

Research paper

The relations between empathy, guilt, shame and depression in inpatient adolescents



Malgorzata Gambin^{a,*}, Carla Sharp^{b,c}

^a Department of Psychology, University of Warsaw, ul Stawki 5/7, 00-183, Warsaw, Poland

^b Department of Psychology, University of Houston, 126 Heyne Building, Houston, TX 77204, United States

^c Menninger Clinic, 12301 S. Main St. Houston, TX, 77035-6207, United States

ARTICLE INFO

Keywords:

Affective empathy
Cognitive empathy
Guilt
Shame
Depression

ABSTRACT

Background: High levels of affective empathy are associated with increased levels of depressive symptoms. However, studies investigating the mechanisms underlying this relation are limited. Since affective empathy may be associated with a feeling of exaggerated responsibility for alleviating the suffering of others, it may lead to high levels of generalized guilt and various forms of shame, which, in turn, may elevate depressive symptoms. Therefore, these self-conscious emotions are candidate mediators of the affective empathy-depressive symptoms relationship. Accordingly, the aim of the current study was to test the hypothesis that generalized and contextual shame and generalized guilt mediate the relations between affective empathy and depressive symptoms.

Methods: 117 inpatient adolescents completed the Basic Empathy Scale to assess affective and cognitive empathy, the Beck Depression Inventory-II to evaluate severity of depressive symptoms, the Test of Self-Conscious Affect that measures contextual guilt and shame, and the Personal Feelings Questionnaire that assess generalized guilt and shame.

Results: Findings demonstrated that generalized guilt, contextual and generalized shame mediated the relation between affective empathy and depressive symptoms. In contrast, cognitive empathy was shown to be related most strongly to contextual guilt and was unrelated to depressive symptoms.

Limitations: Characteristics of the sample (predominately Caucasian inpatient adolescents from well-educated and financially stable environments), the lack of a longitudinal design, and over-reliance on self-report measures were main limitations of the study.

Conclusions: The study provides novel information on the mechanisms underlying the association between affective empathy and depressive symptoms and shows that shame and generalized guilt associated with affective sharing should be considered as possible targets for therapeutic/preventive interventions for adolescents with high levels of depressive symptoms.

1. Introduction

Affective empathy, the ability to experience and share the emotions of others, and cognitive empathy, the capacity to take the perspective and understand the emotions of another person (e.g. Decety and Jackson, 2004; Shamay-Tsoory et al., 2009), have been shown to associate with positive interpersonal outcomes, including better relationships with friends and partners and prosocial behaviors (Chow et al., 2013; Smith and Rose, 2011; Soenens et al., 2007). However, paradoxically high levels of affective empathy have been shown to be associated with elevated depressive symptoms (e.g. Gambin and Sharp, 2016, 2018; Schreiter et al., 2013; Tone and Tully, 2014) leading to clinically significant difficulties in social functioning (Hirschfeld et al.,

2000; Rottenberg et al., 2004) and substantial functional impairment in a variety of other important life domains (Kessler et al., 1997, 2003).

Several scholars (O'Connor et al., 1997, 1999, 2002, 2007, 2012; Tone and Tully, 2014; Tully et al., 2016; Zahn-Waxler and Radke-Yarrow, 1990; Zahn-Waxler and Van Hulle, 2012) have suggested that sharing emotions with others may result in feelings of exaggerated responsibility for others' suffering and maladaptive forms of guilt (e.g. generalized guilt) which, in turn, may elevate depressive symptoms. We propose that affective empathic experience may be associated not only with maladaptive forms of guilt, but also with shame that may contribute to the development and maintenance of depression. Specifically, the aim of the current study was to test the hypothesis that generalized guilt and various forms of shame (contextual and generalized) mediate

* Corresponding author.

E-mail addresses: mgambin@psych.uw.edu.pl (M. Gambin), csharp2@central.uh.edu (C. Sharp).

the relation between affective empathy and depressive symptoms in a sample of inpatient adolescents. An improved understanding of the mechanisms that underlie the relation between affective empathy and depression is important for clinicians to plan more effective therapeutic and preventive interventions for individuals with depressive symptoms and those at risk for depression. It allows the targeting of these mediators during the course of therapy. Exploring this topic specifically in youth is particularly important given the fact that adolescence constitutes a critical developmental period for the development of major depression (Avenevoli et al., 2015).

2. Affective and cognitive empathy, depressive symptoms and adolescence

Affective empathy can lead either to sympathy defined as an other-oriented emotional reaction that involves feelings of concern and sorrow for another person, or can be linked to personal distress - a self-oriented aversive emotional reaction to another's state or condition (Batson et al., 1987; Eisenberg and Eggum, 2009). High levels of affective empathy and empathic distress have been shown to be associated with depressive symptoms in adolescents and adults (e.g. Gambin and Sharp, 2016, 2018; O'Connor et al., 2002; Schreiter et al., 2013). In contrast, cognitive empathy has been found to be unrelated or negatively related to depressive symptoms (e.g. Gambin and Sharp, 2016; 2018; Schreiter et al., 2013).

Adolescence has been identified as an important life period for the development of empathy. Youth start to better understand emotions of other people and generate and implement increasingly sophisticated prosocial behaviors based on empathic feelings and thoughts (Keulers et al., 2010; Van der Graaff et al., 2014; Vetter et al., 2013). However, youth are particularly prone to experience high levels of emotional arousal (Steinberg et al., 2006) that may negatively impact their abilities to reflect on and regulate emotions shared with other people.

