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Self-Conscious Emotions and Depression: Rumination Explains Why Shame, but not Guilt, is

Maladaptive

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Self-conscious emotions and depression

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Abstract

Feelings of shame and guilt are factors associated with depression. However, studies simultaneously investigating shame and guilt suggest that only shame has a strong unique effect, although, it is not yet clear which psychological processes cause shame, and not shame-free guilt, to be related to depression. We hypothesized that shame, in contrast to guilt, elicits rumination, which then leads to depression. Therefore, in this study we investigated event-related shame and guilt, event-related rumination, and depression among 149 mothers and fathers following family breakup due to marital separation. Data were analyzed using latent variable modeling. The results confirm that shame, but not guilt, has a strong unique effect on depression. Moreover, the results show that the effect of shame is substantially mediated by rumination. The results are discussed against the background of self-discrepancies and self-esteem.

Key Words: shame; guilt; rumination; depression; negative life events

Self-Conscious Emotions and Depression: Rumination Explains Why Shame, but not Guilt, is

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Shame and guilt are unpleasant emotions that humans experience if they fail to meet central social or moral standards. Shame and guilt are not only frequently associated with depressive affect in everyday life, but also with depression as a clinically relevant disorder. Empirical studies provide evidence for the association of guilt with depression (Alexander, Brewin, Vearnals, Wolff, & Leff, 1999; Ghatavi, Nicolson, MacDonald, Osher, & Levitt, 2002; Jarrett & Weissenburger, 1990; Walters-Chapman, Price, & Serovich, 1995). Likewise, shame has been shown to be associated with depression (Allan, Gilbert, & Goss, 1994; Andrews, 1995; Andrews & Hunter, 1997; Andrews, Qian, & Valentine, 2002; Cheung, Gilbert, & Irons, 2004; Fontaine, Luyten, De Boeck, & Corveleyn, 2001; Harder, Cutler, & Rockart, 1992; Stuewig & McCloskey, 2005; Tangney, Wagner, & Gramzow, 1992).

Shame, Guilt, and Depression

Previously, five studies analyzed the effects of shame and guilt simultaneously, and should therefore be examined more closely (Alexander et al., 1999; Fontaine et al., 2001; Harder et al., 1992; Stuewig & McCloskey, 2005; Tangney et al., 1992). Four of these studies suggest that the association between guilt and depression disappears or is substantially smaller when shame is controlled for. Fontaine et al. (2001; cf. Luyten, Fontaine, & Corveleyn, 2002) reported semipartial correlations at sr = .35 for shame and depression (partialing out guilt from shame) and at sr = .04 for guilt and depression (partialing out shame from guilt). Harder et al. (1992, Study 2) reported semipartial correlations at sr = .24 for shame and sr = .17 for guilt. Stuewig and McCloskey (2005) reported semipartial correlations at sr = .22 for shame and sr = .13 for guilt. Finally, Tangney, Wagner, and Gramzow (1992) reported semipartial correlations at about sr = .30 to .40 for shame and at about sr = .00 for guilt. In contrast, one study found the opposite

pattern of results: Alexander et al. (1999) reported a partial correlation with pr = .06 for shame and depression (controlling for guilt) and pr = .28 for guilt and depression (controlling for shame).

Likely reasons for these contradictory findings are methodological factors, in particular differing concepts underlying scales measuring shame and guilt. Indeed, the concepts of shame and guilt have long been fused in the psychological literature, but over the last decade there has been growing agreement in distinguishing shame and guilt (Tangney, 1999). Both emotions are understood as emotional states involving a negative evaluation of the self and are classified into the family of self-conscious emotions (Tangney, 1999). Guilt is a moral emotion caused by the violation of moral standards, particularly arising from interpersonal transactions in the context of communal relationships (Baumeister, Stillwell, & Heatherton, 1994; Haidt, 2003). Shame may likewise arise following violation of moral standards, but is not restricted to situations with moral relevance. In contrast to guilt, the key aspect of shame is that the individual perceives failure of the self in meeting important social standards (not only moral standards, but also competence and esthetic standards). A further difference between shame and guilt is that guilt implies a negative evaluation of a specific behavior, but that shame involves a negative evaluation of a central aspect of the self (cf. Tangney, 1999). Moreover, shame and guilt elicit different interpersonal motivations: whereas guilt is frequently accompanied by empathy and reparative behavior for those harmed or set at risk by the moral transgression, shame reduces empathy and elicits avoidance and aggression motivation (Tangney, 1991; Tangney, Wagner, Fletcher, & Gramzow, 1992).

