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Resolving the paradox of shame: Differentiating among specific appraisal-feeling combinations explains pro-social and self-defensive motivation

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Abstract Research has shown that people can respond both self-defensively *and* pro-socially when they experience shame. We address this paradox by differentiating among specific appraisals (of specific self-defect and concern for condemnation) and feelings (of shame, inferiority, and rejection) often reported as part of shame. In two Experiments (Study 1: N = 85; Study 2: N = 112), manipulations that put participants' social-image at risk increased their appraisal of concern for condemnation. In Study 2, a manipulation of moral failure increased participants' appraisal that they suffered a specific self-defect. In both studies, mediation analyses showed that effects of the social-image at risk manipulation on self-defensive motivation were explained by appraisal of concern for condemnation and felt rejection. In contrast, the effect of the moral failure manipulation on pro-social motivation in Study 2 was explained by appraisal of a specific self-defect and felt shame. Thus, distinguishing among the appraisals and feelings tied to shame enabled clearer prediction of pro-social and self-defensive responses to moral failure with and without risk to social-image.

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Introduction

To err is human. Hence, we must all deal with moral failure, at least occasionally. People often experience feelings of shame as a result of their failures. Psychologists have traditionally assumed that shame motivates self-defensive reactions to failure (e.g., covering-up, avoidance; for a review, see Tangney and Dearing 2002). However, a growing number of studies offer new insight, showing that shame can also promote pro-social reactions such as apology and helping (e.g., Gausel et al. 2012; Shepherd et al. 2013; Tangney et al. 2014). Thus, at present the literature on shame appears to be paradoxical, as shame seemingly predicts both self-defensive and pro-social motivations regarding failure.

In this paper, we delve into shame to examine the specific appraisals and feelings about moral failure that can more precisely explain what leads people to respond pro-socially and what leads them to respond self-defensively. Based in Gausel and Leach's (2011) conceptual model, we suggest that people may be more or less concerned about their self-image as well as about the possible risk to their social-image when they fail morally. Concern for a social-image at risk encourages the appraisal that one will be condemned by others, which fuels feelings of rejection and inferiority. This highly threatening appraisal-feeling combination should motivate self-defense, such as avoidance. In contrast, concern for one's self-image encourages the appraisal that one suffers a specific self-defect that should be addressed. The self-castigating feeling of shame about a specific self-defect should promote pro-social efforts to

improve the self and one's social relations with those affected by one's moral failure, if such improvement appears possible.

Thus, in a first empirical step, we used Confirmatory Factor Analysis (CFA) to validate measures of the appraisals (specific self-defect and concern for condemnation) and feelings (of felt shame, felt rejection, and felt inferiority) embedded in common conceptualizations of shame. Second, we experimentally manipulated actual (Study 1) or imagined (Study 2) events, to show that the appraisal of specific self-defect is caused by moral failure alone whereas the appraisal of concern for condemnation is caused by moral failure with risk to social-image. Third, we used mediation analysis to show that moral failure leads to pro-social motivation via an *appraisal of specific self-defect → felt shame* pathway. In contrast, moral failure with risk to social-image leads to self-defensive motivation via an *appraisal of concern for condemnation → felt rejection* pathway. Thus, we show when and why people respond to moral failure pro-socially rather than self-defensively. In this way, we aim to resolve the paradox of shame.

Shame: Self-defensive or pro-social?

It has long been thought that individuals tend to cope with their shame for moral and other failure self-defensively, through avoidance, hiding, and running away (for reviews, see Ferguson et al. 2007; Gilbert and Andrews 1998; Tangney and Fischer 1995; Tangney and Dearing 2002; Tangney et al. 2007). More recently, however, studies of both individual (e.g., de Hooge et al. 2010; Lickel et al. 2014; Tangney et al. 2014) and group-based emotions (e.g., Allpress et al. 2010; Berndsen and McGarty 2012; Berndsen and Gausel 2015; Gausel and Brown 2012; Imhoff et al. 2012; Shepherd et al. 2013) have found that shame is associated with several pro-social responses. For instance, Schmader and Lickel (2006) asked participants to recall a time when they felt either "shame" or "guilt" about something they had caused. Participants reported wanting to repair the damage done slightly more in instances of shame. In a study of group-based emotion, Gausel et al. (2012) found that the more shame Norwegians expressed about their in-group's persecution of an ethnic minority, the greater their motivation to communicate contrition and offer restitution. And, in a recent longitudinal study of almost 500 inmates, Tangney et al. (2014) found that when inmates felt shame for their earlier crime then "shame had a direct negative effect on recidivism" (p. 5).

The growing body of diverse evidence that shame is linked to both pro-social and self-defensive motivation calls for a rethinking of the established view of shame.

Hence, rather than focusing on the broad concept of shame examined in most previous research, we conceptualize, measure, and examine the distinct appraisals (specific self-defect and concern for condemnation) and feelings (of felt shame, felt rejection, and felt inferiority) about moral failure that are typically embedded in the shame concept. By conceptualizing, measuring, and examining the specific appraisals and feelings embedded in the shame concept, we should be able to make better sense of its paradoxical effects. Thus, we can use specific appraisal-feeling combinations to more precisely explain what leads people to respond pro-socially to moral failure and what leads them to respond self-defensively (Gausel et al. 2012).

Appraisal-feeling combinations: A model of the experience of moral failure

Appraisal theory argues that emotions are determined in large part by the appraisals that people make of events in their lives (Lazarus 1991; for a review, see Scherer et al. 2001). At the most general level, dysphoric emotions like shame rely on appraising an event as an unwanted failure in a domain of some relevance to the self. Beyond this, more specific appraisals of what the failure suggests about the self and its relation to the environment determine the specific way that people feel about the failure and what they are motivated to do about it (Lazarus 1991). This is why understanding individuals' appraisals of an event is necessary to understand what they mean when they express their feelings with words such as "ashamed" (see Gausel 2014a; Leach 2010).

Based in appraisal theory, Gausel and Leach (2011) argued that specific *appraisal → feeling* combinations regarding moral failure help explain why people respond self-defensively or pro-socially. More specifically, they argued that whether people respond pro-socially or self-defensively to moral failure is largely determined by whether their appraisal is most focused on improving their *self*-image or salvaging their *social*-image from possible damage.

Responding pro-socially: Shame and improving self-image

There is a broad consensus that a moral failure can be appraised as an indication that the self suffers from a defect or shortcoming (for reviews, see Ferguson 2005; Gilbert and Andrews 1998; Tangney and Fischer 1995). Although early clinical theorizing assumed that failure is typically attributed to internal, global, and stable causes (Lewis 1971; for reviews, see Lewis 1992; Tangney et al. 2007), most non-clinical research shows that shame is only modestly tied to such characterological attributions for failure (e.g., Tracy and Robins 2006; for reviews, see Ferguson 2005; Tangney and Dearing 2002). Gausel and Leach (2011) therefore

argued that the appraisal of a wholly defective self should more reasonably be expected to be linked to the subjective feeling of inferiority, rather than the feeling of shame. Consistent with this, in two studies of self-reported feelings about an in-group's moral failure, Gausel et al. (2012) found feeling of inferiority and shame to be distinct.

If the feeling of shame is distinguished from the feeling of inferiority, it becomes clearer that felt shame should be tied to an appraisal that a moral failure indicates a *specific self-defect* or shortcoming in the self, rather than a global defect (see Ferguson et al. 2007). It is this appraisal of a specific self-defect that often gives rise to the feeling of shame commonly expressed through the near synonymous terms of "ashamed," "disgraced," and "humiliated" (see Schmader and Lickel 2006; Shaver et al. 1987; Tangney et al. 1996). As shame is an intense state of self-criticism (e.g., Lewis 1971; Roseman et al. 1994; Tangney and Dearing 2002; Tracy and Robins 2006), the most direct way to alleviate the self-criticism of shame is to improve the defect in the self that has been highlighted by one's failure (see also Ahmed et al. 2001; de Hooge et al. 2008; Ferguson et al. 2007). Indeed, shame is moderately to strongly associated with wanting to improve the individual self (de Hooge et al. 2010; Lickel et al. 2014; Niedenthal et al. 1994) or to improve the in-group self (Gausel and Brown 2012).

Thus, people can appraise a specific moral failure as evidence of a specific self-defect in the self. This appraisal shows concern for self-image, and thus it should be especially linked to the subjective feeling of shame as an intense state of self-criticism. As self-criticism, the feeling of shame should predict motivation to improve one's self-image by repairing the self-defect and the damage it caused, as long as such improvement is viewed as possible. This *appraisal of specific self-defect → felt shame* pathway is shown in Fig. 1. It should be most clearly observed and most predictive of pro-social motivation when the feeling of shame is distinguished from the feeling of inferiority that has often been conflated with felt shame in prior research (Gausel et al. 2012).

Responding self-defensively to risked social-image

Of course, in some instances of moral failure, one's social-image is especially at risk because there is an audience of people who can morally condemn one (Lewis 1971; Rodriguez Mosquera et al. 2002; for reviews, see Gausel 2013; Leach et al. 2014). This is why Gausel and Leach (2011) argued that a moral failure can also be appraised as raising concern about potential condemnation by others who may become aware of one's moral failure (e.g., Rodriguez Mosquera et al. 2008). Because people often use morality as a basis for judging each other (Gausel 2013; Leach et al. 2014) any failure associated with the self may do damage to

one's social-image. Due to this, Gausel and Leach (2011) placed weight on the powerful need to belong (Bowlby 1969) as key to understanding why people respond with defensiveness after failures. As others' potential disapproval is emotionally painful (for reviews on social exclusion, see Gerber and Wheeler 2009; Leary 2007), people engage in various defensive strategies to limit risks to their social-image (for reviews, see Gausel 2013; Lewis 1971; Scheff 2000).

Hence, Gausel and Leach (2011) developed Lewis's (1971) repeated references to the experience of "rejection" in her work on the shame construct to argue that the appraisal of concern for condemnation is tied to a subjective feeling of rejection (i.e., "rebuffed," "alone"). Consistent with this, research shows that concern for condemnation by others is tied to an intensely unpleasant feeling, expressed with words like "feel rejected" and "feel rebuffed" as well as "feel isolated" and "feel alone" (Gausel 2014b; Lewis 1992; Retzinger and Scheff 2000). This aspect of Lewis's (1971) work has largely gone unnoticed by most research on the complexities associated with shame. Perhaps for this reason, previous research into shame as a basis for self-defense has not considered the appraisal of concern for condemnation nor the feeling of rejection that often follow from self-relevant failures. Gausel and Leach (2011), however, have revived this aspect of Lewis (1971) analysis of the shame experience, and through this, they offered a theoretical model that explained how self-defensive and pro-social motivation can originate from the same failure.

