
A Case-Control Study of Emotion Regulation and School Refusal in Children and Adolescents

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Abstract

The current study aimed to investigate emotion regulation (ER) strategy use in a sample of 21 clinic-referred children and adolescents (10–14 years old) presenting with school refusal, all of whom were diagnosed with at least one anxiety disorder. Being the first known study to examine ER and school refusal, hypotheses were guided by previous research on anxiety. It was hypothesized that the school refusal sample would report less healthy ER strategy use compared to an age- and sex-matched nonclinical sample ($n = 21$). As expected, the school refusal sample reported less use of cognitive reappraisal and greater use of expressive suppression to regulate their emotions than did the nonclinical sample. Although preliminary, the findings provide important information regarding the emotional functioning of children and adolescents presenting with school refusal. Future directions for research and implications for improved prevention and intervention programs are discussed.

Keywords

school refusal, anxiety disorders, emotional regulation, adolescents

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School refusal is characterized by refusal to attend school resulting in prolonged absence, remaining home during school hours with parental knowledge, severe emotional distress at the prospect of going to school, absence of antisocial behavior, and reasonable but ineffective parental efforts to enforce school attendance (Berg, 1997). School refusal differs from truancy where the child attempts to conceal nonattendance and often has a pattern of behavior problems. A related term, *school phobia*, may apply when the child has a specific phobia of school (Kearney, 2008). The prevalence of school refusal is approximately 1% to 5% in children and adolescents (Egger, Costello, & Angold, 2003; King & Bernstein, 2001), and it is at least 5% in psychiatric clinic-referred children (Last & Strauss, 1990). It is equally prevalent in boys and girls and is reported to peak at 5 to 6 years of age and again at 10 to 11 years of age (King et al., 1996). School refusal is associated with negative outcomes both in the short and long terms—disrupting emotional, social, family, and educational development as well as predicting problems related to education, employment, and social and mental health in later adolescence and adulthood (Egger et al., 2003; Flakierska-Praquin, Lindstrom, & Gillberg, 1997; Kearney & Silverman, 1995; McCune & Hynes, 2005).

School refusal is often an indicator of anxiety in young people, with persistent school refusers typically meeting criteria for one or more anxiety disorders (Bernstein, 1991; Kearney & Albano, 2004; Last & Strauss, 1990). Although school refusal may serve a number of different functions (Kearney, 2001), current research suggests that, for many, school refusal arises when anxiety-prone children avoid attending school and their avoidance is negatively reinforced by a reduction in anxiety (Kearney & Silverman, 1993). Comorbid mood disorders are prevalent in school refusal and have been reported to range between 14% and 69%, with the higher rate reported for adolescents (Bernstein & Garfinkel, 1986; Egger et al., 2003; Martin, Cabrol, Bouvard, Lepine, & Mouren-Simeoni, 1999). Given the reported associations between school refusal and emotional disturbance, particularly anxiety, understanding the emotional functioning of children and adolescents exhibiting school refusal may enhance prevention and intervention programs. One specific area in which dysfunction may be evident is the way in which these children regulate emotion.

Emotion regulation (ER) can be broadly defined as the processes through which emotional awareness and experience is monitored, evaluated, maintained, and modified (Thompson, 1994). Such processes allow individuals to influence “which emotions they have, when they have them, and how they experience and express these emotions” (Gross, 1998b, p. 275). The current study focused on two specific ER strategies described by Gross and John

(2003; John & Gross, 2004): cognitive reappraisal and expressive suppression. These strategies have been described within Gross's (1998a) process model of ER in which antecedent-focused strategies are distinguished from response-focused strategies. Cognitive reappraisal is employed prior to the generation of an emotional reaction and is classified as an antecedent-focused strategy. It involves changing the way one thinks about a situation in order to change its emotional impact. In contrast, expressive suppression is considered a response-focused strategy as it is employed subsequent to an emotional reaction. It involves suppressing or hiding your emotional response from others.

In general, reappraisal is considered to be a healthy ER strategy as it has been found to prevent or reduce the experience of negative affect and thus has the potential to reduce subsequent negative outcomes (Gross & John, 2003). In contrast, suppression has been shown to be a less healthy ER strategy as, despite inhibiting the expression of negative affect, the experience of the negative affect remains unchanged or may increase, likely as a consequence of the discrepancy between inner experience and outer expression (Gross & John, 2003). Consistent with this, research has indicated that greater use of reappraisal is associated with better psychological well-being, while greater use of suppression is associated with poorer psychological well-being (e.g., Gross & John, 2003; Gross & Levenson, 1997; Nezlek & Kuppens, 2008; Richards & Gross, 1999).

