

Parental Adjustment following Pediatric Burn Injury: The Role of Guilt, Shame, and Self-Compassion

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Abstract

Objective The purpose of this study was to examine the association between factors: guilt, shame, self-compassion, and parents' psychological adjustment to their child's burn injury. **Methods** Participants were 91 parents and primary caregivers (63 mothers, 25 fathers, 3 other) of 71 children recruited on the ward or at outpatient clinics during the first 8 weeks following their child's burn injury. In 20 cases, both parents participated, while for 51 children only one parent participated. Participants completed questionnaires which assessed adjustment (symptoms of depression, anxiety, and posttraumatic stress syndrome [PTSS]) as well as guilt, shame, and self-compassion. **Results** Multilevel analysis indicated that feelings of guilt and shame were associated with poorer adjustment in parents, while parents who rated high in self-compassion reported fewer symptoms of depression and PTSS. Guilt and shame showed a differing pattern of effects with shame explaining more variance for anxiety and depression. Length of hospitalization predicted PTSS; however, the remaining injury factors (size of burn, requiring a skin graft) were unrelated to parental adjustment. **Conclusions** Health-care professionals should pay close attention to families' subjective injury experiences. Screening for psychological distress should be offered to all families regardless of the size and severity of the burn injury.

Key words: burn injury; children; guilt; parents; self-compassion; shame.

Introduction

Pediatric burn injuries are among the most traumatic injuries for both children and their parents (Landolt, Buehlmann, Maag, & Schiestl, 2007). Parents are often more emotionally affected by the event than the children themselves (Egberts, van de Schoot, Geenen, & Van Loey, 2018) and are at risk of developing psychological difficulties; in the immediate aftermath of a burn event, between 24%

and 50% of parents meet clinical criteria for post-traumatic stress syndrome (PTSS) (Egberts et al., 2018), while some parents show symptoms of post-traumatic stress disorder (PTSD) many years after the injury (Bakker, Van Loey, Van Son & Van der Heijden, 2010). Symptoms of depression and anxiety are also common both during the acute phase and in the months following a burn event (Rodríguez-Rey, Alonso-Tapia, & Colville, 2018).

It is plausible that injury factors might predict how well parents adapt to their child's burn injury. With regard to the size of the burn a number of studies report a significant positive association with parental distress (Bakker, Van der Heijden, Van Son, & Van Loey, 2012; Willebr & Sveen, 2016), while no association has been found by others (McGarry et al., 2013; Rivlin & Faragher, 2007). Hall et al. (2006) reported an indirect effect of burn size through mediators: parental dissociation and child PTSS, while Bakker et al. (2010) found a significant interaction between a measure of burn severity (a mother's drawing of her child's scarred body zones) and feelings of guilt. Other injury factors such as burn visibility, length of hospitalization, and number of invasive medical procedures show an equally inconsistent pattern of results (McGarry et al., 2013; Odar et al., 2013).

While objective injury factors appear to be unreliable predictors of parents' adjustment, Kazak et al. (2006) have highlighted the importance of families' subjective injury experience. It was proposed that subjective appraisals, such as how a parent thinks or feels about an injury or illness, are more powerful predictors of traumatic stress than objective injury factors. Indeed, subjective factors: feelings of hopelessness (McGarry et al., 2013) and perceived life threat to the child (Egberts, van de Schoot, Geenen, & Van Loey, 2017) were both strong predictors of PTSS in parents whose child had sustained a burn injury.

For some parents, subjective appraisals of their child's burn injury may include feelings of guilt and shame. Guilt and shame are described as "self-conscious" emotions. This category of emotions arises from our self-awareness in how we are perceived by others or measure up to personal standards (Tracy, Robins, & Tangney, 2007). Guilt and shame are frequently used interchangeably; however, it has been argued that these two emotions represent distinct constructs (Tangney, 1996). Lewis (1971) defined guilt as a negative evaluation of one's actions. This may be an adaptive response, as it may motivate reparative actions (Tangney, 1996). By contrast, the negative evaluation in shame is directed toward the self. Thus, with shame there is a sense of the self being inferior or deficient relative to other people or to a moral standard.