As the feeling of rejection reflects the psychological experience of a social-image at risk, Gausel and Leach (2011) argued that felt rejection motivates effort to limit such risk through defense of one's social-image. Indeed, research shows that the feeling of rejection is linked consistently with self-defensive, as well as anti-social, responses (for reviews, see Gerber and Wheeler 2009; Leary 2007) such as blaming others for one's failure (Gausel 2014b). Thus, there is good reason to expect that an *appraisal of concern for condemnation → feeling of rejection* pathway will explain why a moral failure that puts one's social-image at risk leads to self-defensive responses such as avoidance and covering-up (see Fig. 1). As such, the feeling of rejection and its attendant appraisal of concern for condemnation should provide a more precise explanation of self-defensive responses to moral failure than the feeling of shame per se.

The present studies

At present, only one previous paper has examined the Gausel and Leach (2011) model of the experience of moral failure. Gausel et al. (2012) reported two studies examining individual differences in Norwegians' appraisals and
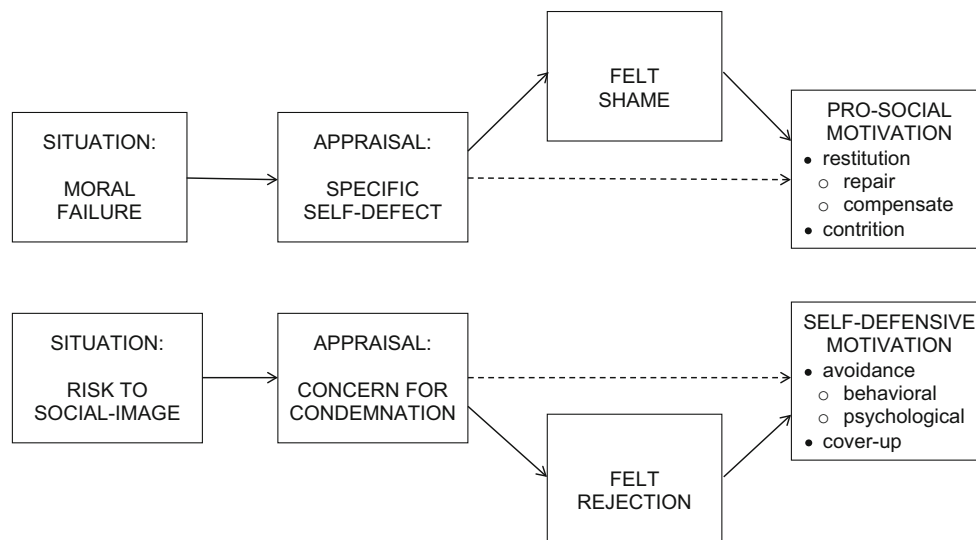
Fig. 1 Theorized pathways to pro-social and self-defensive motivations

feelings about a national moral failure. Although Gausel et al. (2012) provided valuable first evidence in support of Gausel and Leach's (2011) conceptual model, their individual differences approach focused on *who* experienced group moral failure in the particular ways specified. As far as we are aware, no research has examined the causal question of *when* a moral failure will be appraised as a self-defect and when it will be appraised as concern for condemnation. By cueing these two appraisals separately, we examine their idea that it is possible damage to social-image that leads to self-defensiveness, and that it is damage to self-image that leads to pro-sociality. Thus, we manipulated risk to social-image (Study 1 and 2) and moral failure (Study 2) in experiments on actual (Study 1) or imagined (Study 2) individual moral failures, to provide evidence for the theorized pathways shown in Fig. 1. Based in Gausel and Leach's conceptual model, we expected a *moral failure → appraisal of specific self-defect → feeling of shame* pathway to best predict pro-social responses. In contrast, we expected a *situation of moral failure with risk to social-image → appraisal of concern for condemnation → feeling of rejection* pathway to best predict self-defensive responses to moral failure.

Scale validation: Studies 1 and 2

Before examining our central hypotheses of when responses to moral failure are pro-social or self-defensive, we thought it important to demonstrate that the two appraisals (of specific self-defect and concern for condemnation) and three feelings (of felt shame, felt inferiority, and felt rejection) could be measured as distinct constructs. Thus, we adapted Gausel et al. (2012) items referring to group

moral failure to the case of individual moral failure and examined them in a CFA.

Method

Participants and procedure

The 197 participants from Study 1 and 2 that provided sufficient data for analyses (55 male, 141 female, one unspecified; $M_{age} = 26.2$, range 18–65 years) were combined to achieve a reasonable sample size for CFA. Each study is described more fully below.

Measures

Responses to the appraisal and feeling items adapted from Gausel et al. (2012) were given on a seven-point response scale that ranged from *not at all* (1) to *very much* (7). Given that Study 1 (in Norway) and Study 2 (in England) were designed in parallel, measures were translated and back-translated when they were initially developed, so as to yield highly comparable items across the two languages.

We measured the appraisal of *specific self-defect* ($\alpha = .57$)[1] with two items: "I think I am *defective* in some way" and "I think this episode expresses a *moral failure* in me." We measured an appraisal of *concern for condemnation* with three items ($\alpha = .91$): "Others might not have the same *respect for me* because of this", "I can be *rejected by others* because of what I have done" and "I think I can be *isolated from others* because of this".

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[1] Reliabilities were calculated using the pooled data with items centered around their mean within each sample, as described subsequently.

As discussed above, the emotion words "ashamed," "disgraced," and "humiliated" are very similar in meaning in English, and thus they have been included in many published measures of shame (e.g., Gausel and Brown 2012; Gausel et al. 2012; Iyer et al. 2007; Lickel et al. 2005; Tangney et al. 1996). Hence, we measured *felt shame* ($\alpha = .89$) with three items: "I *feel disgraced* thinking about this", "I *feel ashamed* thinking about what I had done", and "I *feel humiliated* reflecting on this". We assessed *felt inferiority* with two items ($\alpha = .77$): "I *feel inferior* to others reflecting on what happened" and "I *feel vulnerable* thinking about what happened" and we measured *felt rejection* with three items ($\alpha = .89$): "I *feel rejected* thinking about what happened", "I *feel alone* thinking about what happened", and "I *feel rebuffed* thinking about what happened".

Results

We used Mplus Version 6 to test our hypothesized measurement model in a CFA with maximum likelihood estimation. Missing values were handled using full information maximum likelihood estimation, avoiding the need for imputation. Following the recommendations of Hu and Bentler (1999), we assessed model fit using the Comparative Fit Index (CFI) and Standardized Root Mean Square Residual (SRMR). Based on discussions in the statistical literature (Hu and Bentler 1999; Kline 2005; Marsh et al. 2004), we considered values of CFI > .95 and SRMR < .08 to indicate a good fit and values of CFI > .90 and SRMR < .10 to indicate an acceptable fit to the data.

Measurement model

Our hypothesized measurement model is shown in Fig. 2. We expected the 13 items to load uniquely on their respective factors, measuring two distinct appraisals (specific self-defect and concern for condemnation) and three distinct feelings (of shame, rejection, and inferiority). Adopting a conservative approach, we did not allow items to cross-load on any of the latent variables, nor did we allow correlations between error terms. However, consistent with our theoretical model, the five latent factors were allowed to correlate.

Preliminary analyses established that our measurement model was supported in both samples, and that the assumption of metric invariance was tenable.[2] Hence, we

report analyses using the pooled data. To avoid confounding the item correlations with mean-level differences across the two samples, we centered the ratings of each item around their mean within each study sample (see Fischer and Fontaine 2011). Figure 2 shows the standardized solution for the pooled sample. As is common with measurement models, the Chi square was moderate in size and statistically significant: χ^2 (55) = 167.09, $p < .001$. However, values of CFI = .928 and SRMR = .056 indicated an acceptable fit to the data. As shown in Fig. 2, all items loaded strongly on their respective factors (standardized λ's $\geq .60$; all p's $< .001$), indicating that each latent variable was well defined by its items. Correlations among the five latent variables ranged from moderate (.49) to high (.80). Note that correlations among latent variables are typically higher than those among observed variables because they are not attenuated by unreliability. Our model predicts that these five factors will be closely related, but even the highest correlation in our model indicates that less than two-thirds of variance is shared between the two underlying latent dimensions.

Alternative models

Model comparisons showed the superiority of our measurement model over numerous simpler alternatives, confirming that it is necessary to distinguish all five constructs. First, our model fit better than a three-factor model where appraisal of specific self-defect and felt shame made up the first factor, concern for condemnation and felt rejection made up a second factor, and felt inferiority made a third factor, $\Delta \chi^2$ (7) = 194.14, $p < .001$. Second, our model fit better than a four-factor model where the two appraisals were combined into a single factor while leaving felt shame, inferiority and rejection as separate factors: $\Delta \chi^2$ (4) = 51.55, $p < .001$. Third, our model fit better than a three-factor model where items measuring the three feelings loaded on one omnibus emotional "shame" factor with the two appraisals as separate factors, $\Delta \chi^2$

Footnote 2 continued

predicted factors. To confirm whether it was appropriate to pool the data across the two samples, we tested for metric invariance within our measurement model by comparing two multi-group models so that we could validly compare correlational patterns across samples (Chen 2008). A first model estimating factor loadings and intercepts freely within each sample showed acceptable fit, χ^2 (110) = 257.85, $p < .001$, CFI = .914, SRMR = .073. We then computed a second model, in which we constrained the factor loadings to be equal across the two samples. If the fit of the constrained model remains acceptable, it can be preferred to the unconstrained model because it is more parsimonious, and the hypothesis of invariance can be considered tenable (e.g., Little et al. 2007). The constrained model showed an acceptable fit to the data, χ^2 (118) = 290.03, $p < .001$, CFI = .900, SRMR = .091, indicating that the assumption of metric invariance across the two samples was tenable.