3. Guilt, shame, depressive symptoms and adolescence

Shame and guilt are negative, cognitively complex self-conscious emotions that are usually experienced in situations in which important standards for behavior are violated (Batson et al., 1987; Kim et al., 2011; Tracy and Robins, 2004). While guilt and shame share similar features and are often experienced together in real life (Carnì et al., 2013; O'Connor et al., 1997), important differences between these two emotions have been found in previous studies (Lewis, 1971; Keltner, 1996; Kim et al., 2011; Tangney and Dearing, 2002; Tangney and Fischer, 1995). That is, whereas shame pertains to a painful focus on the self, guilt is an interpersonally driven emotion arising from the belief that one has hurt another (Baumeister et al., 1994; Carnì et al., 2013; Kim et al., 2011; Lewis, 1971; Modell, 1971; Neiderland, 1981; O'Connor et al., 1997, 1999, 2002, 2007, 2012; Tangney and Dearing, 2002; Tracy and Robins, 2004; Weiss et al., 1986; Weiss, 1993). In effect, the experience of guilt is often accompanied by feelings of regret and remorse over a transgression that motivates reparative action. In contrast, shame may lead either to defensive/avoidance behavior or to attempts to change oneself and own self-image (Leach and Cidam, 2015; Kim et al., 2011; Tangney and Dearing, 2002).

Some instruments measure self-conscious emotions in specific contexts i.e., contextual guilt and shame (Kim et al., 2011; Tangney et al., 1991; Tangney et al., 2000), whereas other questionnaires assess self-conscious emotions independent of context (i.e., generalized guilt and shame) (Harder and Zalma, 1990; Kim et al., 2011). Measures also exist which assess guilt that involves the possession of irrational beliefs about responsibility for perceived harm inflicted upon others (Kim et al., 2011; O'Connor et al., 1997, 1999). Reviews of studies concerning relations between guilt, shame and depression in adults (Kim et al., 2011) and in adolescents (Muris and Meesters, 2014) have shown that contextual guilt is unrelated to depressive symptoms. In contrast,

generalized guilt divorced from specific contexts and guilt derived from beliefs and fears about harming others have been shown to be positively associated with depressive symptoms. Moreover, depression has been found to be associated with high levels of both contextual and generalized shame, with the latter showing stronger links to depressive symptoms than contextual shame. Leach and Cidam (2015) proposed that this pattern of results may stem from the fact that generalized shame implies that personal characteristics that are a cause of violations of behavioral standards are not susceptible to change. In contrast, contextual shame can appear more often in situations when failure can be reparable and may lead to self-improvement attempts. However, both contextual shame and generalized shame are associated with a focus on a "bad" self and reinforce feelings of being worthless, powerless, and inferior and, in effect, increase the risk of depression (Gruenewald et al., 2007; Kim et al., 2011; Mills et al., 2015).

Adolescence is a time of peak in levels of self-consciousness and self-conscious emotions (Rankin et al., 2004; Somerville et al., 2013) that is associated with social-cognitive, physical, and interpersonal transformations. Since shame and guilt undergo important changes in this period of life, youth are vulnerable to experience excessively high levels of these self-conscious emotions, which may adversely affect developmental trajectories and lead to depressive symptoms.

4. Guilt and shame as mediators in the relation between affective empathy and depression

Various forms of guilt (among others generalized guilt) have been proposed to underlie the relationship between empathy and depression. Several scholars (Modell, 1971; Neiderland, 1981; O'Connor et al., 1997, 1999, 2002, 2007; Weiss et al., 1986; Weiss, 1993) suggested that individuals who are clinically depressed may display irrational altruistic concerns and pathogenic cognitions, defining themselves as harmful to others and responsible for alleviating the suffering of others. O'Connor and colleagues (2002) demonstrated that severity of depression is significantly correlated with omnipotent responsibility, empathic distress and guilt related to the fear of harming others. Similarly, Zahn-Waxler and colleagues (1990, 2012) put forward a hypothesis that children who are highly empathic and raised in families that involve parental suffering may get overly engaged in caring for parents and may assume a causal role in parental suffering. In such cases, high levels of empathy may be associated with guilt over hurting others, which then creates risk for depression. In line with these theoretical assumptions, Tone and Tully (2014) proposed that biological predispositions to emotion regulation difficulties together with adverse environmental factors make highly empathic individuals prone to maladaptive states such as personal distress and guilt over causing suffering of others, which in turn elevate risk for internalizing disorders. Finally, Tully et al. (2016) demonstrated that high levels of affective empathy in combination with high levels of generalized guilt, together with proneness to ruminative brooding and ruminative pondering, are associated with elevated depressive symptoms.

We may assume that when individuals share emotions with another person and try to understand his/her emotional experience, in some cases they may focus on other people that are hurt, as well as on their own behaviors and actions that could cause another's suffering and in effect they could experience guilt. Their feelings of responsibility and guilt may be either situationally appropriate (contextual guilt) or exaggerated when they feel responsibility for various negative outcomes over which they do not have control (generalized guilt). We may expect that affective empathy, that leads to intense emotional experiences and does not necessarily involve reflection upon own and others' mental states (or may even impede mentalizing abilities due to high levels of emotional arousal) (Cox et al., 2011; Gambin et al., 2015; Joireman et al., 2002), may be more often related to feelings of guilt and responsibility for others' suffering that are non-rational and exaggerated (generalized guilt). On the other hand, cognitive empathy, which is

associated with reflection upon own and others' mental states and involves sense of distance toward own and others' emotions (Cox et al., 2011; Gambin et al., 2015; Joireman et al., 2002), may be more often associated with situationally appropriate, context-specific guilt. Moreover, when individuals share emotions with other people and assume that they have causal role in others' suffering, they may suppose that not only their actions, but also their own negative characteristics cause others' suffering. In effect, they may experience the feeling of shame, that is often accompanied by sense of inferiority, powerlessness, and worthlessness that, all together, are risk factors for development of depressive symptoms (Gruenewald et al., 2007; Kim et al., 2011; Mills et al., 2015).