There is growing evidence that guilt and shame show a differential association with psychological functioning with shame being indicative of increased distress. Kim, Thibodeau, and Jorgensen (2011) performed a meta-analysis using 108 studies on the role of guilt and shame in predicting depression. It was reported that shame ($r = .43$) was a stronger predictor of depressive symptoms than guilt ($r = .28$). In clinical samples of war veterans and victims of childhood sexual abuse, shame or "shame proneness" was also

found to be a stronger predictor of PTSD symptomatology than guilt (Dorahy et al., 2013; Leskela, Diperink & Thuras, 2002). These findings suggest that more recognition should be given to shame.

In the burns literature, no research to date has examined parents' experience of shame. However, several studies have investigated feelings of guilt: Mason (1993) qualitatively analyzed interviews with mothers and identified that 81% expressed guilt and self-blame in response to the burn injury. In a more recent qualitative study, "feelings of blame" was also a key theme for parents during the inpatient phase of their child's recovery (McGarry et al., 2015). In studies using self-report measures and interviews, a positive association has been found between guilt and symptoms of PTSS (Bakker et al., 2012; De Young et al., 2014), while Sveen and Willebrand (2018) reported that general guilt, but not guilt specific to the burn event, predicted depressive symptoms in parents whose child had sustained an injury up to 5.6 years previously.

One factor which may buffer against the experience of guilt and shame is adopting a compassionate self-attitude. Self-compassion refers to the propensity to: (1) engage in self-kindness in response to negative events or perceived self-inadequacy, (2) see one's own experience as common to the human experience, and (3) have a balanced perspective on painful thoughts and emotions (Neff, 2003a). This means that in the face of difficult experiences an individual adopts a warm and understanding attitude toward the self (Neff, Kirkpatrick & Rude, 2007). In a series of studies with undergraduate students, self-compassion was found to buffer against anxiety under laboratory conditions (Neff et al., 2007). On self-report measures, self-compassion further predicted life satisfaction and was negatively associated with self-criticism, depression, and anxiety (Neff, 2003b). To the authors' knowledge, self-compassion has not yet been investigated in a pediatric population. However, it would be expected that self-compassion would serve as an adaptive coping strategy for parents of children with burns.

Aims

The objective of the study was to investigate the association between guilt, shame, self-compassion, and parents' psychological adjustment to their child's burn injury. For the purpose of the study, poor adjustment was operationalized as the experience of symptoms of PTSS, depression and anxiety. It was hypothesized that guilt and shame would be a risk factor for poor adjustment, while self-compassion would be a protective factor. In a multilevel regression model predicting adjustment, it was predicted that guilt and shame

would independently predict PTSS, depression, and anxiety with shame explaining a larger proportion of the variance for each model. Finally, the size of the burn and other characteristics of the injury were predicted to be not significantly related to adjustment.

Methods

Parent Characteristics

Participants were 91 parents/primary caregivers (63 mothers, 25 fathers, 2 grandparents, and 1 stepmother) were recruited. In 20 cases, two parents participated, while for 51 children only one parent participated. Age ranged from 19 to 66 years ($M = 33.62$, $SD = 8.78$). The ethnicity of the sample was predominantly White British (92.4%) but also included Asian ($N = 3$), Black African/Caribbean ($N = 1$), Arabic ($N = 1$), and Kurdish ($N = 1$) participants. A total of 40% of parents witnessed the burn injury. The time span between the injury and participation in the study ranged between 1 and 57 days ($M = 9.71$, $SD = 10.92$).

