemingly unreasonable emotion may be underrepresented in recent appraisal research because of the potential sampling and reporting biases considered above. The present studies provide an initial attempt to redress this balance by giving participants explicit instructions to remember and report anger and guilt episodes that arise in an apparently unreasonable way, as well as those that happen more reasonably.

If appraisal and emotion reports turn out to be less tightly related in the case of unreasonable emotions, such a result would suggest that there is no *necessary* connection between measured appraisal and emotion (Lazarus, 1991). In order to assess whether self-reported appraisal also represents a *sufficient* condition for emotion, the present studies both incorporated an additional condition wherein participants were asked to recall recent occasions on which they had experienced appraisal patterns characteristic of specific emotions but felt relatively little emotion as a consequence. If episodes of this kind are possible then it cannot be the case that emotional appraisal patterns directly and automatically lead to the associated emotions, as Lazarus (1991) has explicitly argued.

A final issue addressed by the present research arises from recent evidence apparently confirming that measured appraisals constitute antecedent determinants, rather than concomitants or consequences of emotion. Roseman, Antoniou, and Jose (1996) asked participants to report specifically on appraisals that caused emotions rather than appraisals that were simply associated with emotions as has been standard practice in previous research (e.g., Smith & Ellsworth, 1985). The obtained differences between reported emotion-antecedent

appraisals for various emotions led these investigators to conclude that appraisals as measured represent consistent and genuine determinants of emotion.

The first problem with this conclusion is that it works from an apparent assumption that participants had conscious access to the prior cognitive processes determining their emotional reactions (cf. Nisbett & Wilson, 1977). In contrast, many appraisal theorists have contended that people often have little or no awareness of emotion-antecedent appraisals (e.g., Arnold, 1960; Lazarus, 1991). Indeed, the familiar everyday experience of emotions coming over people without warning argues against seeing consciousness as a necessary feature of causal appraisals. If the emotion-antecedent appraisal process is often non-conscious, however, Roseman and colleagues' participants must have been either reporting accurately on a conscious process that is not necessarily typical of all instances of emotion, or inferring a process on the basis of subsequent conscious content. Although it is possible that inferences of the latter kind may be accurate in many cases, their validity should not be taken for granted.

A second concern with Roseman and colleagues' study relates to the specific format of the questionnaire items used to assess emotion-antecedent appraisals. Participants were instructed to rate the extent to which their emotions were caused by a range of appraisals along bipolar scales, each of which was defined by two directly contrasting concepts. The problem with this procedure was that it attempted to assess two separate issues simultaneously using single response dimensions. First, participants were supposed to say where their appraisal fell between the two poles of each scale (e.g., "*Thinking that I was blameworthy* (1) to *Thinking that I was praiseworthy* (9)", p. 277), and, second, they were expected to indicate the extent to which their emotion was *caused* by either of these appraisals along the same unidimensional continuum. Such instructions would obviously have presented problems for anyone who might have experienced an emotion and associated appraisals without perceiving the appraisal pattern as causal. For example, with reference to apparently irrational guilt

(Baumeister, Stillwell, & Heatherton, 1994; Kroon, 1988), how should a participant use such a scale to report that he or she felt blameworthy but did not attribute the emotion to this feeling of blameworthiness? A midpoint rating would seem to misrepresent such a state of affairs since it inaccurately implies equidistance between blameworthiness and praiseworthiness. In short, Roseman and colleagues' items seem to presuppose implicitly that any reported appraisals will necessarily also be emotional antecedents, thus presenting potential dilemmas for participants wishing to report non-causal appraisals. In the present research, the causal influence of appraisals and of other factors is rated more directly in order to evaluate whether appraisals are considered by participants to be the central cause of emotion in all cases.

In summary, the present investigations assess whether reported emotions of the same kind can be associated with different rated patterns of appraisal, and whether appraisal patterns that are thought to be predictive of emotion are also reported in connection with non-emotional incidents. Further, the studies investigate whether participants believe that factors other than appraisal contribute independently to the causation of emotion. In essence, the question underlying the present research concerns the representativeness of the appraisal-related instances of emotion addressed in previous self-report studies. The specific predictions are: that there will be clear differences between the reported appraisals characterising reasonable and unreasonable examples of anger and guilt along the key differentiating dimensions of other- and self-accountability; that the reported appraisal patterns for certain non-emotional situations will be similar to those for emotional situations; and that appraisals relating to other- and self-accountability will not be rated as the most influential causal factors leading to anger and guilt in all cases.

Study 1

Method

Participants.

120 questionnaires asking for appraisal ratings of remembered reasonable or unreasonable instances of anger and guilt, or of non-emotional other-blame and self-blame, were distributed during a laboratory class for undergraduate psychology students, none of whom had been provided with any previous information either about appraisal theory or about the psychology of emotion more generally. Completion of the questionnaires was entirely voluntary (no record was taken of who returned or failed to return questionnaires) and respondents were explicitly told that partially completed questionnaires would also be acceptable. Questionnaires were returned (in a box outside the exit of the lecture theatre where the class had taken place) by 72 respondents (23 males, 49 females aged between 19 and 48), 54 of which contained near-complete data on both requested incidents, and 18 of which contained reports of only one incident. Taking each condition separately, 23 reports of reasonable anger, 25 reports of unreasonable anger, 19 reports of non-emotional other-blame, 21 reports of reasonable guilt, 20 reports of unreasonable guilt, and 18 reports of non-emotional self-blame were returned.

Design.

Each questionnaire asked for reports of two incidents, one concerning either anger or other-blame, and the other concerning guilt or self-blame. The specific content of the questionnaire depended on the experimental condition relating to the *episode type* factor. In the *reasonable emotion* condition, the questionnaire asked respondents to report on the most recent occasions when they had experienced anger and guilt and felt that there was a good reason for feeling the emotion in question. The questionnaire for the *unreasonable emotion* condition asked respondents to describe the most recent occasions on which they had experienced anger and guilt without good reason. The *non-emotional blame* questionnaire asked for reports of the most recent occasions when respondents had blamed someone else for

something bad that had happened but had not felt angry about it, and of the most recent occasion when respondents had blamed themselves for something bad that had happened but had not felt guilty about it. Order of reporting of the two incidents was counterbalanced. The six different versions of the questionnaire were distributed randomly to participants. (Examples of the open-ended descriptions of the incidents provided by participants for each condition are presented in Table 1.)

The overall design was a 2 (emotion) X 3 (episode type) factorial with repeated measures on the first factor. However, because some questionnaire items were specific to particular conditions, some of the data were analysed excluding the *non-emotional blame* condition using 2 X 2 analyses of variance, and some were analysed separately for each emotion condition using one-way between-subjects analyses of variance.

Measures.

The questionnaire was introduced as an investigation of the factors that caused people to become, or not become, emotional in various situations. A series of questions concerning the nature of the emotional experience, the way the situation had been appraised and interpreted, and the factors thought to have caused the emotion then followed.

Participants were first asked to report how long ago the first incident (anger/other-blame or guilt/self-blame) had occurred and then to give an open-ended description of the situation at the time of the incident. The next question concerned the maximal intensity of the relevant emotion (anger or guilt), which was rated along an 11-point scale ranging from 0 (“Not at all”) to 10 (“Extremely”), with the midpoint (5) labelled “Moderately” (The same rating format was also used for all subsequent items except where indicated below). In the two emotion conditions, participants were then further asked to rate the extent to which they had also been experiencing other emotions in addition to either anger or guilt, and the degree to which their emotional reaction had “come over” them without warning.

The subsequent seven items were identical to those used by Smith and Lazarus (1993) to measure appraisal dimensions of motivational congruence and incongruence, self-accountability, other-accountability, future expectancy, problem-focused coping potential, and emotion-focused coping potential. The final two of these questions asked participants how certain they had been that they could influence the situation, and deal emotionally with what was happening in this situation, respectively, and were rated along an 11-point scale where 0 indicated that they were “completely certain [they] ... WOULD NOT be able”, 10 indicated that they were “completely certain [they] ... WOULD be able” and 5 meant that they were “completely uncertain”. Again, these two items were worded identically to those used by Smith and Lazarus (1993).

The questionnaires for the reasonable and unreasonable emotion conditions also contained an additional series of items relating to the perceived causes of anger or guilt. Most of these items were based directly on Roseman and colleagues' (1996) rating scales for emotion-antecedent appraisals but used unipolar rather than bipolar dimensions to allow purer ratings of the extent to which the appraisals were considered to be causal (see Introduction). Items were included that assessed each of the appraisal dimensions that Roseman and colleagues concluded were the key determinants of anger and guilt: motive-inconsistency, self- vs. other-causation, non-characterological attribution, and control potential. In addition, other appraisal dimensions proposed by Roseman and colleagues with potential relevance to either anger or guilt were included for one or both of these emotions. Finally, extra items were constructed in order to assess potential non-appraisal causes of anger and guilt. All ratings of causal influence were made on 11-point scales as above. The written instructions emphasised high ratings should only be given if the factor specified in the item had actually contributed to activating the emotion in the first place, and not simply because it had been associated with it.

Items assessing perceived appraisal causes of anger were as follows: *Motive*

inconsistency was assessed by participants rating the extent to which their anger was caused by “thinking that the event [they] ... were angry about was inconsistent with what [they] ... wanted” and “thinking that the event [they] ... were angry about made things worse” for them; *other-responsibility* and *other-causation* were assessed by participants rating the extent to which their anger was caused by “thinking that someone else was responsible for the event” they were angry about, and “thinking that the event [they] ... were angry about was caused by someone else”, respectively; *legitimacy* was assessed by participants rating the extent to which their anger was caused by “thinking of [themselves] ... as morally right” (*moral rectitude*), “believing that [they] ... deserved something good to happen” (*deservingness*), and “thinking that [they] ... were praiseworthy” (*praiseworthiness*); *control potential* was assessed by participants rating the extent to which their anger was caused by “thinking there was something [they] ... could do about the event [they] ... were angry about”; *power* was assessed by participants rating the extent to which their anger was caused by “feeling that [they] ... were powerful”; and *non-characterological attribution* was assessed by participants rating the extent to which their anger was caused by “thinking that the event [they] ... were angry about did not reflect the other person's true character”. The wording of all of these items corresponded to that used in Roseman and colleagues' (1996) study.

Perceived non-appraisal causes of anger were measured using ratings of the extent to which the emotion was caused by “already being in an irritable mood” (*mood*), “wanting to convince someone else that they were wrong and you were right” (*rhetorical intent*) and “unwillingness to let another person get what they wanted in the situation” (*malicious intent*).

Perceived appraisal causes of guilt were rated using corresponding items relating to *motive-inconsistency*, *self-* (rather than other-) *responsibility* and *agency*, *blameworthiness* (rather than praiseworthiness), *moral turpitude* (rather than rectitude), *deservingness* of bad (rather than good) outcomes, *control potential*, and *non-characterological attribution*.

Non-appraisal causes of guilt rated by participants related to *mood*, *intended apology* (“To what extent was your feeling of guilt *caused* by wanting to apologise or make amends to someone else?”) and *beneficent intent* (“To what extent was your feeling of guilt *caused* by wanting another person to get what they wanted in the situation?”). Finally, an additional appraisal-related cause concerning perceived harm to others was included because it may represent a minimal situational requirement for guilt (cf., Frijda, 1993). This was assessed by two items: “To what extent was your feeling of guilt *caused* by thinking that the event you were feeling guilty about was inconsistent with what someone else wanted?” (*motive-inconsistency for other*) and “To what extent was your feeling of guilt *caused* by thinking that the event you were feeling guilty about made things worse for someone else?” (*worsening of other’s situation*)².