Even though theoretical reasons exist to consider not only guilt, but also shame as a mediator of the relationship between affective empathy and depression, none of the above mentioned studies and theoretical models took this variable into account in the explanation of mechanisms underlying the relations between empathy and depression. Moreover, studies testing theoretical assumptions that guilt underlies the relation between empathy and depression are limited (O'Connor et al., 2002; Tully et al., 2016) and did not investigate contextual and generalized types of guilt. In addition, none of the previous studies exploring these associations have focused on a sample of adolescents, who are particularly vulnerable to experience maladaptive forms of self-conscious emotions, difficulties in regulation of empathic arousal and high levels of depressive symptoms; all reasons that this population should be targeted for prevention and intervention efforts (Avenevoli et al., 2015).

5. Present study

Against this background, the aim of our study was to explore the interplay between affective and cognitive empathy, guilt, shame and depression. We predicted that cognitive empathy would be related most strongly to contextual guilt and would not be associated with elevated depressive symptoms. In contrast, we expected that affective empathy would be positively related to generalized guilt and to both generalized and contextual shame and to depressive symptoms. Finally, we predicted that positive association between affective empathy and depressive symptoms would be mediated by both contextual and generalized shame and generalized guilt. In achieving the study's aims, we focused on a sample of inpatient adolescents to include participants with a large range of depression severity. In addition, a better understanding of how empathy, shame, guilt and depressive symptoms relate to one another in clinical samples have direct clinical utility. The use of a clinical inpatient sample also increase the likelihood that a positive relation between affective empathy, shame, guilt and depression is found, as such adolescents more often experience various adverse environmental factors (Bettmann and Jasperson, 2009) and thus may be more prone to experience maladaptive forms of self-conscious emotions associated with affective sharing, which in turn elevate risk for depressive symptoms.

6. Method

6.1. Participants

This study included a sample of 125 consecutive admissions of adolescents between the ages of 12 and 17 years to the adolescent unit of a private psychiatric hospital in a major metropolitan city in the Southwestern United States between April 2013 and October 2015. Inclusion criteria for study participation consisted of: (1) any adolescent patient between 12 and 17 years of age, and (2) adolescents who were sufficiently fluent in English to complete all research. Exclusion criteria for study participation comprised the following: (1) diagnosis of schizophrenia or any psychotic disorder, and/or (2) diagnosis of mental retardation. Based on these criteria, 8 patients were excluded from

participation in the assessment protocol. After these exclusions, a total of 117 inpatient adolescents (75 females and 42 males) were used in subsequent analysis.

At admission, the most common diagnoses (not mutually exclusive) in this sample, based on the structured interview, were: major depressive disorder (55.6%), social phobia (26.6%), specific phobia (23.4%), ADHD (22.6%), obsessive compulsive disorder (19.4%), generalized anxiety disorder (19.4%), panic disorder (16.9%), oppositional defiant disorder (12.9%), conduct disorder (13.7%), and separation anxiety disorder (12.1%). The racial breakdown was as follows: 89.8% White/Caucasian, 1.9% Asian, 0.9% Black, 0.9% American Indian, Alaskan or native, and 6.5% multiracial or other. The sample was generally of high socioeconomic status: 15.7% of the participants, for which family socioeconomic data was available (87.2% of whole sample) reported to have monthly income between \$10,000 and \$49,999 USD, 10.8% between \$50,000 and \$99,999 USD, 16.7% between \$100,000 and \$149,999 USD, 8.8% between \$150,000 and \$199,999 USD, and 48% over \$200,000 USD. Moreover, 1% of parents reported having a doctoral degree, 10.6% reported having a professional degree (JD, MD), 26% reported having a master's degree, 46.2% reported having a bachelor's degree, 3.8% reported having a technical or associates degree, 11.5% reported completing some college, 1% reported having a high school diploma or equivalent, and 1.2% reported having completed some high school.

6.2. Measures

The Basic Empathy Scale (BES, Jolliffe and Farrington, 2006) is a self-report measure developed to assess the multidimensional aspects of empathy and includes two subscales detecting two different components of empathic responsiveness: the Affective Empathy subscale, measuring emotional congruence with another person's emotions (11 items e.g. *I get caught up in other people's feelings easily; After being with a friend who is sad about something, I usually feel sad.*) and the Cognitive Empathy subscale, measuring ability to understand another person's emotions (9 items, e.g. *When someone is feeling 'down' I can usually understand how they feel; I can understand my friend's happiness when she/he does well at something.*). Adolescents were asked to rate 20 items on a 5-point Likert scale, ranging from 1 = Strongly Disagree to 5 = Strongly Agree. Good convergent and divergent validity have been demonstrated for the both subscales of BES (Jolliffe and Farrington, 2006) in the population sample of adolescents. Internal reliability was very good for the cognitive empathy subscale ($\alpha = 0.82$) and the affective empathy ($\alpha = 0.89$) for the current study.