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[2] Although the small sample sizes speak against a CFA, we tested our measurement model separately in the data from each study. In both samples, the model fit was acceptable (Study 1 χ^2 [55] = 130.42, $p < .001$, CFI = .901, SRMR = .086; Study 2 χ^2 [55] = 127.43, $p < .001$, CFI = .925, SRMR = .061) and all items loaded substantially (standardized λ's > .50) and significantly ($p < .001$) on their
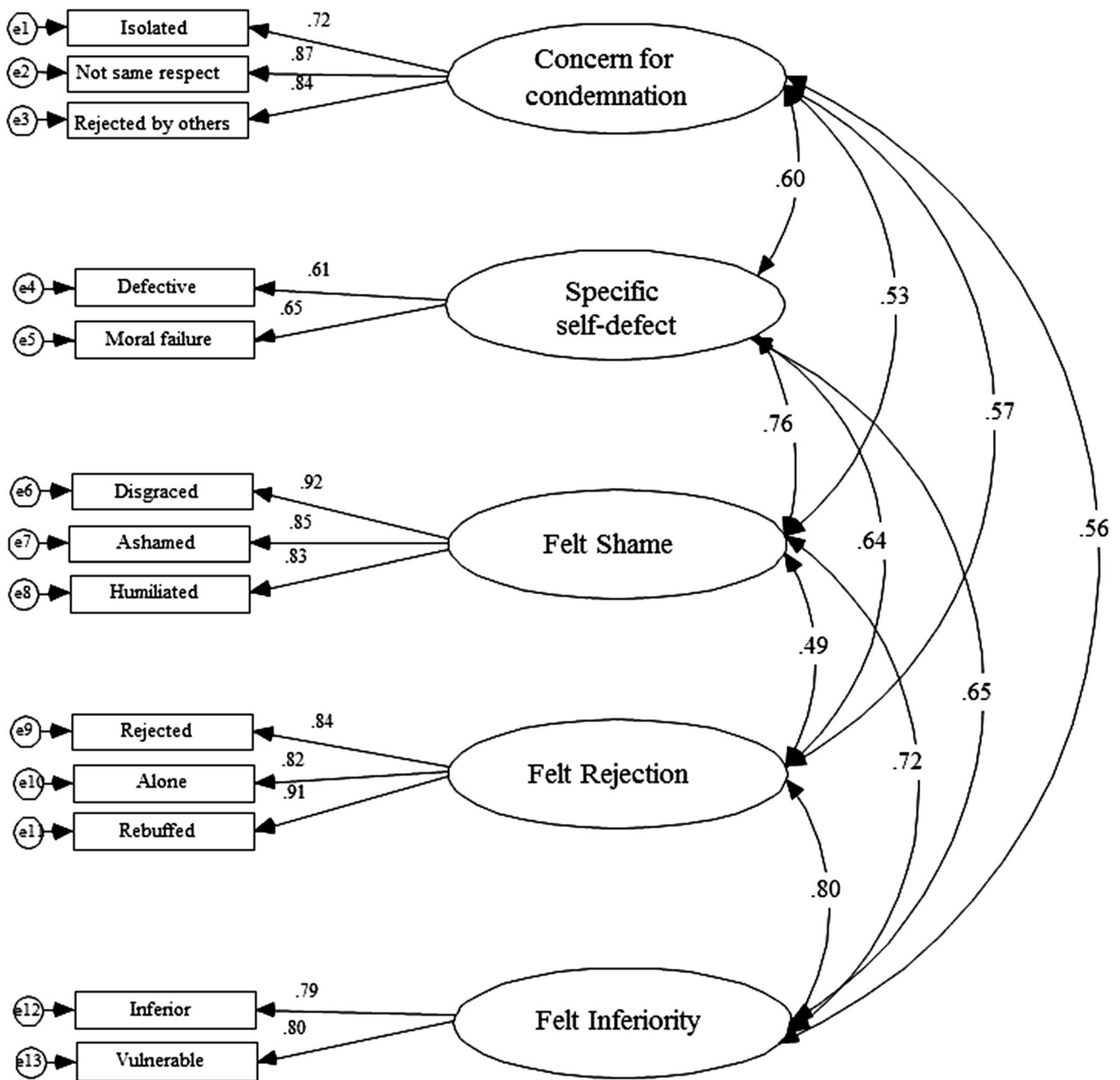
Fig. 2 Confirmatory factor analysis of measurement model, Study 1 and 2 combined. All paths shown are statistically significant ($p < .05$)

$(7) = 272.81$, $p < .001$. Fourth, our model fit better than a two-factor model where both appraisals loaded on a single "appraisals" factor and all three feelings loaded on one omnibus emotional "shame" factor: $\Delta \chi^2 (9) = 318.83$, $p < .001$. Fifth, our model proved superior to a model where all items loaded onto a single "shame" factor, $\Delta \chi^2 (10) = 422.06$, $p < .001$. As well as these theoretically motivated alternatives, we tested a series of four-factor models collapsing each possible pair of constructs into a single factor, while leaving the remaining three factors unchanged. In every case, our five-factor model provided a

better fit (all $\Delta \chi^2 (4) \geq 21.90$, all $p < .001$). All told, our hypothesized measurement model proved superior to 14 simpler alternatives.

The "ashamed" item

If felt rejection and felt inferiority were components of shame—rather than separate, but closely correlated feelings—then one would expect participants' use of the word "ashamed" to be predicted by all three feelings: in other words, that the item "ashamed" would cross-load

positively on the felt rejection and felt inferiority factors. Hence, we allowed the item that explicitly referred to "ashamed" to load on both the felt shame and felt rejection factors. This provided a minor improvement upon our hypothesized model, $\Delta \chi^2 (1) = 4.00$, $p = .046$. However, the "ashamed" item loaded negatively, rather than positively on the felt rejection factor (standardized $\lambda = -.12$, $p = .051$). In a second model, we allowed the "ashamed" item to load on both the felt shame and felt inferiority factors. This provided an improvement in fit, $\Delta \chi^2 (1) = 16.03$, $p < .001$, but the "ashamed" item loaded negatively on the felt inferiority factor (standardized $\lambda = -.44$, $p < .001$). These models provide especially clear evidence for our view of felt rejection and inferiority as *correlates* of felt shame, rather than components of a unitary shame construct. Once the correlations among these three feelings were accounted for, participants' use of the word "ashamed" was positively associated *only* with the other items in our felt shame factor. In fact, the more participants felt inferior or rejected, the *less* likely they were to describe themselves as feeling "ashamed".

"Rejected" items

Two alternative models confirmed that the two items that included the word "rejected" were uniquely associated with their hypothesized factors. A model allowing the concern for condemnation item, "I *can be* rejected by others because of what I have done", to cross-load on the felt rejection factor provided no significant improvement in model fit, $\Delta \chi^2 (1) = 1.40$, $p = .237$. Indeed, the cross-loading was small (standardized $\lambda = .09$) and non-significant ($p = .223$). Similarly, allowing the felt rejection item, "I *feel rejected* thinking about what happened", to cross-load on the concern for condemnation factor provided no significant improvement in model fit, $\Delta \chi^2 (1) = 2.11$, $p = .146$. The cross-loading was small (standardized $\lambda = .09$) and non-significant ($p = .140$). Thus, our participants were able to distinguish between an appraisal of concern of being rejected from the subjective state of *feeling* "rejected". This is important evidence of construct validity, and offers further support for our distinction between appraisals of and feelings about moral failure.

Discussion

As hypothesized, we showed that these two appraisals (of specific self-defect and concern for condemnation) and three feelings (of shame, rejection, and inferiority) were measured as distinct constructs. Our hypothesized measurement model proved superior to 14 different alterna-

tives. Moreover, several fine-grained tests of the performance of individual items showed that these items behaved in accordance with our theoretical model

Where fewer items are used to assess the appraisals and feelings relevant to the experience of moral failure, and measurement models are not specified and compared, it is likely that one will not adequately distinguish the related appraisals and feelings that are part of the experience of moral failure. This is why our construct validation was an important first step. By distinguishing appraisals and feelings about moral failure, we are better able to examine when moral failure leads to pro-social motivation and when it leads to self-defensive motivation.

Study 1

Study 1 was designed to examine experimentally when moral failure is experienced in a way that leads to self-defensive versus pro-social motivation. Based in the predicted pathways shown in Fig. 1, we aimed to show that experimentally establishing a risk to participants' social-image would lead them to appraise a moral failure as raising a concern for condemnation by others. As such, manipulating risk to social-image should lead to greater motivation to avoid moral failure, via an *appraisal of concern for condemnation → felt rejection* mediation pathway. In other words, self-defensive motivation regarding moral failure should be explained by efforts to protect one's social-image from damage. In contrast, experimentally establishing a risk to participants' social-image should *not* affect participants' appraisal of a specific defect. Thus, risk to social-image should not affect felt shame or the pro-social motivation that should be predicted by felt shame about a specific moral defect.

Method

Participants

Eighty-five participants (18 male, 67 female; $M_{age} = 31.5$, range 19–65 years) from southern Norway participated in the study. Through kind permission from several managers, we were allowed to recruit participants in libraries and other public buildings, universities, and private companies. All participants volunteered and did not receive compensation. Four additional participants (1 in the *moral failure* condition and 3 in the *moral failure with risk to social-image* condition) are disregarded here, because they provided their demographics but did not respond to the rest of the questionnaire.

Procedure and design

Participants were asked to take part in a study on "social emotions." They were randomized and tested in small groups ranging from 5 to 11 and were encouraged not to talk during the experiment. Each participant was handed 2 sealed envelopes. In the first envelope there was a short questionnaire encouraging participants to think about and then describe and write down a recent instance when they had mistreated a family member. When all participants had finished writing down their story and handed the first envelope back to the experimenter, they were told to open the second envelope. This contained the experimental manipulation[3] on the cover-page, followed by a questionnaire that included the measures described below.

In the *moral failure* condition ($N = 44$) the cover page for the materials in the second envelope read: "Thank you for completing the first part of the questionnaire. At the end of the session, a random selection of the stories will be read out as illustrative examples. However, your story is not one of those selected." Thus, in this condition, participants relived a moral failure but they had no reason to think that their social-image was at risk because their moral failure remained private.

In the *moral failure with risk to social-image* condition ($N = 41$), the cover page for the materials in the second envelope read: "Thank you for completing the first part of the questionnaire. At the end of the session, a random selection of the stories will be read out as illustrative examples. Your story is one of those selected. However, please note that you will not be identified as the author of this story." Thus, the manipulation lead participants to anticipate being scrutinized by the others in the room, who would naturally look at each individual for signs of culpability as their moral failure was read out. In this way, the manipulation clearly put participants' social-image at risk.

At the end of the study, participants were informed that their responses were completely anonymous and that no

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[3] In our original study design, a further forty-three participants were assigned to a *moral failure with damage to social-image* condition. The instructions here were identical to those of the *moral failure with risk to social-image* condition, except that participants were told that their story had been selected to be read to the group and that they would be identified. Thus, social-image was clearly going to be damaged in this condition, rather than risked. This strong threat appeared to lead to reactance, whereby participants gave very low average ratings on all of our measures. Moreover, six participants (i.e. 14 % of this condition) left the study before completing the substantive measures. Given our uncertainty about the validity of participants' responses, as well as the threat to internal validity posed by the high drop-out rate, we decided not to analyze the *moral failure with damage to social-image* control condition. Note that this condition does not relate directly to our theoretical predictions, which focus on how people respond to *risks* to their social image, rather than certain damage.

stories would be read out. They were very thoroughly debriefed and given the option to contact the experimenter for further conversation. Thus, great care was taken with the participants.