For both anger and guilt, participants were also asked to rate the extent to which they had been unaware of the factors that had caused their emotion at the time of the incident, and the extent to which they remained unaware of these causal factors at the time of reporting.

Results

Characteristics of reported incidents.

Emotion intensity ratings were analysed using a 2 X 3 analysis of variance with *emotion* (anger vs. guilt) as a within-subjects factor and *episode type* (reasonable emotion, unreasonable emotion, and non-emotion) as a between-subjects factor³. There was a significant main effect of episode type ($F(2, 51) = 30.97, P < .001$), arising from significantly lower emotion intensity ratings in the non-emotional blame condition ($M = 3.50$) than in either the reasonable ($M = 7.98$) or unreasonable emotion ($M = 7.53$) conditions (according to Tukey’s honestly significant difference procedure, which is also used in all subsequent post hoc analyses in Studies 1 and 2). The difference between emotion intensity ratings in the reasonable and unreasonable conditions, however, was non-significant. Neither the main

effect of emotion nor the two-way interaction effect were significant.

Ratings of the extent to which other emotions had occurred in conjunction with anger or guilt, and of the degree to which anger or guilt had come over participants without warning were analysed using similar analyses of variance excluding the non-emotion condition (2 X 2). No significant effects emerged from either analysis. The overall mean for ratings of the extent to which emotion had arisen without warning was 5.92 for anger and 5.24 for guilt confirming that everyday emotional reactions are often relatively unanticipated.

Reports of the duration of emotion were also subjected to similar 2 X 2 analyses of variance. Again, there were no reliable effects, confirming that the characteristics of experienced emotion showed no significant differences between the reasonable and unreasonable conditions. Finally, scores based on time elapsed since the reported incident were analysed and, once more, no significant effects were obtained.

Appraisal dimensions.

Ratings of appraisals during the reported incidents along Smith and Lazarus's (1993) appraisal dimensions were subjected to a 2 X 3 multivariate analysis of variance using the same factors as above. There was a significant multivariate effect of the emotion factor ($F(7, 42) = 6.03, P < .001$), showing overall differences between ratings of anger/other-blame and guilt/self-blame experiences. Further analysis revealed three significant univariate effects of emotion: The first of these concerned ratings of motivational congruence ($F(1, 48) = 4.40, P < .05$), with respondents generally rating anger/other-blame incidents as less motivationally congruent ($M = 3.55$) than guilt/self-blame incidents ($M = 4.69$); The second main effect of emotion was on reported self-accountability ($F(1, 48) = 37.65, P < .001$), which was lower for anger/other-blame incidents ($M = 3.06$) than for guilt/self-blame incidents ($M = 6.94$). Conversely, the third significant effect of emotion was on reported other-accountability ($F(1, 48) = 24.16, P < .001$), which was higher for anger/other-blame incidents ($M = 7.71$) than for

guilt/self-blame incidents ($M = 4.61$).

There was also a significant multivariate effect of episode type ($F(14, 84) = 3.57, p < .001$). Significant univariate effects of episode type were found for self-accountability ($F(2, 48) = 5.18, p < .01$), other-accountability ($F(1, 48) = 4.92, p < .025$), and emotion-focused coping potential ($F(2, 48) = 4.18, p < .025$). However, each of these three main effects was moderated by a significant univariate interaction with the emotion factor, suggesting that the effects of episode type operated differently for the two emotions.

These interactions were analysed further using the simple main effects procedure in conjunction with post hoc comparisons for the three-level episode type factor. First, the significant emotion-episode type interaction for the self-accountability measure ($F(2, 48) = 3.45, p < .05$) showed that there were significant differences between episode type conditions when participants were rating anger/other-blame incidents ($F(2, 48) = 5.82, p < .01$) but not when guilt/self-blame incidents were rated ($F(2, 48) = 1.59, ns.$). The simple main effect of episode type in the anger/other-blame condition depended on the finding that self-accountability ratings were significantly lower in both the reasonable emotion and non-emotional blame conditions than in the unreasonable emotion condition, although the former two conditions were not significantly different from each other. In addition, the simple main effect of emotion was significant for the reasonable emotion condition ($F(1, 20) = 80.48, p < .001$), and for the non-emotional blame condition ($F(1, 14) = 7.90, p < .025$), but not for the unreasonable emotion condition ($F(1, 14) = 2.03, ns.$), suggesting that self-accountability appraisals differentiate guilt from anger more successfully when “reasonable” examples of the two emotions are reported.

The analyses of the significant two-way interaction for other-accountability ratings ($F(2, 48) = 4.24, p < .025$) showed an almost precisely corresponding pattern. Again, there was a significant simple main effect of episode type in the anger/other-blame condition ($F(2, 48)$

= 7.82, $P < .01$) but not in the guilt/self-blame condition ($F(2, 48) < 1$, *ns.*). Again too, both the reasonable anger and non-emotional other-blame conditions were significantly different from the unreasonable anger condition (with unreasonable anger characterised by lower other-accountability), but there was no significant difference between the reasonable anger condition and the non-emotional other-blame condition. Finally, the simple main effect of emotion was again significant in the reasonable emotion condition ($F(1, 14) = 51.98$, $P < .001$) and near-significant in the non-emotional blame condition ($F(1, 14) = 3.78$, $P < .075$), but non-significant in the unreasonable emotion condition ($F(1, 14) < 1$, *ns.*). Means of self-accountability and other-accountability ratings for all conditions are presented in Figure 1.

The third and final two-way interaction of episode type and emotion related to appraised emotion-focused coping potential ($F(2, 48) = 3.47$, $P < .05$). In this case, the simple main effect of episode type was non-significant in the anger/other-blame condition ($F(2, 48) = 2.22$, *ns.*) but significant in the guilt/self-blame condition ($F(2, 48) = 7.24$, $P < .01$). Ratings of emotion-focused coping potential were significantly higher in the non-emotional self-blame condition ($M = 8.93$) than in the reasonable guilt condition ($M = 6.24$). Ratings of emotion-focused coping potential were also higher in the unreasonable guilt condition ($M = 7.67$) than the reasonable guilt condition, but this difference fell short of accepted significance levels.

Judges' ratings of anger/other-blame situations.

Because the main focus of this study was on appraisals that might distinguish anger and guilt from each other, participants were not asked to provide ratings of the primary appraisal of motivational relevance which is assumed to apply equally to all kinds of emotion (e.g., Smith & Lazarus, 1993). However, this omission leaves open the possibility that non-emotional other-blame may have differed from reasonable anger along this dimension, thus providing a potential explanation of the relatively lower reported emotion in the latter

condition. In order to assess this possibility, three independent judges who were blind to experimental condition were provided with transcripts of participants' written descriptions of the situation surrounding the reported episode in the reasonable and unreasonable anger conditions and in the non-emotional other-blame condition. These judges made ratings along three dimensions based on the information contained in each of these descriptions. First they rated *motivational relevance* ("How personally important do you think what was happening was to the person concerned?"). Second, they rated the core relational theme of *other-blame* which, according to Smith and Lazarus (1993) characterises anger specifically ("How much do you think that the person concerned blamed another person for what happened?"), and finally, they rated the perceived *reasonableness* of any anger reaction ("How reasonable do you think it would be for the person concerned to get angry about what happened in this situation?").

Inter-rater reliability of judges' responses was assessed using the intra-class correlation procedure (Ebel, 1951). Motivational relevance ratings had an estimated reliability of .61, other-blame ratings had an estimated reliability of .85, and reasonableness ratings had an estimated reliability of .77. Given the apparently adequate reliability of these judgements, mean scores for each of the three dimensions were calculated based on all three judges' ratings. As a further check on validity, the resultant mean motivational relevance scores were correlated with self-reported anger intensity across reasonable and unreasonable emotion conditions and the obtained coefficient was found to be reliable and positive ($r(48) = .38$, $P < .01$). Similarly, other-blame scores were significantly positively correlated with other-accountability ratings ($r(67) = .53$, $P < .001$) and significantly negatively correlated with self-accountability ratings ($r(65) = -.41$, $P < .001$) across all conditions.

Mean scores on the three dimensions were analysed with one-way analyses of variance using episode type as a between-subjects factor. The absence of any significant effect on

motivational relevance scores ($F(2, 64) = 1.20$, ns.) argued against the interpretation that differences in anger intensity between reasonable emotion and non-emotional other-blame conditions depended on this variable. As an additional check against this possibility, motivational relevance scores were used as a covariate in a one-way analysis of variance on anger intensity ratings, and the main effect of episode type still remained strongly significant ($F(2, 63) = 28.29$, $P < .001$).

Other-blame scores were found to differ significantly across episode type conditions ($F(2, 64) = 7.89$, $P < .001$), and post hoc comparisons revealed that ratings were significantly higher in the reasonable anger and non-emotional other-blame conditions than in the unreasonable anger condition. Together with the data concerning self-reported appraisal dimensions described above, this result confirms that reasonable anger and non-emotional other-blame were characterised by similar patterns of appraisal whereas unreasonable anger showed a pattern that differed significantly from both of these conditions along the key appraisal dimensions of self-accountability and other-accountability as well as the related core relational theme of other-blame. Appraisal profiles for anger/other-blame in the three episode type conditions are presented in Figure 2.

Episode type also exerted a significant effect on reasonableness scores ($F(2, 63) = 8.46$, $P < .001$) showing that judges believed that the situations described for the reasonable anger condition represented significantly more reasonable contexts for anger ($M = 6.25$) than those described for either the unreasonable anger condition ($M = 3.80$) or the non-emotional other-blame condition ($M = 4.40$).

Causes of emotion.

Because many of the items assessing perceived causes of emotion were different for anger and guilt, these ratings were analysed separately for each of the two emotion conditions using multivariate analyses of variance comparing reasonable and unreasonable emotion

episode types. For anger, there were significant univariate differences between the reasonable and unreasonable emotion condition for three of the rated causes: First, ratings of the causal impact of other-accountability were significantly higher in the reasonable emotion condition ($\underline{M} = 7.95$) than in the unreasonable emotion condition ($\underline{M} = 5.96$, $\underline{F}(1, 45) = 4.46$, $\underline{P} < .05$); second, participants rated the causal influence of thinking of themselves as “morally right” as significantly higher in the reasonable emotion condition ($\underline{M} = 5.30$) than in the unreasonable emotion condition ($\underline{M} = 3.20$, $\underline{F}(1, 45) = 4.87$, $\underline{P} < .05$); and third, participants rated their previous mood as a significantly more influential cause of their anger in the unreasonable emotion condition ($\underline{M} = 5.24$) than in the reasonable emotion condition ($\underline{M} = 2.74$, $\underline{F}(1, 45) = 9.16$, $\underline{P} < .01$).

Participants also reported that their anger experiences resulted more from factors which they had been unaware of at the time in the unreasonable emotion condition ($\underline{M} = 4.76$) than in the reasonable emotion condition ($\underline{M} = 2.41$, $\underline{t}(45) = 2.23$, $\underline{P} < .05$), but there was no significant differences between conditions in the extent to which they reported remaining unaware of the causes of anger at the time of reporting ($\underline{M} = 1.72$). Overall, other-accountability was rated as the most influential factor causing anger ($\underline{M} = 6.89$), but 15 out of 47 participants rated one of the three non-appraisal factors as the most important cause of their experienced emotion⁴. For profiles of the rated causes of anger in the reasonable and unreasonable emotion conditions, see Figure 3.