Although no previous studies could be found that have examined ER in school-refusing children and adolescents, given the high prevalence of anxiety in this population, existing research on anxiety provides potential insight into expected findings. The relationship between ER and anxiety is an area that is receiving increased attention in the research literature (Amstadter, 2008; Rodebaugh & Heimberg, 2008). Concurrently, theories regarding the use of strategies such as reappraisal and suppression by anxious individuals are emerging. Thompson (2001) has proposed that anxious children may have trouble reappraising due to their tendency toward "fixed, persistent, and biased threat-related interpretations of benign situations that evoke fear for them" (p. 169). For example, adolescents with social anxiety have been reported to make more negative interpretations of ambiguous social situations compared to nonanxious adolescents (Miers, Blote, Bogels, & Westenberg, 2008). Such interpretations are likely to exaggerate perceived threat and lead to avoidance of situations. This may, in turn, further restrict the development and use of reappraisal as a result of limited opportunities for more realistic and adaptive interpretations. With regard to suppression, it has been proposed that the tendency of anxious individuals to perceive particular emotions as unacceptable, or aversive, may prompt them to suppress their emotional

expression in a misguided attempt to avoid the emotional experience or, alternatively, as a way of minimizing potential negative evaluations by others (Amstadter, 2008; Mennin, Heimberg, Turk, & Fresco, 2002).

Despite growing interest in the relationships between anxiety and ER in adult samples, studies with children and adolescents remain scarce and extant findings are equivocal. In one study, greater suppression of anger (but not sadness), dysregulated anger and sadness expression, less use of adaptive strategies to regulate anger, and poorer emotional awareness predicted internalizing symptoms in nonclinical children (Zeman, Shipman, & Suveg, 2002). Similarly, in studies with clinical samples, anxiety disordered children and adolescents have demonstrated a poorer understanding of hiding and changing their emotions (Southam-Gerow & Kendall, 2000), more dysregulated emotional expression, less use of adaptive ER strategies, and lower self-efficacy in managing their emotions (Suveg & Zeman, 2004) compared to nondisordered children and adolescents. However, anxiety disordered children in the latter study did not report greater inhibition (i.e., suppression) of emotional expression than nondisordered children. Likewise, an experimental study of nonclinical adolescents failed to find an association between suppression use and anxiety during exposure to distress-provoking images (Leen-Feldner, Zvolensky, & Feldner, 2004).

The current study investigated ER strategy use in a sample of clinic-referred children and adolescents presenting with school refusal. Based on previous research on anxiety, it was hypothesized that the school refusal sample (all of whom were diagnosed with at least one anxiety disorder) would report less healthy ER strategy use compared to an age- and sex-matched nonclinical sample. Specifically, it was hypothesized that the school refusal sample would report less use of cognitive reappraisal and greater use of expressive suppression as compared to the nonclinical sample.

Method

Participants and Procedure

School refusal sample. Comprising 21 participants (52% male; age range: 10.7-14.6, $\bar{X} = 13.4$ years, $SD = 0.9$), this sample was recruited from a School Refusal Clinic located in Melbourne, Australia. The measures reported herein were completed as part of a pretreatment assessment battery for an intervention study. Children and adolescents aged 10.5 to 15.5 years were eligible for the intervention if their school attendance was less than 50% in the past 4 weeks (as confirmed by school records), were remaining at home with

parental knowledge, and had a primary diagnosis of either social phobia, generalized anxiety disorder, separation anxiety disorder, or panic disorder (with or without agoraphobia) as determined by the Anxiety Disorders Interview Schedule (Silverman & Albano, 1996). Absenteeism was primarily anxiety driven in all included cases as determined by clinical judgments. Typical strategies employed to avoid school attendance included somatic complaints, emotional distress, and oppositional behavior toward parents, siblings, and teachers. Exclusion criteria included physical illness that precluded school attendance, current treatment with psychotropic medication, pregnancy, intellectual disability, insufficient English-language skill, current inpatient admission, or primary diagnosis of behavior disorder, bipolar disorder, obsessive compulsive disorder, posttraumatic stress disorder, psychosis, or substance abuse disorder. The assessment measures were administered using a dual clinician model with one clinician interviewing the parents and the other interviewing the child. All children and adolescents who completed the pretreatment assessment and met the above criteria were included in the current study.