Given the conceptual differences between shame and guilt, the empirical findings of those studies simultaneously analyzing effects of shame and guilt on depression have to be critically assessed with respect to the validity of the measures used. The studies of Fontaine et al. (2001),

Harder et al. (1992), Stuewig and McCloskey (2005), and Tangney et al. (1992) used measures that took the conceptual differences as outlined above into account (e.g., the Self-Conscious Affect and Attribution Inventory, SCAAI, or the Test of Self-Conscious Affect, TOSCA, whose validity has been repeatedly confirmed; cf. Tangney, 1990; Tangney et al., 1992). The results of these studies suggest that only shame, but not guilt, has a unique effect on depression. In contrast, the study resulting in the opposite pattern of partial correlations used measures that do not unambiguously correspond to the definitions of shame and guilt (Alexander et al., 1999). In that study, participants rated the degree of distress they would experience in situations potentially eliciting shame or guilt. However, neither the subjective experience of the distress as shame or guilt nor the typical interpersonal motivations associated with shame and guilt were assessed. For example, the item "to behave unkindly" was assigned to the guilt scale, but participants might well experience shame in these situations instead of guilt. On the other hand, in situations assigned to the shame scale (e.g., "to have something unfavorable revealed about you"), participants might well experience other emotions (e.g., anger) instead of shame. Thus, the validity of this study with respect to conclusions about unique effects of shame and guilt is limited.

Theories of the Shame-Depression Link

For reasons outlined above, we concluded that the available evidence overall suggests that shame, but not shame-free guilt, is associated with depression. The question, then, is which psychological processes cause shame to be related to depression? Tangney, Burggraf, and Wagner (1995) discuss two theories that might explain the differing effects of shame and guilt on depression. First, they argue that shame, involving a negative evaluation of the self, implies causal attributions that are internal, global, and stable. In contrast, guilt, involving a negative evaluation of a specific behavior, implies causal attributions that are internal, specific, and rather

unstable. Thus, drawing on attributional theories of depression (cf. Gotlib & Abramson, 1999), shame should cause more depression than guilt because the attributional pattern implied in shame is much more maladaptive. However, empirical data show that shame explains substantial incremental variance in depression even if attributional style is controlled for (Tangney et al., 1992). Second, Tangney et al. (1995) discuss implications of self-discrepancy theory (Higgins, 1987). This theory states that shame is a dejection-related emotion, because it arises from a perceived discrepancy between the actual self and the ideal self; guilt, in contrast, is described as an agitation-related emotion caused by a discrepancy between the actual self and the ought self. Thus, similar discrepancies might be involved in depression and shame, but not guilt, resulting in higher depression among shame-prone individuals.

Our hypothesis explaining why shame is more maladaptive than guilt draws on another part of Higgins' self-discrepancy theory. The discrepancies eliciting shame and guilt do not only differ with respect to the domains of the self involved (ideal self vs. ought self), but also with respect to the perspective on the self (own perspective vs. perspective of significant others). Shame is thought to be caused by a discrepancy between the actual self from the own perspective (actual/own) and the ideal self from the *other* perspective (ideal/other); in contrast, guilt is thought to arise from a discrepancy between the actual self from the own perspective (actual/own) and the ought self from the *own* perspective (ought/own). Thus, self-discrepancy theory states that shame involves an imagined negative evaluation from the perspective of significant others, whereas guilt involves a negative evaluation from the own perspective (Higgins, 1987). Tangney, Niedenthal, Covert, and Barlow (1998) tested whether shame and guilt are actually related to distinct self-discrepancies, but did not find corroborating evidence. However, the method used by Tangney et al. (1998) to measure the perspective of others was

exclusively represented by the participants' parents (as operationalized by Higgins, 1987). The imagined audience implied in shame may often consist of other judging authorities, e.g., significant peers (Higgins, 1999). Therefore, we maintain that the differing perspective on the self is a crucial part of the definition of shame and guilt.

The imagined perspective of significant others on the self has implications for selfesteem, in contrast to the own perspective on the self. According to sociometer theory (Leary & Baumeister, 2000), self-esteem may be understood as a monitor of cues indicating the individual's relational value. The self-esteem system might have evolved to support the satisfaction of the individual's need for belongingness (Baumeister & Leary, 1995). Shame may then be a particularly strong cue indicating the risk of social rejection, because it involves a negative evaluation of a central aspect of the self from the perspective of significant others. If an individual perceives that his or her relational value is at risk, the self-esteem system reacts with a substantial drop in state self-esteem. This strong affective reaction serves as a warning function, indicating that a fundamental need is threatened, and interrupts other cognitive processes (Leary & Baumeister, 2000). If the perceived threat persists, the self-esteem system may cause the threat to repeatedly become the individual's focus of attention by intrusive rumination over the blocked goal, i.e., the satisfaction of the need for belongingness. Rumination theory states that the perceived threat to the satisfaction of a fundamental need is one of the crucial factors eliciting and maintaining rumination (Gold & Wegner, 1995; Martin & Tesser, 1996).

Thus, theory suggests that shame, but not guilt, elicits rumination, because shame, but not guilt, is relevant for one of the fundamental human need systems. Empirical data corroborate the assumption that shame, but not guilt, elicits rumination. In a study by Joireman (2004) the correlation between shame residuals (after controlling for guilt) and rumination was r = .40, but the correlation between guilt residuals (after controlling for shame) and rumination was r = .03.