The analysis of rated causes of guilt failed to reveal any significant differences between reasonable and unreasonable emotion conditions. There was also no significant difference in whether reasonable and unreasonable guilt were reported to be caused by factors concerning which participants had been unaware at the time of the experience ($\underline{t}(37) = .90$, $\underline{ns.}$, overall $\underline{M} = 3.08$), but participants rated themselves as being less aware (more unaware) of the causes of unreasonable guilt ($\underline{M} = 2.68$) than reasonable guilt ($\underline{M} = .95$) at the time of

reporting ($t(37) = 2.42, p < .025$). The factor rated as most influential in causing guilt was the judgement that the event participants felt guilty about was motive-inconsistent for someone else ($M = 7.22$), followed by the related judgement that this event made things worse for another person ($M = 7.07$). The factor perceived as the third most influential was “wanting to apologise or make amends to someone else” ($M = 6.54$). None of these three factors feature specifically as appraisal dimensions in either Roseman and colleagues’ (1996), or Smith, Haynes, Lazarus, and Pope’s (1993) analyses of emotion-differentiating appraisals⁵. Profiles of the rated causes of reasonable and unreasonable guilt are presented in Figure 4.

Discussion

The results of study 1 suggest that some of the relationships between rated appraisal patterns and emotions identified in previous questionnaire-based studies do not reflect necessary connections between measures of these two variables. Participants readily reported cases of “unreasonable” anger characterised by appraisal profiles significantly different from those characterising “reasonable” anger, but not significantly different from those characterising “unreasonable” guilt. In addition, it appears that the reported presence of an emotional appraisal pattern does not always represent a sufficient condition for emotion either, since participants also reported occasions on which they had experienced the appraisal pattern of “other-blame” but felt relatively little anger, and the appraisal pattern of “self-blame” but felt relatively little guilt.

There was, however, one significant difference in appraisal ratings between reasonable guilt and non-emotional self-blame along the emotion-focused coping potential dimension. This difference is open to two rival interpretations. First, it might be argued that reduced emotionality in the non-emotional self-blame condition was a *consequence* of participants’ perception of greater capacity for dealing with any unpleasant feelings. Alternatively, it seems plausible that the reason that these participants rated themselves as having been “able to deal

emotionally with what was happening” was the results of them having relatively little guilt to cope with in the first place. In other words, the lack of emotion may explain the greater potential for coping with it rather than vice versa.

With regard to the perceived causes of emotions, the present study found that relevant appraisals were not rated to be the most influential determinants of these emotions in all cases. Indeed, the two causes considered by participants to be most important in determining guilt did not correspond precisely to any of the dimensions that feature in previous accounts of emotional differentiation by appraisal (e.g., Roseman et al., 1996; Smith & Lazarus, 1993).

Although some of these findings may present problems for many current appraisal models (or their associated methodologies), it is important to emphasise that other aspects of the present data conform well to appraisal theory’s predictions. For example, participants identified relevant appraisal components as some of the most important determinants of both reasonable and unreasonable anger and guilt. Also, with regard to concurrent appraisals, the reported “reasonable” instances of both emotions were accompanied by precisely the distinctive patterns of ratings predicted by appraisal researchers (e.g., Smith & Lazarus, 1993). Further, even the reported “unreasonable” instances of guilt tended to be associated with self-accountability in accordance with the appraisal account. This final result raises the possibility that some of the dissociations between emotion and appraisal identified here may be specific to particular kinds of emotion, such as unreasonable anger. At any rate, nothing in the present results argues against appraisals contributing substantially towards emotional differentiation on many occasions.

There are also methodological considerations which may call some of the current findings into question. First, there may be problems arising from self-selection of participants. In an attempt to minimise demand characteristics, participation in this study was made purely voluntary and no record of questionnaire completion was taken, so that there was

little incentive for respondents to fabricate distorted reports in order to fulfil the experimenter's perceived expectations. However, it remains possible that differential self-selection occurred across the different versions of the questionnaire, making comparisons between conditions less secure. Although the response rates do not reveal any strong preferences for specific versions of the questionnaire, it may still be the case that different considerations determined whether participants decided to complete and return data in different conditions. To counter this possible self-selection problem, participants for Study 2 were recruited by means of a course requirement.

A second issue relates to the comparability of the emotion examples reported in the reasonable and unreasonable emotion conditions. Although ratings of whether emotions other than anger occurred during the recalled incident did not differ significantly between reasonable and unreasonable conditions, it might be argued that the differences in reported appraisal reflected differences in the particular nature of any accompanying emotions in these two cases. Similarly, it is possible that the differences between appraisals reported in the reasonable and unreasonable anger conditions might have arisen from a greater incidence of cases of self-directed (as opposed to other-directed) anger in the latter condition. In order to provide a more focused assessment of the different emotions experienced, study 2 included scales assessing a variety of other emotional states in addition to anger and guilt.

A third and final concern relates to the omission of any self-report item concerning motivational relevance in study 1. Although judges' characterisations of the open-ended descriptions of the emotion-provoking situations suggested that reasonable and unreasonable anger incidents were equally personally important, it might be argued that participants' own ratings would provide more conclusive evidence on this issue. In study 2, therefore, a self-rating scale relating to motivational relevance was incorporated in the questionnaire.

Study 2

Study 2 was designed to substantiate study 1's findings by correcting the problems identified above. Participant recruitment did not depend on self-selection after viewing the materials, and additional self-report items were incorporated into the questionnaire to assess experience of emotions other than anger and guilt (as well as self-directed anger), and the appraisal dimension of motivational relevance. Further, in order to evaluate Smith and Lazarus's (1993) proposal (see also Lazarus & Smith, 1988) that each kind of emotion is directly associated with a distinctive core relational theme integrating the key associated appraisal components, existing self-report scales to measure the relevant themes of self- and other-blame were also added to the questionnaire. Another additional set of items was also incorporated into the non-emotional blame condition to provide some preliminary information about participants' explanations of why they had failed to become emotional during the remembered incidents. Finally, an extra condition in which participants reported on typical instances of anger and guilt was included so as to permit comparisons between more general commonsense representations of these emotions and the specific autobiographical instances described in the other conditions. The typical emotion condition also allows provisional assessment of whether reasonable or unreasonable cases of anger and guilt are seen as more representative or central examples of the conceptual categories in question.

Method

Participants.

88 questionnaires were administered to first-year psychology students who signed up for study 2 as part of a course requirement. 22 of these questionnaires contained items referring to typical examples of anger and guilt, 22 to remembered reasonable instances of anger and guilt, 22 to unreasonable instances of anger and guilt, and the final 22 to non-emotional other-blame and self-blame. Order of presentation of the two reported instances was counterbalanced and questionnaires were assigned randomly to participants. Three

returned questionnaires were excluded due to problems with missing data and replacement participants were found for the relevant conditions.

Design.

The overall design was a 2 (emotion) X 4 (episode type) factorial with repeated measures on the first factor. However, because some questionnaire items were specific to particular conditions, some of the data were analysed excluding one or more conditions, and some were analysed separately for each emotion condition using one-way between-subjects analyses of variance as in Study 1.

Measures.

The questionnaires were similar to those used in study 1, except for the additional items described below, and the extra version constructed for the *typical emotion* condition which asked respondents to report on a situation they believed was a typical occasion for experiencing the emotion in question in a relatively strong and pure form. Respondents were informed that the situation could be derived from personal experience (including dreams), from a book or movie, or be the product of their own imagination. (Examples of the open-ended descriptions of the incidents provided by participants for each condition are presented in Table 2.)

In all conditions, participants were asked to report on how easily they were able to think of an appropriate incident for reporting in the questionnaire, and how reasonable it was (or would be) to experience the relevant emotion (anger or guilt as appropriate) in this situation.

All conditions also included Smith and Lazarus's (1993) item for assessing motivational relevance: "How important was what was happening in this situation to you?" In addition, six items assessing the core relational theme of other-blame, three items assessing the core relational theme of self-blame, and 34 items assessing the emotions of anger,

boredom, challenge, fear, guilt, happiness, hope, interest, relief, resignation, sadness, and sympathy (all also devised by Smith and Lazarus, 1993) were incorporated in the questionnaires. A single rating scale for “anger with self” was added as well.

Causes of anger and guilt were assessed using the same items as used in study 1, except for the following additional items. In both conditions, questions were added concerning the extent to which the emotion was caused by objects or events unconnected to what the respondent was actually feeling angry or guilty about, and by unconscious processes. In the anger condition, respondents were asked to rate the extent to which their anger was caused by simple frustration, and by unexpected difficulties in a task they were performing. In the guilt condition, they were asked to rate the extent to which their guilt was caused by *someone else* thinking of them as morally wrong, blameworthy, sinful, personally responsible, and having personal agency, as well as the extent to which they felt morally wrong, blameworthy, sinful, and so on themselves. Finally, an item assessing the extent to which anger or guilt were caused by factors not listed in any of the earlier questions was included.

The non-emotional blame conditions both included new items assessing participants’ perceptions of why they failed to feel angry or guilty on the reported occasions. In both conditions, participants rated the extent to which they did not feel angry or guilty because they were in a good mood prior to the incident, and because they had made a deliberate attempt to control their feelings. In the other-blame condition, the additional items completed the sentence “I did not get angry because ...” with the following text: “It wouldn’t have had any effect on the person who was to blame for what had happened”; “The incident didn’t seem important enough to get upset about”; “I didn’t want to give the person who was to blame for what had happened the satisfaction of having made me angry”; “I’m not the kind of person who gets angry about things”; “The other person quickly apologised for what they had done”; “Someone else got angry with the other person on my behalf”; “The incident was intended to

be amusing”; “The other person already knew that I considered them to be at fault”; “Getting angry would only have made things worse”; “Getting angry would have been damaging to my relationship with the other person”; and “It wouldn’t have helped to undo what I had done”.

In the self-blame condition, the additional items were: “The incident didn’t seem important enough for me to punish myself about”; “Nobody else was hurt by my actions”; “I didn’t want to acknowledge that I had done something wrong”; “I didn’t think that anyone else would find out what I had done”; “I’m not the kind of person who feels guilty about things”; “I immediately made amends for what I had done”; “The situation was put right by someone else”; and “My actions were intended to be humorous or amusing”. Ratings for all the new items were on the same 11-point scale used in study 1 for rating causal influences.

Results

Characteristics of reported incidents.

Participants were asked to rate how reasonable the relevant emotional reaction was (or would have been) in each of the reported situations. These ratings were subjected to a 2 X 4 analysis of variance again using *emotion* (anger/other-blame vs. guilt/self-blame) as a within-subjects factor, and *episode type* (typical emotion, reasonable emotion, unreasonable emotion, or non-emotional blame) as a between-subjects factor. There was a significant main effect of episode type ($F(3, 84) = 31.98, p < .001$) arising from significantly lower ratings of reasonableness in the unreasonable emotion condition ($M = 3.68$) than in the typical ($M = 7.78$) or reasonable ($M = 7.66$) emotion conditions and non-emotional blame condition ($M = 7.61$), none of which were significantly different from one another (based on Tukey’s HSD). Neither the main effect of emotion nor the interaction effect were significant. This pattern of findings confirms the success of the reasonable-unreasonable manipulation and also shows that when thinking of a typical example of anger or guilt in this kind of experimental context, participants tend to select a reasonable instance of the relevant emotion.

Emotion intensity ratings were analysed using a similar 2 X 4 analysis of variance. Again, the main effect of episode type was significant ($F(3, 84) = 46.31, P < .001$). Ratings of emotion intensity were significantly lower in the non-emotion condition ($M = 3.95$) than in the typical ($M = 8.30$), reasonable ($M = 7.80$), or unreasonable emotion ($M = 6.84$) conditions. The difference between emotion intensity ratings in the typical and unreasonable emotion conditions was also significant, but there was no significant difference between reasonable and unreasonable emotion conditions. Once more, there was no significant main effect of emotion nor was there a significant interaction effect.

Ratings of the extent to which the experience of anger or guilt also involved other emotions, and of the degree to which the emotional experiences had come over participants without warning were analysed using similar analyses of variance excluding the non-emotion condition (2 X 3). No significant effects emerged from either analysis.

