



The Impact of Educator Anxiety and Anxiety Literacy on Primary Educators' Responses to Anxious Children

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Abstract

Background Parental anxiety and over-involved parenting behaviour are consistently associated with an increase in child anxiety symptoms. Primary school aged children also often develop a strong and influential relationship with their class teacher and how educators respond to anxiety therefore warrants investigation. Preliminary research has shown that educators use anxiety-promoting techniques, such as avoidance. However, there has been little empirical investigation of the factors that influence the management of anxious children by primary school educators in the classroom setting.

Objective This study investigated the relationship between the anxiety literacy of primary school educators, anxiety symptoms experienced by primary school educators and the management of anxious children by primary school educators.

Methods A total of 73 primary school educators in the United Kingdom completed an online survey. The survey measured participant anxiety and anxiety knowledge, as well as utilising vignettes of hypothetical scenarios to measure the use of anxiety-promoting and autonomy-promoting responses.

Results Educator anxiety literacy predicted a reduced likelihood of using anxiety-promoting responses but did not predict increased use of autonomy-promoting responses. Educators' anxiety was not found to predict anxiety-promoting or autonomy-promoting responses when managing anxious children.

Conclusions The findings suggest that promoting anxiety literacy in primary educators may reduce the frequency with which educators use anxiety promoting responses with anxious students. The findings highlight the importance of further clarifying the quality and forms of anxiety mental health knowledge and training which educators receive. This type of data may be useful in developing ways to equip educators with the skills to respond and manage anxiety in the classroom.

Keywords Teachers · Anxiety disorders · Parenting · Mental health literacy · Childhood

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Anxiety disorders are one of the most common mental health disorders in childhood (Lawrence et al., 2016). Estimates of the prevalence of childhood anxiety range between 3.9 and 14.8% of the population (Costello et al., 2011; NHS, 2018). Childhood anxiety is associated with lower academic performance, higher rates of school absenteeism, and poorer social skills (Lawrence et al., 2016; Owens et al., 2012). Children with anxiety are at greater risk of comorbid or subsequent mental health disorders, and an increased likelihood of substance abuse later in life (Negreiros & Miller, 2014; Rapee et al., 2009). Early intervention has been shown to reduce the negative effects of anxiety, and to reduce the likelihood of individuals developing anxiety disorders in adulthood (Donovan & Spence, 2000; Neil & Christensen, 2009). Understanding the predisposing and maintaining factors of childhood anxiety is essential in the early identification of anxiety difficulties in young children (Rapee et al., 2005).

Predisposing factors associated with childhood anxiety include genetics, temperament, adverse life events, the school environment, modelling, attachment, and parenting behaviours (Donovan & Spence, 2000; McLeod et al., 2007; Murray et al., 2009). The association between parenting and childhood anxiety is well-established by previous research (McLeod et al., 2007). Parenting research commonly focuses on the presence of anxiety-promoting and autonomy-promoting behaviours (Murray et al., 2009; Wei & Kendall, 2014). Anxiety-promoting behaviours include overprotection and avoidance reinforcement. Overprotection (also referred to as parental overcontrol and parental overinvolvement) is defined as excessive parental regulation of activities, and protection from perceived threats (Affrunti & Ginsburg, 2012; Wei & Kendall, 2014). Overprotection and overcontrol is theorised to reduce a child's perceived control over an environment or stimulus which they perceive as threatening (Lebowitz et al., 2016; Negreiros & Miller, 2014). Overprotective and over-involved parents limit a child's exposure to new experiences and challenges, inhibit the development of coping skills, and reduce self-efficacy (Negreiros & Miller, 2014; Murray et al., 2009). Children are believed to learn anxious behaviours from parents who promote avoidance (Murray et al., 2009; Rapee et al., 2009). Avoidance behaviour communicates that certain situations or stimuli are unsafe and models avoidance as a form of coping (Fisak & Grills-Taquechel, 2007; Murray et al., 2009). In contrast, autonomy-promoting parenting, which encourages children to be independent and engage in anxiety-provoking situations, is believed to reduce symptoms of anxiety (Casline et al., 2018; Lebowitz et al., 2016). Although clear connections between parenting behaviours and childhood anxiety have been established, few studies have explored the influence of other important childhood relationships (McLeod et al., 2007).

Educators play an important role in the early identification and treatment of clinical anxiety in childhood. Educators' knowledge of childhood behaviour enables them to identify atypical behaviours and mental health difficulties in specific age groups (Headley & Campbell, 2013; McLoone et al., 2006). Due to the multi-agency nature of education, teachers are ideally positioned to facilitate connections between families and relevant support services such as educational psychology, Child Adolescent Mental Health Services (CAMHS), and learning support teams. Educators often develop close relationships with students and are therefore likely to be present at times when children need to manage mental health difficulties. They can offer signposting to relevant support services providing clinical and social interventions for children with mental health difficulties (Drugli et al., 2011; Halladay et al., 2020). In addition to the significant role educators play, there is growing awareness of the

importance of the student-teacher relationships in childhood externalising and internalising behaviours, such as anxiety (Roorda et al., 2021).