Rumination on negative aspects of the self, however, has been shown to be closely linked to depression (Morrow & Nolen-Hoeksema, 1990; Nolen-Hoeksema, 1991, 2000; Nolen-Hoeksema & Morrow, 1991; Spasojevic & Alloy, 2001; Trapnell & Campbell, 1999). Recently, Mor and Winquist (2002) confirmed by meta-analysis of correlational and experimental studies that self-focused attention substantially and causally influences negative affect (including depression) and, moreover, that a ruminative self-focus has a particularly strong impact (compared to a reflective self-focus). Given the theoretical and empirical evidence reviewed above, we hypothesized that rumination, at least in part, mediates the effect of shame on depression and thus explains why shame, in contrast to guilt, is maladaptive for psychological adjustment. To date, only one study tested whether rumination mediates the effect of shame. Cheung et al. (2004) assessed shame, rumination, and depression in a nonclinical sample (N = 125) and found that rumination partially mediated the shame-depression link. To date, no studies testing the mediation effect simultaneously for shame and guilt have been published.

Objectives

The main objective of our study was therefore to test the mediation effect of rumination simultaneously for shame and guilt. We predicted that shame is associated with depression, that the effect of shame on depression is mediated by rumination, but that shame-free guilt shows no direct effect on depression and no indirect effect mediated by rumination. The second objective of the study was to increase the ecological validity of the analysis by investigating reactions to a real negative life event potentially eliciting shame and guilt, and thus to use event-related measures of shame, guilt, and rumination. Previous studies of the effects of shame and guilt on depression have exclusively analyzed shame and guilt as traits. We decided to survey a sample of mothers and fathers following family breakup due to marital separation, because this type of event frequently elicits shame and guilt (cf. Boney, 2002; Walters-Chapman et al., 1995). The

third objective of the study was to analyze the constructs as latent variables by means of structural equation modeling (SEM), because the constructs of shame and guilt are closely related. SEM allows testing whether the measures used in the study actually assess constructs that are distinguishable from each other. In addition, SEM is particularly recommended for mediator analyses because potential bias of the estimates due to measurement error is controlled for (Kenny, Kashy, & Bolger, 1998).

Method

Participants

Participants were contacted with the help of five Swiss self-help organizations for single parents or for fathers after family breakup. We mailed the questionnaire to 600 members of these organizations (46% female, 54% male) together with a stamped self-addressed envelope. The individuals contacted were selected at random. One hundred and seventy-one individuals returned a completed questionnaire; thus, the response rate was 29%. We excluded 9 cases because participants misunderstood the instructions or because they had no children (which was an exclusion criterion). In the analyses, we used cases with complete data for shame, guilt, rumination, and depression; data were missing in 13 cases for at least one of these variables. Thus, the size of the sample analyzed was N = 149.

Mean age of participants was 43.8 years (SD = 8.2, Range = 25 to 69). Forty-nine percent of the participants were female, 51% were male. Level of education was as follows: 62% had finished compulsory school education (about 10 years); 38% of the participants had finished at least academic-track high school (13 years or more). Fifty percent of the participants were divorced from their partner; the other 50% were not divorced, but lived separated from their partner. Mean time since the breakup was 4.5 years (SD = 3.3, Range = 0.0 to 25.0). The mean number of children was 2.0 (SD = 0.8, Range = 1 to 5).

Measures

Event-related shame and guilt. Because scales measuring event-related shame and guilt were not available in the literature, we constructed new scales for this study following the definitions of shame and guilt by Tangney and colleagues (cf. Tangney, 1999), as outlined in the introduction. Both emotions were assessed with respect to three groups of individuals (children, family, and friends). By using this procedure, we sought to enhance the validity of the measure through concreteness (assessing shame and guilt with respect to specific groups of individuals) and through comprehensiveness (broadly covering the range of significant others to whom mothers and fathers relate). For each of the three groups, the same four items were used to measure shame and the same four items were used to measure guilt. Thus, both the shame and the guilt scale comprised 12 items. The complete set of items can be found in the Appendix. Our strategy in selecting the items was as follows: In both scales we used statements directly mentioning the terms shame and guilt (items 1 and 5), statements about specific appraisal antecedents of shame and guilt (items 2 and 6), statements about specific subjective feelings (items 3 and 7), as well as statements about specific motivational reactions (items 4 and 8). Through this procedure, we sought to ensure the face validity of the scales. Participants were instructed to assess all statements with respect to their current feelings about the family breakup. Answers were measured on a 6-point scale ranging from 0 (not at all right) to 5 (completely right). Internal consistencies of the complete scales measuring shame and guilt were high with a Cronbach's alpha coefficient of .96 for shame and .94 for guilt.

Event-related rumination. Rumination was measured with the intrusion subscale of the Impact of Event Scale-Revised, IES-R (Weiss & Marmar, 1997; for the German version see Maercker & Schützwohl, 1998), which comprises 7 items. The intrusion subscale of the IES-R is a frequently used self-report measure for the assessment of event-related ruminative symptoms

following stressful or traumatic life events; its validity has been repeatedly confirmed (cf. Weiss & Marmar, 1997). In this study, the wording of the items was slightly modified to refer to the event of the breakup. Item examples are: "Any reminder of the breakup brought back feelings about it", "I thought about the breakup when I didn't mean to". Participants were instructed to assess the frequency of the reactions within the preceding 7 days. Answers were measured on a 4-point scale ($0 = not \ at \ all$, 1 = seldom, 2 = sometimes, 3 = often). Internal consistency, in this study, was high with a Cronbach's alpha coefficient of .91.