Reports of the duration of emotion provided in the reasonable and unreasonable emotion conditions were also subjected to a similar 2 X 2 analysis of variance. Again, there were no reliable effects. Scores based on time elapsed since the reported incident were also analysed using a 2 X 3 ANOVA. There was a significant main effect of episode type ($F(2, 62) = 3.77, P < .05$), arising from the remembered unreasonable emotion incidents being significantly more recent ($M = 20.33$ days) than the non-emotional blame incidents ($M = 81.47$ days) and also more recent (though not significantly so) than the reasonable emotion incidents ($M = 69.01$ days), but no other significant effects.

Finally, ratings of how easy participants had found it to think of an appropriate incident for reporting were analysed using a 2 X 4 ANOVA. Again, the only significant effect was a main effect of episode type ($F(3, 84) = 4.33, P < .01$), showing that participants reported the typical emotion incidents to be significantly easier to generate ($M = 6.64$) than either the unreasonable emotion incidents ($M = 5.11$) or the non-emotional blame incidents

(\underline{M} = 4.93). Ratings of how easy it was to think of incidents of reasonable emotion (\underline{M} = 6.16) were not significantly different from any other condition.

Appraisal dimensions.

Ratings of appraisals during the reported incidents along Smith and Lazarus's (1993) appraisal dimensions were analysed using a 2 X 4 multivariate analysis of variance with the same factors as above. There was a significant multivariate effect of both the emotion (\underline{F} (8, 77) = 18.36, \underline{P} < .001) and episode type (\underline{F} (24, 237) = 1.81, \underline{P} < .05) factors. Further analysis revealed that emotion had six significant univariate effects. The first of these concerned ratings of motivational relevance (\underline{F} (1, 84) = 6.95, \underline{P} < .01), with respondents generally rating anger/other-blame incidents as more motivationally relevant (\underline{M} = 7.55) than guilt/self-blame incidents (\underline{M} = 6.58). Similarly, there was a significant univariate effect of emotion on motivational congruence (\underline{F} (1, 84) = 21.98, \underline{P} < .001), with respondents generally rating anger/other-blame incidents as less motivationally congruent (\underline{M} = 3.15) than guilt/self-blame incidents (\underline{M} = 4.81). The third main effect of emotion was on self-accountability (\underline{F} (1, 84) = 107.73, \underline{P} < .001), which showed lower ratings for anger/other-blame incidents (\underline{M} = 2.53) than for guilt/self-blame incidents (\underline{M} = 7.14). Conversely, the fourth significant effect of emotion was on other-accountability (\underline{F} (1, 84) = 76.64, \underline{P} < .001), which was rated as higher for anger/other-blame incidents (\underline{M} = 7.91) than for guilt/self-blame incidents (\underline{M} = 3.72). Reported future expectancy was also significantly lower in the anger/other-blame condition (\underline{M} = 4.55) than in the guilt/self-blame condition (\underline{M} = 5.35, \underline{F} (1, 84) = 4.71, \underline{P} < .05), and finally ratings of problem-focused coping potential were significantly lower in the anger/other-blame condition (\underline{M} = 4.75) than in the guilt/self-blame condition (\underline{M} = 5.81, \underline{F} (1, 84) = 7.66, \underline{P} < .01).

Episode type had significant univariate effects on ratings of other-accountability (\underline{F} (3, 84) = 3.44, \underline{P} < .025), problem-focused coping potential (\underline{F} (3, 84) = 3.09, \underline{P} < .05), and

emotion-focused coping potential ($F(3, 84) = 2.89, p < .05$). Other-accountability was rated as significantly higher in the non-emotional blame condition ($M = 6.61$) than in the unreasonable emotion condition ($M = 4.93$), but there were no other significant differences between conditions. Problem-focused coping potential was rated as significantly higher in the typical emotion condition ($M = 5.82$) than in the unreasonable emotion condition ($M = 4.52$) but no other differences were significant. Emotion-focused coping potential was rated as significantly higher in the non-emotional blame condition ($M = 7.82$) than in the typical emotion condition ($M = 6.14$), but no other differences were significant.

The only significant interaction effect was on ratings of self-accountability ($F(3, 84) = 5.28, p < .01$). Based on analysis of simple main effects, self-accountability ratings were substantially and significantly higher for guilt/self-blame incidents than for anger/other-blame incidents in all conditions ($F(1, 84) > 30, p < .001$) apart from the unreasonable emotion condition, where the difference was not significant. Further, self-accountability ratings were significantly lower for unreasonable guilt than for typical or reasonable guilt and non-emotional self-blame, whereas there were no significant differences between conditions for anger/other-blame. Self- and other-accountability means for all conditions are presented in Figure 5.

Core relational themes.

Mean scores on the self-blame and other-blame core relational theme scales were also subjected to similar 2 X 4 analyses of variance. Self-blame scores showed significant main effects of both episode type ($F(3, 84) = 6.88, p < .001$) and emotion ($F(3, 84) = 109.71, p < .001$) as well as a significant interaction effect ($F(3, 84) = 4.13, p < .01$). Similarly, both main effects were significant for other-blame scores (episode type: $F(3, 84) = 5.39, p < .01$, emotion: $F(3, 84) = 109.33, p < .001$), and the interaction effect approached significance ($F(3, 84) = 2.35, p < .08$). Analysis of simple main effects revealed that self-blame scores (like

self-accountability ratings) were significantly higher for guilt/self-blame incidents than for anger/other-blame incidents in all conditions ($F(1, 84) > 20, p < .001$) apart from the unreasonable emotion condition, and correspondingly, other-blame scores were significantly higher for anger/other-blame incidents than for guilt/self-blame incidents in all conditions ($F(1, 84) > 20, p < .001$) apart from the unreasonable emotion condition. Further, self-blame was significantly lower in the unreasonable guilt condition than in the typical or reasonable guilt conditions (but not the non-emotional self-blame condition) whereas there were no significant differences in the anger/other-blame condition. The pattern of effects for other-blame almost precisely mirrored this, with significantly lower ratings in the unreasonable anger condition than the typical or reasonable anger conditions and non-emotional other-blame condition, but no significant differences for guilt/self-blame conditions. Self- and other-blame means are presented in Figure 6.

Other emotions.

A multivariate 2 X 4 analysis of variance was conducted on scores from all emotion scales. There were significant multivariate effects of both emotion ($F(13, 72) = 14.44, p < .001$) and the emotion by episode type interaction ($F(39, 222) = 1.83, p < .01$), and the multivariate episode type effect approached significance ($F(39, 222) = 1.34, p < .08$). Further analysis of univariate effects revealed that anger was significantly higher for the anger/other-blame incidents ($F(1, 84) = 120.50, p < .001$), and that guilt ($F(1, 84) = 101.13, p < .001$), happiness ($F(1, 84) = 6.87, p < .01$), sympathy ($F(1, 84) = 12.38, p < .001$), fear ($F(1, 84) = 5.40, p < .025$), and anger with self ($F(1, 84) = 46.08, p < .001$) were significantly higher for guilt/self-blame incidents. The main effects of emotion on anger and guilt scores were both moderated by significant interactions with the episode type factor (anger: $F(3, 84) = 6.73, p < .001$, guilt: $F(3, 84) = 6.16, p < .001$). In both cases, the differences between ratings between anger/other-blame and guilt/self-blame conditions was smallest for the non-emotional blame

condition. None of the univariate interaction effects for any of the other emotion scales were significant. There were also significant univariate main effects of episode type on guilt, sadness, happiness, fear, and anger with self scores. All of the measured unpleasant emotions had their lowest values in the non-emotional blame condition, but happiness was higher (though not significantly so) in this condition.

Causes of emotion.

Perceived causes of emotion were analysed separately for anger and guilt conditions using multivariate one-way analyses of variance comparing typical, reasonable, and unreasonable emotion episode types. For anger, there were significant univariate effects on ratings of the causal impact of: mood ($F(2, 62) = 3.76, p < .05$), which were significantly higher in the unreasonable emotion condition ($M = 4.64$) than in either the typical ($M = 2.59$) or reasonable ($M = 2.64$) emotion conditions; power ($F(2, 62) = 3.45, p < .05$), which were significantly higher in the typical emotion condition ($M = 1.64$) than in either the reasonable ($M = 0.95$) or unreasonable ($M = 0.18$) emotion conditions; thinking of oneself as morally right ($F(2, 62) = 3.88, p < .05$), which were significantly lower in the unreasonable ($M = 2.64$) than the typical ($M = 5.45$) emotion condition, with the reasonable emotion condition having an intermediate but not significantly different value ($M = 4.41$); and other-agency ($F(2, 62) = 3.63, p < .05$), with values significantly lower in the unreasonable ($M = 4.77$) than the typical ($M = 6.91$) emotion condition, and also lower (but not significantly so) than the reasonable ($M = 7.32$) emotion condition. The causes rated as most influential across all conditions were other-responsibility ($M = 6.83$), and other-agency ($M = 6.29$), followed by simple frustration ($M = 5.23$) and the second motive-inconsistency item about the anger-inducing event worsening the participant's situation ($M = 5.23$). Thirteen out of 66 participants rated one of the causes not corresponding to Roseman and colleagues' (1996) items as the most influential outright, and another 18 participants rated one of these causes as

equally influential to the most influential of the previously used appraisal items⁶. Means of the rated causes of anger for the three conditions are presented in Figure 7.

There was a significant multivariate effect on reported causes of guilt ($F(40, 88) = 2.18, p < .001$), and univariate analysis revealed significant effects on 14 of the 20 scales: intended apology ($F(2, 62) = 3.77, p < .05$), motive inconsistency ($F(2, 62) = 3.29, p < .05$), moral turpitude ($F(2, 62) = 5.97, p < .01$), other's perception of moral turpitude ($F(2, 62) = 4.78, p < .025$), deservingness of bad outcome ($F(2, 62) = 3.72, p < .05$), blameworthiness ($F(2, 62) = 4.84, p < .025$), other's perception of one as blameworthy ($F(2, 62) = 3.91, p < .025$), sinfulness ($F(2, 62) = 3.52, p < .05$), other's perception of one as sinful ($F(2, 62) = 4.47, p < .025$), non-characterological attribution ($F(2, 62) = 15.51, p < .001$), self-agency ($F(2, 62) = 8.28, p < .001$), other's perception of self-agency ($F(2, 62) = 3.91, p < .025$), self-responsibility ($F(2, 62) = 5.70, p < .01$), and other's perception of self-responsibility ($F(2, 62) = 6.52, p < .01$). In all cases, except for deservingness of bad outcome (where the reasonable emotion condition had a significantly lower value than the typical emotion condition), the lowest value on these scales was for the unreasonable emotion condition, and this value was significantly lower than that for the typical emotion condition in all these cases apart from motive inconsistency (where none of the differences were significant). Further, the unreasonable emotion condition also had a significantly lower value than the reasonable emotion condition on blameworthiness, self-agency, self-responsibility, and non-characterological attribution. In other words, a number of key appraisal dimensions considered to be causal factors in producing guilt by Roseman and colleagues (1996) were judged by participants to be less influential in the case of unreasonable than reasonable emotion. The cause rated as most influential across all conditions was self-agency ($M = 6.46$), followed by self-responsibility ($M = 6.15$), and worsening of the other's situation ($M = 5.91$). This third item also had the highest mean score of all reported causes in the

unreasonable guilt condition⁷. The relevant means are presented as Figure 8.

Causes of not feeling emotional.