Child Characteristics

The 42 children were boys and 29 were girls. Ages ranged from 4 months to 15 years ($M = 4.18$ years, $SD = 4.48$). The ethnicity of the children was 91% White British. Burn injury data were available for 97% of the children. The missing 3% was because of parents not giving consent for the burn data to be used in the study. The size of the burn (measured as total body surface area [TBSA]) ranged from 0.5% to 22% ($M = 3.88$, $SD = 3.67$). The majority of the children sustained small injuries with 65% of burns being smaller than 2%. A total of 36% percent of children required overnight hospitalization, with the length of stay ranging from 1 to 12 days ($M = 3.88$, $SD = 3.67$). and 12% of children required a skin graft. The types of injury included scalds (50.7%), contact (42.0%), flame (3.0%), friction (1.5%), chemical (1.5%), frost burns (1.5%), and not known (2.8%).

Procedure

Ethical approval was obtained from the relevant research ethics committees. A power analysis using G*Power indicated that a sample size of 77 would provide sufficient power to detect a medium-sized effect for a linear multiple regression analysis.

Recruitment took place at a regional pediatric burns unit between February 2016 and November 2016. The sample size of 91 parents (of 71 children) represented 13.5% of all pediatric patients treated at the burns unit during this period. The inclusion criteria were parents of children of age <16 years who had sustained a burn injury within the previous 8 weeks. This reflected the injury period of children attending the acute outpatient dressing clinics at the burns unit.

Parents were only recruited when their child's vital signs were stable. To avoid recruiting parents who were highly distressed, parents were not approached within the first 24 hr of the injury. Families were excluded if the child's burn was intentional or if parents were unable to read English.

Two psychology graduate researchers attended the hospital on specified recruitment days. On these days, all parents on the ward and at the outpatient dressing clinic had the opportunity to participate in the study. The researcher consulted with nursing staff who identified families that met the inclusion criteria. At the outpatient clinics, the researcher approached families after their appointment had finished. Where families presented as highly distressed, the researcher made a clinical judgment based on information provided by nursing staff if it was appropriate to approach the families. As families attended regular appointments at the burns unit during the acute phase of their child's injury, parents had more than one opportunity to participate.

Following informed consent, participants completed five self-administered questionnaires and demographic questions. This took between 15 and 30 min. When two parents were present, both parents were invited to take part independently in the study. Participants completed the measures on the ward ($N = 16$), in the outpatient dressing clinic ($N = 65$), online ($N = 4$), or returned them by post ($N = 6$). The return rate for questionnaires by post was 12.5%, while 50% of parents given web link participated in the study online. The majority of families where two parents participated were recruited in clinic (75%). Where consent was given, information relating to the burn injury was provided by the burns unit. Participants were reimbursed with a £5 gift voucher.

Measures

Traumatic Stress Symptoms

The Impact of Events Scale-Revised (IES-R, Weiss & Marmar, 1997) measures symptoms of intrusion, avoidance, and hyperarousal in response to a specific traumatic event. Higher scores indicate more symptoms of PTSS. The total IES-R score was used in the analysis (score range: 0–88). The IES-R shows good reliability and validity (Sundin & Horowitz, 2002). It has been used to measure PTSS in parents during the acute phase of pediatric burn injuries (McGarry et al., 2013). Cronbach's alpha was 0.96.

Depression and Anxiety Symptoms

Depression, Anxiety, and Stress Scale 21 (Lovibond & Lovibond, 1995). This is the short form of the DASS 42 and has 21 items. The depression and anxiety subscales (seven items each) were used in the analysis (score range: 0–42). Higher scores represent more

symptoms of depression and anxiety. The Depression, Anxiety, and Stress Scale 21 (DASS 21) is a valid and reliable measure of the depression and anxiety in both general and clinical populations (Antony, Bieling, Cox, Enns, & Swinson, 1998). Cronbach's alpha was 0.96.