Depression. Depression was assessed with the short form of the depression scale of the Center of Epidemiology Scale, CES-D (Radloff, 1977; for the German version see Hautzinger & Bailer, 1993), which comprises 15 items. The CES-D is a frequently used self-report measure for the assessment of depressive symptoms in nonclinical and clinical populations, and its validity has been repeatedly confirmed (cf. Eaton, Smith, Ybarra, Muntaner, & Tien, 2004). Importantly, none of the items assesses shame or guilt. Participants were instructed to assess the frequency of the reactions within the preceding 7 days. Answers were measured on a 4-point scale (0 = seldom or not at all, 1 = sometimes, 2 = often, 3 = mostly). A cutoff value of 17 for the sum score indicates a symptom severity corresponding to a major depressive disorder. Internal consistency, in this study, was high with a Cronbach's alpha coefficient of .94.

Procedure for the Statistical Analysis

In the analysis, we used parcels as indicators, because parcels provide more reliable latent variables than individual items by reducing random error, and thereby increase the reliability of the structural coefficients of the model (Little, Cunningham, Shahar, & Widaman, 2002). For each construct we used three parcels, as recommended by Little et al. (2002). For shame and guilt, we used the three subscales measuring the emotion with respect to children, family, and friends, respectively, each comprised of four items. For rumination, we computed parcels by

systematically aggregating items 1 to 3 into parcel 1, item 4 and 5 into parcel 2, and items 6 and 7 into parcel 3 (random assignment technique; cf. Little et al., 2002). For depression, we computed parcels by likewise systematically aggregating items 1 to 5 into parcel 1, item 6 to 10 into parcel 2, and items 11 to 15 into parcel 3. An important precondition for parceling is that the items included in parcels should measure a sufficiently homogeneous construct (Little et al., 2002). Therefore, in the preliminary analyses, we computed Cronbach's alpha coefficients to investigate the internal consistency of the parcels.

For the computations we used Amos 5 (Arbuckle, 2003; Arbuckle & Wothke, 1999). Estimations were based on the covariance matrix and the maximum likelihood method. In the measurement models, we used fixation of factor variances to 1 as the scaling method. This procedure allowed merging two factors by fixing the covariance between these factors to 1 (resulting in a standardized correlation with r = 1). In the structural models, we used fixation of factor loadings as the scaling method, because these models included endogenous factors (where no variance can be specified). For each factor, the unstandardized value of the first loading was set to 1.

Model fit was assessed by four fit indices that are currently recommended as most useful (Hu & Bentler, 1998, 1999; MacCallum & Austin, 2000): the Tucker-Lewis-Index (TLI), the Comparative Fit Index (CFI), the Standardized Root Mean Square Residual (SRMR), and the Root Mean Square Error of Approximation (RMSEA). Hu and Bentler (1999) suggest that good fit is indicated by values greater than or equal to .95 for TLI and CFI, and values less than or equal to .08 for SRMR, and less than or equal to .06 for RMSEA. In addition to these indices, we report the confidence interval for RMSEA and χ^2 -statistics.

Results

Preliminary Analyses

In the preliminary analyses, first we estimated the proportion of participants reporting a clinically elevated depression level. Thirty percent of the participants had CES-D sum scores above the cutoff value.

Then, we analyzed the internal consistency of the parcels. Table 1 documents basic information about the parcels used as indicators of the constructs under investigation. Cronbach's alpha coefficients were high for all parcels except one parcel measuring rumination. As measurement error is explicitly accounted for in the analysis, we judged the coefficient alphas of the parcels to be sufficiently high.

Finally, we analyzed the correlations between the parcels and demographic variables (gender, age of participant, education, divorced vs. not divorced, time since breakup, and number of children). All of these correlations were small to zero with values between -.22 and .21; only 5 out of 72 correlations (7%) were statistically significant, which is close to the number of correlations expected to be significant by chance (5%). We concluded that demographic variables and the psychological variables were virtually unrelated in this sample. Therefore, in the remainder of the analyses we did not further analyze the effects of demographic variables. *Analyses of Measurement Models*

We next tested the measurement model as hypothesized (Model 1, Figure 1). In contrast to structural models, measurement models do not incorporate causal paths between the constructs but, rather, correlational paths (systematically relating all constructs included in the model). In the model as hypothesized, shame, guilt, rumination, and depression are specified as four separate latent factors. In this model, as in all other models, the uniqueness of subscales measuring shame and guilt are systematically correlated to account for systematic bias of these emotions with respect to children, family, and friends. Thus, the uniqueness of shame/children is allowed to

covary with the uniqueness of guilt/children, the uniqueness of shame/family is allowed to covary with the uniqueness of guilt/family, and the uniqueness of shame/friends is allowed to covary with the uniqueness of guilt/friends. Indeed, Figure 1 shows that the correlations are substantial with values between .50 and .58, indicating strong systematic bias of shame and guilt with respect to specific groups of individuals. Figure 1 also shows that the loadings are high for each construct, and that the correlations between the four constructs are substantial. The correlation between shame and guilt is particularly large with r = .79.