The Beck Depression Inventory-II (BDI-II; Beck et al., 1996) is a 21-item self-report measure of depressive symptoms based on DSM-IV criteria. Each item is rated on a 0–3 scale and total scores range from 0 to 63. The BDI-II has demonstrated excellent reliability and validity in samples of adolescent inpatients (Osman et al., 2004). Internal consistency was excellent for the current study ($\alpha = 0.92$).

The Test of Self-Conscious Affect –Adolescent (TOSCA-A; Tangney et al., 1991) consists of 15 scenarios (10 negative and 5 positive) that simulate events that are likely to be experienced by adolescents. Each scenario is followed by four or five responses, each rated on a five-point scale, measuring shame-proneness and guilt-proneness, externalization, detachment/unconcern, alpha-pride and beta-pride. In the current study, only the response items assessing guilt and shame were used. We used the TOSCA-A as a measure of contextual self-conscious emotions as classified by Kim and colleagues in their review (2011). An example of a scenario is "*At lunchtime, you trip and spill your friend's drink.*" The shame response is "*I would be thinking that everyone is watching me and laughing.*" and the guilt response is "*I would feel very sorry. I should have watched where I was going.*" The internal consistencies for this sample were excellent for shame subscale ($\alpha = 0.90$) and very good for guilt subscale ($\alpha = 0.84$).

The Personal Feelings Questionnaire PFQ-2 (Harder and

Zalma, 1990), is a self-report adjective checklist with each item rated on a 4-point scale (0 = you never experience the feeling to 4 = you experience the feeling continuously or almost continuously) that measures the degree of generalized guilt and shame experienced by an individual. PFQ-2 includes six items relating to 'guilt' (e.g., *intense guilt, regret, remorse*), ten to 'shame' (e.g., *embarrassed, feeling humiliated, feelings of blushing*) and six additional 'filter' items. Scores range from 0 to 40 on the shame subscale, and from 0 to 24 on the guilt subscale, with a higher score indicating greater amounts of shame or guilt, respectively. Both the Guilt and Shame scales of the PFQ possess adequate reliability, concurrent validity with other measures of guilt and shame, and construct validity (Harder and Zalma, 1990). In the current study, Cronbach's alpha was 0.87 for the shame subscale and 0.83 for the guilt subscale.

6.3. Procedures

This study was approved by the appropriate institutional review board. All adolescents admitted to an inpatient psychiatric unit were approached on the day of admission about participating in this study. Informed consent from the parents was collected first, and if granted, assent from the adolescent was obtained in person. Assessments occurred within the first 2 weeks of admission.

6.4. Data analytic strategy

We used the PROCESS macro for SPSS developed by Hayes (2012), which calculates specific indirect effects in addition to the total indirect effect. Bootstrapping with 10,000 re-samples was performed to obtain 95% confidence intervals. Subsequently, we have calculated the mediation effect size according to the formula $ab / (ab + c')$ which describes the ratio of the indirect effect to the total effect (Preacher and Kelley, 2011). The association between affective empathy and depressive symptoms was tested with three potential mediators (generalized guilt, contextual shame, generalized shame). Covariates included age and sex. Distributions for study variables approximated normality (skewness and kurtosis $< |0.96|$). Multicollinearity was not a problem, with tolerance greater than 0.2 and a VIF less than 4.

7. Results

7.1. Descriptive results and bivariate relations between main study variables

Descriptive statistics are presented in Table 1. Independent samples t-tests were run to test differences between girls and boys across key study variables. Results showed that girls were characterized by significantly higher levels of generalized guilt in comparison to boys ($t(117) = 2.740, p < .01$), however female and male adolescents did not differ significantly (all p 's > 0.05) on other variables. Moreover, age has been shown to be significantly correlated with two of the key study variables: contextual shame ($r(117) = -0.225, p < .05$) and contextual guilt ($r(117) = -0.267, p < .01$) and has been not related to the other

Table 1

Descriptive statistics for key study variables.

	Mean/N	Standard deviation/%
Sex (% Female)	75	64%
Age in months	188.18	17.33
Affective empathy	39.42	8.77
Cognitive empathy	35.88	4.84
Contextual guilt	57.78	9.65
Contextual shame	50.27	12.08
Generalized guilt	13.14	5.65
Generalized shame	22.29	8.46
Depressive symptoms	29.19	13.72

Table 2
Zero-order correlations between key study variables.

	1	2	3	4	5	6
1. Affective empathy	—					
2. Cognitive empathy	.374**	—				
3. Contextual guilt	.427**	.256**	—			
4. Contextual shame	.271**	−0.023	.651**	—		
5. Generalized guilt	.413**	.192*	.450**	.518**	—	
6. Generalized shame	.365**	.105	.450**	.605**	.765**	—
7. Depressive symptoms	.197*	−0.057	.276**	.561**	.604**	.666**

Note. ** - $p < .01$, * - $p < .05$

study variables (p 's > 0.05). Finally, Spearman's Rank-Order Correlation indicated that monthly income was not correlated with the key study variables (all p 's > 0.05). Moreover, analysis of variance has revealed that children of parents with various levels of education (professional degrees (JD, MD), master's degrees, bachelor's degrees, and/or some college education) did not differ on key studies variables (all p 's > 0.05). Since sex and age were related to some of the study variables we have controlled for these two variables in the mediation analysis. Zero-order correlations between key study variables are presented in Table 2. A positive correlation between affective empathy and depressive symptoms was found, whereas cognitive empathy was not associated with depressive symptoms. Affective empathy was positively related to both generalized and contextual guilt, and generalized and contextual shame. In contrast, cognitive empathy was significantly correlated with contextual and generalized guilt. Depressive symptoms were associated with all types of guilt and shame, however the strongest ($r > 0.50$) correlations were found between depressive symptoms and generalized shame, contextual shame and generalized guilt.