Research has demonstrated associations between the student-teacher relationships and mental health. A meta-analysis by Roorda et al. (2021) highlights the associations between student-teacher dependency and internalising behaviours. A Norwegian study by Drugli et al. (2011) found that conflict in student-teacher relationships was associated with both externalising and internalising problems in children aged 6–13 years. Closeness in student-teacher relationships was associated with reduced internalising behaviours, such as anxiety. Whilst this research highlights the importance of the student-teacher relationships regarding childhood anxiety, little is currently known about how teachers use specific behavioural responses with anxious children and factors influencing this relationship. The student-teacher relationship has also been significantly impacted upon by the COVID-19 pandemic. Teachers reported concerns over student-teacher relationships due to the disruptions of remote learning and the inability to ‘check in’ on vulnerable students (Asbury et al., 2021). International research has demonstrated that children’s and educators’ anxiety levels increased both during the initial outbreak of COVID-19 and following the return to school post-lockdown (Asbury et al., 2021; Huang & Ougrin, 2021; Kim & Asbury, 2020; Ravens-Sieberer et al., 2021). However, the impact of the increase in child and teacher anxiety levels on the student-teacher relationship, and specifically how teachers respond to anxious youth in this situation, is not well understood.

Preliminary evidence suggests teachers and parents may use similar behavioural responses when responding to anxious children, such as overprotection and avoidance promoting behaviours (Allen & Lerman, 2018; Allen & Rapee, 2004; Conroy et al., 2020). Allen and Lerman (2018) investigated teachers’ responses to anxious children, in particular their use of anxiety-promoting responses and autonomy-promoting responses to anxious children. Allen and Lerman (2018) found teachers reported use of anxiety-promoting responses such as sanctions, (i.e., discipline or criticism), overprotection or avoidance reinforcement. Conversely, the researchers also found teachers reported use of autonomy-promoting responses, such as encouragement, reward and problem-solving to support children facing anxiety-provoking situations. The researchers suggested that reward responses fit into both anxiety-promoting and autonomy-promoting factors, thereby potentially creating a third factor (rewards), which sanctions were related to. This finding indicates that responding to anxious children through sanctions alone may promote anxiety but when combining sanctions responses with reward responses, it may create a separate concept. The combined use of sanctions and rewards by educators responding to anxious children has been briefly explored by Conroy et al. (2020). It was reported that 46.5% of primary educators respond to anxious children through designing a system of reward and consequences. Conroy et al. (2020) categorised this response as being positive, due to its nature of encouraging children to face anxiety-provoking situations. However, it is currently unclear how anxiety-promoting and autonomy-promoting factors may conceptually overlap and further research into how educators respond to anxious children through both rewards and sanctions could extend our current understanding of these concepts.

Preliminary research by Allen and Lerman (2018) has considered factors which may influence educators’ use of certain responses to anxious students, such as educators’ gender or experience. The study found male educators to be over 40% more likely to use anxiety-promoting responses than female educators. Additionally, experienced educators (who have

been defined as teaching for more than 5 years) were over 40% more likely to respond to anxious children in an avoidant reinforcement manner. These findings highlight the need for further empirical investigation to establish the nature of these behavioural patterns. It is unclear what other factors may influence educators' use of anxiety-promoting and autonomy-promoting responses to anxious children.

Emerging literature suggests that primary educators may commonly use accommodating strategies that promote avoidance of anxiety provoking experiences or overprotective behaviours when working with anxious children (Conroy et al., 2020; Ginsburg, Pella, Devito & Chan, 2021; Green et al., 2016). Conroy et al. (2020) investigated educators' use of avoidance responses with students across the age ranges of 5–18 in the United States through a survey. Survey respondents were asked to think about an anxious student and which accommodations they had used to address that student's anxiety. The study found that 44.2% of primary educators (of students aged 5–11) promoted avoidance in anxious students by allowing them to avoid participating in typical classroom activities. Likewise, 62.8% of primary educators reported setting a reduced amount of schoolwork for anxious students. In a similar study, Ginsburg et al. (2021) investigated educators' use of anxiety-promoting behaviours when responding to anxious children aged 5–11 years in the United States. A total of 52% of educators reported that in the previous month, they had assisted at least one anxious student to avoid anxiety-provoking situations. Similarly, 45% of respondents reported that they had undertaken activities that were typically considered an anxious student's responsibility on their behalf for them. These findings suggest that primary educators may regularly promote and maintain anxiety through allowing avoidance of anxiety-provoking situations. However, previous research on this topic has focused on avoidance accommodations and consequently, less is known about educator use of autonomy-promoting responses which are associated with reducing the risk of childhood anxiety. In addition, existing studies have asked educators to reflect on specific children with identified anxiety issues and do not capture educator responses more broadly to children who may not yet present with a clinical level of anxiety.

The influence of mental health knowledge on responses to anxious children has been investigated in parental literature. Preliminary evidence suggests that parental understanding and knowledge of mental health is associated with reduced rates of negative behaviours (such as overprotection, criticism, and distress) in response to childhood internalising disorders (Johnco & Rapee, 2018; Wolk et al., 2016). Educators' knowledge and understanding of mental health conditions is likely to influence how they respond to children experiencing these conditions (Trudgen & Lawn, 2011; Halladay et al., 2020). Mental health literacy refers to the ability to recognise symptoms of a mental health conditions and knowledge of relevant support and treatment options (Jorm, 2015). Research by Conroy et al. (2020) investigated the use of support strategies in which educators encouraged anxious students to approach anxiety-provoking situations. Greater educator mental health literacy predicted use of approach-orientated strategies when responding to anxious students. However, it should be noted that this research measured mental health literacy, rather than anxiety literacy. Anxiety literacy refers specifically to knowledge of clinical anxiety disorders, rather than a general knowledge of a range of mental health conditions. It should be noted that educator anxiety literacy has the potential to influence the use of overprotective and autonomy-promoting responses in divergent ways. When educators understand common anxiety symptoms, but not the maintaining factors of anxiety, their identification of anxious children