Guilt

The Trauma-Related Guilt Inventory (TRGI, Kubany et al., 1996) consists of 32 items and measures feelings of guilt in relation to a specific traumatic event. The "global guilt" subscale (four items) was used in the analysis which represents the actual emotion of guilt (score range: 4–16). Example items include: "I experience intense guilt that relates to what happened" and "Indicate how frequently you experience guilt that relates to what happened." Higher scores suggest more frequent and intense feelings of guilt. The TRGI showed high construct validity and reliability in clinical samples (Kubany et al., 1996). Cronbach's alpha was 0.90.

Shame

The Trauma-Related Shame Inventory (TRSI, Økstedalen, Hagtvet, Hoffart, Langkaas, & Smucker, 2014) assesses for event-specific feelings of shame. It has 24 items. The "internal shame" subscale (12 items) was chosen for the analysis (score range: 0–69). This captures an individual's own feelings of shame directed toward the self. Questions included: "As a result of my traumatic experience, I have lost respect for myself" and "I am ashamed of the way I behaved during my traumatic experience." Higher scores indicate more feelings of shame. The TRSI showed good construct validity and reliability in a sample of patients treated for PTSD (Økstedalen et al., 2014). A reliable distinction was also demonstrated between feelings of guilt and shame, using the TRGI and TRSI, respectively. Cronbach's alpha was 0.97.

Self-Compassion

Self-Compassion Scale–Short Form (SCS–SF, Raes, Pommier, Neff, & Van Gucht, 2011) is a 12-item measure which shows near-perfect correlation with the original 26 item version (Raes et al., 2011). The total SCS-SF score was used in the analysis (score range: 2–15). Higher scores suggest a more compassionate self-attitude. The measure demonstrated good validity and internal consistency in nonclinical samples (Raes et al., 2011). Cronbach's alpha was 0.74.

Demographics/Burn Injury Data

Participants provided the following information: age of child at time of injury, gender and ethnicity of child and parent, relationship of parent to child, and if the parent witnessed the burn injury ("yes" or "no"). The following information was provided by the burns unit: date of

injury, size of burn, type of burn, if a skin graft was required, overnight hospitalization, and length of stay.

Data Analysis Plan

The data were entered twice to check for accuracy. The analysis was completed using SPSS (IBM Corp. Released 2016. IBM SPSS Statistics for Windows, Version 24.0. Armonk, NY) for *t*-tests and correlations and Mplus (Muthén & Muthén. Released 2014. Mplus, Version 7.3. Los Angeles, CA) for multilevel modeling. To manage the missing data, a total scale score was calculated. SPSS syntax was used to generate a mean score based on 60% of available items. This method for handling missing data is widely used by validated measures (e.g., the Strengths and Difficulties Questionnaire, Goodman, 1997). It is unlikely that this method compromised the integrity of the data, as the rate of missing data was low (missing values accounting for only 2.14% of the overall data). Furthermore, Little's MCAR test indicated that the data were missing at random, $\chi^2(28) = 27.85, p = .47$.

With the exception of self-compassion which was normally distributed, the remaining variables were significantly positively skewed. Shame was skewed owing to over half the participants (53.8%) scoring a total of 0 (out of possible score 69). For this reason, it was appropriate for the shame variable to be dichotomized (MacCallum, Shaobo, Preacher & Rucker, 2002); however, this is not how the measure was intended to be used. The shame variable was computed with a median split, allowing a comparison of those scoring 0 versus the rest (score of 1 or greater).

Correlations and *t*-tests were conducted to test the association between variables. Where two parents had participated for the same child, the average of both parents' scores was calculated. Using parent averages was chosen as an efficient way of dealing with intercorrelated parental responses; however, a more nuanced management of this nonindependence was adopted for the regression analysis.