Means of the scales assessing the perceived causes of failure to become emotional were compared separately for the non-emotional other-blame and self-blame conditions. For other-blame, the highest rated cause of not becoming angry was being in a good mood prior to the incident ($\underline{M} = 6.33$)⁸. Other factors scoring above the mid-point of the scale were: making a deliberate effort to control feelings ($\underline{M} = 6.10$); the perception that getting angry would have made the situation worse ($\underline{M} = 5.76$); the perception that getting angry would have damaged the relationship with the other person ($\underline{M} = 5.67$); and perceiving that the other person already knew that he or she was considered to be at fault ($\underline{M} = 5.57$).

For the non-emotional self-blame condition, the highest rated cause of not feeling guilty was the perception that feeling guilty would not have helped to undo what had been done ($\underline{M} = 4.86$) with none of the rated causes scoring above the mid-point of the scale.

Discussion

The results of study 2 were broadly similar to those of study 1. Again, differences in ratings between anger and guilt along the key appraisal dimension of self-accountability were significantly smaller when unreasonable rather than reasonable emotion was being reported. Further, the present study also found that the measured core relational themes of self-blame and other-blame did not distinguish reported anger and guilt as clearly in unreasonable cases of these emotions.

With regard to the question of whether the relevant rated appraisal patterns represented a sufficient condition for the associated emotions, as in study 1, participants reported occasions on which they had considered someone else to be responsible for some motivationally relevant and incongruent event and blamed them for it, but had experienced significantly less anger, as well as occasions on which they had considered themselves

accountable for some motivationally relevant and incongruent event, and blamed themselves for it, but had experienced significantly less guilt.

Once more, it is also worth stressing that in cases of reasonable emotion, the distinctive appraisal patterns predicted by appraisal theory for anger and guilt were clearly obtained, supporting the relevance of the appraisal account for many instances of emotion. Further, the results suggest that people believe that typical instances of anger and guilt are also characterised by these patterns, suggesting that people's prototypical representation of these emotions is closer to the reasonable than the unreasonable version. On the one hand, this could be taken as implying that reasonable emotions are more familiar than unreasonable ones, although the present data concerning the length of time elapsed since the remembered incident do not support this contention (unreasonable instances of anger and guilt tended to be more recent than reasonable instances). On the other hand, the typical emotion data might be seen as reflecting an unrepresentative stereotype of what the respective emotions *ought* to be like. It is also possible that such stereotypical representations may partly guide participants' retrieval of suitable emotion instances in studies where the experimental instructions specify no additional selection criteria (see Parkinson & Manstead, 1992).

As in study 1, there were also differences in the reported causes of reasonable and unreasonable emotion. In particular, many of the appraisal dimensions considered to be influential in producing guilt by Roseman and colleagues (1996) were judged to have had less causal influence in unreasonable instances of this emotion. Although these retrospective self-report data should not be taken as direct evidence about underlying generative processes, they at least demonstrate that participants do not *believe* that appraisals are always the sole causes of their emotions.

Concerning the question of the generality of the appraisal-emotion dissociations found in study 1 for unreasonable anger, study 2 provided better evidence that guilt is not always as

strongly associated with appraisals of self-accountability and self-blame as it tends to be for reasonable and “typical” instances of this emotion. Indeed, some of the open-ended descriptions of unreasonable guilt (see Table 2) seem to confirm that there are occasions when there is little or no sense of personal responsibility associated with the apparently guilt-inducing event (see also Frijda, 1993; Kroon, 1988). For example, one participant reported that she had felt guilty when her “friend had a go at me over something she accused me of telling someone else that should have remained confidential” when in fact “I hadn’t said anything”. In cases such as this, it seems that what leads to feelings of guilt is not a perception of one’s own blameworthiness but rather the experience of being blamed by someone else. The greater success of study 2 in eliciting suitable examples of unreasonable guilt may reflect the fact that all participants completed the questionnaires in a quiet room as part of a course requirement and were perhaps more careful in their conformance to instructions as a consequence.

The fact that broadly similar patterns of results were obtained despite changes in participant selection procedures attests to the robustness of these findings and tends to argue against any artifactual explanation. In addition, study 2 confirms that there were no substantial differences between reported unreasonable instances of anger and guilt with regard to other accompanying emotions. Finally, the lack of significant differences in motivational relevance scores between emotion and non-emotional blame conditions effectively rules out explanations of effects on emotion ratings in terms of reported appraisal differences.

General Discussion

The two studies reported in this paper show that participants’ reports of certain appraisals do not always show the same degree of relation to their reports of emotion. Anger and guilt incidents were described in one or both of these studies that were associated with significantly different appraisal profiles from those associated with reasonable instances of these emotions

(which corresponded closely to those found in previous self-report research) and other- and self-blame incidents were described which were associated with significantly lower reported levels of anger and guilt than were obtained in connection with comparable emotional incidents. Further, judgements about the causes of anger and guilt did not always specify agency and responsibility appraisals as the most influential determining factors.

What implications do these results have for appraisal theories? If the data are treated as accurate descriptions of genuine appraisal and emotion processes, then they show that certain kinds of accountability and blame appraisals are not necessary or sufficient features of anger or guilt. However, working from the reasonable assumption that anger and guilt nevertheless tend to be associated with distinctive kinds of situations, and that they depend on people's perceptions of these situations, then it would be surprising if there were not some minimal appraisal prerequisites for these two emotions (Frijda, 1993). For example, it seems probable that what we refer to as "anger" depends minimally on detection of some kind of physical or social resistance, and the present self-report data concerning perceived causes, as well as the open-ended descriptions of anger-inducing incidents collected here, tend to support this conclusion. Over the course of an anger episode, appraisals may often become more elaborated resulting in later perceptions of other-accountability and blame (Frijda, 1993), but there may also be occasions when the emotion is sustained simply by the continuance of the original resistant situation without any more complex cognitive interpretations or evaluations.

An alternative way of reading these results would be to question whether the appraisal and emotion reports collected were veridical representations of the underlying phenomena themselves. For example, appraisal ratings may have not reflected actual appraisals because unconscious mechanisms were involved (e.g., Lazarus, 1995), because the processes of memory and representation may have imposed their own distorting structure on events (Parkinson & Manstead, 1992; Russell, 1987), and/or because the experimental procedures

and instructions may have subtly (or explicitly) encouraged certain kinds of formulation from participants. However, if this sceptical line is taken, the present results would still be problematic for many appraisal researchers since it is exactly this kind of self-report evidence that has typically been used in the past to support many aspects of appraisal theory. At minimum, then, the present findings suggest limits to the strength of conclusions that should be drawn from previous questionnaire-based studies.

The bottom-line interpretation of the present findings is that people's representations of anger and guilt do not necessarily specify high values of the predicted accountability and blame appraisal dimensions, and that representations of blame are not always associated with representations of the emotions predicted by appraisal theory. Such a conclusion is consistent with the argument that emotion categories such as "anger" and "guilt" are not defined according to classical, all-or-none defining criteria such as the presence of a particular appraisal pattern, but instead show varying degrees of family resemblance to a prototypic script (e.g., Russell & Fehr, 1994). If this conclusion is correct, then episodes might be characterised in emotional terms because they carry some of the other common features specified in the relevant prototype such as distinctive expressions, action tendencies, internal symptoms, and so on. It might also be argued that emotional language has built-in flexibility which allows it to be used for a range of conversational purposes (e.g., Edwards, 1997). In this case, participants might draw on different kinds of formulations when presenting their emotion as reasonable or unreasonable, or as material to be analysed in a scientific study on emotions rather than in everyday conversations of different kinds.

A second kind of limitation on the applicability of the present results concerns their relevance to emotions other than anger or guilt (or representations of these other emotions). In this regard, it seems plausible that some emotion descriptors carry stronger implications about the kinds of situation in which the emotion occurs (and its interpretation) than others

(Russell, 1979). For example, it would seem unusual to apply the word “schadenfreude” to incidents which did not involve taking pleasure in someone else’s misfortune (Ben-Ze’ev, 1992). However, this does not necessarily mean that there are a set of emotions that have an inherently more complex cognitive structure (e.g., Johnson-Laird & Oatley, 1989). Instead, it may be that the latter set of words is used to convey emotional and situational-interpretational meanings simultaneously (Russell, 1979), and the emotions described by these words still only require relatively low-level appraisal components for their activation (Frijda, 1993).

In summary, the present results suggest that some of the appraisal-emotion relationships uncovered in previous questionnaire studies may have only a contingent basis rather than reflecting any necessary or sufficient empirical connection (Parkinson, 1997). Although appraisals are clearly often related to emotions, it seems unsafe to assume that they always provide a complete explanation for experienced emotional quality in all cases (Lazarus, 1991). Instead, it appears that different instances of at least some emotions show different degrees of connection with reported appraisal processes on different occasions. Correspondingly, other non-appraisal causes are reported to make independent contributions to emotion causation under some circumstances. Further research should seek to assess the variability of the appraisal-emotion connection across different kinds of emotion, and across different instances of the same emotion.

Finally, given the persistent ambiguity concerning the extent to which questionnaire-based findings of the present kind bear on methodological or theoretical issues, it now seems necessary to move beyond self-report studies in order to clarify further the nature of the appraisal-emotion connection. Rather than focusing on the *content* of appraisal or on how its conclusions are consciously represented, more attention needs to be paid to the underlying real-time processes themselves (e.g., Scherer, 1993). Such a project also requires more conceptual precision about exactly what is supposed to happen during emotion-antecedent and

emotion-concomitant appraisal (e.g., Parkinson, 1997; Smith, Griner, Kirby, & Scott, 1996).

Without such theoretical clarity and methodological rigour, the possibility must remain that apparently substantive research conclusions in this area may in fact amount to little more than redescriptions of the flexible implicit semantics of emotion and appraisal language (cf., Shweder, 1993) under different conversational contexts (Schwarz, 1994).

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Table 1
Examples of incidents reported in the different conditions of Study 1

	Anger/other-blame	Guilt/self-blame
Reasonable emotion	<p>A friend said something that was insensitive.</p> <p>Long bus queue, everyone pushed in. I had to catch the next bus after a long wait.</p> <p>My friend was harassed by a man on her way home.</p>	<p>I cheated on my girlfriend while drunk at a night-club.</p> <p>I was working in a shop and a customer forgot a substantial amount of change and I kept it.</p> <p>Betrayal of a friend's confidence.</p>
Unreasonable emotion	<p>Losing at pool three times in a row.</p> <p>I broke my keys and the next day locked myself out of the house.</p> <p>Having to wake up early when really, really tired.</p>	<p>Talking to a friend a female friend was very close to and discovering they didn't feel the same.</p> <p>When I didn't agree with someone who was "morally" right about something.</p> <p>I thought I might have offended someone unintentionally.</p>
Non-emotional blame	<p>A friend damaged some stuff that had only just been bought.</p> <p>A friend didn't turn up for an appointment. I waited outside in the rain for 30-45 minutes.</p> <p>An acquaintance criticised someone very close to me and the comments were uneducated.</p>	<p>Stopped talking to someone when they needed a friend.</p> <p>Slept with someone behind my partner's back.</p> <p>I left someone waiting for me for ages.</p>