7.2. Mediation analysis

The mediation analysis revealed that the total effect between affective empathy and depressive symptoms ($\beta = 0.21, p < .05$) became nonsignificant ($\beta = -0.07, p = 0.29$) upon the inclusion of generalized shame ($ab = 0.21, 95\% \text{ CI } [.09, 0.39]$), contextual shame ($ab = 0.11, 95\% \text{ CI } [.02, 0.26]$), and generalized guilt ($ab = 0.13, 95\% \text{ CI } [.01, 0.31]$) as mediators. The ratio of the indirect effect to the total effect for generalized shame, contextual shame, and generalized guilt on depressive symptoms was 64%, 32% and 40%, respectively. This model is presented visually in Fig. 1.

Together, these predictors accounted for 54% of the variance in depressive symptoms (adjusted $R^2 = 0.52, R^2 = 0.54$). Given the cross-sectional nature of the data which precludes strong conclusions about causality, we tested directionality by examining three models in which contextual shame, generalized shame, and generalized guilt were

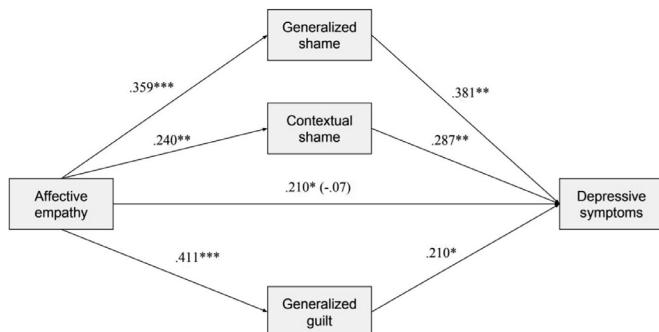


Fig. 1. Multiple mediational model exploring the effect of affective empathy on depressive symptoms through the proposed mediators of generalized and contextual shame and generalized guilt controlling for age and gender. Note. Values are standardized path coefficients. * - $p < .05$, ** - $p < .01$, *** - $p < .001$.

entered concurrently as predictors of depressive symptoms and affective empathy was treated as mediator. Results of alternative models revealed no significant indirect association of any variables via affective empathy with depressive symptoms (all bootstrapped 95% CI's contained 0).

8. Discussion

Our study is the first to explore relations between empathy, guilt, shame and depression, in particular to test the hypothesis that the positive association between affective empathy and depressive symptoms is mediated by both contextual and generalized shame and generalized guilt in the sample of inpatient adolescents. In accordance with our hypothesis, we found that generalized shame, contextual shame, and generalized guilt mediated the relationship between affective empathy and depressive symptoms. When accounting for these mediators, the direct effect of affective empathy on depression was no longer significant, indicating complete mediation of the affective empathy-depression association and demonstrating the explanatory value of these variables. Our results are in line with O'Connor and colleagues (2002; 2007), Zahn-Waxler and colleagues (1990, 2012), and Tone and Tully (2014), who proposed that empathy may be associated with feelings of responsibility for alleviating the suffering of others, leading to the experience of maladaptive forms of guilt, which may contribute to the development and maintenance of depressive symptoms. However, none of the above-mentioned models considered that feelings of shame may also underlie the relationship between empathy and depression. Individuals who share emotions with other people and assume a causal role in another's distress may become over-focused on their own negative characteristics, thereby contributing to depression. In interpreting these results, it is important to note that our study explored feelings of guilt and shame in the absence of specific feelings of responsibilities for others' suffering. Future research may therein build an explicit evaluation of this theoretical explanation of our results.

That our findings were evident in a sample of inpatient adolescents makes sense, given that such youth more often experience adverse environmental factors such as severe family conflicts and parental psychopathology compared to peers (Bettmann and Jasperson, 2009). These experiences could make them more likely to display maladaptive forms of self-conscious emotions associated with affective sharing. Moreover, this pattern of results may have been more pronounced in the current adolescent sample compared to other age groups since adolescents are particularly vulnerable to experience high levels of self-conscious emotions (Rankin et al., 2004; Somerville et al., 2013) and emotional arousal (Steinberg et al., 2006).

Our results show that affective empathy is associated with contextual and generalized self-conscious emotions and depressive symptoms, whereas cognitive empathy is related only to both types of guilt and most strongly to contextual guilt, while not relating to depressive symptoms. It could be that intensive emotional experiences that are involved in sharing emotions with other people make it difficult to adequately and rationally assess one's own responsibility for others' suffering, thereby contributing to the experience of generalized guilt and both types of shame. In contrast, cognitive empathy, that entails the reflection upon own and others' emotions (Cox et al., 2011; Joireman et al., 2002), makes it easier to rationally and adequately assess one's own responsibility for others' distress, resulting in context-specific feelings of guilt that do not contribute to development of depressive symptoms.