Measures

Following the experimental manipulation, all participants answered a series of questions with response scales ranging from 1 (*not at all*) to 7 (*very much*), which included the following:

In order to assure that participants perceived their moral failure as equally wrong across conditions, we used a four-item scale to measure the perceived *severity of moral failure* ($\alpha = .92$): "What I did in that situation was wrong", "My behavior in that situation was questionable", "My actions in that situation were not good" and "What I did was bad".

Appraisal of specific self-defect ($\alpha = .53$), appraisal of concern for condemnation ($\alpha = .82$), felt shame ($\alpha = .92$), felt inferiority ($\alpha = .68$), and felt rejection ($\alpha = .93$) were measured as described in the scale validation section. Table 1 presents the descriptive statistics of each measure along with their inter-correlations.

Pro-social Motivation: Restitution ($\alpha = .77$) was measured with two items: "I will try to repair some of the damage I have caused" and "I feel I should compensate my family member for what has happened".

Self-defensive Motivation: Avoidance ($\alpha = .62$) was measured with five items closely adapted from those used by Gausel et al. (2012) regarding an in-group moral failure. The five items referred to behavioral forms of avoidance ("If I could I would like to avoid meeting people who know what I did", "I would rather not get mixed in discussions about what I did", and "I would not mind talking about what I did" [reversed]) as well as psychological forms of avoidance ("If I met my family member I would think of something else than what I did", and "I would like to forget about what I did and everything that happened").

Results

Participants reported a variety of moral failures, including lying, stealing, and acting unfairly. On average, they judged their moral failures to be moderately wrong. Consistent with this, participants tended to report moderate felt shame. Importantly, participants judged their moral failure to be equally wrong in the *moral failure* (M = 4.95, SD = 1.89) and *moral failure with risk to social-image* (M = 4.62, SD = 1.63) conditions, $F (1, 83) = .78$, $p = .380$, $\eta_{partial}^2 = .01$. However, preliminary analyses revealed a marginal difference in the gender ratio across conditions, $\chi^2 (1) = 3.26$, $p = .071$. Hence, we controlled

Table 1 Means and standard deviations across conditions, and zero-order correlations, Study 1

Variable	Moral failure		Moral failure with risk to social-image		Zero-order correlations						
	M	SD	M	SD	1	2	3	4	5	6	7
1. Specific self-defect	3.22	1.51	3.35	1.57	–						
2. Concern for condemnation	1.57	.76	2.03	1.26	.52	–					
3. Felt shame	3.83	1.75	3.46	1.83	.33	.30	–				
4. Felt rejection	1.93	1.45	2.07	1.36	.37	.63	.25	–			
5. Felt inferiority	2.38	1.54	2.35	1.42	.32	.56	.49	.53	–		
6. Restitution motivation	4.70	2.03	4.17	1.79	.08	.11	.48	.20	.40	–	
7. Avoidance motivation	2.54	1.15	3.29	1.24	.31	.54	.26	.48	.43	.19	

Listwise $N = 82$. Scale range = 1 (not at all) to 7 (very much)

for gender in all analyses. Degrees of freedom differ slightly across statistical tests owing to missing data.

We asked three people in the same age group who were unaware of our hypotheses, to rate the stories using the same severity items that participants completed (α's for each rater ranged from .94 to .97; inter-rater $\alpha = .71$). Raters' judgments of severity in the *moral failure* condition ($M = 4.80$, $SD = 1.49$) and in the *moral failure with risk to social-image* condition ($M = 5.24$, $SD = 1.06$) did not differ significantly from participants' judgments. A 2(-condition) × 2(perspective: participant versus rater) ANOVA showed non-significant effects of condition, F (1, 83) = .04, $p = .846$, $\eta^2_{partial} < .01$, perspective, F (1, 83) = .79, $p = .377$, $\eta^2_{partial} = .01$, and the condition × perspective interaction, F (1, 83) = 3.06, $p = .084$, $\eta^2_{partial} = .04$.

Experimental effects of risk to social-image

Table 1 reports means in each condition. We predicted that the experimental manipulation would increase the appraisal of concern for condemnation, feelings of rejection, and avoidance motivation. A MANCOVA on these three variables, controlling for gender, showed a significant multivariate effect, F (3, 78) = 4.08, $p = .010$, $\eta^2_{partial} = .14$. Separate ANCOVAs on each measure confirmed that our manipulation of risk to social-image significantly increased appraisals of concern for condemnation, F (1, 82) = 4.10, $p = .046$, $\eta^2_{partial} = .05$, as well as avoidance motivation, F (1, 81) = 7.45, $p = .008$, $\eta^2_{partial} = .08$. However, we found no significant effect on felt rejection, F (1, 80) = .07, $p = .795$, $\eta^2_{partial} < .01$. Gender showed no significant effects.

In contrast, we did not expect our manipulation of risk to social-image to affect the appraisal of specific defect, feelings of shame and inferiority, or restitution motivation. Consistent with this, a MANCOVA on these four variables, controlling for effects of gender, showed a non-significant

multivariate effect, F (4, 77) = .76, $p = .557$, $\eta^2_{partial} = .04$. None of the individual effects was statistically significant: Specific self-defect F (1, 82) = .39, $p = .536$, $\eta^2_{partial} < .01$; felt shame F (1, 81) = 1.65, $p = .202$, $\eta^2_{partial} = .02$; felt inferiority F (1, 80) = .09, $p = .771$, $\eta^2_{partial} < .01$; restitution motivation, F (1, 80) = 1.78, $p = .186$, $\eta^2_{partial} = .02$. Again, gender showed no significant effects. Thus, neither the appraisal of specific self-defect nor the feeling of shame could account for the self-defensive motivation caused by our manipulation of risk to social-image.

Mediation of self-defensive motivation

Following the recommendations of MacKinnon et al. (2007) and Shrout and Bolger (2002), we conducted a formal mediation analysis to examine our predictions regarding why a moral failure with risk to social-image causes avoidance motivation (see Fig. 3). Using Mplus Version 6 (Muthén and Muthén 1998–2010), we calculated bootstrapped estimates (10,000 resamples) of the standardized point estimates (SPE) and confidence intervals (CI) for the theoretically important direct and indirect paths within the model. We controlled for effects of gender on all three measured variables: Females were more avoidant than males (SPE = .156, $p = .015$, 95 % CI .030, .281), whereas gender differences in concern for condemnation and felt rejection were not significant.

As shown in Fig. 3, all theorized paths were statistically significant. Bootstrapped indirect effect estimates confirmed the presence of a significant indirect effect of our manipulation of risk to social-image through concern for condemnation on felt rejection, SPE = .140, $p = .041$, 95 % CI .006, .275, and a marginally significant indirect effect of our manipulation through concern for condemnation (and partially through felt rejection) on avoidance motivation, SPE = .104, $p = .069$, 95 % CI −.008, .216
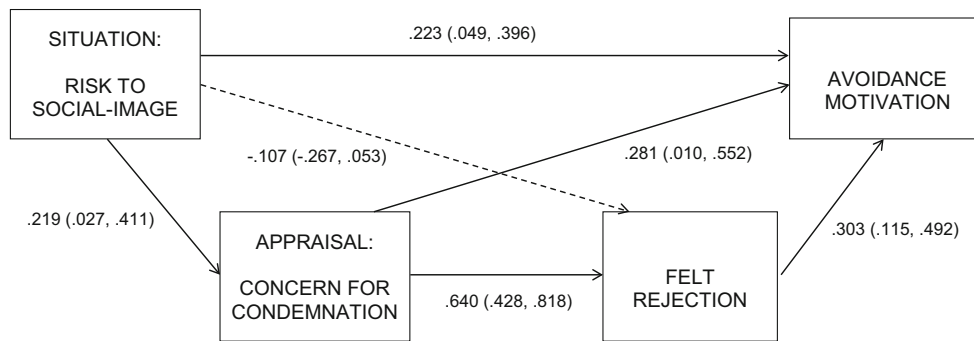
Fig. 3 Standardized point estimates (with bootstrapped 95 % confidence intervals) for paths from structural equation model predicting avoidance, Study 1. Significant paths ($p < .05$) are shown with *solid lines*; non-significant paths are shown with *dashed lines*. Effects of gender are not shown for greater clarity

(90 % CI .010, .198). In addition, the manipulation had a significant direct effect on avoidance motivation (SPE = .223, $p = .012$, 95 % CI .049, .396). Thus, concern for condemnation and felt rejection appeared to partially mediate the effect of risk to social-image on avoidance motivation.

Could shame appear self-defensive?

In contrast to the present finding that concern for condemnation and felt rejection explain why moral failure with risk to social-image causes self-defensive motivation, prior research has often shown shame to be linked to such self-defensive motivation. Thus, we used hierarchical Multiple Regression to examine whether felt shame might *appear* to explain self-defensive motivations if felt rejection and felt inferiority were not accounted for. Results are summarized in Table 2. As shown in Step 2 of the analysis, felt shame appeared to predict avoidance motivation independent of gender and the manipulation of risk to social-image. Indeed, felt shame appeared to explain a significant amount of additional variance, $\Delta F (1, 79) = 9.13$, $p = .003$, $\Delta R^2 = 9.2$ %. However, consistent with our mediation findings above, felt shame did not reduce the experimental effect on avoidance motivation and thus could not account for this effect.

More importantly, the link between felt shame and avoidance motivation was shown to be more apparent than real in Step 3 of the analysis, which included as predictors felt rejection and felt inferiority and the appraisals of specific self-defect and concern for condemnation, $\Delta F (4, 75) = 7.45$, $p < .001$, $\Delta R^2 = 22.7$ %. In Step 3, when all of the specific appraisals and feelings about moral failure were distinguished from felt shame, felt shame did not predict avoidance. Avoidance motivation was predicted significantly by felt rejection ($\beta = .24$, $p = .044$) and marginally by the appraisal of concern for condemnation ($\beta = .25$, $p = .066$). This suggests that felt shame only appeared to predict avoidance motivation because it was

Table 2 Summary of hierarchical regression models predicting avoidance, Study 1

Predictors	Step 1		Step 2		Step 3	
	β	*p*	β	*p*	β	*p*
Control variable						
Gender	.13	.224	.16	.116	.18	.051
Context (manipulated)						
Risk to social-image	.32	.004	.36	.001	.28	.004
Feelings						
Felt shame			.31	.003	.11	.297
Felt rejection					.24	.044
Felt inferiority					.12	.342
Appraisals						
Specific self-defect					−.01	.945
Concern for condemnation					.25	.066
R^2	10.8 %		20.0 %		42.8 %	

correlated with the more directly relevant predictors, concern for condemnation and felt rejection.[4]

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[4] Further analysis showed that felt shame was a unique predictor of the pro-social motivation to make restitution even when controlling for felt guilt. We conducted a hierarchical Multiple Regression analysis predicting restitution, rather than avoidance. To ensure that the pro-social effects of felt shame were not in fact attributable to guilt (cf. Tangney and Dearing 2002), we additionally included a measure of felt guilt ($\alpha = .80$: "I feel guilty because of this", "I feel responsible because of this", "I feel guilty when I think about what I did towards my family member"). In Step 1, we controlled for gender and risk to social-image. In Step 2, felt shame significantly predicted restitution ($\beta = .47$, $p < .001$) and explained a substantial amount of additional variance, $\Delta F (1, 78) = 22.09$, $p < .001$, $\Delta R^2 = 21.5$ %. In Step 3, felt guilt did not explain significant additional variance, $\Delta F (1, 77) = 1.83$, $p = .180$, $\Delta R^2 = 1.8$ %, and felt shame remained a significant predictor of restitution ($\beta = .35$, $p = .009$), whereas felt guilt was not ($\beta = .18$, $p = .180$). In Step 4, felt rejection, felt inferiority, and appraisals of individual defect and concern for condemnation did not explain significant additional variance, $\Delta F (4, 73) = 1.81$, $p = .135$, $\Delta R^2 = 6.7$ %, whereas felt shame remained a significant predictor of restitution ($\beta = .28$, $p = .044$).

