

Do School-Based Accommodations Mitigate Anxiety-Related School Impairment for Socially Anxious Youth?*

¿Los ajustes hechos en las escuelas mitigan la discapacidad fruto de la ansiedad por ir a la escuela en jóvenes con ansiedad social?

Sophie R. Martel, Marissa M. Falcone, Rebecca G. Etkin** , Carla E. Marin ,
Eli R. Lebowitz  y Wendy K. Silverman 

Yale Child Study Center, Yale University School of Medicine, the United States

Abstract

In the United States, legislation ensures that schools provide accommodations to students with disabilities and conditions that impair their functioning. Students with social anxiety, who face many challenges in the school context, often receive these accommodations. Yet, it is unknown whether school-based accommodations achieve their intended aims of mitigating anxiety-related school impairment. The current study therefore examined whether school-based accommodations, assessed as the presence or absence of an Individualized Education Plan (IEP) or 504 Plan, moderate associations between social anxiety symptoms and anxiety-related school impairment. We also explored grade level (elementary versus secondary) as an additional moderator of these associations and included youth sex and ethnicity as covariates. Participants were 504 youth with anxiety disorders (55% boys; 76% elementary level) and their mothers. Based on mothers' reports, we found significant associations of youth sex, social anxiety, and the presence of an IEP or 504 Plan with anxiety-related school impairment. There were no significant moderation effects. Findings are discussed with regard to the role of school-based accommodations for mitigating anxiety-related school impairment. Further research is needed to understand how to improve school-

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** Address correspondence to Rebecca Etkin, Yale Child Study Center, Yale University School of Medicine, 350 George St., New Haven, CT, 06511. Phone: (203) 737-4644; Fax: (203) 737-6994; E-mail: rebecca.etkin@yale.edu

based accommodations to ensure they help the youth for whom they are designed, especially youth with social anxiety.

Keywords: Youth; Social Anxiety; School Impairment; Special Education; Accommodation

Resumen

En los Estados Unidos, la legislación garantiza que las escuelas proporcionan adaptaciones a los estudiantes con discapacidades y condiciones que perjudiquen su funcionamiento escolar. En este sentido, los estudiantes con ansiedad social, quienes se enfrentan a muchos desafíos en el contexto escolar, reciben, frecuentemente estas adaptaciones. Sin embargo, se desconoce si las adaptaciones en la escuela logran los objetivos previstos de mitigar el deterioro escolar relacionado con la ansiedad. Por tanto, el estudio actual examinó si las adaptaciones en la escuela, evaluadas como la presencia o ausencia de un Plan de Educación Individualizado (IEP) o Plan 504, moderan las asociaciones entre los síntomas de ansiedad social y el deterioro escolar relacionado con la ansiedad. También exploramos la etapa educativa (primaria vs. secundaria) como un moderador adicional de estas asociaciones e incluimos el sexo y el origen étnico de los jóvenes como covariables. Participaron 504 jóvenes con trastornos de ansiedad (55% niños; 76% l) y sus madres. A partir de los informes de las madres, encontramos asociaciones significativas entre sexo juvenil, ansiedad social y la presencia de un IEP o Plan 504 y el deterioro escolar relacionado con la ansiedad. No hubo efectos de moderación significativos. Se discuten los hallazgos con respecto al papel de las adaptaciones escolares para mitigar los problemas relacionados con la ansiedad y el deterioro escolar. Por tanto, son necesarias, más investigaciones para comprender y conocer las adaptaciones escolares con el fin de ayudar a los adolescentes, especialmente, diagnosticados con ansiedad social.

Palabras clave: juventud, ansiedad social, deterioro escolar, adaptación escolar especial.

More than 30% of youth (i.e., children and adolescents) meet diagnostic criteria for an anxiety disorder before 18 years of age (Kessler et al., 2012; Merikangas et al., 2010), and these rates have only increased since the start of COVID-19 (Racine et al., 2021). Social anxiety disorder is among the most prevalent pediatric anxiety disorders, with 9% of youth receiving the diagnosis prior to adulthood (Burstein et al., 2011). Central clinical features include excessive social evaluative concerns and avoidance of social evaluative situations (Diagnostic and Statistical Manual of Mental Disorders–5; American Psychiatric Association, 2013), which often are associated with profound impairment in key developmental contexts – school, peers, and family. Aligned with the theme of this Special Issue, this article focuses on the school context.

Challenges associated with social anxiety in school include reading aloud in class, asking or answering questions in class, musical and athletic performances, initiating or joining

in conversations or activities with peers, walking down hallways or into classrooms, using the restroom, and eating in the cafeteria (Green et al., 2017; Leigh & Clark, 2018). It is reasonable to assume that such challenges contribute to school-based impairment, such as poor grades, problematic relationships with peers, and non-involvement in extracurricular school activities. However, research examining associations between social anxiety and anxiety-related school impairment, especially in clinical populations, is scarce (Essau et al., 2000; Nail et al., 2015; Soohinda & Sampath, 2016). Additionally, although studies have examined anxiety-reduction psychotherapy interventions delivered in schools to individual or groups of children (e.g., Ginsburg et al., 2020; Masia Warner et al., 2016), to our knowledge no empirical studies have examined whether school-based interventions mitigate the impact of social anxiety on students' anxiety-related school impairment.