Finally, it is worth noting that both generalized shame and generalized guilt, as well as contextual shame and contextual guilt, were highly correlated with each other. What is more, both generalized self-conscious emotions and both contextual self-conscious emotions were more strongly correlated with each other than two types of guilt (generalized and contextual guilt) or than two types of shame (generalized and contextual shame). It seems that adolescents differ in the

proneness to display either context-specific self-conscious emotions or generalized self-conscious emotions. Contextual self-conscious emotions seem to appear more often in situations when failure may lead to reparable actions (among others changing own behaviors or self-change), whereas generalized self-conscious emotions may be related to beliefs that one's own failures and violations of standards for behavior occur very often and repetitively, and are difficult to repair and change (Leach & Cidam, 2015). In addition, generalized guilt was strongly associated with both types of shame. Since an individual who chronically experiences guilt is likely to believe that many of his/her own actions cause harm to others, he/she may think that these "bad" behaviors arise from their own negative, shameful characteristics (e.g. being bad, awkward, egoistic). Thus, generalized guilt seems to be closely related to the feeling of shame.

There are several limitations to the current study. First, the majority of the participants were Caucasian adolescents from well-educated and financially stable environments who were patients of the private psychiatric hospital. Thus, we cannot generalize these findings to other adolescent populations from diverse backgrounds. Secondly, empathy and depressive symptoms were measured only with self-report measures that are subjective and vulnerable to biases such as social desirability or the participant's mood (Podsakoff et al., 2003). Finally, although the use of a mediational model provides some evidence of the theoretical model of affective empathy, shame, generalized guilt and depressive symptoms, without a longitudinal design, it is impossible to determine the temporal or causal relations between these constructs.

Despite these limitations, the current results provide novel information about the factors that may underlie the relation between affective empathy and depressive symptoms, showing that both generalized guilt and generalized and contextual shame mediate this association. Future work should test our model in various clinical and community samples, applying longitudinal design and using both self-report and experimentally-based measures of empathy. Moreover, measures that assess guilt that involve the evaluation of irrational beliefs about responsibility for perceived harm inflicted upon others (e.g. Interpersonal Guilt Questionnaire (O'Connor et al., 1997, 1999)) could be additionally included in studies concerning relations between empathy, self-conscious emotions and depression. Finally, the effectiveness of therapeutic interventions for individuals with depressive symptoms that focus on the development of abilities to reflect upon own and other mental states while sharing emotions with other people and lowering the excessively high levels of shame and generalized guilt associated with affective sharing should be tested in future studies.

Conflict of interest statement

We wish to confirm that there are no conflicts of interest associated with this publication and there has been no significant financial support for this work that could have influenced its outcome.

Author disclosure statement

We confirm that the manuscript has been read and approved by all named authors and that there are no other persons who satisfied the criteria for authorship but are not listed.

We further confirm that the order of authors listed in the manuscript has been approved by all of us.

We confirm that we have given due consideration to the protection of intellectual property associated with this work and that there are no impediments to publication, including the timing of publication, with respect to intellectual property. In so doing we confirm that we have followed the regulations of our institutions concerning intellectual property.

We further confirm that any aspect of the work covered in this manuscript that has involved human patients has been conducted with the ethical approval of all relevant bodies and that such approvals are

acknowledged within the manuscript.

We understand that the Corresponding Author is the sole contact for the Editorial process (including Editorial Manager and direct communications with the office).

He/she is responsible for communicating with the other authors about progress, submissions of revisions and final approval of proofs.

We confirm that we have provided a current, correct email address which is accessible by the Corresponding Author.

Funding source

This research was funded by the McNair Family Foundation

Contributors

Carla Sharp designed and conducted the study and assisted with editing and writing of the paper. Małgorzata Gambin conducted statistical analysis and wrote the paper. Both authors contributed to and have approved the final manuscript.

Acknowledgments

We wish to thank all the families and adolescents who participated in the research.