Discussion

As expected, the appraisal of a specific self-defect, feeling of shame, and pro-social motivation were not affected by our manipulation of risk to social-image. Instead, a moral failure with risk to social-image led to the appraisal of concern for condemnation and motivation to avoid the moral failure. The *appraisal of concern for condemnation → felt rejection* pathway partially explained why this risk to social-image led to greater avoidance motivation.

This study also showed that if felt shame was not distinguished from the appraisals of specific self-defect and concern for condemnation and feelings of rejection and inferiority, felt shame would have predicted avoidance motivation. However, once these related feelings and appraisals were distinguished empirically, the appraisal of concern for condemnation and associated feeling of rejection predicted the motivation to avoid moral failure, whereas felt shame did not. These results suggest that the oft-observed link between shame and avoidance motivation is more apparent than real. The avoidance that is routinely attributed to "shame" should be attributed more precisely to an appraisal of concern for condemnation and associated feelings of rejection that result from a moral failure that puts one's social-image at risk.

One limitation of Study 1 is that we held moral failure constant. To provide experimental evidence that it is a moral failure that leads to the appraisal of a specific self-defect and thus felt shame, we needed to manipulate moral failure. Thus, Study 2 used a vignette method to offer a fuller experimental design. Study 2 also built on Study 1 by expanding our measurement of pro-social and self-defensive motivation: Using a somewhat larger sample, we were able to use a set of pro-social and self-defensive responses to define latent variables of underlying pro-social and self-defensive motivations. Additionally, in Study 1, the hurt family member was very unlikely to have been among those to whom the misdeed might be exposed in our manipulation of risk to social image. In Study 2, we extended our findings by testing whether the effects of risk to social image would generalize to a situation where the wronged person was explicitly among those who might find out about the misdeed. Finally, Study 1 was conducted in Norwegian, whereas a majority of the research on moral failure has been conducted in English. Thus, to ensure that our findings were not driven by some idiosyncrasy of Norwegian semantics, we conducted Study 2 in an English-speaking country with English-speaking participants.

Study 2

Rather than asking participants to recall an instance of moral failure, in Study 2 we asked participants to imagine themselves in a single scenario whose features we

manipulated. By having participants imagine either *almost* or *actually* breaking a friend's confidence by revealing their secret, we manipulated the presence of a moral failure. We manipulated the risk to social-image by altering the extent to which the breach of confidence was likely to become known by others. We chose this particular interpersonal breach because honesty and trustworthiness are key aspects of morality (e.g., Leach et al. 2007; for a review, see Leach et al. 2014), and revealing secrets appeared to be a vivid and realistic example of a moral failure for the participants. Based on our conceptual model (see Fig. 1), we expected moral failure to lead to an appraisal of a specific self-defect. This appraisal should predict the feeling of shame and thus the pro-social motivation of contrition and restitution. In contrast, we expected risk to social-image to lead to an appraisal of concern for condemnation. This appraisal should predict the feeling of rejection and thus the self-defensive motivation to avoid and cover-up the moral failure.

Method

Participants

112 university students (38 male, 74 female; $M_{age} = 22.4$, range 18–44 years) from the south east of the United Kingdom volunteered to participate in a study on social emotions when approached in the campus library.

Procedure and design

The randomized participants were given a 54-word story and were asked to imagine themselves as the protagonist: "You know a secret about one of your best friends. They just had to share it with you as it was torturing them. The information that they shared came as a total surprise to you and you could never have imagined what you just heard. You promised not to let anyone know as the secret was extremely personal."

In the *near moral failure* control condition (N = 37) the story went on to say that the participant almost told the secret to someone else, but managed to keep the secret in the end. In the *clear moral failure* condition (N = 37) the story went on to say that the participant told the secret to someone else, but that they were "100 % sure" that this other person did not know their friend and did not know anyone that could know their friend. Moreover, participants were told that the person to whom they told the secret could not discern whose secret it was. Hence, it was clear that there was little chance that the participant's moral failure posed any risk to their social-image. In the *clear moral failure with risk to social-image* condition (N = 38) the story went on to say that the participant told the secret

to someone else and that they were "100 % sure" this other person knew their friend and understood whose secret it was. Participants were also told that they were sure that the person to whom they told the secret knew other people connected with the teller of the secret. Thus, in this condition, it was likely that the participants' moral failure would become known to their friend and to several others at least. As such, in this condition, participants' moral failures posed a serious risk to their social-image in the eyes of important others, which we expected to lead to attempts at self-defensive avoidance and cover-up so that this risk could be minimized.

Our original design also included a fourth condition where the moral failure occurred, but the presence or absence of a risk to social-image was ambiguous, because "You are unsure whether this other person understood who you were talking about and whether they know your friend" (N = 37). However, we focus our analyses on the three conditions that provide the cleanest test of our predictions, providing unambiguous information about the absence of presence of a moral failure (1 vs. 2,3) and of a risk to social image (1, 2 vs. 3).

All participants included in this study indicated that the keeping of the secret was a serious issue and correctly indicated whether anyone could find out if the protagonist did or did not tell the secret. Nine potential further participants were excluded as they provided their demographics but withdrew from the study before being reaching the manipulation. Participants were presented with a series of questions, including those described below, accompanied by response scales ranging from 1 (*not at all*) to 7 (*very much*). When completed, participants were thanked and debriefed.

Measures

Appraisals of specific self-defect (α = .60) and concern for condemnation (α = .86), as well as feelings of shame (α = .88), inferiority (α = .82), and rejection (α = .86), were measured as in Study 1. Table 3 presents the descriptive statistics of each measure along with their inter-correlations.

Pro-social motivation was measured using three indicators. Items based on our previous measure of desire for restitution were divided into two indicators, which we called *desire to repair the damage* (one item: "I would try to repair some of the damage I have caused my friend") and *desire to compensate the victim* (two items, α = .65: "I would feel I should compensate my friend for what has happened" and "I feel I should compensate my friend (e.g. offer emotional support)"). The third indicator, *desire to communicate contrition*, was measured using three items (α = .91) adapted from Gausel et al. (2012): "If I could I would like to tell my friend how sorry I feel," "It would be important that my friend knew that I felt bad about this," and "I would like to express my concerns to my friend".

Self-defensive motivation was measured using three indicators. *Behavioral avoidance* was measured with two items (α = .43): "If I could I would like to avoid meeting my friend" and "I would rather not get mixed into discussions about what I did". *Psychological avoidance* was measured with two items (α = .51): "If I met my friend, I would think of something else than what I did" and "I would like to forget about what I did and everything that happened". *Desire to cover up the misdeed* was adapted from Gausel et al. (2012; see also Allpress et al. 2014) and it assessed the motivation to direct attention away from one's immorality. It was measured with two items (α = .55): "I think I would make it less clear to others what has happened" and "I think I would be aware of the information I shared with others".

A CFA with separate pro-social and self-defensive latent factors showed acceptable model fit, χ^2 (8) = 20.198, $p = .010$, CFI = .955, SRMR = .086, and all six indicators loaded strongly on their respective factors (standardized λ's, .55 all $p < .001$), indicating that each latent variable was well defined by its indicators. For ANCOVA and regression analyses, we created composite scores by averaging the three indicators of each motivation. The pro-social motivation composite score showed excellent reliability (α = .89, based on the three indicators), and the self-defensive motivation composite score showed good reliability (α = .72, based on the three indicators). Hence, the low scale reliabilities of the individual motivation indicators are of little concern, because these measures were either used as indicators of latent variables in our mediation models, or they were combined into composite measures that had good reliability. Although our sample size was relatively small by conventional standards for modeling latent variables, Boomsma (1982) proposes that samples of 100 or more are sufficient for models with 3 or 4 indicators per factor. Here, we used three indicators for each latent variable, ensuring that each factor was just-identified locally. We encountered no problems in estimation.

Results

We found no significant gender difference across Study 2 conditions, χ^2 (2) = 1.18, $p = .554$; however, analyses revealed significant gender differences on several measured variables (described below). Hence, both for consistency with our Study 1 analyses and to ensure that gender differences did not confound the correlational relationships among these measures, we controlled for gender in all analyses. Nonetheless, parallel analyses without controlling for gender yielded a substantively

Table 3 Means and Standard Deviations across conditions, and zero-order correlations, Study 2

Variable	Near moral failure		Clear moral failure		Clear moral failure with risk to social-image		Zero-order correlations												
	M	SD	M	SD	M	SD	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Specific self-defect	3.19	1.26	4.47	1.33	4.86	1.22	–												
2. Concern for condemnation	3.65	1.77	3.96	1.26	5.19	1.12	.38	–											
3. Felt shame	2.97	1.47	3.94	1.52	4.68	1.59	.69	.60	–										
4. Felt rejection	2.28	1.12	2.82	1.37	3.73	1.57	.48	.47	.60	–									
5. Felt inferiority	2.51	1.40	2.97	1.68	3.55	1.74	.49	.44	.69	.76	–								
6. Repair	5.53	1.58	5.81	1.29	6.29	1.18	.18	.29	.33	.22	.14	–							
7. Compensate	4.69	1.44	5.15	1.32	5.99	1.07	.41	.41	.56	.36	.38	.74	–						
8. Contrition	5.09	1.82	5.74	1.39	6.32	1.05	.35	.42	.49	.32	.28	.70	.75	–					
9. Behavioral Avoidance	3.39	1.55	3.39	1.30	3.76	1.43	.30	.43	.37	.29	.39	.10	.18	.17	–				
10. Psychological Avoidance	3.82	1.67	3.88	1.40	4.20	1.50	.20	.36	.31	.29	.23	.02	.05	.10	.57	–			
11. Cover-up	4.46	1.43	4.34	1.33	5.07	1.28	.25	.35	.41	.38	.32	.39	.32	.36	.37	.42	–		
12. Pro-social motivation	5.10	1.47	5.57	1.20	6.20	0.96	.36	.42	.52	.33	.30	.90	.91	.91	.18	.06	.38	–	
13. Self-defensive motivation	3.89	1.31	3.87	1.05	4.34	1.07	.31	.47	.45	.40	.39	.20	.23	.26	.81	.83	.74	.25	–

Listwise $N = 111$. Scale range = 1 (not at all) to 7 (very much)

identical pattern of findings for all hypothesized effects and pathways.