Table 2
Examples of incidents reported in the different conditions of Study 2

	Anger/other-blame	Guilt/self-blame
Typical emotion	<p>A long-term boyfriend is unfaithful to me with a close friend.</p> <p>Bereavement. Being without any control over the event.</p> <p>Argument with parents over something petty which escalates as people get more upset/annoyed.</p>	<p>Offending somebody with words of criticism. Their response makes you feel guilty.</p> <p>Lying to someone who is close to you, then being found out by them and lying again to cover up for yourself.</p> <p>Bingeing → getting fatter.</p>
Reasonable emotion	<p>Found out my ex-boyfriend had cheated on me while we were together.</p> <p>In the bank -- the staff were useless and I had trouble trying to get money out.</p> <p>Someone crashed into my car and wrote it off.</p>	<p>Avoiding my boyfriend purposefully.</p> <p>I was obnoxious at a party when I was feeling very down.</p> <p>I arranged to meet someone and I decided to go out with other people instead.</p>
Unreasonable emotion	<p>I found out that one of my friends had been killed in a car crash, and I started to feel angry with him, and other people and I don't really know why.</p> <p>I had gone out but had not had a good time and on the way home it started to pour down with rain and I got very wet.</p> <p>Someone made a harmless comment to me about something.</p>	<p>I was involved in a car accident and taken to hospital -- the police had to wake up my Mum and Dad at 3 am and I felt guilty for worrying them and making them feel bad.</p> <p>When coming to university, my family were upset to leave me. I felt guilty for "leaving home" and my parents' reaction when they left made me feel worse.</p> <p>Parents influencing my views to make me believe I was doing something wrong.</p>
Non-emotional blame	<p>My boyfriend went off with another woman.</p> <p>A girl in my block was reading some of my personal letters in my room when I was not there.</p> <p>My mum gave away some of my favourite clothes without my permission.</p>	<p>I was drunk and was nasty to a friend.</p> <p>Was unfaithful to my boyfriend.</p> <p>Told my daughter off and made her cry when I needn't have.</p>

Figure 1
Mean self-accountability and other-accountability ratings in Study 1

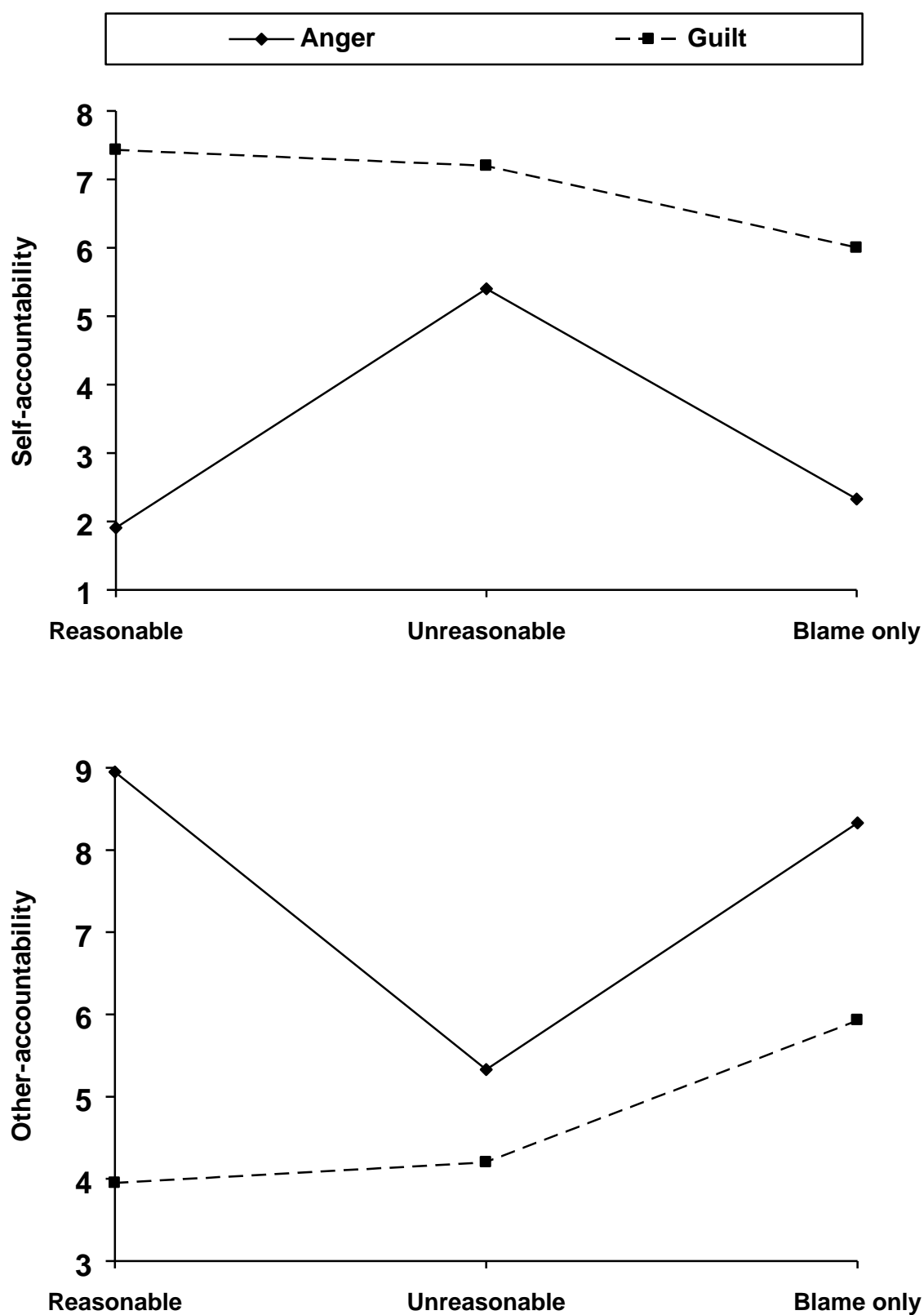


Figure 2
Appraisal profiles for reasonable and unreasonable anger and for other-blame without anger in Study 1