Nonclinical sample. This sample was drawn from a larger study of emotional development and internalizing behaviors ($N = 859$). Participants in the larger study were recruited from 15 primary and 9 secondary schools in Melbourne, Australia, and received an AUD\$15.00 store voucher for their participation. Participants aged 12 years or less completed written questionnaires at school, and older participants were mailed questionnaires to complete at home. From the 829 participants who provided complete data, a random sample of 21 participants was selected, matched by age and sex to the school refusal sample (52% male; age range: 10.6-14.6 years, $\bar{X} = 13.4$ years, $SD = 0.9$). To minimize the unintentional inclusion of clinically disordered cases, participants scoring above the clinical cutoff on the Revised Children's Manifest Anxiety Scale (RCMAS; T -score ≥ 60) or the Children's Depression Inventory (CDI; raw score ≥ 20) were removed prior to sample selection ($n = 159$). Supporting the nonclinical status of the final sample, their mean anxiety and depression scores were considerably lower (RCMAS raw score: $\bar{X} = 6.0$, $SD = 3.8$; CDI: $\bar{X} = 5.4$, $SD = 3.9$) than the school refusal sample (RCMAS raw score: $\bar{X} = 13.4$, $SD = 6.8$, $t[40] = 4.36$, $p < .001$, Cohen's $d = 1.38$; CDI: $\bar{X} = 19.0$, $SD = 9.1$, $t[40] = 6.32$, $p < .001$, Cohen's $d = 1.99$).

Both studies were approved by the institutional ethics committee. Voluntary informed consent was provided in writing by parents prior to participation. With the exception of one European-born child in the school refusal sample, all participants in the current study were born in Australia.

Measures

Emotion Regulation Questionnaire for Children and Adolescents (ERQ-CA). The Emotion Regulation Questionnaire (ERQ; Gross & John, 2003) comprises 10 items assessing the ER strategies of cognitive reappraisal (6 items) and expressive suppression (4 items). The ERQ has been reported to have adequate internal consistency ($\alpha = .79$ for reappraisal and $.73$ for suppression) and 3-month test-retest reliability ($r = .69$ for both scales) as well as sound convergent and discriminant validity with both younger and older adults (Gross & John, 2003; John & Gross, 2004). In this study, the ERQ was revised to enhance completion by children and adolescents (ERQ-CA). The word *emotion* was replaced with *feelings* and item content was simplified (e.g., suppression: "I control my emotions by not expressing them" became "I control my feelings by not showing them"; reappraisal: "When I am faced with a stressful situation, I make myself think about it in a way that helps me stay calm" became "When I am worried about something, I make myself think about it in a way that helps me feel better"). In addition, the response scale was reduced from seven to five choices (1 = *strongly disagree*, 5 = *strongly agree*). Psychometric analysis of the ERQ-CA in a sample of 1,745 children aged 9 to 16 years reproduced the two factors proposed by Gross and John (2003) and demonstrated good internal consistency ($\alpha = .81$ for reappraisal and $.69$ for suppression) and adequate 4-week test-retest reliability (reappraisal: $r = .54$, suppression: $r = .59$; MacDermott, Betts, Gullone, & Allen, 2008). It also correlated in the expected directions with measures of temperament, depression, shame, guilt, empathy, and parental bonding (Jaffe, Gullone, & Hughes, 2008; MacDermott et al., 2008). Discriminant validity has been reported for adolescent depression risk status (Betts, Gullone, & Allen, 2009). In the current study, internal consistency coefficients for the reappraisal and suppression scales were $.88$ and $.73$, respectively.

RCMAS. The RCMAS (Reynolds & Richmond, 1985) comprises 28 items assessing anxiety symptoms. The RCMAS has been reported to have sound reliability and validity in children aged 6 to 19 years (Reynolds & Richmond, 1985). Although the RCMAS does not assess specific anxiety disorders, and there has been some concern expressed regarding its ability to differentiate between anxiety disorders and other psychiatric disorders (e.g., Perrin & Last, 1992), the measure has been found to discriminate well between children and adolescents with and without anxiety disorders (Seligman, Ollendick, Langley, & Baldacci, 2004). In this study, the internal consistency coefficient of the RCMAS was $.83$.

CDI. The CDI (Kovacs, 1992) is a 27-item self-report measure of depressive symptomatology for children aged 7 to 17 years. In the nonclinical sample, the suicide ideation item was omitted from the CDI as requested by the institutional ethics committee and school agencies. These scores were adjusted to conform to the 27-item total score using the following formula: $26\text{-item total} + [26\text{-item total} / 26]$ (Twenge & Nolen-Hoeksema, 2002). The CDI is reported to have sound reliability (Kovacs, 1992). Validity of the CDI has been demonstrated by convergence with other self-report measures of depression and psychological well-being, and discrimination between groups of depressed and nondepressed children (see Sitarenios & Stein, 2004, for a comprehensive list of studies). In this study, the internal consistency coefficient of the CDI was .92.