Experimental effects of risk to social-image

Means of all measures in the three experimental conditions are shown in Table 3. To test the predicted effects of risk to social-image on the appraisal of concern for condemnation, feelings of rejection, and self-defensive motivation, we ran a MANCOVA on these variables, controlling for gender, with reverse-Helmert planned contrasts. The MANCOVA revealed a significant multivariate effect of condition, Pillai's Trace = .266, $F(6, 214) = 5.48$, $p < .001$, $\eta_{partial}^2 = .13$, and no effect of gender, Pillai's Trace = .030, $F(3, 106) = 1.08$, $p = .360$, $\eta_{partial}^2 = .03$.

Tests of planned contrasts supported our predictions. Our focal contrast compared the moral failure with risk to social image condition against the two conditions without risk to social-image. This contrast proved significant for the appraisal of concern for condemnation (Contrast Estimate:

$CE = 1.44$, $SE = .28$, $p < .001$), felt rejection ($CE = 1.19$, $SE = .27$, $p < .001$), and self-defensive motivation ($CE = .46$, $SE = .23$, $p = .045$). The means of all three variables were higher in the moral failure with risk to social-image condition than in the other two conditions (see Table 3). An orthogonal (non-focal) contrast tested differences between the two conditions without risk to social-image. As expected, this contrast showed no significant effects on any of these three variables (all $p \geq .137$). Thus, supporting our experimental procedure, the target appraisal of concern for condemnation was increased significantly by our manipulation of risk to social-image, but was not significantly influenced by our manipulation of moral failure.

Mediation model predicting self-defensive motivation

We conducted a bootstrap mediation analysis using Mplus Version 6 to test our theorized mediation model (see Fig. 4). We created two variables to represent the planned

contrasts tested above: a focal contrast representing risk to social-image (coded $-1, -1, 2$) and a non-focal orthogonal contrast (coded $-1, 1, 0$). In this model, we controlled for effects of the non-focal contrast and gender.

The model showed an excellent fit to the data: $\chi^2 (10) = 9.364$, $p = .498$, CFI $= 1.000$, SRMR $= .033$. As shown in Fig. 4, all theorized paths were significant. No direct or indirect effects involving the orthogonal contrast or gender were significant (all $p \geq .180$). Bootstrapped indirect effect estimates confirmed the presence of a significant indirect effect of our manipulation of risk to social-image through concern for condemnation on felt rejection, SPE $= .153$, $p = .001$, 95 % CI .062, .244, and a significant indirect effect of our manipulation through concern for condemnation (and partially through felt rejection) on avoidance motivation, SPE $= .254$, $p < .001$, 95 % CI .120, .389. Unlike in Study 1, we also found a direct effect of our manipulation on felt rejection. Nevertheless, the unpredicted *risk to social-image → felt rejection → self-defensive motivation* path did not reach significance (SPE $= .062$, $p = .157$, 95 % CI $-.024$, .148). Together with the significant indirect paths, the non-significant direct effect of risk to social image on self-defensive motivation (SPE $= -.111$, $p = .367$, 95 % CI $-.351$, .130) suggested that the effect of risk to social-image on self-defensive motivation was largely—and perhaps fully—mediated by the appraisal of concern for condemnation and the feeling of rejection.

Experimental effects of moral failure

To test the predicted effects of moral failure on the appraisal of specific self-defect, felt shame, and pro-social motivation, we ran a MANCOVA on these variables, testing the effects of our three experimental conditions with Helmert planned contrasts, while controlling for gender. The MANCOVA revealed significant multivariate effects of condition, Pillai's Trace $= .322$, $F (6, 214) = 6.84$, $p < .001$, $\eta^2_{partial} = .16$, and gender, Pillai's Trace $= .088$, $F (3, 106) = 3.40$, $p = .021$, $\eta^2_{partial} = .09$. Female participants reported higher felt shame, $F (1, 108) = 7.01$, $p = .009$, $\eta^2_{partial} = .06$, and pro-social motivation, $F (1, 108) = 7.38$, $p = .008$, $\eta^2_{partial} = .06$, but there was no significant gender difference in the appraisal of individual defect, $F (1, 108) = 1.81$, $p = .182$, $\eta^2_{partial} = .02$.

Tests of planned contrasts supported our predictions. Our focal contrast compared the two conditions with clear moral failure against the near moral failure control condition. This contrast showed the predicted effects on appraisal of specific self-defect (Contrast Estimate [CE] $= 1.51$, SE $= .26$, $p < .001$), felt shame (CE $= 1.34$, SE $= .30$, $p < .001$), and pro-social motivation (CE $= .77$, SE $= .24$, $p = .002$). An orthogonal (non-focal) contrast tested differences between the two conditions involving clear moral failure. Unexpectedly, this contrast showed that felt shame (CE $= .82$, SE $= .35$, $p = .020$), and pro-social motivation (CE $= .70$, SE $= .28$, $p = .013$), were
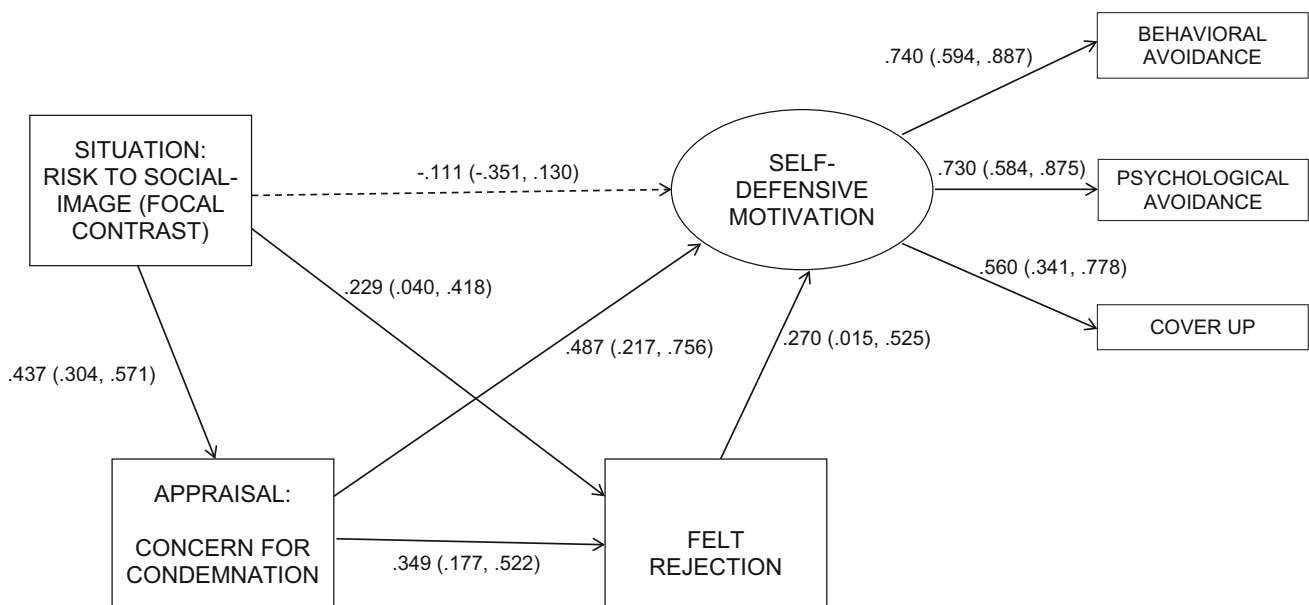

Fig. 4 Standardized point estimates (with bootstrapped 95 % confidence intervals) for paths from structural equation model predicting self-defensive motivation, Study 2. Significant paths ($p < .05$) are shown with *solid lines*; non-significant paths are shown with *dashed lines*. For greater clarity, effects of the orthogonal contrast, gender, and error variances are not shown

somewhat higher in the condition with risk to social-image (see Table 3). Crucially, however, there was no significant difference between these two conditions in the appraisal of specific self-defect (CE = .42, SE = .30, p = .155). Thus, supporting the validity of our experimental procedure, the target appraisal of specific self-defect was increased significantly by our manipulation of moral failure, but not by our manipulation of risk to social-image.

Mediation model predicting pro-social motivation

We conducted a bootstrap mediation analysis using Mplus Version 6 to test our proposed mediation model (see Fig. 5). We created two variables to represent the planned contrasts tested above: a focal contrast representing moral failure (coded −2, 1, 1) and a non-focal orthogonal contrast (coded 0, −1, 1). In addition, we controlled for effects of the non-focal orthogonal contrast and gender.

The model showed an excellent fit to the data: χ^2 (10) = 15.751, p = .107, CFI = .983, SRMR = .034. As shown in Fig. 5, all theorized paths were significant. Bootstrapped indirect effect estimates confirmed the presence of a significant indirect effect of our manipulation of moral failure through specific self-defect on felt shame, SPE = .301, p < .001, 95 % CI .187, .416, and a significant indirect effect of our manipulation through specific self-defect (and felt shame) on pro-social motivation, SPE = .126, p = .022, 95 % CI .018, .234. Together with these significant indirect

paths, the non-significant direct effect of moral failure on pro-social motivation (SPE = .143, p = .110, 95 % CI −.032, .318) suggested that the effect of moral failure on pro-social motivation was largely mediated by the appraisal of specific self-defect and felt shame.

The model also showed a significant effect of gender on felt shame (SPE = .155, p = .020, 95 % CI .024, .286), resulting in a significant indirect path: *gender → felt shame → pro-social motivation* (SPE = .073, p = .025, 95 % CI .009, .137). Reflecting the MANCOVA results, the orthogonal contrast significantly predicted pro-social motivation (SPE = .168, p = .025, 95 % CI .022, .314) but only marginally predicted felt shame (SPE = .126, p = .071, 95 % CI −.011, .262).

Could shame appear self-defensive?

As in Study 1, we conducted hierarchical Multiple Regression analyses to examine how felt shame can appear to be self-defensive when the other feelings and appraisals are not accounted for. Results are summarized in Table 4.