may increase their use of overprotective responses as the child's behaviour is more commonly recognised as anxiety. Alternatively, educators with anxiety literacy that include an understanding of the maintaining factors of anxiety might be more likely to facilitate active promotion of autonomy in anxious children. Whilst evidence suggests most primary school educators have reasonable mental health literacy (Wei et al., 2015; Yamaguchi et al., 2020), much of this research refers to general mental health rather than specific anxiety disorder literacy (Wei et al., 2016). Disorder-specific research into anxiety has focused on educators' abilities to recognise anxiety in pupils, rather than investigating management and responses to anxiety (Headley & Campbell, 2011; Layne et al., 2006). In addition, research suggests many educators lack confidence managing mental health conditions in school (Headley & Campbell, 2011; Fortier et al., 2017). Consequently, educators with high levels of anxiety literacy (i.e., an understanding of both identification and maintenance of childhood anxiety disorders) may still lack the confidence to actively promote autonomy with an anxious child, due to associations with short-term increase in distress. It is essential to develop a better understanding of the relationship between primary educator anxiety literacy and their use of both anxiety-promoting and autonomy-promoting responses.

Previous research has reported that teachers gain mental health knowledge through their own personal experiences (Trudgen & Lawn, 2011), thereby suggesting that anxious teachers may hold knowledge of anxiety. Similarly, a recent study by Conroy et al. (2020) found that educators' reports of high levels of emotional exhaustion predicted greater usage of avoidant support strategies (like that of anxiety-promoting responses) when reacting to anxious students. This finding suggests that educators' own mental health experiences may influence how they respond to anxious students. It is also important to consider the role of educator anxiety when investigating the impact of educators' responses to childhood anxiety. It is well established that parental anxiety is associated with overcontrolling parenting behaviours, avoidance reinforcement and the development of childhood anxiety (Murray et al., 2009; Yap & Jorm, 2015). As with anxiety literacy, an educator's personal level of anxiety has the potential to influence their awareness, understanding and management of anxiety but the direction is unclear. Like parents, educators may use overcontrolling response behaviours due to increased levels of personal anxiety. Intolerance of Uncertainty (a belief that uncertainty is stressful or upsetting and unexpected events should be avoided), is a common transdiagnostic maintaining factor of anxiety (Koerner & Dugas, 2006). Individuals with intolerance of uncertainty commonly use strategies, such as controlling behaviour, to enhance their feeling of control over a situation where it is difficult to guarantee the outcome (Fourtounas & Thomas, 2016). Research has found associations between parental anxiety and the use of overprotection behaviours (Clarke et al., 2013; Schneider et al., 2009). Alternatively, a personal experience of anxiety may increase educators' awareness of, and empathy towards the topic of anxiety, which may have the result of increasing or reducing the use of anxiety-promoting and autonomy-promoting responses. To the current research team's knowledge, educator anxiety has not been investigated in relation to responses to childhood anxiety in school, although both Allen and Lerman (2018) and Ginsburg et al. (2021) have highlighted this as an area for investigation. To support primary educators to manage anxious children, it is necessary to gain a clear understanding of factors that influence how they respond to anxious children in school.

The current study aimed to investigate the relationship between anxiety, anxiety literacy and the use of anxiety-promoting and autonomy-promoting responses in a UK based sample

of primary school educators. Greater anxiety literacy was hypothesised to be associated with greater use of both autonomy-promoting responses and anxiety-promoting responses. Greater educator anxiety was hypothesised to be associated with greater use of both anxiety-promoting responses and reduced use of autonomy-promoting responses. Educators' anxiety and anxiety literacy were hypothesised to predict the use of both autonomy-promoting responses and anxiety-promoting responses. Experienced educators were hypothesised to use more anxiety-promoting responses (overprotection, avoidant reinforcement and sanctions) than less-experienced educators. Likewise, experienced educators were hypothesised to use less autonomy-promoting responses (problem-solving, reward and encouragement) than less-experienced educators.

Methods

Participants

Participants were primary school teachers and teaching assistants (TA) recruited from the general population. The inclusion criteria were as follows: (i) qualified teacher, headteacher or TA (ii) currently works in a UK based primary school (or has worked in the past academic year), (iii) educates children aged 4–11 years. The sample was predominantly female (95.9%) and aged between 20 and 29 years (40%). The number of years participants had been teaching ranged from 1 to 38 years, ($M=13.36$, $SD=10.79$). See Table 1 for participant demographics. A total of 42 participants (57.5%) scored within the normal range of anxiety in accordance with the Depression, Anxiety and Stress Scale – Short Form cut-off scores, a measure of psychological distress (DASS-21; Lovibond & Lovibond, 1995). The number of

Table 1 Demographic Characteristics of Participants

	<i>n</i>	%
Gender		
Female	70	95.90
Male	3	4.10
Age		
20–29	29	39.70
30–39	7	9.60
40–49	15	20.50
50–59	21	28.80
60+	1	1.40
Current Position in School		
Teacher	42	57.50
Teaching Assistant	11	15.10
Headteacher	3	4.10
Other	17	23.30
Experience Level		
Experienced (more than 5 years)	44	60.30
Less experienced (5 or less years)	29	39.70
Does your school have provisions in place to support children with anxiety?^a	45	61.60

^a Reflects the number and percentage of participants answering “yes” to this question

participants who scored above the cut off for normal levels of anxiety, depression and stress were 42.5%, 45.2% and 46.6% respectively.