Therefore, it was crucial to show that the shame and guilt measures used actually assess constructs that are distinguishable from each other. We tested whether an alternative measurement model (Model 2), where shame and guilt are merged into one construct factor, fits better to the data than the measurement model as hypothesized. The top half of Table 2 shows the fit values for the measurement models. The hypothesized model (Model 1) proved to have the better fit to the data. All fit indices had values indicating good model fit. In contrast, the alternative model (Model 2) revealed low and unsatisfying model fit, and the χ^2 -difference test between the models was significant with p < .01. Thus, the results show that shame and guilt should be separately modeled as hypothesized.

Analyses of Structural Models

As a next step, we analyzed structural models testing the mediation effect of rumination. First, in two preliminary mediation models, we analyzed whether rumination mediates the link between guilt and depression (Model 3, Figure 2A) separately from whether it mediates the link between shame and depression (Model 4, Figure 2B). To establish mediation, three conditions must be fulfilled (Baron & Kenny, 1986). First, the predictor (guilt and shame, respectively) must correlate with the dependent variable (depression). In this study, guilt correlates with depression with r = .45 and shame correlates with depression with r = .60 (Figure 1). Second, the predictor

(guilt and shame, respectively) must correlate with the mediator (rumination). In this study, guilt correlates with rumination with r = .52 and shame correlates with rumination with r = .58 (Figure 1). Third, the mediator (rumination) must affect the dependent variable (depression) when controlling for the predictor (guilt and shame, respectively). In this study, the rumination-depression link is substantial when controlling for guilt (beta = .62) and shame (beta = .52), respectively.

To test for significance of the mediation effects we used the Sobel Test as given by Baron and Kenny (1986); for both shame and guilt the mediation effect was significant with p < .01. A relative measure of the mediation effect may be computed as the indirect effect divided by the total effect (the indirect effect is calculated as the product of the two paths included in the mediation; the total effect is calculated as the sum of the indirect and the direct effect). For guilt, the mediation effect accounted for 71% of the total effect; for shame, the mediation effect accounted for 50% of the total effect. The percentages suggest that the mediation effect is larger for guilt than for shame. However, the size of the indirect effects (in a way, an absolute measure of the mediation effect) is virtually identical for shame and for guilt (.30 and .32, respectively), but the size of the remaining direct effects is unequal (.13 and .30, respectively), indicating that further explanation beyond rumination is needed for the particularly strong effect of shame on depression. To summarize, the results for the preliminary mediation models suggest that rumination is a strong mediator both for the guilt-depression link and for the shame-depression link

However, our hypothesis was that the guilt-depression link disappears if the shame-depression link is simultaneously analyzed, which in turn would mean that only the mediation of the shame-depression link has implications for theory. Therefore, we conducted a combined mediation analysis for the shame-depression and the guilt-depression link (Model 5, Figure 2C).

The results show that the direct effects of guilt on both depression and rumination disappear when shame is simultaneously analyzed (the regression coefficients of guilt are low and nonsignificant). In contrast, the direct effect of shame on depression and the indirect effect on depression (mediated by rumination) are substantial and significant. Again, we tested for significance of the mediation effects (Baron & Kenny, 1986); as expected, for guilt the mediation effect was nonsignificant with p = .28, and for shame the mediation effect was significant with p = .28. For shame, the mediation effect accounted for 39% of the total effect.

The lower half of Table 2 shows the fit values of the structural models. The fit indices have values indicating good model fit both for the preliminary mediation models (Model 3 and 4) and for the combined mediation model (Model 5). The fit values for Model 5 are identical to the fit values for Model 1 (the measurement model) because the models are fully equivalent and have the same model-implied covariance matrix. In Table 2, we report the values for Model 5 for purposes of completeness.

Finally, we tested whether the pattern of relationships as revealed by Model 5 holds for reactions with respect to the three groups of individuals separately (children, family, and friends). In these analyses, we modeled shame and guilt as latent variables measured by the eight items for a single group of individuals (e.g., children). For all three groups of individuals, the results confirmed the general pattern. The effects of guilt on both depression and rumination were low and nonsignificant, the effect of shame on rumination was significant (with values from .36 to .81), the effect of shame on depression was significant (with values from .32 to .48), the effect of rumination on depression was significant (with values from .50 to .58), and the correlation between shame and guilt was significant (with values from .80 to .82). Thus, the results show that even with respect to specific groups of individuals shame, but not guilt, has a unique effect on depression, which is substantially mediated by rumination.

Discussion

Shame and guilt are factors strongly associated with depression. However, previous studies showed that the effect of guilt disappears if shame is statistically controlled for (shame-free guilt), and that only shame has a strong unique effect (Fontaine et al., 2001; Tangney et al., 1992). The results of our study confirmed these findings. We analyzed the effects of shame and guilt among individuals following a major negative life event: family breakup due to marital separation. Shame and guilt were substantially correlated with depression, with r = .60 and r = .45, respectively. When we analyzed shame and guilt simultaneously, the effect of guilt on depression was virtually zero; shame, on the other hand, had a strong unique effect on depression.