References

- Avenevoli, S., Swendsen, J., He, J.-P., Burstein, M., Merikangas, K.R., 2015. Major depression in the National Comorbidity Survey-Adolescent Supplement: prevalence, correlates, and treatment. *J. Am. Acad. Child Adolesc. Psychiatry* 54 (1), 37–44.
- Batson, C.D., Fultz, J., Schoenrade, P.A., 1987. Distress and empathy: two qualitatively distinct vicarious emotions with different motivational consequences. *J. Pers.* 55 (1), 19–39.
- Baumeister, R.F., Stillwell, A.M., Heatherton, T.F., 1994. Guilt: an interpersonal approach. *Psychol. Bull.* 115 (2), 243–267.
- Beck, A.T., Steer, R.A., Brown, G.K., 1996. Manual For the Beck Depression Inventory-II. Psychological Corporation, San Antonio.
- Bettmann, J.E., Jasperson, R.A., 2009. Adolescents in residential and inpatient treatment: a review of the outcome literature. *Child & Youth Care Forum* 38 (4), 161–183.
- Carni, S., Petrocchi, N., Del Miglio, C., Mancini, F., Couyoumdjian, A., 2013. Intrapyschic and interpersonal guilt: a critical review of the recent literature. *Cognit. Process.* 14 (4), 333–346.
- Chow, C.M., Ruhl, H., Buhrmester, D., 2013. The mediating role of interpersonal competence between adolescents' empathy and friendship quality: a dyadic approach. *J. Adolesc.* 36 (1), 191–200.
- Cox, C.L., Uddin, L.Q., Di Martino, A., Castellanos, F.X., Milham, M.P., Kelly, C., 2011. The balance between feeling and knowing: affective and cognitive empathy are reflected in the brain's intrinsic functional dynamics. *Soc. Cognit. Affect. Neurosci.* 7 (6), 727–737.
- Decety, J., Jackson, P.L., 2004. The functional architecture of human empathy. *Behav. Cogn. Neurosci. Rev.* 3 (2), 71–100.
- Eisenberg, N., Eggum, N.D., 2009. Empathic responding: sympathy and personal distress. *Soc. Neurosci. Empathy* 6, 71–83.
- Gambin, M., Gambin, T., Sharp, C., 2015. Social cognition, psychopathological symptoms, and family functioning in a sample of inpatient adolescents using variable-centered and person-centered approaches. *J. Adolesc.* 45, 31–43.
- Gambin, M., Sharp, C., 2016. The differential relations between empathy and internalizing and externalizing symptoms in inpatient adolescents. *Child Psychiatry Hum. Dev.* 47 (6), 966–974.
- Gambin, M., Sharp, C., 2018. Relations between empathy and anxiety dimensions in inpatient adolescents. *Anxiety Stress Coping* 31 (4), 447–458.
- Gruenewald, T.L., Dickerson, S.S., Kemeny, M.E., 2007. A social function for self-conscious emotions: The social self preservation theory. In: Tracy, J.L., Robins, R.W., Tangney, J. (Eds.), *The Self-Conscious emotions: Theory and Research*. Guilford Press, New York, pp. 68–87.
- Harder, D.H., Zalma, A., 1990. Two promising shame and guilt scales: A construct validity comparison. *J. Pers. Assess.* 55 (3–4), 729–745.
- Hayes, A.F., 2012. PROCESS: A versatile Computational Tool for Observed Variable mediation, moderation, and Conditional Process Modeling. University of Kansas, KS.
- Hirschfeld, R., Montgomery, S.A., Keller, M.B., Kasper, S., Schatzberg, A.F., Möller, H.-J., 2000. Social functioning in depression: a review. *J. Clin. Psychiatry* 61 (4), 268–275.
- Joireman, J.A., Parrott, L., Hammersla, Joy., 2002. Empathy and the self-absorption paradox: Support for the distinction between self-rumination and self-reflection. *Self Identity* 1 (1), 53–65.
- Jolliffe, D., Farrington, D.P., 2006. Development and validation of the basic empathy scale. *J. Adolesc.* 29 (4), 589–611.
- Keltner, D., 1996. Evidence for the distinctness of embarrassment, shame, and guilt: a study of recalled antecedents and facial expressions of emotion. *Cognit. Emot.* 10 (2), 155–172.
- Keulers, E.H., Evers, E.A., Stiers, P., Jolles, J., 2010. Age, sex, and pubertal phase influence mentalizing about emotions and actions in adolescents. *Dev. Neuropsychol.* 35 (5), 555–569.
- Kessler, R.C., Berglund, P., Demler, O., Jin, R., Koretz, D., Merikangas, K.R., Wang, P.S., 2003. The epidemiology of major depressive disorder: results from the National Comorbidity Survey Replication, (NCS-R). *JAMA* 289 (23), 3095–3105.
- Kessler, R.C., Zhao, S., Blazer, D.G., Swartz, M., 1997. Prevalence, correlates, and course of minor depression and major depression in the National Comorbidity Survey. *J. Affect. Disord.* 45 (1), 19–30.
- Kim, S., Thibodeau, R., Jorgensen, R.S., 2011. Shame, guilt, and depressive symptoms: a meta-analytic review. *Psychol. Bull.* 137 (1), 68–96.
- Leach, C.W., Cidam, A., 2015. When is shame linked to constructive approach orientation? A meta-analysis. *J. Pers. Soc. Psychol.* 109 (6), 983–1002.
- Lewis, H.B., 1971. Shame and guilt in neurosis. *Psychoanal. Rev.* 58 (3), 419.
- Mills, R.S., Hastings, P.D., Serbin, L.A., Stack, D.M., Abela, J.R., Arbeau, K.A., Lall, D.I., 2015. Depressive thinking and shame proneness in the development of internalizing problems. *Child Psychiatry Hum. Dev.* 46 (2), 194–208.
- Modell, A.H., 1971. The origin of certain forms of pre-oedipal guilt and the implications for a psychoanalytic theory of affects. *Int. J. Psychoanal.* 52, 337–346.
- Muris, P., Meesters, C., 2014. Small or big in the eyes of the other: On the developmental psychopathology of self-conscious emotions as shame, guilt, and pride. *Clin. Child Fam. Psychol. Rev.* 17 (1), 19–40.
- Neiderland, W.G., 1981. The survivor syndrome: further observations and dimensions. *J. Am. Psychoanal. Assoc.* 29 (2), 413–425.