To examine whether guilt, shame, and self-compassion were related to adjustment, multilevel regressions were run regressing the dependent variables on the adjustment variables. A linear, random intercept two-level regression model was estimated to account for dependency in the sample. The two levels were participant (individual level) and family (clustering variable). The number of parents available was also entered as a predictor (between-group level) because of the possible differences between families where two parents attended the burns unit (potentially indicating stronger co-parenting or heightened anxiety) compared with families where only one parent was present.

Guilt was entered into the model before shame because of the established link between this emotion and the adjustment variables (Bakker et al., 2010). Shame was then entered to assess whether it was able to explain an incremental proportion of the variance in addition to guilt. Self-compassion was added to the model in the final step. Age of child and length of hospitalization were included in all models, as these were robustly related to adjustment. Improvements in model fit were assessed at each step by considering the change in $-2 \log$ -likelihood ($-2LL$; Bartholomew, Steele, Galbraith, & Moustaki, 2008). As scaled log-likelihood estimates (using maximum likelihood with robust standard errors) were used, the Satorra–Bentler correction (Muthén & Muthén, 2010) was consistently applied to adjust for nonnormality. Because of the positive skew and the count nature for the guilt variable, this was regressed using a Poisson distribution for depression and anxiety. The effect size of variance explained in adjustment between the models was informed by the proportion of residual variance (i.e., dispersion) change between models. To interpret effect sizes, confidence intervals (CIs) of the unstandardized estimates (i.e., betas) are included.

Results

Table 1 shows the *M*s, *SD*s, and the range for the six variables. The percentages of parents who had clinically significant symptoms was as follows: for PTSS (IES-R total score ≥ 33 , Creamer et al., 2002), 32.8% of women and 40% of men scored within the clinical range, while for depression (DASS depression subscale ≥ 14 , Lovibond & Lovibond, 1995), 27% of women and 25% of men had scores within the “moderate” to “severe” range. For symptoms of anxiety (DASS anxiety subscale ≥ 10 , Lovibond & Lovibond, 1995), 28.1% of women and 28% of men scored within the “moderate” to “severe” range.

Is Parental Adjustment Associated With Burn Injury Factors?

Bivariate correlations between outcomes (depression, anxiety, and PTSS) and demographic/burn injury factors are reported in Table 2. Younger age of child was associated with more symptoms of depression, $r = -.25$, $p = .036$, anxiety, $r = -.26$, $p = .027$, and PTSS, $r = -.25$, $p = .04$, in parents. Greater length of hospitalization was also significantly correlated with PTSS, $r = .25$, $p = .034$. As expected, no significant association was found between the size of the burn injury and parents’ symptoms of depression, $r = .03$, $p = ns$, anxiety, $r = .04$, $p = ns$, and PTSS, $r = .16$, $p = ns$. Age of parent was negatively associated with depressive symptoms, $r = -.26$, $p = .031$ but not anxiety or PTSS. Time since injury was not related to the

Table 1. *M*s, *SD*s, and Range for the Study Variables

Variable	<i>M</i>	<i>SD</i>	Range
Depression	8.75	11.04	0–42
Anxiety	7.02	9.57	0–42
PTSS	23.17	19.12	0–76
Guilt	1.90	1.70	0–10
Shame	2.65	6.06	0–28
Self-compassion	3.17	0.68	1.67–5

Note. “Moderate” depression ≥ 14 (Lovibond & Lovibond, 1995); “moderate” anxiety ≥ 10 (Lovibond & Lovibond, 1995); PTSS ≥ 33 (Creamer et al., 2002). PTSS = posttraumatic stress syndrome.

adjustment variables. No significant difference in adjustment was found between parents who had witnessed the burn injury and those who had not, parents of girls and boys, and the gender of parents. Younger age of child was related to more guilt in parents; however, no significant association was found between parental shame and the child’s age.

Is Parental Adjustment Associated With Guilt, Shame, and Self-Compassion?