The main objective of our study was, however, to investigate why shame, and not shamefree guilt, should be linked to depression. We hypothesized that shame, in contrast to guilt, elicits
rumination, which then leads to greater depression. The results of our study supported this
hypothesis. When analyzed separately, the effects of both shame and guilt were substantially
mediated by rumination. However, when shame and guilt were analyzed simultaneously, guilt
had neither a direct effect on depression nor an indirect effect on depression mediated by
rumination. In contrast, the direct effect of shame on rumination remained, and rumination
substantially mediated the effect of shame on depression.

The validity of the analyses can be judged as high for several reasons. First, shame and guilt were assessed by measures reflecting the conceptual differences between shame and guilt as specified in the literature on self-conscious emotions (cf. Tangney, 1999). Importantly, the analysis of measurement models revealed that, even if shame and guilt were strongly correlated, shame and guilt are empirically distinguishable from each other. Second, the depression measure did not include items assessing shame or guilt. Third, data were analyzed by means of structural equation modeling, which increased the validity of the measures by explicit modeling of

measurement error. Bias due to measurement error may be particularly misleading in mediation analyses, as emphasized by Kenny et al. (1998). Fourth, model fit was high both for the measurement model, as hypothesized, and for the structural models investigated in this study. Fifth, even if the mean scores on the study variables were rather low (which might be due to the fact that the average time since the family breakup was about 4 to 5 years), the validity of the analyses should not be restricted if the variance of the measures is sufficiently large, as was the case in this study.

Causality of the Shame-Depression Link

In the introduction, we argued that self-discrepancy theory (Higgins, 1987), sociometer theory (Leary & Baumeister, 2000), rumination theory (Martin & Tesser, 1996), and response style theory (Nolen-Hoeksema, 1991) provide the theoretical background to explain why shame, in contrast to guilt, is linked to depression. We outlined the hypothetical causal chain as follows: Shame, but not guilt, involves the imagined negative evaluation of the self from the perspective of significant others (as stated by self-discrepancy theory). The self-esteem system reacts with a significant drop in state self-esteem to warn the individual that his or her relational value is at risk (as stated by sociometer theory). The threat to the fundamental need for belongingness elicits rumination about the problematic situation and potential solutions (as stated by rumination theory). Persisting rumination on negative aspects of the self then increases depression (as stated by response style theory).

The results of our study are consistent with this line of reasoning. Admittedly, however, we did not investigate every single element of the causal chain, but only rumination as one mediator of the shame-depression link. Therefore, future studies should include additional variables of the hypothesized processes, e.g., state self-esteem.

Moreover, the cross-sectional design of our study is an important limitation that does not allow drawing conclusions with respect to the causal sequence of the psychological processes. Therefore, future studies should test the causality between shame and depression, e.g., by analyzing longitudinal data by means of cross-lagged panel analysis (cf. Finkel, 1996). The question is whether shame is actually a causal factor of depression, whether shame is a causal effect of depression, or whether reciprocal causal effects exist for shame and depression. To date, most studies on shame, guilt, and depression have been cross-sectional and only a few studies employed longitudinal designs. For example, Andrews et al. (2002) predicted depression in a nonclinical sample using shame, guilt, and depression measures collected about 3 months previously. The results showed that shame explained incremental variance in subsequent depression even if precedent depression was controlled for. This result suggests that shame may indeed have a causal effect on depression. However, the reverse direction of causality (depression causing an increase in shame), which might be plausible as well, was not tested by Andrews et al. (2002). Longitudinal studies investigating whether rumination mediates the shame-depression link have not yet been conducted. These studies should include at least three repeated assessments of shame, guilt, rumination and depression to systematically test the causal chain at all stages (cf. Cole & Maxwell, 2003), thus from cause to mediator, and from mediator to effect. This is particularly important since rumination has been shown to be both a causal factor and a causal effect of negative affect (Mor & Winquist, 2002). Thus, rumination might not only cause an increase in depression but also an increase in shame. Knowledge about the causality between shame and depression would also provide a basis for the advancement of theory and treatment of depression following negative life events.

For exploratory purposes, we investigated the question of whether reversed causal effects exist by performing additional analyses of the present data set. Even if cross-sectional data cannot

prove causality, the size of the path coefficients may indicate the plausibility of the causal paths. We analyzed two structural models: the first model focused on shame as outcome and included causal effects from depression on rumination, rumination on shame, depression on shame, and, to control for guilt, a causal path of guilt on shame; the second model focused on guilt as outcome and was constructed analogously to the first model with a causal path from shame to guilt to control for shame. For both models, the results showed that the effect of depression on rumination was strong at .69 to .70 (p < .01); this finding corresponds to the strong causal effect of negative affect, particularly depression, on rumination documented in the literature (Mor & Winquist, 2002). However, the results showed further that the effects of depression and rumination on shame were small (with .28, p < .01, and .09, ns, respectively; first model) and, likewise, that the effects of depression and rumination on guilt were small (with -.09, ns, and .15, ns, respectively; second model). Thus, the results of models with reversed causal paths do not suggest that either depression or rumination have strong causal effects on shame and guilt (when controlling for guilt and shame, respectively). However, as stated above, truly valid tests of causality require analyses of longitudinal or experimental data, which consequently should be a focus in future studies.