- O'Connor, L.E., Berry, J.W., Weiss, J., Bush, M., Sampson, H., 1997. Interpersonal guilt: the development of a new measure. *J. Clin. Psychol.* 53 (1), 73–89.
- O'Connor, L.E., Berry, J.W., Weiss, J., 1999. Interpersonal guilt, shame, and psychological problems. *J. Soc. Clin. Psychol.* 18 (2), 181–203.
- O'Connor, L.E., Berry, J.W., Weiss, J., Gilbert, P., 2002. Guilt, fear, submission, and empathy in depression. *J. Affect. Disord.* 71 (1), 19–27.
- O'Connor, L.E., Berry, J.W., Lewis, T., Mulherin, K., Crisostomo, P.S., 2007. Empathy and depression: the moral system on overdrive. In: Farrow, T.F., Woodruff, P.W.R. (Eds.), *Empathy in Mental Illness*. Cambridge University Press, New York, New York, pp. 49–75.
- O'Connor, L.E., Berry, J.W., Lewis, T.B., Stiver, D.J., 2012. Empathy-based pathogenic guilt, pathological altruism, and psychopathology. *Pathol. Altruism* 10, 10–30.
- Osman, A., Kopper, B.A., Barrios, F., Gutierrez, P.M., Bagge, C.L., 2004. Reliability and validity of the Beck depression inventory-II with adolescent psychiatric inpatients. *Psychol. Assess.* 16 (2), 120–132.
- Podsakoff, P.M., MacKenzie, S.B., Lee, J.Y., Podsakoff, N.P., 2003. Common method biases in behavioral research: a critical review of the literature and recommended remedies. *J. Appl. Psychol.* 88 (5), 879–903.
- Preacher, K.J., Kelley, K., 2011. Effect size measures for mediation models: quantitative strategies for communicating indirect effects. *Psychol. Methods* 16 (2), 93–115.
- Rankin, J.L., Lane, D.J., Gibbons, F.X., Gerrard, M., 2004. Adolescent self-consciousness: longitudinal age changes and gender differences in two cohorts. *J. Res. Adolesc.* 14 (1), 1–21.
- Rottenberg, J., Gotlib, I.H., Power, M., 2004. Socioemotional functioning in depression. *Mood disorders: A handbook of Science and Practice*. Wiley, New York, pp. 61–77.
- Schreiter, S., Pijnenborg, G.H.M., Aan Het Rot, M., 2013. Empathy in adults with clinical or subclinical depressive symptoms. *J. Affect. Disord.* 150 (1), 1–16.
- Shamay-Tsoory, S.G., Aharon-Peretz, J., Perry, D., 2009. Two systems for empathy: a double dissociation between emotional and cognitive empathy in inferior frontal gyrus versus ventromedial prefrontal lesions. *Brain* 132 (3), 617–627.
- Smith, R.J., Rose, A.J., 2011. The "cost of caring" in youths' friendships: considering associations among social perspective taking, co-rumination, and empathetic distress. *Dev. Psychol.* 47 (6), 1792.
- Soenens, B., Duriez, B., Vansteenkiste, M., Goossens, L., 2007. The intergenerational transmission of empathy-related responding in adolescence: The role of maternal support. *Pers. Soc. Psychol. Bull.* 33 (3), 299–311.
- Somerville, L.H., Jones, R.M., Ruberry, E.J., Dyke, J.P., Glover, G., Casey, B.J., 2013. The medial prefrontal cortex and the emergence of self-conscious emotion in adolescence. *Psychol. Sci.* 24 (8), 1554–1562.
- Steinberg, L., Dahl, R., Keating, D., Kupfer, D.J., Masten, A.S., Pine, D.S., 2006. The study of developmental psychopathology in adolescence: Integrating affective neuroscience with the study of context. In: Cicchetti, D., Cohen, D.J. (Eds.), *Developmental Psychopathology: Developmental Neuroscience*. John Wiley & Sons Inc, Hoboken, NJ, US, pp. 710–741.
- Tangney, J.P., Dearing, R.L., 2002. *Shame and Guilt*. Guilford Press, New York.
- Tangney, J.P., Fischer, K.W., 1995. *Self-Conscious Emotions: The Psychology of Shame, Guilt, Embarrassment, and Pride*. Guilford Press, New York.
- Tangney, J.P., Dearing, R.L., Wagner, P.E., Gramzow, R., 2000. The Test of Self-Conscious Affect-3 (TOSCA-3). George Mason University, Fairfax, VA.
- Tangney, J.P., Wagner, P.E., Gavlas, J., Gramzow, R., 1991. The Test of Self-Conscious Affect for Adolescents (TOSCA-A). George Mason University, Fairfax, VA.
- Tone, E.B., Tully, E.C., 2014. Empathy as a "risky strength": a multilevel examination of empathy and risk for internalizing disorders. *Dev. Psychopathol.* 26 (4), 1547–1565.
- Tracy, J.L., Robins, R.W., 2004. Putting the self into self-conscious emotions: a theoretical model. *Psychol. Inquiry* 15 (2), 103–125.
- Tully, E.C., Ames, A.M., Garcia, S.E., Donohue, M.R., 2016. Quadratic associations between empathy and depression as moderated by emotion dysregulation. *J. Psychol.* 150 (1), 15–35.
- Weiss, J., 1993. *How Psychotherapy Works: Process And Technique*. Guilford Press, New York.

- Weiss, J., Sampson, H., the Mount Zion Psychotherapy Research Group, 1986. The Psychoanalytic Process: Theory, Clinical Observation and Empirical Research. Guilford Press, New York.
- Van der Graaff, J., Branje, S., De Wied, M., Hawk, S., Van Lier, P., Meeus, W., 2014. Perspective taking and empathic concern in adolescence: gender differences in developmental changes. *Dev. Psychol.* 50 (3), 881.
- Vetter, N.C., Weigelt, S., Döhnel, K., Smolka, M.N., Kliegel, M., 2013. Ongoing neural development of affective theory of mind in adolescence. *Soc. Cognit. Affect. Neurosci.* 9 (7), 1022–1029.
- Zahn-Waxler, C., Radke-Yarrow, M., 1990. The origins of empathic concern. *Motiv. Emot.* 14 (2), 107–130.
- Zahn-Waxler, C., Van Hulle, C., 2012. Empathy, guilt, and depression. When caring for others becomes costly to children. In: Oakley, B., Knafo, A., Madhavan, G., Wilson, D. (Eds.), *Pathological Altruism*. Cambridge University Press, New York, NY, pp. 321–344.