Self-defensive motivation

After accounting for gender and the planned contrasts representing our manipulation of risk to social image in Step 1, felt shame was a significant predictor of greater self-defensive motivation in Step 2, ΔF (1, 107) = 26.08,
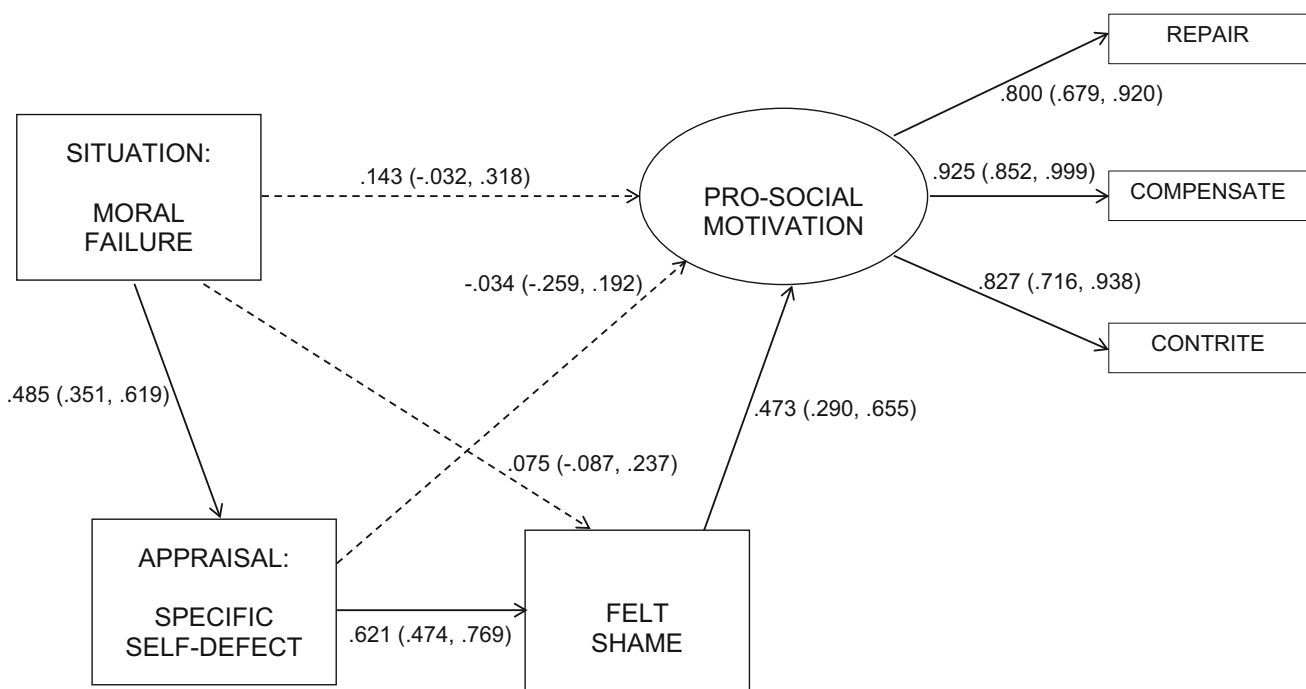

Fig. 5 Standardized point estimates (with bootstrapped 95 % confidence intervals) for paths from structural equation model predicting pro-social motivation, Study 2. Significant paths (p < .05) are shown with *solid lines*; non-significant paths are shown with *dashed lines*. For greater clarity, effects of the orthogonal contrast and error variances are not shown

$p < .001$, $\Delta R^2 = 18.9$ %. However, as we found in Study 1, including the other appraisals and feelings in Step 3 eliminated the apparent self-defensiveness of felt shame. Thus, in Step 3, the increased self-defensive motivation caused by the risk to participants' social image was significantly predicted only by the appraisal of concern for condemnation ($\beta = .31$, $p = .005$), ΔF (4, 103) = 3.03, $p = .021$, $\Delta R^2 = 8.1$ %.

Pro-Social Motivation

After accounting for gender and the planned contrasts representing the manipulation of moral failure in Step 1, felt shame was a significant predictor of pro-social motivation in Step 2, ΔF (1, 107) = 19.75, $p < .001$, $\Delta R^2 = 12.7$ %. Including the other appraisals and feelings in Step 3 provided no further improvement over Step 2, ΔF (4, 103) = .82, $p = .518$, $\Delta R^2 = 2.1$ %. Crucially, when controlling for these related feelings and appraisals, felt shame remained a significant predictor of pro-social motivation—indeed, its effect size remained undiminished. Thus, felt shame was only pro-social in this study. Felt shame only appeared to be self-defensive as well when the appraisals and feelings tied to risk to social-image were not accounted for.

Discussion

Study 2 corroborated the findings of Study 1 in at least three important ways. First, as in Study 1, the pathway to self-defensive motivation was initiated by a moral failure with risk to social-image and was mediated by the appraisal of concern for condemnation and the feeling of rejection. Second, Study 2 corroborated the results of Study 1 using measures in English, rather than Norwegian, and using a different manipulation of risk to social-image—this shows that the Study 1 findings cannot be attributed either to semantic idiosyncrasies of Norwegian or to specific aspects of the experimental context in Study 1 (such as the presumed absence of the wronged person from the audience to which the misdeed might be exposed). Third, Study 2 provided further evidence that felt shame predicts pro-social responses to moral failure. When felt shame was not distinguished from related appraisals of specific self-defect and concern for condemnation, and related feelings of rejection and inferiority, it predicted *both* pro-social *and* self-defensive motivation (see also Tangney et al. 2014). However, once the effects of felt shame were distinguished from these related appraisals and feelings, felt shame predicted pro-social motivation, whereas it was unrelated to self-defensive motivation.

Study 2 also extended Study 1 in two ways. First, Study 2 used a vignette method to expand the experimental design of Study 1. By having participants imagine almost (or actually) revealing a friend's secret, we were able to manipulate moral failure in a subtle and careful way. We manipulated risk to social-image by altering the extent to which this moral failure was *likely* to be known by others, this time including the wronged person. In this way, we

Table 4 Summary of hierarchical regression models predicting pro-social and self-defensive motivation, Study 2

Predictors	Outcome											
	Self-defensive motivation						Pro-social motivation					
	Step 1		Step 2		Step 3		Step 1		Step 2		Step 3	
	β	p	β	p	β	p	β	p	β	P	β	p
Control variable												
Gender	.03	.731	−.08	.376	−.08	.349	.24	.008	.15	.082	.16	.063
Context (manipulated)												
Risk to social-image focal contrast (−1, −1, 2)	.19	.045	.01	.897	−.10	.292						
Orthogonal contrast (−1, 1, 0)	−.01	.908	−.12	.165	−.13	.156						
Moral failure focal contrast (−2, 1, 1)							.28	.002	.13	.148	.11	.273
Orthogonal contrast (0, −1, 1)							.22	.013	.14	.093	.10	.243
Feelings												
Felt shame			.50	<.001	.19	.210			.41	<.001	.44	.004
Felt rejection					.15	.267					.08	.571
Felt inferiority					.03	.844					−.18	.210
Appraisals												
Specific self-defect					.07	.591					−.03	.812
Concern for condemnation					.31	.005					.13	.233
R^2	3.7 %		22.6 %		30.7 %		18.4 %		31.1 %		33.2 %	

were able to provide evidence that the appraisal of specific self-defect most thought to lead to felt shame follows a moral failure itself. In contrast, the appraisal of concern for condemnation that we expected to lead to felt rejection followed from the risk to social-image posed by a moral failure that could become known to others. Thus, Study 2 provided the first experimental evidence we know of that moral failure and risk to social-image cause distinct appraisals and feelings that explain when people will respond self-defensively and when they will respond pro-socially to moral failure.

Second, Study 2 covered a broader range of possible responses to moral failure. In Study 1, we had represented pro-social and self-defensive responses respectively by just one outcome variable each: desire for restitution and avoidance. In Study 2, using a somewhat larger sample, we were able to operationalize these motivations as latent variables, each of which was measured using multiple indicators. This allowed us to better test—and support—our prediction that the appraisal of specific self-defect and associated feeling of shame should activate a general motivation to respond pro-socially, whereas the appraisal of concern for condemnation and associated feeling of rejection should activate a general motivation to respond self-defensively.

Although Study 2 corroborated and extended Study 1, it is important to note the differences between them. Likely due to the vignette method used in Study 2, participants reported higher levels of both appraisals as well as higher levels of felt rejection and inferiority, and the correlations among the appraisals and feelings were generally higher than were observed in Study 1. The higher levels of felt rejection and inferiority may account for their higher correlations with felt shame in Study 2 as compared to Study 1. However, these correlations remained moderate and they were not so large as to undermine the parameter estimation in our models.[5] Thus, Study 2 provided important corroboration and extension of Study 1 using a complementary method.

General discussion

Most theorists agree that moral failures are painful mainly because a failure is taken as a sign that the self suffers a serious defect. Likely because of the psychological pain of viewing oneself as suffering a defect, many theorists think of shame as motivating self-defense, such as wanting to disappear, cover-up, withdraw, and avoid (for reviews, see

Gilbert and Andrews 1998; Lewis 1992; Tangney and Fischer 1995; Tracy and Robins 2004). However, there is increasing evidence that shame about moral failures is associated with pro-social responses (for discussions, see Ferguson 2005; Gausel and Leach 2011; Scheff 2000; Tracy and Robins 2004).

By deploying Gausel and Leach's (2011) conceptual model of the experience of moral failure, we aimed to explain when and why people respond with self-defensive or with pro-social motivations. Distinguishing among the appraisals of specific self-defect and concern for condemnation and the feelings of shame, inferiority and rejection enabled us to make specific predictions about which *situation → appraisal → feeling* pathways should best predict pro-social and self-defensive responses to moral failure. Our first step was therefore to disentangle common appraisals and feelings that people report experiencing in relation to their moral failures. Using CFA, we demonstrated that the two appraisals (specific self-defect and concern for condemnation) and three feelings (felt shame, felt rejection, and felt inferiority) in our model were empirically distinguishable. Our five-factor measurement model fit much better than numerous alternatives inspired by the literature on shame and moral failures. All in all, the CFA provided unequivocal support for the distinctions made between the two appraisals (specific self-defect and concern for condemnation) and three feelings (felt shame, felt rejection, and felt inferiority) in our model.

Moreover, in Studies 1 and 2, we showed that experimental manipulations of risk to social-image increased participants' appraisal of concern for condemnation by others. This appraisal predicted greater felt rejection. In Study 2, we showed that a manipulation of moral failure increased participants' appraisal of specific self-defect and also felt shame. Hence, we were able to identify two core appraisals of moral failure and then manipulate them separately, resulting in selective increases in different feelings. These results support the appraisal approach to emotion that highlights the importance of understanding how people subjectively appraise a self-relevant event in order to understand how they feel about the event and themselves.