Anxiety Disorders Interview Schedule for DSM-IV (ADIS-IV). The ADIS (Silverman & Albano, 1996) is a semistructured interview schedule assessing a range of childhood anxiety, mood, and behavior disorders consistent with the *Diagnostic and Statistical Manual of Mental Disorders* (4th ed.; *DSM-IV*; American Psychiatric Association, 1994). Interviews for the school refusal sample were administered by four trained and registered psychologists using a dual clinician model with one psychologist interviewing the child and one psychologist interviewing the parent(s). In line with Silverman and Rabian (1995), clinicians reached a consensus on diagnosis based on combined child and parent interview data incorporating both severity and degree of interference with functioning. If the two clinicians could not reach consensus, a team child psychiatrist was consulted for an expert opinion in order to guide diagnosis. Detailed parent-child and interrater agreement were not available for this sample; however, external diagnostic clarification was infrequent (approximately 1 in 20 cases). Past research with both Australian and U.S. samples has demonstrated the ADIS to have sound psychometric reliability and validity, with interrater agreement (kappa) ranging from .70 to 1.0 for combined parent and child reports (Lyneham, Abbott, & Rapee, 2007; Silverman, Saavedra, & Pina, 2001).

Results

Current diagnoses for the school refusal sample are summarized in Table 1. The most frequently diagnosed anxiety disorder was generalized anxiety disorder (43%) followed by social phobia (38%) and separation anxiety disorder (33%). Seventeen (81%) cases had more than one diagnosis, most frequently mood disorders ($n = 12$).

Table 1. Current Diagnoses in the School Refusal Sample

	<i>n</i> (%)
Anxiety disorders	
Generalized anxiety disorder	9 (43)
Social phobia	8 (38)
Separation anxiety disorder	7 (33)
Specific phobia	4 (19)
Anxiety disorder NOS	3 (14)
Mood disorders	
Major depressive disorder	5 (24)
Dysthymic disorder	4 (19)
Depressive disorder NOS	3 (14)
Disruptive behavior disorders	
Oppositional defiant disorder	7 (33)
Attention deficit hyperactivity disorder	1 (5)
Other	
Asperger's disorder	1 (5)
Total number of diagnoses	
One	4 (19)
Two	7 (33)
Three	7 (33)
Four	2 (10)
Five	1 (5)

Note: NOS = not otherwise specified. Primary diagnosis was generalized anxiety disorder, social phobia, or separation anxiety disorder.

Means, standard deviations, and *t*-test comparisons of the ERQ-CA for the school refusal and nonclinical samples are shown in Table 2. No outliers were detected for any of the measures. Applying Bonferroni correction, alpha was set at .0125 (i.e., .05 / 4). As can be seen, there were significant differences in ER strategy use between the two samples, with the school refusal sample reporting significantly less use of cognitive reappraisal and significantly greater use of expressive suppression than the nonclinical sample. Effect size as measured by Cohen's *d* indicated that these differences were large (Cohen, 1988).

Discussion

As hypothesized, children and adolescents presenting with school refusal reported less adaptive ER strategy use compared to age- and sex-matched

Table 2. Comparisons of Emotion Regulation Strategy Use Between the School Refusal and Nonclinical Samples

	Sample		<i>t</i>	<i>p</i>	Cohen's <i>d</i>
	School Refusal	Nonclinical			
	\bar{X} (<i>SD</i>)	\bar{X} (<i>SD</i>)			
ERQ-CA					
Reappraisal	19.0 (5.0)	22.4 (3.4)	-2.58	.007	0.81
Suppression	12.7 (3.2)	10.1 (3.3)	2.63	.006	0.82

Note: ERQ-CA = Emotion Regulation Questionnaire for Children and Adolescents.

nonclinical children and adolescents. Specifically, the school refusal sample reported less use of cognitive reappraisal and greater use of expressive suppression than did the nonclinical sample. Although this study is the first to our knowledge to report on ER strategies use in a school refusal sample, the findings are consistent with past research that has reported less functional ER and ER strategy use to be associated with child and adolescent anxiety (Southam-Gerow & Kendall, 2000; Suveg & Zeman, 2004; Zeman et al., 2002). However, the findings differ from studies that have reported no differences in the tendency to suppress emotional expression between anxiety disordered and nondisordered children and adolescents (Leen-Feldner et al., 2004; Suveg & Zeman, 2004).