Procedure

Schools were contacted by an email addressed to the headteacher and school SENCO. The email contained an advertisement and the study's information sheet. The email asked the headteacher or school SENCO to forward the information to any member of staff in the school who might be interested in participating. Additionally, the study was advertised through social media groups targeted at primary educators. Recruitment material contained a link to an online survey hosted by Qualtrics. Participants were first presented with an information sheet and an option to consent to participate online. After obtaining consent, demographic data on age, gender and professional role was collected. Following the demographic questions, participants completed the A-Lit, TRAC and the DASS-21 in a fixed order. If participants chose to leave in the middle of the survey, they were taken to a webpage where they could confirm whether they would like their data removed from the study. After completing the questionnaire, participants were presented with a debriefing statement and participants were directed to the research team or their school's educational psychologist if the study had raised any queries about anxiety.

Of the 140 participants who consented to participate in the study, a total of 73 (52.1%) completed the online survey and participants were excluded if the survey response was incomplete. As participant recruitment relied on school email addresses and social media, the researchers were unable to accurately measure the number of teachers who were sent recruitment material. A total of 70 schools in the North East were emailed directly with recruitment material. Sociodemographic and geographical data were not collected to maintain participant anonymity.

This study was conducted as part of a larger investigation looking at primary school educators and management of anxiety in school. Ethical approval for this research was given by Durham University Human Research Ethics Committee. Participants were recruited through contacting schools in the North East of England. The authors declare no conflict of interest.

Measures

Demographic Questions

Demographic data was collected on age, gender, years of teaching and position in school. Participants with more than five years of teaching or TA experience were classified as 'experienced' and those with five or less years of teaching or TA experience were classified as 'less-experienced,' in line with previous research by Allen and Lerman (2018).

Anxiety Literacy Questionnaire (A-Lit; Gulliver et al., 2012)

The Anxiety Literacy Questionnaire is a preliminary measure used to assess participant anxiety literacy. The A-Lit is a 22-item tool which presents respondents with a series of statements about anxiety. Participants rated the statements as true or false. Example items include "People with anxiety disorder often speak in a rambling and disjointed way" and

“Being easily fatigued may be a symptom of anxiety disorder.” Each item answered correctly was allocated one point and all items were summed to produce a total score. Scores ranged from 0 to 22, with higher scores indicating greater anxiety literacy. Gulliver et al. (2012) reported the A-Lit’s internal consistency had a Cronbach’s alpha of 0.76 and that test-retest reliability was good ($r=.83$). In the current study the A-Lit had a Cronbach’s alpha of 0.36. The A-Lit has been utilised in community samples (Hurley et al., 2018; Seb-bens et al., 2016).

Teachers Responses to Anxious Children (TRAC; Allen & Lerman, 2018)

The TRAC was used to measure the likelihood of teachers using autonomy-promoting or anxiety-promoting responses to anxious children. Participants were presented with nine short written scenarios depicting a child displaying symptoms of either generalised anxiety disorder (16), social anxiety disorder (17) or separation anxiety disorder (17). Participants were asked to rate responses (out of a total of six responses) that best reflect how they would respond to the child in the scenario. Three of the responses relate to autonomy-promoting responses (use of reward for ‘brave’ behaviour, encouraging the child to continue with the activity despite feeling anxious or problem-solving with the child so that the child is still able to complete the activity despite feeling anxious). The other three responses relate to anxiety-promoting (overprotection, use of sanction when children do not complete an activity due to anxiety, avoidance reinforcement). Example items include “Offer a small incentive for completing the work” (reward), “Encourage the child to keep trying” (encouragement), “Talk with the child about how to fix the work” (problem-solving), “Tell the child it’s ok and do some of the work for him or her” (overprotection), “Tell the child to stop or you will send him or her to see another teacher” (sanction) and “Give the child easier work” (avoidance reinforcement) - see appendix. Each item was scored on a 7 item Likert scale from 1 (*very unlikely*) to 7 (*very likely*). For both anxiety-promoting and autonomy-promoting responses, the subscale items relating to each concept were summed and the mean score used as the total score. Higher scores indicated greater use of anxiety or autonomy promoting responses. The anxiety-promoting and autonomy-promoting subscales have been found to have excellent internal consistency, ($\alpha=0.89$ and 0.91 respectively; Allen & Lerman, 2018). In the current study, the TRAC autonomy-promoting and anxiety-promoting subscales were found to have a Cronbach’s alpha of 0.86 and 0.70 respectively. Both the original and an adapted version of the TRAC have been previously utilised in a sample of teachers (Adams et al., 2018).

Depression, Anxiety and Stress Scale (DASS-21; Lovibond & Lovibond, 1995)

The DASS-21 is a 21 item self-report measure of symptoms of anxiety, stress and depression experienced over the past week. Participants were presented with statements and asked to report how much the statement applied to them over the past week. Examples include, “I was aware of dryness of my mouth” and “I felt scared without any good reason” (anxiety). The statements were scored on a four-point Likert scale, from 0 (*did not apply to me at all*), to 3 (*applied to me very much or most of the time*). Scores were totalled in their respective subscales for anxiety, stress and depression. Higher scores indicated higher levels of negative emotionality for each respective subscale. The DASS-21 has been found to have good

convergent and discriminant validity and good internal reliability for the DASS-21 subscales (Henry & Crawford, 2005; Sinclair et al., 2012). The DASS is a widely utilised measure of symptoms of anxiety, depression, and stress in non-clinical and community samples (Antony et al., 1998; Henry & Crawford, 2005; Sinclair et al., 2012; Willemsen, Markey, Declercq & Vanheule, 2011; Tran et al., 2013). A Cronbach's alpha (0.89) has been reported for the DASS-21 anxiety subscale (Brown, Chorpita, Korotitsch & Barlow, 1997). In the current study, the anxiety subscale had a Cronbach's alpha of 0.89.