Explaining self-defensive responses to moral failure

In both studies, a risk to one's social-image significantly increased the appraisal of concern for condemnation, which in turn predicted felt rejection and self-defensive motivation. Thus, our findings contribute to the debate about the role of public exposure in determining people's responses to moral failures. Somewhat supporting Smith et al. (2002), we demonstrated that the mere concern for condemnation ignites the path towards self-defensive responses. But the reader should note that our model focuses on concern for

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[5] We checked the multi-collinearity diagnostics in our regression analyses. None of the Variance Inflation Factors was above 5, and none of the tolerances was below .2.

possible, future condemnation (before it has taken place, since neither misdeed was *actually* exposed). This social-psychological concern that one's misdeed *may* be known to others is therefore different to what might be expected in a situation where the moral failure is already publicly known (e.g., Smith et al. 2002; for a discussion, see Gausel 2013). Moreover, in line with Tangney et al. (2007) we demonstrated that a concern for condemnation is not central to the feeling of shame. It is the *risk to social-image → appraisal of concern for condemnation → felt rejection* pathway that leads to self-defensive responses, aiming to limit the possible damage caused by a possible future exposure of one's failure. The present results are also consistent with research on social exclusion, showing that the painful feeling of rejection predicts a wide variety of maladaptive strategies aimed at the reduction of pain (Gausel 2014b; for reviews, see Gerber and Wheeler 2009; Leary 2007).

Explaining pro-social responses to moral failure

If the experience of felt shame is a "dysphoric experience of contrite self-criticism about a failure in a domain important to the self-concept" (Gausel and Leach 2011, p. 475), it should motivate the individual to amend the moral failure and repair any damage done. However, we reasoned that this pro-social potential of shame should be most evident when felt shame is clearly separated from the self-defensive *risk to social-image → appraisal of concern for condemnation → felt rejection* pathway. This was shown clearly in both studies. In Study 1, when felt shame was distinguished empirically from other related feelings and appraisals, felt shame significantly predicted a desire to offer restitution to family members hurt by participants' immorality. The same pattern was found in Study 2 when pro-social motivation was measured more broadly to include contrition, compensation, and restitution. Indeed, Study 2 offered direct support for the hypothesized pro-social pathway of felt shame: *appraised specific self-defect → felt shame → pro-social motivation*.

Although these results contradict the view of shame as self-defensive in nature, they support a long-standing view of shame as an important basis of social regulation and self-improvement (see Ahmed et al. 2001; Ferguson 2005; Gausel and Leach 2011; Keltner and Harker 1998). The present results add to recent findings that shame predicts constructive self-criticism (Berndsen and McGarty 2012; Gausel et al. 2012), the desire to self-reform (Gausel and Brown 2012; Lickel et al. 2014; Tangney et al. 2014) and various pro-social motivations aimed at benefitting others (de Hooge et al. 2010; de Hooge et al. 2008; Gausel et al. 2012; Imhoff et al. 2012; Shepherd et al. 2013). As moral standards are highly important for self-evaluation (Gausel and Leach 2011), it is not surprising that feeling ashamed

about a specific self-defect motivates self-reform. In addition to other factors, a positive self-evaluation depends on addressing one's defects in a way that improves one's moral integrity (Ferguson et al. 2007; Gausel and Leach 2011).

Nonetheless, some might wonder if the pro-social motivation observed in our studies is nothing but a self-serving motivation meant to repair one's image in the eyes of others. For example, in research by de Hooge et al. (2008), competence-related shame led participants to behave more pro-socially towards an individual who knew of their failure, but not towards an unrelated individual; thus, participants were seemingly making a targeted effort to restore and protect their social-image in the eyes of those that knew of their failure. Although Gausel and Leach's (2011) model allows that threat to social-image can lead to pro-sociality when social-image is reparable, Gausel et al. (2012) recently demonstrated that the link between felt shame and the motivation to act pro-socially towards victims of immorality *could not* be explained by a desire to repair one's social-image in the eyes of others. In fact, they found that the more their participants were concerned with their social-image (and feelings of rejection), the less they were concerned with pro-sociality that could aid the victims. Pro-sociality that is unaffected by an underlying social-image motivation might be understood as pro-sociality without hypocrisy (Gausel 2013; Berndsen and Gausel 2015). Consistent with this, the pro-social motivations measured in our current studies were not predicted by social-image concerns. Instead, they were predicted by felt shame based in concerns for one's moral self-image (i.e., what kind of person am I that could do this?). Hence, it would be difficult to explain the pro-social tendencies shown by our participants as a self-serving motivation meant to repair one's social-image. The pro-sociality here seems to be based in a sincere desire to redress one's failure and support the victim—regardless of whether others will condemn one or not. This argument reflects very recent findings by Berndsen and Gausel (2015) that shame-based pro-sociality is a matter of making a stand against immorality; something that is diametrically opposed to a hypocritical repair of one's social-image.

Consequences of failing to account for specific appraisals and feelings

Naturally, one might wonder what we would have found in these studies, had we followed a more traditional approach, measuring only felt shame and examining its relation to self-defensive and pro-social motivation. In both studies, when we did not account for all of the feelings and appraisals in our model, felt shame predicted greater self-defensive motivation *and* pro-social motivation, thus

reproducing some previous findings where shame is associated with both pro-social and self-defensive responses to failure *within the same study* (e.g., Frijda et al. 1989; Roseman et al. 1994; Schmader and Lickel 2006; Tangney et al. 2014). However, once we used our model of appraisals and feelings about moral failure, we could distinguish the pathways to pro-social and self-defensive motivation. Hence, by deploying the Gausel and Leach (2011) approach to moral failure, we managed to explain that the feeling of shame has genuine pro-social potential, once it is distinguished from the appraisal of concern of condemnation and feeling of rejection (see also Gausel 2006). Studies that fail to distinguish felt shame from these related appraisals and feelings—as well as those that artificially confound these constructs using hybrid appraisal-feeling items (e.g., Allpress et al. 2014)—will likely find self-defensive effects of "shame". Yet we have shown here that it is the *risk to social-image → appraisal of concern for condemnation → felt rejection* pathway, rather than "shame" itself that explains self-defensive motivation regarding moral failure. This adds to the emerging view that shame is an emotion with the potential to motivate pro-social responses that can mend failures (for discussions, see de Hooge 2014; Gausel and Leach 2011).

Possible limitations

Two possible limitations of these studies should be mentioned. First, in Study 2, participants were asked to indicate how they *would* feel if they had committed a particular moral failure that might be exposed to others. Although telling a friend's secret is a common example of moral failure, the vignette methodology asked participants to imagine events and their appraisals, feelings, and responses. This method allowed us to manipulate separately participants' appraisals of specific self-defect and concern for condemnation. However, the vignette approach is perhaps not as ecologically valid as that used in Study 1. We believe that what was lost in ecological validity was balanced by the gains of a clear manipulation of a substantial moral failure with and without risk to participants' social-image in the eyes of important others (i.e., their friends). A vignette was the most practical way to gauge the experience of such a substantial moral failure with risk to participants' social-image in the eyes of their friends. Moreover, research has shown that reading vignettes aimed at evoking shame, humiliation and anger (among other emotions) does indeed produce intense emotional experiences, as indicated by electrophysiological measures (Otten and Jonas 2014), and that self-reported emotional reactions to vignettes converge closely with reactions to real stimuli (Robinson and Clore 2001). Here, results of the vignette methodology in Study 2 were closely corroborated by the

event recall methodology in Study 1, and the relatively high mean scores also speak to the validity of our scenario—that participants were able to identify with the central character and imagine themselves in this role.

Having said this, it may be important to note that Study 1 and 2 are quite rare within the shame literature in that we achieved successful manipulations of the appraisals thought to underlie feelings of shame and rejection. Successful manipulations of shame-related appraisals and feelings appear to be quite difficult to achieve in the moral domain because people resist experimentally imposed moral failures and attendant appraisals and feelings (e.g., Gausel et al. 2012; for a discussion, see Leach 2010). This is likely a result of experimental moral failures necessarily being less serious and self-relevant than the ones we focused on here.

The second possible limitation of our studies is our focus on moral failures, as opposed to failures in other self-relevant domains. Past research has shown little difference between shame arising from morality- and competence-related failures (e.g., Smith et al. 2002; for a review, see Tangney and Dearing 2002), but it may be important to examine both in future work with our model. We suspect that the feeling of inferiority may be a more important predictor of self-defensive responses in competence-related failure (for discussions, see Gilbert and Andrews 1998; Leach and Spears 2008). However, there is little reason to expect shame to be more self-defensive in competence-related failures, once shame is distinguished from inferiority. In fact, recent experiments by de Hooge et al. (2010) show that feelings of shame about poor achievement lead to increased effort and a desire to improve one's performance and thereby one's self-evaluation. Of course, shame should be most linked to self-improvement motivation when improvement is viewed as possible (Gausel and Leach 2011). When improvement is viewed as unlikely, a more global and stable view of one's moral defect and the attendant feeling of inferiority should displace shame as an explanation.

Conclusion

To understand what participants mean when they express felt shame, felt rejection, or felt inferiority, we must examine how these feelings are linked to the various appraisals that individuals can make of their moral or other failures. Methodologically speaking, we can be most confident of an emotion construct's measurement when it is embedded in a psycho-semantic network that uses reported appraisals to validate reported feelings (e.g., Gausel et al. 2012; Leach and Spears 2008; for discussions, see Leach 2010; Gausel 2014a; Gausel and Salthe 2014). A non-

situated conceptualization of shame that views it as necessarily tied to a feeling of global or stable inferiority is too broad to capture the important nuances in people's subjective experiences. Equally, a non-situated conceptualization of shame that views it as necessarily predictive of self-defensive responses is too inflexible to capture the situated motivational implications of emotion.

In our view, the feeling of shame predicted pro-social responses in these studies precisely because of its situated meaning, involving the appraisal of a specific self-defect and the wish to repair that defect through contrite pro-social repair. So, too, were the self-defensive responses a consequence of the combined concern for condemnation and the feeling of rejection. If there had been any pro-social motivation in this *moral failure with risk to social-image → appraisal of concern for condemnation → felt rejection* path, then participants would probably have been more likely to want to appease others or to act pro-socially for the sake of preserving their social image (see Gausel 2013; Gausel and Leach 2011; Keltner and Harker 1998). Only by situating the subjective appraisal of emotion may we use linguistic expression as an (admittedly imperfect) indication of the meaning that people give to their experience in the world. This highlights the importance of viewing shame—and all emotion—as a situated expression of meaning that is best understood in relation to cognate expressions like appraisals within a particular relational context (see Lazarus 1991; Leach 2010).

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