Parents who experienced more feelings of guilt and shame reported higher levels of depressive and PTSS symptoms (see Table 2). Shame was also positively correlated with anxiety, $r = .62$, $p < .001$. The findings showed that higher scores for self-compassion were associated with less severe symptoms of depression, $r = -.34$, $p = .004$, and PTSS, $r = -.30$, $p = .011$. However, self-compassion was unrelated to anxiety.

The first multilevel regression model (86 complete observations) with parental adjustment outcomes predicted by guilt, while controlling for age of child and hospitalization showed that guilt was significantly associated with symptoms of depression and anxiety (estimate = 0.91, SE = 0.26, $p < .001$, 95% CI = 0.41, 1.42; estimate = 0.52, SE = 0.23, $p = .026$, 95% CI = 0.062, 0.97, respectively). Guilt was also significantly associated with PTSS symptoms (estimate = 16.78, SE = 3.680, $p < .001$, 95% CI = 9.57, 23.99). The within-variance explained in PTSS was 37%, while between-level variance explained was 0%. Age was not a significant predictor in the models (p ranging from .13 to .83) and neither was length of hospitalization (p ranging .25 to .77).

When shame was entered in the second hierarchical multilevel model (retaining 83 observations), a significant reduction in $-2LL$ was observed, Satorra–Bentler = 87.61 ($df = 3$), $p < .001$. This indicated that shame was able to explain significant variance over and above guilt and the covariates. The variance explained in PTSS increased to 42% in this model. Shame was significantly associated with all adjustment measures

Table II. Correlation Coefficients Between the Study Variables

Variable	Variable											
	1	2	3	4	5	6	7	8	9	10	11	
1. Age of child	–											
2. Age of parent	.55**	–										
3. Size of burn	–.01	.01	–									
4. Length of hospitalization	–.11	.08	.69**	–								
5. Time since injury	.18	.10	.02	.14	–							
6. Depression	–.25*	–.26*	.03	.20	–.11	–						
7. Anxiety	–.26*	–.21	.04	.14	–.18	.86**	–					
8. PTSS	–.25*	–.06	.16	.25*	–.02	.66**	.67**	–				
9. Guilt	–.39**	–.15	–.04	.18	.25*	.35**	.24*	.48**	–			
10. Shame	–.20	–.08	.04	.13	–.13	.61**	.62**	.65**	.53**	–		
11. Self-compassion	.05	.09	.10	.03	–.07	–.34**	–.18	–.30*	–.15	–.27*	–	

Note. Correlations with shame are based on Spearman's correlations. The remaining variables are Pearson's correlations. PTSS = posttraumatic stress syndrome

* $p < .05$. ** $p < .01$.

(depression: estimate = 1.08, SE = 0.38, $p = .01$, 95% CI = 0.34, 1.82; anxiety: estimate = 1.18, SE = 0.40, $p = .003$, 95% CI = 0.39, 1.97; PTSS: estimate = 13.71, SE = 3.82, $p = .001$, 95% CI = 5.62, 21.81). Guilt continued to significantly predict depression and PTSS in this model (estimate = 0.59, SE = 0.29, $p = .042$, 95% CI = 0.02, 1.62; estimate = 12.61, SE = 3.82, $p = .001$, 95% CI = 5.12, 20.10, respectively) but not anxiety (estimate = 0.41, SE = 0.28, $p = .147$, 95% CI = –0.143, 0.96).

To investigate the influence of self-compassion in relation to guilt and shame, this variable was added last to the model (83 observations retained). There was a significant reduction in the –2LL while accounting for the correction factor in maximum likelihood estimation with robust standard errors, Satorra–Bentler = 12.15 ($df = 3$), $p < .01$. Findings from this final model can be seen in Table 3. Shame contributed unique variance in explaining parental adjustment following a pediatric burn. However, self-compassion significantly and statistically predicted depression, with more self-compassion related to less depressive symptoms. Guilt continued to predict PTSS but ceased to be significant for depression once self-compassion was added to the model.