Analytic Strategy

The TRAC subscales, anxiety literacy and anxiety DASS-21 subscale were all continuous variables. The variables were all checked for outliers using boxplots and histograms. Shapiro-Wilk tests showed all variables were normally distributed except anxiety, ($W(73)=0.82$, $p=.000$), sanction ($W(73)=0.93$, $p=.000$), encouragement ($W(73)=0.96$, $p=.018$) and reward ($W(73)=0.96$, $p=.013$). Skew and kurtosis were acceptable for all the variables, except for anxiety which had a positive skew (1.55) and positive kurtosis (2.03). Transformations (Log10 and square root) were attempted but as these were unsuccessful, the original dataset was used in the analysis.

Spearman's Rho tests were used to investigate bivariate relationships. Multiple Linear Regression analyses was used to investigate if anxiety or anxiety literacy predicted anxiety-promoting responses or autonomy-promoting responses. Residual plots were examined for linearity and normality. The scatterplot of residuals indicated the data met the assumption of homoscedasticity. The regression models were bootstrapped 5000 times due to the non-parametric nature of the data. Statistical analyses were conducted using SPSS 26 (IBM Corp, 2017).

A One-Way Analysis of Variance (ANOVA) was used to examine whether experienced participants (more than five years) differed from less-experienced participants (five or less years) with respect to anxiety, anxiety literacy or anxiety-promoting and autonomy-promoting responses. Levene's test revealed that homogeneity of variance assumption was met for all variables but anxiety ($p=.009$). As such, *Welch's* test was utilised for anxiety. An alpha level of 0.05 was used for all analyses.

Results

Preliminary Analysis and Bivariate Associations

There were almost no significant differences between participants who completed the measures and those that did not complete the study on demographic factors (age, gender, position). Of the 140 participants who agreed to participate in the study, a total of 73 (52.1%) completed the online survey. Participants who began the survey but did not complete it, ($M=14.50$, $SD=2.09$) were found to have significantly lower anxiety mental health literacy scores compared to participants that did complete the survey, ($M=15.74$, $SD=2.15$); ($t(93)=-2.383$, $p=.019$). Theoretically, this may indicate the participants which dropped out of the survey may have done so due to feeling unknowledgeable on the subject as suggested by their lower anxiety literacy scores.

Total scores ranged between 11 and 21 for the A-Lit: 27.4% of participants scored between 11 and 14 (indicating 50–64% correct answers), 60.2% of participants scored between 15 and 18 (indicating 68–82% correct answers) and 12.3% of participants scored between 19 and 21 (indicating 86–95% correct answers). For the TRAC, the mean scores for encouragement ($M=5.75$, $SD=0.76$), problem-solving ($M=5.85$, $SD=0.52$) and reward ($M=3.33$, $SD=0.90$) were observably higher than the mean scores for overprotection ($M=3.86$, $SD=0.70$), avoidance reinforcement ($M=3.56$, $SD=0.70$) and sanction, ($M=1.83$, $SD=0.65$).

Spearman's Rho correlations were conducted to investigate the association between educators' anxiety, anxiety literacy, anxiety-promoting responses, and autonomy-promoting responses (see Table 2). Neither the relationship between anxiety and anxiety-promoting responses ($r_s(71)=0.04$, $p=.757$) or autonomy-promoting responses ($r_s(71)=-0.15$, $p=.195$) was significant. There was no significant association for autonomy-promoting responses ($r_s(71)=0.06$, $p=.603$), however there was a statistically significant negative association between anxiety literacy and anxiety-promoting responses ($r_s(71)=-0.304$, $p=.009$).

Table 2 shows significant positive associations found between anxiety-promoting responses and TRAC subscales overprotection, sanction and avoidance reinforcement. Likewise, significant positive associations were found between autonomy-promoting responses and TRAC subscales encouragement, reward and problem-solving. There was a significant positive association found between anxiety-promoting responses and autonomy-promoting responses ($r_s(71)=-0.27$, $p=.022$). Avoidance reinforcement and encouragement had a statistically significant negative association ($r_s(71)=-0.27$, $p=.02$). Reward and sanction had a statistically significant positive association ($r_s(71)=0.268$, $p=.022$). A significant positive association was found between overprotection and problem-solving ($r_s(71)=0.31$, $p=.007$). Likewise, a significant positive association was found between overprotection and autonomy-promoting responses ($r_s(71)=0.28$, $p=.017$). There was a statistically significant negative association between anxiety literacy and sanction ($r_s(71)=-0.243$, $p=.038$).

Anxiety Literacy, Anxiety and Anxiety-Promoting and Autonomy-Promoting Responses

Multiple regression analyses were conducted to examine whether anxiety literacy and anxiety predicted the likelihood of using anxiety-promoting responses and autonomy-promoting responses. No significant predictions were found for autonomy-promoting responses ($F(2, 70)=0.83$, $p=.44$), with an R^2 of 0.023. The analysis shows that anxiety literacy was not a significant predictor of autonomy-promoting responses ($\beta=-0.031$, $p=.315$) nor was anxiety a significant predictor ($\beta=-0.006$, $p=.355$).

For anxiety-promoting responses, the results of the regression model indicated that the model explained 11% of variance and that the model was a significant predictor of anxiety-promoting responses ($F(2, 70)=4.38$, $p=.016$). While anxiety literacy contributed significantly to the model ($\beta=-0.07$, $p=.001$), anxiety did not ($\beta=-0.002$, $p=.784$). The final predictive model was: Anxiety-promoting responses = $4.193 (-0.07 \times \text{anxiety literacy}) + (-0.002 \times \text{anxiety})$.