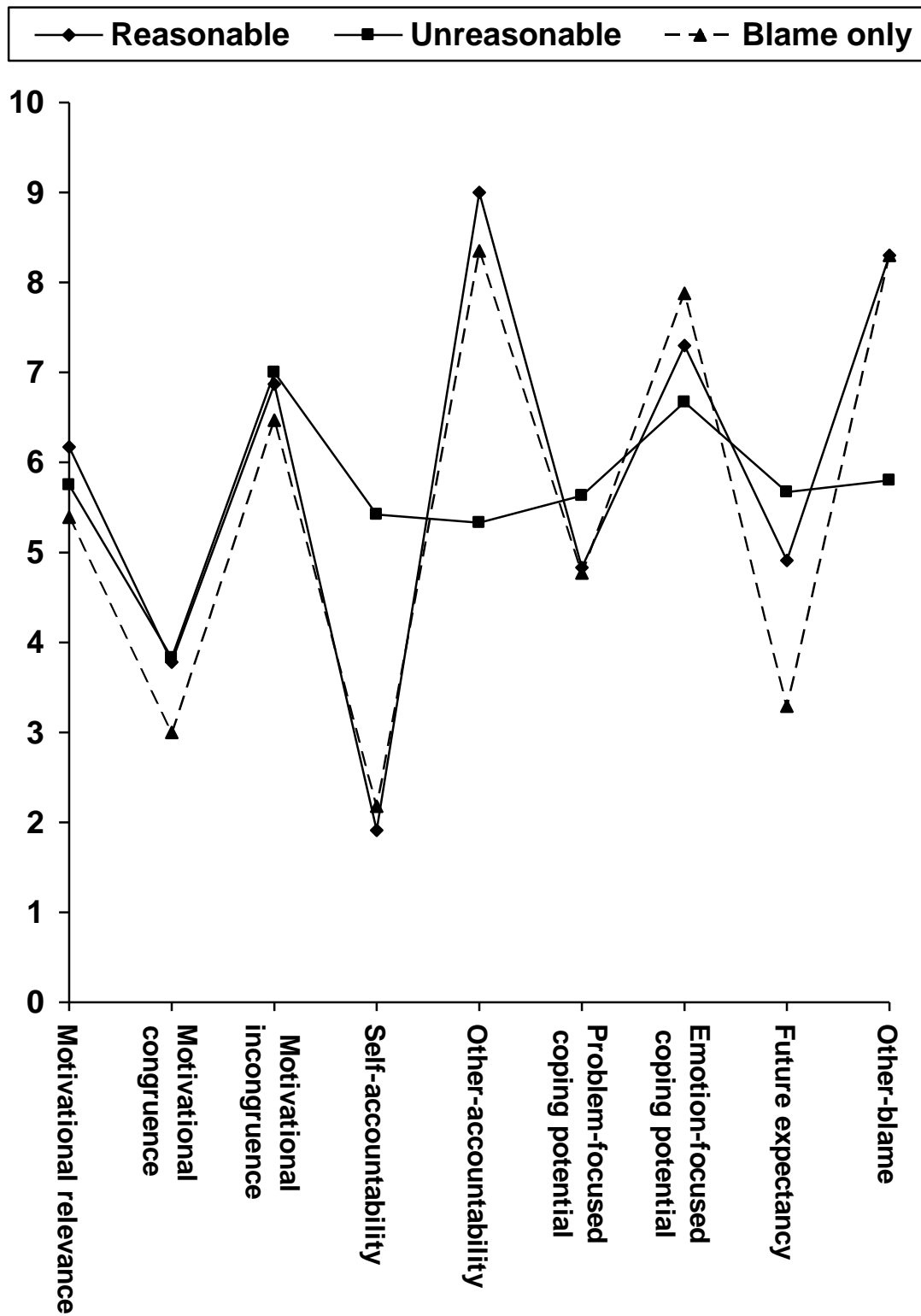


Figure 3
Reported causes of reasonable and unreasonable anger in Study 1

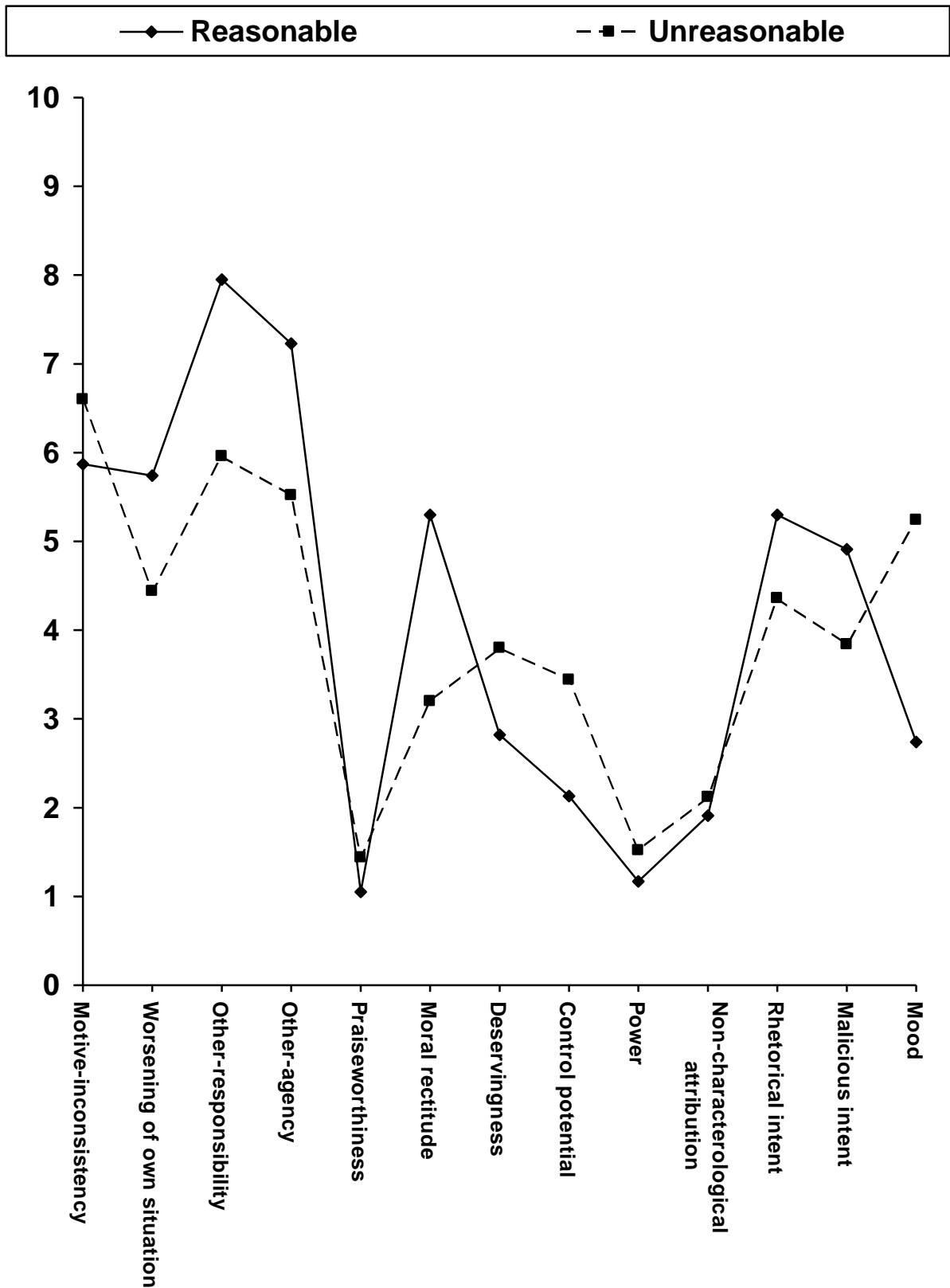


Figure 4
Reported causes of reasonable and unreasonable guilt in Study 1

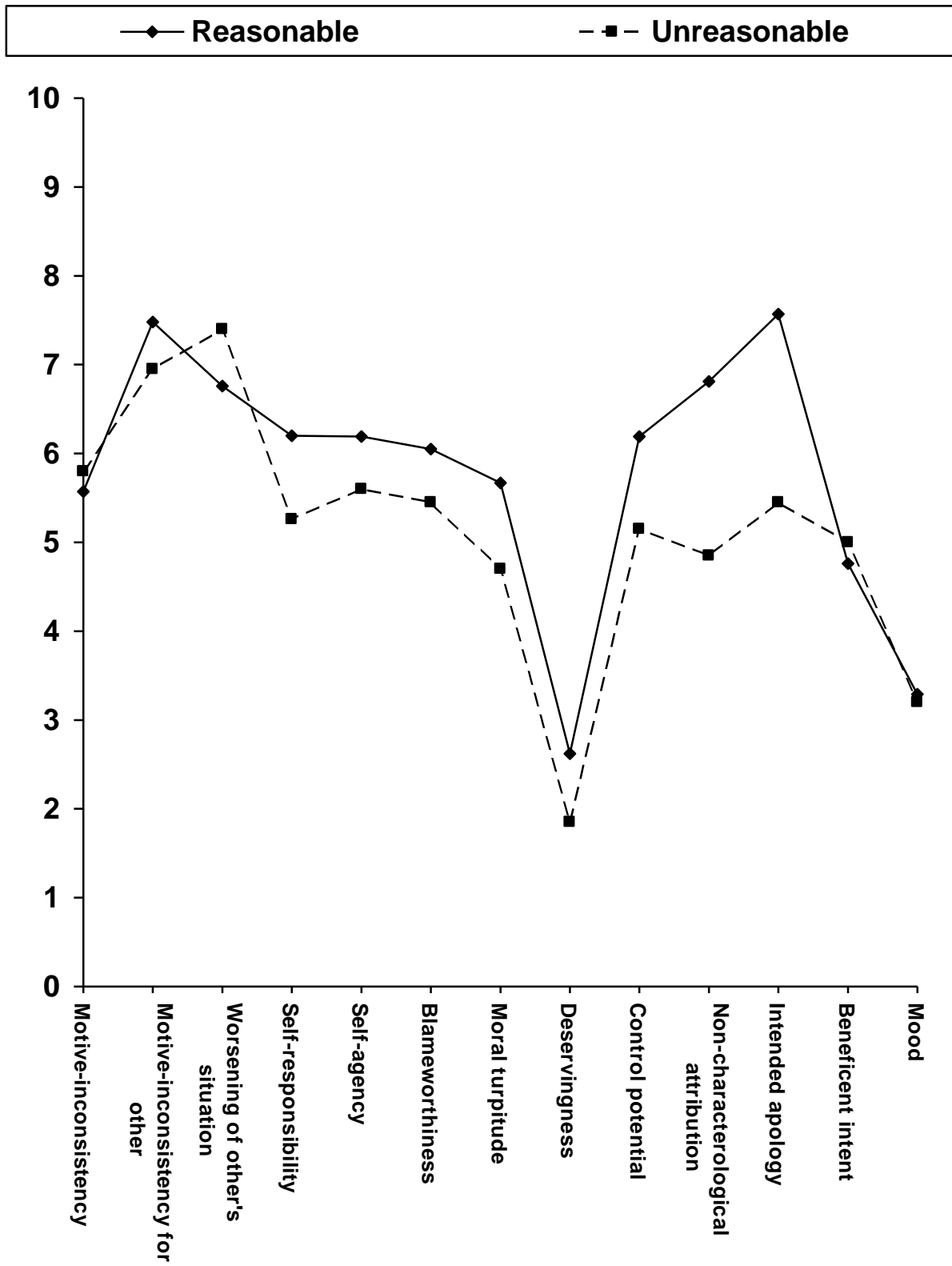


Figure 5
Mean self-accountability and other-accountability ratings in Study 2

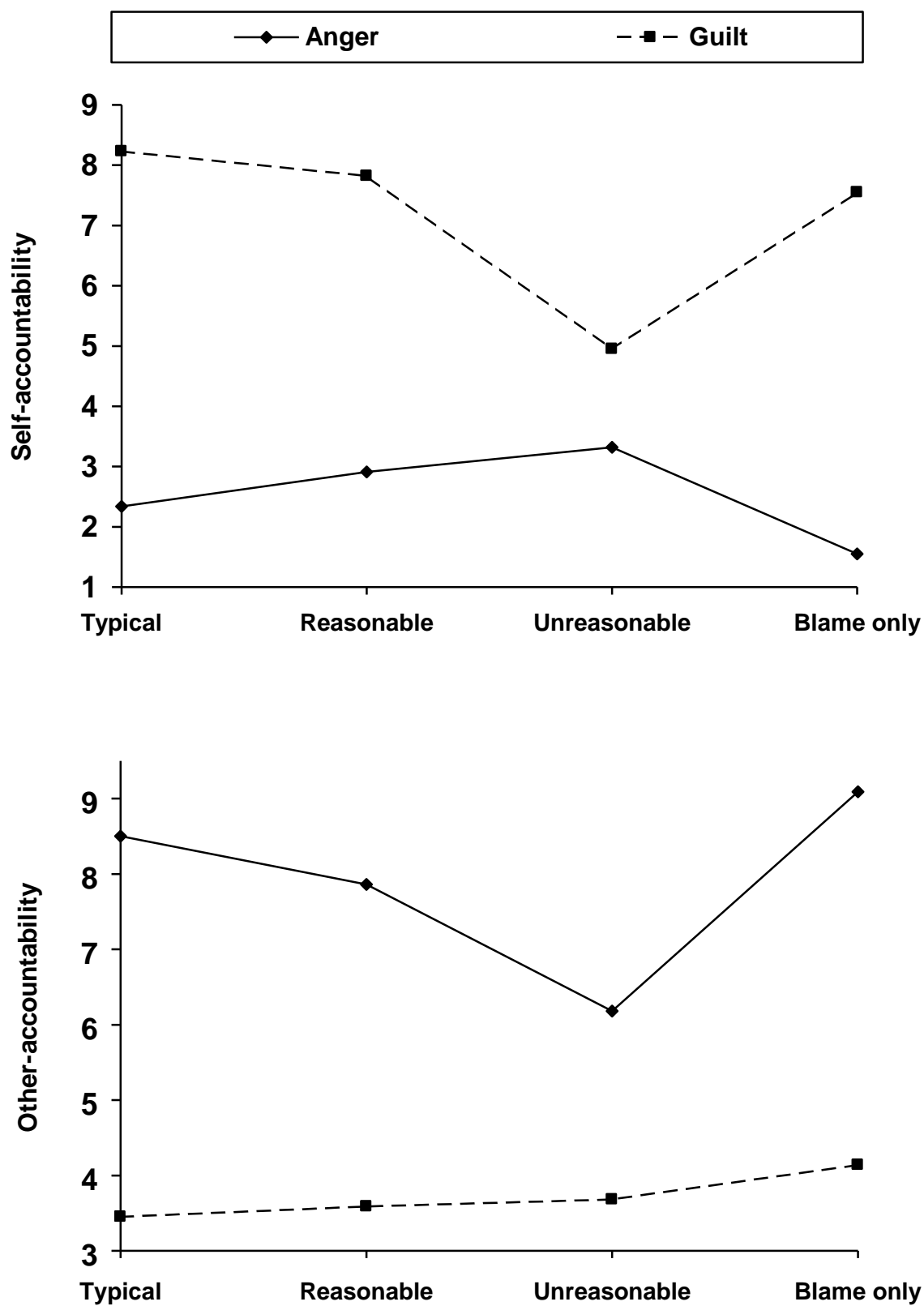


Figure 6
Mean self-blame and other-blame scores in Study 2

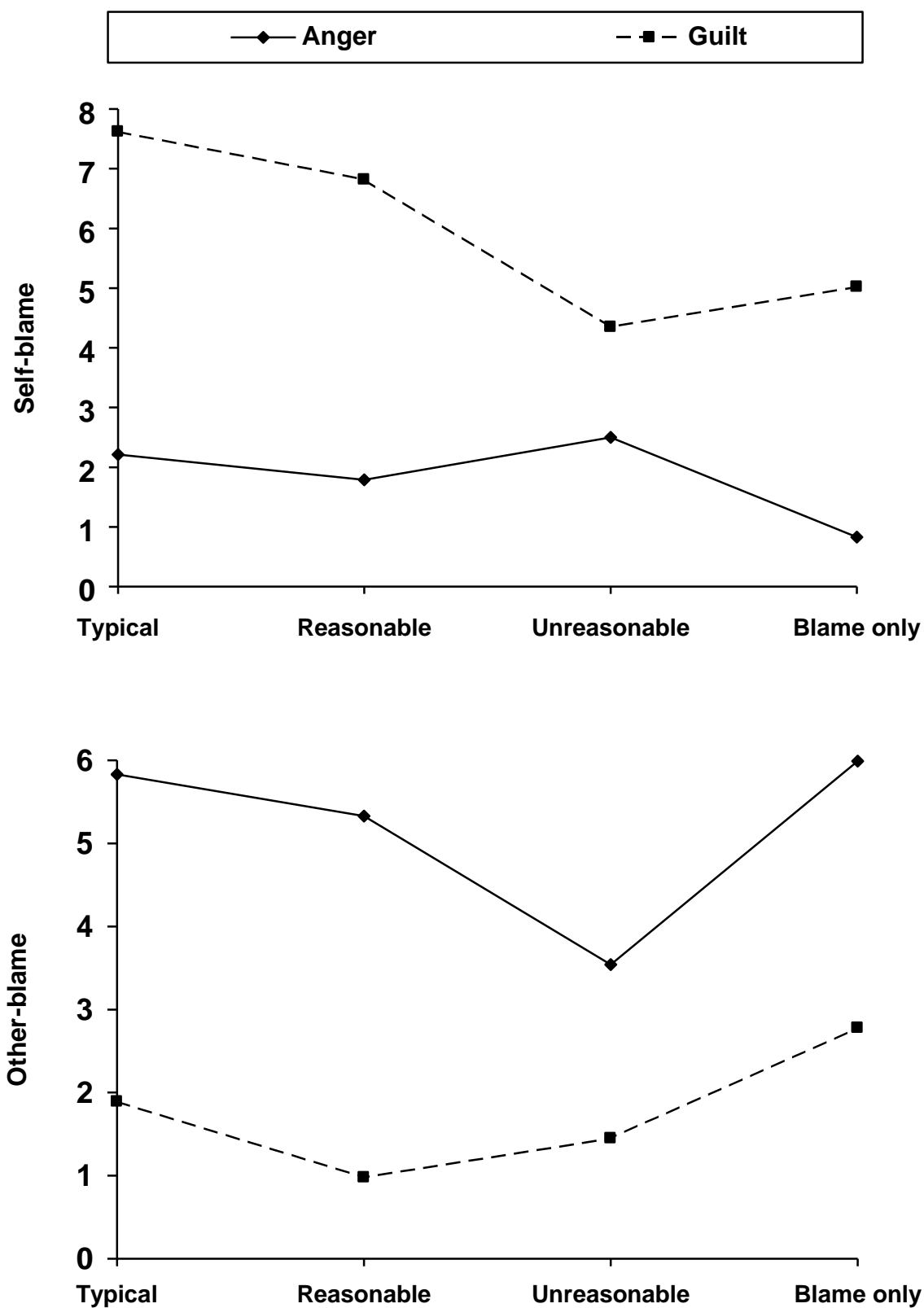


Figure 7

Reported causes of typical, reasonable, and unreasonable anger in Study 2

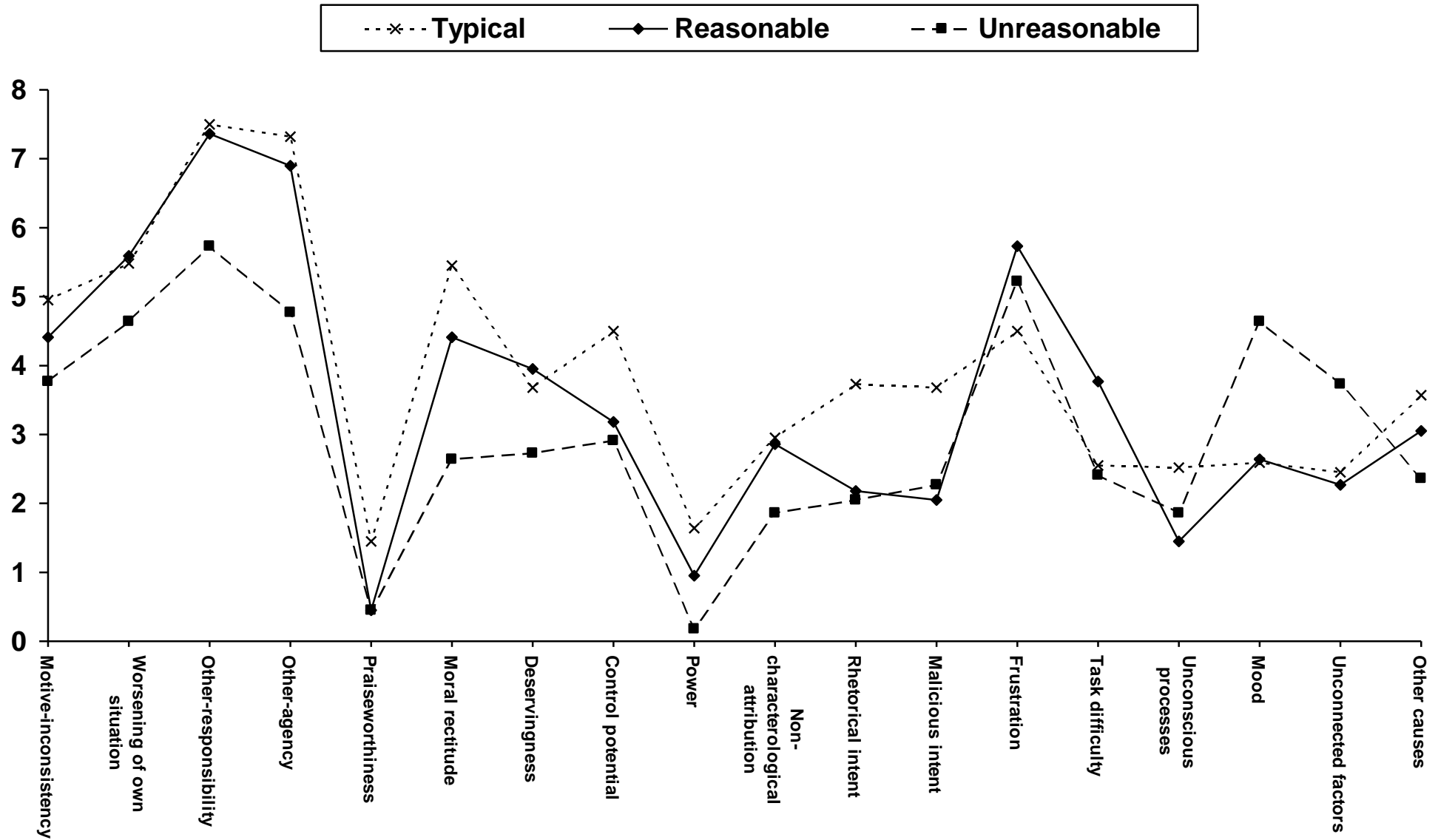
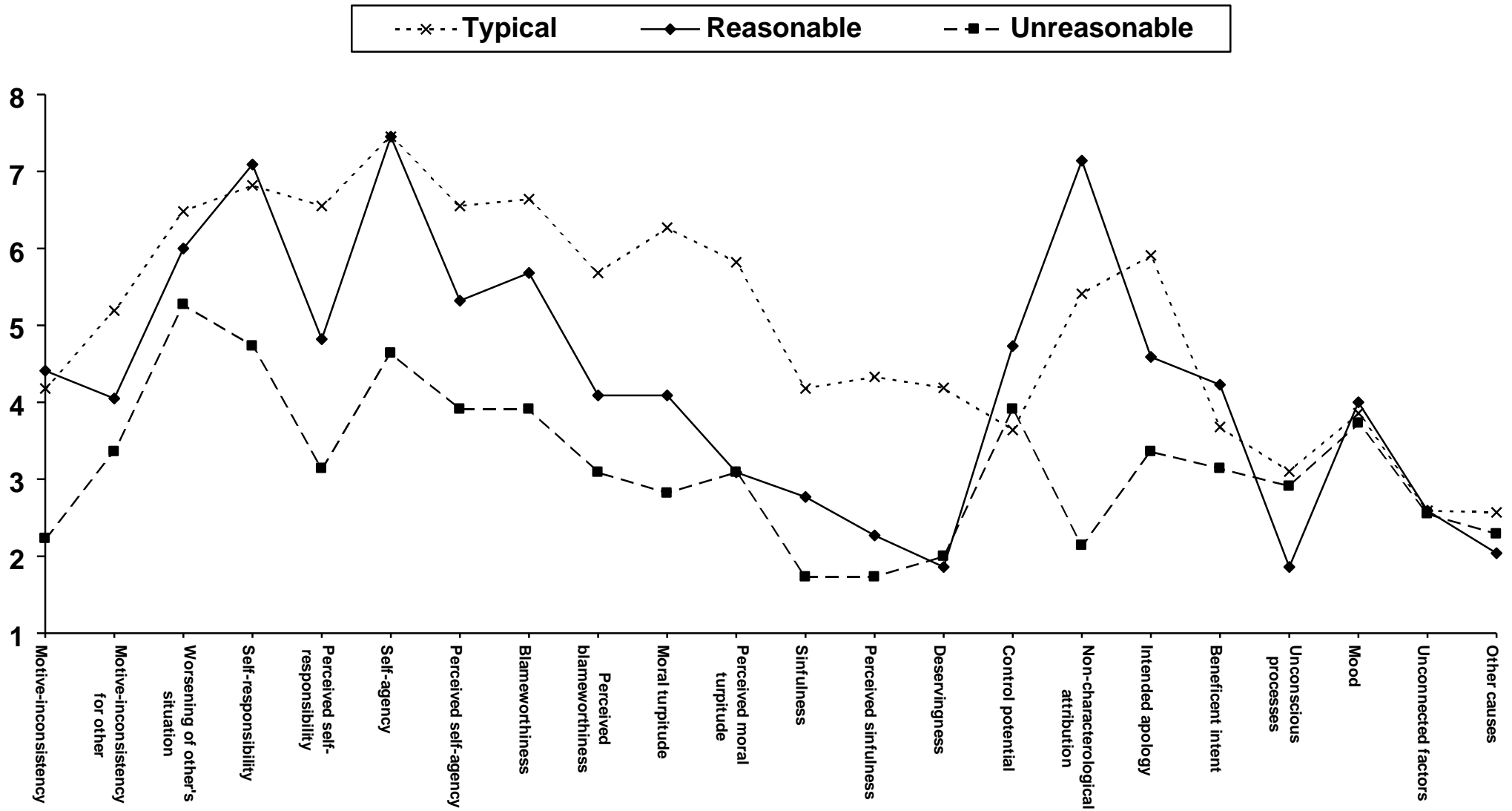


Figure 8
Reported causes of typical, reasonable, and unreasonable guilt in Study 2



Author Notes

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Footnotes

- ¹ Not only do these findings support the conclusion that guilt is often experienced as irrational, they also seem difficult to reconcile with those versions of appraisal theory which associate this emotion with self-accountability appraisals (e.g., Smith & Lazarus, 1993).
- ² Note that endorsement of this item would not necessarily imply that one believed that one had a causal role in the events producing the guilt, only that it resulted from someone else's misfortune regardless of attributions about this misfortune. It is possible, for example, that cognitive elaboration occurs as a subsequent result of experiencing the emotion rather than prior to its activation (cf. Frijda, 1993).
- ³ Because some of the questionnaires contained reports of only one of the two requested kinds of incident, this statistical procedure resulted in the omission of several cases from the analysis. For this reason, comparable one-way analyses of variance were also run separately on anger/other-blame and guilt/self-blame conditions for all dependent variables. The results of these alternative analyses were not substantively different to those of the analyses reported here in any important respects.