Research in this area is very much in its infancy and additional research is needed to confirm the findings of the current study and to further elucidate the mechanisms underlying the emotional functioning difficulties observed in school-refusing children and adolescents. Importantly, no conclusions can be drawn regarding the causal relationships between ER strategy use, anxiety, and school refusal behavior. Nevertheless, it may be helpful to consider the current findings within the framework of proposed theories regarding the relationships between ER strategies and anxiety (Amstadter, 2008; Mennin et al., 2002; Thompson, 2001). Specifically, the finding that school-refusing children are less likely to regulate their emotions through cognitive reappraisal may reflect the tendency for anxious children to hold fixed, persistent, and biased threat-related interpretations of situations, with this tendency being exacerbated by a lack of exposure to appropriate interpretations (Thompson, 2001). Similarly, the finding that school-refusing children are more likely to regulate their emotions through expressive suppression may reflect the tendency for anxious individuals to perceive particular emotions as unacceptable

and, consequently, attempt to avoid these emotional experiences by suppressing them. Anxious individuals may also try to suppress emotional expression due to concern regarding potential negative evaluations by others (Amstadter, 2008; Mennin et al., 2002). Although the greater use of suppression reported by school-refusing children may seem at odds with these children's reported displays of anxiety when faced with school attendance, it must be noted that the assessment of suppression did not target specific emotions or contexts. Moreover, it is unknown how successful these children were at actually suppressing their emotional expression. Future research may benefit from examining ER strategies used by children with school refusal across different emotions and contexts as well as the individual efficacy of these strategies.

This study is the first to compare the ER strategy use of a clinic-referred school refusal sample with that of a nonclinical control sample. As such, it provides important new information regarding differences in ER functioning depending upon clinical status. However, this study has some limitations. Due to the small sample size, the findings are best considered preliminary and require replication with a larger sample. In addition, although the use of the CDI and RCMAS was likely to have excluded participants with depressive or anxiety disorders from the nonclinical sample, this sample was not screened for behavioral problems nor administered a diagnostic assessment such as the ADIS. Thus, it remains possible that some of these participants met criteria for other psychological disorders including behavioral disorders.

As previously highlighted, the study design did not allow for examination of potential causal effects. Thus, issues such as whether ER strategy use contributes to the development of anxiety disorders and other emotional disturbances including school refusal, whether it changes as a result of these disturbances, or whether it affects the course and maintenance of these disturbances are in need of investigation. Furthermore, due to the high incidence of comorbid conditions in the school refusal sample, the extent to which differences in reported ER strategy use are related to school refusal and anxiety disorders specifically, or to the presence of psychopathology more generally, is unclear. Indeed, ER difficulties are implicated in more than half of the Axis I disorders included in the *DSM-IV* (Gross & Levenson, 1997) and have been reported to be associated with childhood depression, externalizing problems, and pervasive developmental disorders (Konstantareas & Stewart, 2006; Southam-Gerow & Kendall, 2002). It may be, for example, that greater use of expressive suppression is attributable to the high rates of comorbid depression in school refusing children. However, given the small sample size in this study, analysis of disorder subgroups (e.g. pure anxiety compared to comorbid anxiety and depression) was not possible. Studies comparing ER in

individuals presenting with school refusal and anxiety disorders together and in isolation as well as individuals presenting with other forms of psychopathology would assist in elucidating whether the current findings of group differences in ER are attributable to anxiety, depression, general psychopathology, or other factors specific to school refusal.

Finally, although the mean differences in ER were statistically large, the clinical significance of these differences is, at this stage, unknown. Furthermore, the study examined only one aspect of ER (i.e., strategy use) and examined only two ER strategies within this area. Although there is a growing body of research supporting the significance of these two strategies with regard to psychological well-being, particularly with adults (Gross & John, 2003), other strategies may also be of importance to school refusal and psychopathology in childhood and adolescence.

Clearly, there is a need for further research to address the limitations of this study and confirm the significance of its findings. Such research will likely have important implications for psychological prevention and intervention strategies targeting school refusal. In particular, an increased emphasis on emotional functioning may enhance the efficacy of current treatment strategies such as psychoeducation, cognitive behaviour therapy (CBT), and pharmacotherapy, each of which have been reported to have varying levels of success in the treatment of school refusal (King & Bernstein, 2001). Suveg, Kendall, Comer, and Robin (2006) have already reported promising results using emotion-focused CBT for the treatment of children and adolescents with anxiety disorders. Incorporating the development of healthy emotion regulation strategies into current treatment protocols has the potential for both direct and indirect effects on the positive resolution of child and adolescent psychological distress and problem behaviors such as school refusal. This study provides impetus for continued research and the development of more in-depth theoretical frameworks for understanding the role of emotion and emotion regulation in this clinically important condition.

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Declaration of Conflicting Interests

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