Table 2 Descriptive Statistics and Bivariate Correlations

Variable	<i>M</i>	<i>SD</i>	Minimum	Maximum	1	2	3	4	5	6	7	8	9	10
Anxiety-Promoting Responses	3.08	0.46	1.74	4.07										
Overprotection	3.86	0.70	2.11	6.00	0.73**									
Sanction	1.83	0.65	1.00	3.78	0.51**	0.10								
Avoidance Reinforcement	3.56	0.70	1.78	5.11	0.70**	0.44**	-0.03							
Autonomy-Promoting Responses	4.98	0.57	3.41	6.41	0.27*	0.28*	0.14	0.00						
Encouragement	5.75	0.76	3.56	7.00	-0.05	-0.11	0.01	-0.27*	0.77**					
Reward	3.33	0.90	1.89	5.56	0.37*	0.23	0.27*	0.11	0.75**	0.01				
Problem-Solving	5.85	0.52	4.22	6.78	0.18	0.31**	-0.10	0.12	0.77**	0.58**	0.35**			
Anxiety Literacy	15.74	2.15	11.00	21.00	-0.30*	-0.20	-0.24*	-0.20	0.06	0.08	0.03	0.07		
Anxiety	9.04	9.78	0.00	42.00	0.04	-0.01	-0.01	0.13	-0.15	-0.21	-0.09	-0.09	-0.02	

Note. *N*=73. Denoted to 2 decimal places

**p*<.05

***p*<.01

Bivariate Relationships

Experience and Anxiety, Anxiety Literacy and Anxiety-Promoting and Autonomy-Promoting Responses

A One-Way ANOVA was conducted to examine whether experienced educators differed from less-experienced educators with respect to anxiety, anxiety literacy, anxiety-promoting responses or autonomy-promoting responses. There was no significant difference between more experienced ($M=3.12$, $SD=0.47$) and less-experienced ($M=3.02$, $SD=0.43$) participants for anxiety-promoting responses [$F(1,71)=0.78$, $p=.381$]. Likewise, there was no significant difference between more experienced ($M=4.94$, $SD=0.57$) and less-experienced ($M=5.04$, $SD=0.57$) participants for autonomy-promoting responses [$F(1,71)=0.62$, $p=.432$]. More experienced participants ($M=7.41$, $SD=7.35$) reported less anxiety than less experienced ($M=11.52$, $SD=12.34$), [*Welch's* $F(1,41.15)=2.60$, $p=.114$] however, this was not statistically significant. Participants with more education experience had a greater mean for anxiety literacy ($M=15.45$, $SD=2.02$) compared to less-experienced participants ($M=16.17$, $SD=2.31$) however, this was not statistically significant [$F(1,71)=1.97$, $p=.165$]. Experienced participants reported using avoidant reinforcement more often ($M=3.70$, $SD=0.71$) than less-experienced participants ($M=3.34$, $SD=0.61$), [$F(1,71)=4.83$, $p=.031$]. There were no further differences identified between experienced and less-experienced educators on the remaining TRAC subscales.

Discussion

The current study is one of the first to investigate educator anxiety literacy, anxiety and use of anxiety-promoting and autonomy-promoting in managing anxious children. Educators' anxiety literacy was negatively associated with anxiety-promoting responses (overprotection, sanctions and avoidant reinforcement), but not associated with autonomy-promoting responses (reward, encouragement or problem-solving). Anxiety literacy amongst educators was found to be negatively associated with the use of sanctioning responses. Educators' anxiety was not associated with anxiety-promoting responses or autonomy-promoting responses. Educators' anxiety and anxiety literacy did not predict their use of autonomy-promoting responses, but educators' anxiety literacy was found to predict their use of anxiety-promoting responses. Positive associations were found between overprotection (an anxiety-promoting response) and problem-solving (an autonomy-promoting response), as well as overprotection and autonomy-promoting responses. Experienced educators were more likely than less-experienced educators to respond to promote avoidance in anxious children.

The finding that greater anxiety literacy reduced the likelihood of educators using anxiety-promoting responses indicates current anxiety training for primary educators is successful at supporting teachers to avoid using anxiety-promoting responses. Consistent with the literature into parental mental health literacy (Johnco & Rapee, 2018), the findings of the current study suggest greater caregiver mental health literacy is associated with reduced use of anxiety-promoting behaviours. However, the finding that increased educator anxiety literacy did not predict the use of autonomy-promoting responses suggests anxiety training in primary educators may not include methods (or provide practical applications that educators feel confident using) that teachers can use to actively reduce symptoms of child-

hood anxiety. This finding is contradictory to research by Conroy et al. (2020) who found higher mental health literacy predicted use of high approach-orientated accommodation or support strategies in which educators encouraged students to approach anxiety-provoking situations. Consequently, further research is needed to establish the effectiveness of anxiety literacy training in educators. It is currently unclear if educators receive information on the importance of promoting autonomy in anxious children and if they are supported to develop effective methods to support autonomy promotion in this population.

Anxiety literacy was found to be negatively associated with sanction responses, thereby indicating that educators with higher levels of anxiety literacy are less likely to use sanctioning responses when responding to anxious children. This finding supports research linking parental mental health knowledge and use of sanctioning responses (Johnco & Rapee, 2018). The current study's findings suggest educators with greater anxiety literacy may be better at identifying non-compliant child behaviour as anxiety, rather than disobedience and as such, be more likely to use rewards and less likely to sanction children in such situations. This finding evidences the importance of educators' understanding of anxiety in order to apply this knowledge to classroom situations whereby childhood anxiety may present in students as non-compliant behaviour.