Future studies should also investigate hypotheses about other potential mediators of the shame-depression link. The results of the present study revealed that rumination mediates the relation, but a substantial proportion of the relation remained unexplained. One candidate for an additional mediator may be the attributional pattern implied in shame and guilt. As described in the introduction, shame implies an attributional pattern that is more maladaptive following negative events than the attributional pattern implied in guilt (internal, global, and stable vs. internal, specific, and rather unstable). Thus, chronic shame may with time influence the dispositional attributional pattern following negative events and thereby increase hopelessness

and depression. Another potential mediator of the shame-depression link may be social withdrawal or irritable behavior elicited by shame, causing loss of social support and social reinforcement, and thereby increasing depression.

Generalizability of the Findings

An important question concerns the generalizability of the present results. A first issue is the low response rate, which was only 29%. Nonresponders might differ in some unknown way from the sample with respect to the key variables of the study. Though it is generally difficult to obtain high response rates in surveys with members of self-help organizations when participants are contacted by postal mail, the low response rate might restrict the generalizability of the findings. Nonresponders might suffer from stronger feelings of shame and guilt, and consequently might not have wanted to participate in the study because it would have meant having to reflect on potentially aversive topics. However, deviating means in a sample do not necessarily affect the relations among variables. In addition, the sample did not substantially differ from the population from which the sample was drawn with respect to the demographic variable for which information is available (46% of the population vs. 49% of the participants were women). Moreover, the preliminary analyses showed that demographic variables (gender, age, education, divorced vs. not divorced, time since breakup, and number of children) were virtually unrelated to the study variables. Therefore, we concluded that the low response rate presumably does not affect the generalizability of findings with respect to the structural relations between the study variables.

A second issue in the discussion of generalizability is the type of sample investigated. In this study, we surveyed a predominantly nonclinical sample; about two thirds of the participants had depression scores below the cutoff value indicating a symptom severity corresponding to a major depressive disorder. Presumably, the results can be generalized to the general population.

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Nevertheless, the results should be cross-validated through the analysis of other nonclinical samples. In clinical samples, however, both the effect sizes of shame and guilt and the psychological processes that account for the effects might be different. For example, individuals in clinical samples might more frequently suffer from guilt resulting from transgressions with irreversible consequences. Under these circumstances, guilt might be maladaptive in contrast to guilt resulting from less severe transgressions in everyday life (cf. Tangney, 1999). Moreover, individuals in clinical samples might experience forms of exaggerated guilt compared to realitybased guilt among individuals in nonclinical samples, causing a unique effect on depression (Tangney et al., 1995). Indeed, the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV, American Psychiatric Association, 1994) lists "excessive or inappropriate guilt" as one of the defining symptoms of a major depressive episode. The inclusion of guilt and the nonconsideration of shame in the DSM-IV might possibly be traced back to linguistic imprecision in past scholarly writing on shame and guilt. However, future studies should thoroughly examine potential maladaptive effects of guilt in clinical samples. In addition, meta-analysis of the available data might be a suitable means with which to investigate sample characteristics as moderators, thus testing whether, e.g., clinical and nonclinical samples differ with respect to the associations between shame, guilt, and depression.

Thus, before drawing conclusions from this study for the theory and treatment of depressive disorders, the issues of causality and generalizability should be investigated in further studies. Notwithstanding this, the present results suggest that, when working with individuals following negative life events, psychologists should focus on shame rather than guilt, and keep in mind the potential effect of shame on rumination about negative aspects of the self. If future research corroborates the causal model as outlined above, prevention and treatment of depression would have to include interventions to reduce both shame and rumination.

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Table 1

Means, Standard Deviations, Cronbach's Alpha Coefficients, and Correlations of Indicators Used to Measure Shame, Guilt, Rumination, and Depression (N = 149)

| Indicator | M | SD | α | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|-----------|------|------|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|----|
| 1. SCH | 1.11 | 1.21 | .86 | | | | | | | | | | | | |
| 2. SFA | 0.95 | 1.27 | .93 | .79** | | | | | | | | | | | |
| 3. SFR | 0.85 | 1.23 | .94 | .77** | .82** | | | | | | | | | | |
| 4. GCH | 1.38 | 1.19 | .83 | .72** | .53** | .53** | | | | | | | | | |
| 5. GFA | 0.92 | 1.10 | .88 | .68** | .74** | .58** | .72** | | | | | | | | |
| 6. GFR | 0.84 | 1.08 | .90 | .66** | .70** | .74** | .66** | .82** | | | | | | | |
| 7. RU1 | 1.30 | 0.89 | .86 | .50** | .45** | .44** | .39** | .45** | .42** | | | | | | |
| 8. RU2 | 0.90 | 0.88 | .80 | .47** | .45** | .43** | .33** | .44** | .39** | .78** | | | | | |
| 9. RU3 | 0.79 | 0.80 | .64 | .47** | .43** | .43** | .32** | .36** | .34** | .75** | .73** | | | | |
| 10. DE1 | 0.91 | 0.82 | .89 | .48** | .45** | .47** | .33** | .35** | .40** | .53** | .46** | .59** | | | |
| 11. DE2 | 0.86 | 0.72 | .82 | .52** | .53** | .53** | .34** | .43** | .44** | .60** | .51** | .64** | .85** | | |
| 12. DE3 | 0.97 | 0.73 | .83 | .47** | .46** | .51** | .28** | .32** | .39** | .53** | .49** | .62** | .84** | .86** | |