Discussion

This study found that guilt and shame predicted measures of adjustment (depression, anxiety, and PTSS) in parents/primary caregivers of children who had sustained burn injuries. The findings also indicated that these related emotions showed differing patterns of effects, with shame explaining more variance in the multilevel models for anxiety and depression. Parents rated high in self-compassion reported fewer symptoms of depression and PTSS; however, self-compassion was

Table III. Final Multilevel Model With Guilt, Shame, and Self-Compassion Predicting Psychological Adjustment

Model	Estimate	SE	CI low	CI high
Depression				
Age of child	–0.00	0.00	–0.01	0.00
Length of hospitalization	0.02	0.04	–0.06	0.10
Guilt	0.48	0.30	–0.11	1.07
Shame	0.94**	0.35	0.26	1.62
Self-compassion	–0.46*	0.18	–0.81	–0.10
Anxiety				
Age of child	–0.01	0.00	–0.01	0.00
Length of hospitalization	0.06	0.04	–0.01	0.13
Guilt	0.40	0.29	–0.16	0.96
Shame	1.13**	0.41	0.33	1.92
Self-compassion	–0.12	0.17	–0.46	0.21
PTSS				
Age of child	–0.00	0.03	–0.06	0.05
Length of hospitalization	1.14	0.79	–0.42	2.69
Guilt	12.38**	3.84	4.85	19.90
Shame	11.38**	4.32	2.91	19.84
Self-compassion	–4.47	2.99	–10.32	1.39

Note. CI = confidence interval (95%). PTSS = posttraumatic stress syndrome

*Estimates reflect unstandardized regression coefficients.

* $p < .05$. ** $p < .01$.

unrelated to anxiety. As expected, objective measures of the injury (size of burn, the child requiring a skin graft) were not significantly related to parental adjustment. However, longer stays in hospital were associated with higher levels of PTSS in parents. Younger age of child also predicted symptoms of depression, anxiety, and PTSS.

Parents in this study showed high levels of psychological distress. Namely, 32.8% of mothers and 40% of fathers met clinical criteria for PTSS, while a quarter of mothers and fathers reported symptoms indicative of moderate to severe anxiety and depression. These findings closely resemble rates of PTSS,

depression, and anxiety reported in the literature (Egberts et al., 2018; Rodriguez-Rey et al., 2018). While more fathers than mothers, who were present during the child's hospitalization or burn dressing appointment, reported clinically significant symptoms of PTSS, overall mothers and fathers did not differ statistically in severity of PTSS symptomatology.

The findings from this study add to the growing body of evidence that increased feelings of guilt are associated with poorer adjustment in parents following pediatric burn injuries (De Young et al., 2014). Furthermore, it supports the view that more recognition should be given to parents' subjective appraisals of their child's injury (Kazak et al., 2006). In contrast, it was found that object injury factors (TBSA and the child requiring a skin graft) were unrelated to measures of psychological distress. This replicates previous findings (McGarry et al., 2013; Rivlin & Faragher, 2007). While length of hospitalization did predict symptoms of PTSS, it is also possible that hospitalization may be related to variables not measured in the current study, such as pain or smoke inhalation, which in turn may be associated with PTSS. While subjective factors are important, it is noteworthy that so are a range of other factors that were not assessed. For example, previous research has identified that social support, history of trauma, and mental health problems are all strong indicators of how parents adjust to their child's burn injury (McGarry et al., 2013).