The study also explored Ginsburg et al. (2021)'s suggestion that educators' own level of anxiety may be an influencing factor in the management of anxious students. As the current study found educators' anxiety was not associated with anxiety-promoting or autonomy-promoting responses, it suggests that, unlike parents, educators' anxiety may not influence how they respond to anxious children. This finding differs from parental research which has found parental anxiety is associated with the use of anxiety-promoting responses such as overprotection and avoidant reinforcement (Clarke et al., 2013; Schneider et al., 2009). Likewise, the current study finding differs from research by Conroy et al. (2020) that linked educators' emotional exhaustion to their use of avoidant support strategies when responding to anxious students. It is unclear whether this difference in findings is due to educators' anxiety playing a different role to emotional exhaustion, or perhaps due to different methodological approaches between the studies, such as how anxiety and/or emotional exhaustion are measured. Preliminary research suggests that teachers may conceal negative emotions to maintain professionalism in the classroom (Hagenauer & Volet, 2014) and consequently may wish to minimise any experience of anxiety in the classroom. However, it should also be noted that the current study ran during the COVID-19 pandemic when many teachers were working from home. The pandemic was a time of heightened stress, worry and uncertainty (Huang & Zhao, 2020; Kim & Asbury, 2020), which was reflected in elevated levels of participant depression, stress, and anxiety reported in the current study. Teachers reported remote learning disrupted their relationship with students, as well as causing increasing levels of anxiety (Asbury et al., 2021). Consequently, participant anxiety levels may have been temporarily elevated at the time of the study. Furthermore, TRAC responses may have been different if the participants had completed the measures when teaching in a classroom as opposed to undertaking remote teaching. Additionally, it should be noted that the DASS-21 only measures anxiety in the previous week, it may not accurately reflect teachers' anxiety during typical circumstances. Differences between the existing literature and the current study findings may be due to participant measures taking place outside the classroom and during the COVID-19 pandemic. As such, future research may benefit using a range of methodological approaches, such as qualitative diaries and/or observational methods, to

measure both educators' anxiety and educators' responses to anxious children. This study is the first to consider educators' anxiety as an influence on how they respond to anxious children and further research is needed to fully understand whether educator anxiety influences how anxious children are managed in school.

The current study found experienced educators were more likely to use avoidant reinforcement responses than less-experienced educators. This finding supports evidence by Allen and Lerman (2018) who identified that teachers with over five years' experience are more likely to respond to anxious children with avoidance reinforcement than teachers with less than five years' experience. However, no significant difference was found for other anxiety-promoting responses (overprotection and sanction) or any form of autonomy-promoting response. This finding may be reflective of the increase in teacher mental health training and awareness in recent years (Yamaguchi et al., 2020), resulting in newly qualified teachers having a greater awareness of childhood mental health difficulties. However further research would benefit from the inclusion of more sophisticated measures of teaching 'experience' and mental health training to control for these variables.

The current study replicated the findings by Allen and Lerman (2018) which showed educators' use of reward (autonomy-promoting) was positively associated with educators' use of sanctions (anxiety-promoting). Allen and Lerman (2018) suggested this indicates educators struggle to differentiate between sanctions and reward responses. For example, using rewards when asking a child to face a feared situation may appear to be a form of sanctioning or bribery. Research by Conroy et al. (2020) suggests that rewards and sanctions may be commonly used in combination by educators when responding to an anxious child - a finding which is supported by the current study. Further research is needed to explore the efficacy and experience of educators using rewards and sanctions together in responding to an anxious child, as opposed to sanctions being used alone, as a separate response. The study found that avoidance reinforcement (anxiety-promoting) and encouragement (autonomy-promoting) subscales were negatively associated. It is understandable that educators who promote avoidance reinforcement are less likely to encourage children to engage in anxiety-provoking situations. These findings indicate how autonomy-promoting and anxiety-promoting responses can overlap conceptually. The study found positive associations between overprotection (an anxiety-promoting response) and problem-solving (an autonomy-promoting response), as well as overprotection and autonomy-promoting responses. This finding suggests educators may be consciously or unconsciously using overprotective responses as a form of demonstrating empathy and care. The importance of empathy and warmth when working with children with anxiety has been demonstrated in clinical trials (Chiu et al., 2009; Podell et al., 2013). Consequently, educators of young children may be faced with the challenge of maintaining empathy and warmth whilst also promoting autonomy and bravery. Younger children (i.e. primary aged) naturally have lower levels of autonomy than older children (i.e. secondary aged) and so overprotective responses to anxious young children may be more normalised and the distinction between anxiety provoking and autonomy promoting behaviours might be far more subtle. Further research should consider the impact of primary educator beliefs around warmth and care on their responses to anxious children and the efficacy of further education for educators on this topic.

Limitations

There are several limitations to this study which must be acknowledged. Firstly, the questionnaires used to measure anxiety literacy and educator anxiety and teachers' responses to anxious children each had limitations. The A-Lit uses a simple dichotomous rating scale and is not disorder specific. However, this measure was chosen due to a lack of psychometrically established measures for anxiety literacy, as highlighted in a review by Wei et al. (2015). Further to this, due to the lack of established testing of educators' anxiety literacy, the current study was unable to produce comparative results of anxiety literacy between educators and other teachers and youth-serving professionals. In measuring educator anxiety, the DASS-21 was chosen as a widely used, well-established measure of anxiety in a non-clinical adult sample. However, the DASS-21 only measures anxiety in the previous week and only measures state, and not trait, anxiety. Furthermore, the DASS-21 is a general measure of anxiety and so it was not possible to capture educators' anxieties specific to classroom-based situations. Finally, it should be noted that the TRAC does not measure all forms of anxiety promotion, such as responding to excessive reassurance seeking from anxious children. Likewise, the TRAC is naturally limited through the nature of it measuring responses to vignettes as opposed to actual observations in the classroom. This limitation may result in discord between how teachers respond to anxious children in person and their perceived responses when reading online vignettes. Taking these points into consideration, caution is advised when interpreting the study's results. As discussed earlier, future research should consider employing alternative research methodologies, such as observational and longitudinal approaches.