- ⁴ The largest correlation between any of the non-appraisal items and the appraisal items was for rhetorical intent with perceived powerfulness ($r(48) = .44, p < .01$). Moreover, using a stepwise regression procedure, the maximum amount of variance in any of the non-appraisal items explained by any combination of items assessing appraisal causes was less than 37%, confirming that a substantial amount of variance was specific to the non-appraisal variables.

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- ⁵ The maximum correlation between any of these three non-appraisal causes of guilt and any appraisal item was for motive-inconsistency for another person with moral turpitude ($r(41) = .38, p < .025$). Further, the maximum variance explainable for any of these items by stepwise combinations of appraisal variables was less than 12%, showing that appraisal and non-appraisal causes of guilt varied independently of each other.
- ⁶ The largest correlation between any of the non-appraisal items and the appraisal items was for malicious intent with perceived powerfulness ($r(65) = .41, p < .001$) and the maximum amount of variance in any of the non-appraisal items explained by any combination of items assessing appraisal causes based on a stepwise multiple regression procedure was less than 22%, again confirming that a substantial amount of variance was specific to the non-appraisal variables.
- ⁷ The largest correlation between the worsening of other's situation item and appraisal items was with non-characterological attribution ($r(65) = .46, p < .001$). Its correlations with the self-agency and self-responsibility items were .31 and .34 respectively. The maximum amount of variance explainable on this item using appraisal variables was just over 20%.
- ⁸ The item concerning being in a good mood showed no statistically reliable correlations with any of Smith and Lazarus's (1993) appraisal dimensions or with either of the core relational theme scales included in this study. These findings argue against the interpretation that the apparent anger-reducing influence of pleasant moods was mediated by reported appraisals.