As predicted, guilt and shame were found to be independently related to measures of adjustment; shame made a larger contribution to the multilevel models of anxiety and depression compared with guilt. This finding mirrors research from nonpediatric samples which report that shame is a stronger predictor of depressive symptoms (Kim et al., 2011) and PTSD (Leskela et al., 2002) compared with guilt. In addition, guilt and shame showed a different relationship to age of child with parents of younger children expressing more feelings of guilt but not shame. These findings add support to literature suggesting that guilt and shame represent distinct constructs (Lewis, 1971). It is argued that guilt and shame differ with regard to the focus of negative appraisal: with shame the entire self is seen as at fault, while with guilt the focus is just on specific behaviors (Tangney, 1996). Therefore, the finding that shame is a stronger predictor of psychological distress may be because of shame being a more aversive emotional experience than guilt (Øktedalen et al., 2014). With regard to the contrasting results for age of child, it is possible that guilt is more closely linked to parental responsibility (parenting behavior is seen as wrong rather than the parent feeling inferior or bad as a person) and that a parent's sense of this is more affected by their child's age.

This study found that self-compassion was a protective factor in parents. In particular, self-compassion explained a significant proportion of the variance in the depression model over and above shame, while guilt was found to no longer predict depressive symptoms when self-compassion was added to the model. It is unclear why this was the case. A plausible explanation would be that guilt was only linked to depression because it overlaps with a less compassionate way of self-relating. However, a surprise finding was that guilt and self-compassion were not correlated in this study. Otherwise, the findings are consistent with prior research showing that participants who scored high in self-compassion showed better psychological functioning (Neff, 2003a). Self-compassion has often been found to buffer against anxiety (Neff et al., 2007), but this was not replicated in the present study.

The study contributes to the burns literature by exploring the factors shame and self-compassion for the first time in this population. It builds on previous research on guilt by using a validated measure. To date, researchers have typically used crude measurements of guilt, such as simply asking parents if they felt responsible for the injury (Rivlin & Faragher, 2007) or how guilty they felt on a five-point Likert scale (Bakker et al., 2012). These methods might be too "narrow" to capture the complex emotion of guilt (Bakker et al., 2010, p. 659). While the measure for shame (TRSI) has shown good construct validity in populations with PTSD (Øktedalen et al., 2014), in the current study, a floor effect was observed. This may suggest that the tool was not sufficiently sensitive or that participants were not comfortable disclosing feelings of shame. It could also indicate that pronounced feelings of shame remain rare in this population. Future research should consider using a different measure, such as the Experience of Shame Scale (Andrews, Qian & Valentine, 2002), as this has more variance in nonclinical samples.

One of the major limitations of the study was the large proportion of small burns within the sample (65% of burns <2% TBSA). Therefore, these findings may not generalize to parents of children who have sustained larger and more severe burns, and the analysis will have had reduced power to examine the role of burn size in predicting parental adjustment. An additional limitation was that no data were collected on the number of parents approached and recruited. As a result, no conclusions can be drawn on the representativeness of the sample. It is also acknowledged that not approaching families who were highly distressed might have introduced bias into the sample. However, families had several opportunities to participate in the study because of their child attending multiple dressing appointments at the burns unit during the acute phase of the injury. The cross-sectional design is a

further limitation. It is therefore not known whether shame, guilt, and self-compassion are consequences or epiphenomena of poorer parental adjustment, rather than determinants. In addition, a weakness of the study was recruiting parents at any time during the first 8 weeks of injury and using the IES-R which has not been standardized on participants experiencing the early days of a traumatic event. While the course of the development of trauma symptoms is not known for this specific population, it is acknowledged that parents may have a qualitatively different experience of trauma in the acute phase (first 30 days) compared with later time points. Future research should consider focusing on one adjustment period only.

A clinical implication of the findings is that parents are screened for psychological distress following pediatric burn injuries. The importance of screening has also been highlighted in recent publications (Griffiths, 2016; Egberts et al., 2018). This study would add that tools for assessing psychological distress should include items that address subjective appraisals of the burn event. Furthermore, that screening should be offered to all parents irrespective of the size and severity of the burn injury. In addition, psychologists should be mindful of the impact of guilt and shame in the assessment and formulation of psychological distress. These emotions may constitute barriers to treatment if not addressed (Pugh, Taylor, & Berry, 2015).

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