A second limitation which should be acknowledged is the possibility of sample bias. As the project utilised a community sample, it is possible that primary educators who were more concerned with, or more knowledgeable about, childhood anxiety responded to the survey. Participants who did not complete the study had lower levels of anxiety literacy than those who completed the study. Furthermore, a significant percentage of the sample (13.7%) were Special Educational Needs teachers or SENCOs who are likely to have had exposure to and training on the topic of childhood anxiety. Comparisons between classroom teachers and Special Educational Needs teachers or SENCOs should be considered in future research. Additionally, the majority (95.9%) of participants were female. Whilst the study does reflect a large female gender bias in UK educators (75% classroom teachers are female; Department for Education, 2018), further research should aim to obtain a larger number of male participants. Likewise, due to the scope of the study, it was not possible to measure (and therefore control) the influence of teacher geographical location, ethnicity and socioeconomic status in the current study.

A final limitation that must be acknowledged was the impact of the COVID-19 pandemic on the current study. The study had a limited sample size due to recruitment challenges presented by the pandemic. The small sample size prevented researchers from employing analytic controls for educators' roles, such as exploring differences between teachers, headteachers, SENCOs and TAs. As previously mentioned, COVID-19 was a time of unprecedented challenge, resulting in heightened stress and disruption to 'normal' methods of teaching (Asbury et al., 2021; Kim & Asbury, 2020). The pandemic naturally impacted teachers' relationships with students and as such it may have affected how participants perceive their typical responses to anxious students. Research by Connor et al. (2022) high-

lighted reduced mental well-being in teachers during this time, which may have impacted on participant DASS-21 scores.

Implications and Future Research

There are a few important implications of the current study to be noted. Firstly, this study highlights the salience of educators' having good anxiety literacy, as this can aid how teachers respond to students with anxiety. Overall, in terms of anxiety literacy, the current study findings further support suggestions by Conroy et al. (2020) that there needs to be a better collaboration between mental health experts and educators. Collaboration between mental health experts and educators will allow for educators to gain greater understanding on how best to approach anxious students within the classroom and wider school contexts. This could be achieved through mental health experts assisting in the development of teachers' CPD into anxiety specific symptoms, alongside responses that are considered effective in terms of promoting autonomy instead of responses which may inadvertently maintain anxiety. The development of a new anxiety literacy measure for educators to measure the effects of educators' CPD into anxiety literacy would really support this area of research. There is currently a lack of psychometrically established measures of specific anxiety disorder literacy as opposed to general mental health literacy instruments.

An important secondary avenue for future research would be to explore educators' responses to anxiety whilst also considering the context of organisational and school-level factors. Future research should aim to explore influences such as school-level classroom behaviour management strategies, approaches to student mental health, accommodations for students with special educational needs or academic ability and/or school staffing considerations on how educators respond to anxious children. It is also unclear from the current literature as to the reasons why educators may respond to anxious children in either anxiety-promoting or autonomy-promoting ways. Educators may respond in certain ways to anxious children that might be connected to motivations such as beliefs around the helpfulness of the approach, school culture, misinformation on the topic of clinical anxiety, a desire to minimise classroom disruption and/or resource issues. The use of anxiety-promoting responses may be due to the practicalities of the classroom environment, time and resources available. Further exploration of factors that influence motivations behind educators' responses to anxious children is needed. The current study did not examine the potential for comorbid learning disorders or diverse academic abilities influencing how educators respond to anxious students. It would be beneficial for future studies to explore these areas of influence through developing the TRAC to reflect such scenarios. For example, future research may explore how student age or intellectual ability might influence educators' responses.

Another area of needed research relates to developing a better understanding of the potential influence of unconscious bias in how teachers respond to anxiety in ethnic minority students. Fatus et al. (2020) investigated unconscious racial bias in how clinicians and educators respond to symptoms of mental health conditions of children in ethnic and racial minorities. The study found that clinicians and educators often misperceive displays of undiagnosed anxiety in ethnic minority children as disruptive classroom behaviours. The current study did not consider the influence of student ethnicity in relation to educator management of anxious children due to the limited scope of the research project, however, fur-

ther research should aim to explore the topic of unconscious bias in relation to how teachers respond to anxious students.

Conclusions

This study was the first to examine the relationship between educator anxiety literacy, levels of personal anxiety and their responses to anxious children. The study's findings emphasise the importance of developing a richer understanding of how educators respond to anxious children in a classroom setting. This study supports the importance of educators' anxiety literacy but may suggest that anxiety literacy provision may need to be expanded to incorporate practical applications of how to promote autonomy in anxious children. This study supports calls from previous researchers that educator CPD on the topic of anxiety-promoting and autonomy-promoting behaviours when responding to anxious students is needed.

Appendix

Response Scale: 1 2 3 4 5 6 7.

Very Unlikely Medium Very Likely.

- 1) If a child in my class was worried about getting a task right and he/she is refusing to complete a piece of work, I would:
 - a. Tell the child it's OK, and do some of the work for him/her 1 2 3 4 5 6 7.
 - b. Keep the child in at assembly or break to finish the work 1 2 3 4 5 6 7.
 - c. Encourage the child to keep trying 1 2 3 4 5 6 7.
 - d. Offer a small incentive for completing the work 1 2 3 4 5 6 7.
 - e. Sit down with the child and help him/her to figure out how to do the work 1 2 3 4 5 6 7.
 - f. Give the child easier work 1 2 3 4 5 6 7.

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