Note. SCH = shame/children; SFA = shame/family; SFR = shame/friends; GCH = guilt/children; GFA = guilt/family; GFR = guilt/friends; RU1 to RU3 = rumination parcel 1 to 3; DE1 to DE3 = depression parcel 1 to 3.

^{*}*p* < .05. ***p* < .01.

Table 2 $Fit \ Values \ for \ Measurement \ Models \ and \ Structural \ Models \ (N=149)$

| Models | χ^2 | df | TLI | CFI | SRMR | RMSEA | 90%-Confidence |
|---|----------|----|-----|-----|------|-------|-------------------|
| | | | | | | | interval of RMSEA |
| Measurement models | | | | | | | |
| Model 1: As hypothesized | 66.2* | 45 | .98 | .99 | .03 | .06 | .023084 |
| Model 2: Shame and guilt merged into one factor | 210.1** | 46 | .86 | .90 | .05 | .16 | .134177 |
| Structural models | | | | | | | |
| Model 3: Preliminary mediation model for guilt | 37.2* | 24 | .98 | .99 | .03 | .06 | .012098 |
| Model 4: Preliminary mediation model for shame | 33.7 | 24 | .99 | .99 | .03 | .05 | .000090 |
| Model 5: Combined mediation model | 66.2* | 45 | .98 | .99 | .03 | .06 | .023084 |
| | | | | | | | |

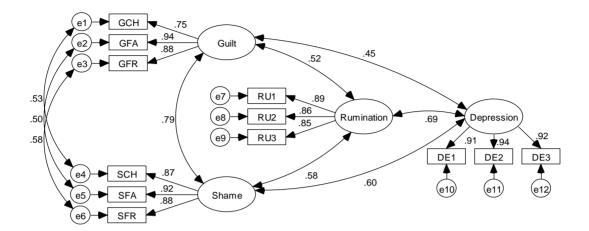
Note. TLI = Tucker-Lewis Index; CFI = Comparative Fit Index; SRMR = Standardized Root Mean Square Residual; RMSEA = Root Mean Square Error of Approximation.

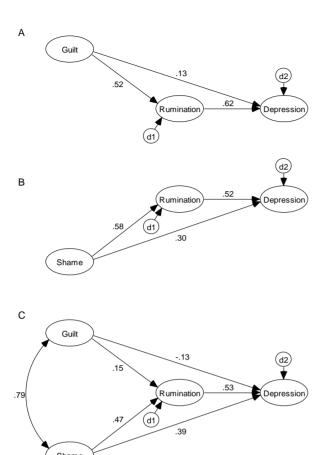
^{*}*p* < .05. ***p* < .01.

Figure Captions

Figure 1. Measurement model as hypothesized (Model 1). The figure shows the standardized values of the coefficients. GCH = guilt/children; GFA = guilt/family; GFR = guilt/friends; SCH = shame/children; SFA = shame/family; SFR = shame/friends; RU1 to RU3 = rumination parcel 1 to 3; DE1 to DE3 = depression parcel 1 to 3. All p's < .01, except for the correlation between e2 and e5 with p < .05).

Figure 2. Preliminary mediation model for guilt (Model 3, Figure 2A), preliminary mediation model for shame (Model 4, Figure 2B), and combined mediation model (Model 5, Figure 2C). The figure shows the standardized values of the coefficients. To keep the figure simple, only latent constructs are shown and manifest variables are omitted; the latent constructs were measured as shown in Figure 1. All p's < .01, except for the effect of guilt on depression (Figure 2A and 2C), ns, and the effect of guilt on rumination (Figure 2C), ns.





Appendix

Measure Used for Event-Related Shame and Guilt

In the following, all questions pertain to your *current feelings about the family breakup*, but with respect to three different groups of individuals.

- A) Please think about your *child/children*. Please indicate how much the statements apply to your feelings.
 - 1. I feel ashamed because of the breakup. (S)
 - 2. I feel like a failure. (S)
 - 3. I feel small. (S)
 - 4. I want to hide. (S)
 - 5. I feel guilty because of the breakup. (G)
 - 6. I should have behaved differently. (G)
 - 7. I have a guilty conscience. (G)
 - 8. I reproach myself. (G)
- B) Now please think about your *family (parents, sisters, brothers, etc.)*. Please indicate how much the statements apply to your feelings.

(same 8 items as above)

C) Now please think about your *friends*. Please indicate how much the statements apply to your feelings.

(same 8 items as above)

Note. For every item, a 6-point scale is given, ranging from 0 (*not at all right*) to 5 (*completely right*). Items on the Shame and Guilt subscales are labeled with (S) and (G), respectively.