The Role of School-Based Accommodations

Schools' efforts to mitigate students' anxiety-related school impairment and improve their functioning often entail implementing *accommodations*. In the United States, under the Individuals with Disabilities Education Improvement Act (P.L. 108-446 [IDEIA]) and Section 504 of the Rehabilitation Act (P.L. 93-112, amended P.L. 93-516) schools must provide accommodations (and other specialized services) to students with learning, medical, or emotional disabilities that significantly limit students' academic functioning. For students with social anxiety, accommodations implemented within these plans may include excusing the student from classroom participation (e.g., reading aloud, writing on the board in front of the class), granting permission to leave the classroom, and allowing tests to be taken in a separate, quiet environment (Green et al., 2017).

It is widely held that school-based accommodations for anxiety are an effective means to mitigate anxiety-related impairment and improve students' academic functioning (Killu et al., 2016). However, no empirical data exist that support this view. This contrasts with the growing research on *family* accommodation of youth anxiety (e.g., Kitt et al., 2022; Shimshoni et al., 2019). Findings from this research consistently show that family accommodation (i.e., well-intentioned behaviors that facilitate child avoidance of anxiety) does not alleviate youth's anxiety symptoms, but exacerbate youth's anxiety symptoms and related impairment (e.g., Erkin et al., 2022; Lebowitz et al., 2016). School-based accommodations may exacerbate youth's anxiety as well, but this has only been recently examined. Conroy and colleagues (2020) found that 92.5% of school-based providers (e.g., psychologists, social workers; $N = 134$) across preschool, primary, and secondary schools reported implementing at least one accommodation classified as "avoidance-oriented" by a panel of expert psychologists. These included excusing students from participating in class, allowing breaks and visits to the school nurse, and reducing the amount of required work and grading standards.

Ginsburg and colleagues (2021) likewise found that teachers reported implementing avoidance-oriented accommodations, and that these accommodations were associated

with student avoidance and anxiety. Specifically, elementary school (Kindergarten [K] – 5th grade) teachers ($N = 31$) identified anxious student participants, all of whom had a primary anxiety disorder confirmed with a diagnostic interview. Teachers then rated their frequency of accommodating these students on a measure of family accommodation adapted for classroom use. Results indicated that 97% of teachers reported providing these students with weekly reassurance, 81% participated in behaviors relating to students' anxiety, 77% provided items needed, and 55% assisted their students in avoiding anxiety-provoking situations. As teachers reported more frequent accommodation (e.g., reassurance or modifying classroom activities), students showed greater teacher-identified and rated avoidance of anxiety-provoking situations and higher overall anxiety (Ginsburg et al., 2021).

These studies represent important first steps in an understudied area by showing that at least one-half of school-based accommodations for anxious students include avoidance-oriented strategies and thus may be associated with greater student avoidance of anxiety-provoking situations. This is important information for those working with anxious students in the classroom given that the well-intentioned allowance of avoidant behavior may not mitigate, but rather exacerbate anxiety and related impairment at school. Moreover, by receiving these accommodations, students may inadvertently receive a message that school staff do not believe they are capable of coping with their anxiety. Yet, no studies have examined whether school-based accommodations mitigate or exacerbate the association between social anxiety symptoms and anxiety-related school impairment. This is a glaring research gap, as youth with social anxiety are likely to be particularly challenged by many of the tasks required in the school setting.

Grade-Related Differences

An even greater research gap is considering the role of youth development or grade differentiation in associations between school-based accommodations, social anxiety, and school impairment. Given differences in social and academic demands across elementary and secondary (i.e., middle and high school) grade levels, the role of grade may be important to explore. In the one relevant study we could locate, Green and colleagues (2017) found that middle and high school students (defined as students 12 years and over) reported having more anxiety-related school impairment than elementary school students (defined as students 12 years and younger) among 51 youth referred to an anxiety disorders specialty clinic. Youth reported the highest levels of anxiety when asked to speak in front of their class and taking tests, and middle/high students were significantly more likely to report feeling anxious in at least one school situation than elementary students (Green et al., 2017). These findings suggest that grade-related differences may impact youths' levels of anxiety and impairment. In this study, in addition to examining grade-related differences in

key variables, we explore whether grade level (elementary, secondary) further moderates the impact of having an IEP or 504 Plan on associations between social anxiety and anxiety-related school impairment.

Current Study

In the current study, we addressed several gaps in the research literature by examining associations between social anxiety symptoms, school-based accommodations, and anxiety-related school impairment in a large sample of youth referred to an anxiety specialty research clinic. We included all participants whose parents provided data on their child's education. We examined whether having school-based accommodations, operationalized as the presence or absence of an IEP or 504 Plan (henceforth denoted as IEP/504), moderates associations between social anxiety symptom severity and anxiety-related school impairment, as a preliminary test of the widely held assumption that IEP/504 Plans mitigate the impact of social anxiety symptoms on anxiety-related school impairment. We hypothesized that the association between social anxiety symptoms and anxiety-related school impairment may be *stronger* for youth with school-based accommodations than those without, because, as discussed above, accommodations granted through IEP/504 Plans may enable avoidance.

We also tested whether grade-level, elementary (K – 6th grade) versus secondary (7 – 12th grade), was an additional moderator given increases in social anxiety and anxiety-related school impairment that occur as youth progress through these grades, which may be due in part to the concomitant increases in academic and social demands of school. Given the limited prior research on which to base hypotheses, this aim was exploratory. We also included youth sex and ethnicity as covariates and collected and compared mother- and youth-report data for all analyses. Our multi-informant assessment approach is another important extension of past research, as past research has relied on either youth, or youth and teacher reports; parent data seem similarly important, however. Although some parents may be unaware of their child's school experiences, parents are often the primary recipients of feedback about their child's school performance. Moreover, parents are actively involved in their child's academic planning, including requesting and attending IEP/504 meetings (LoCurto et al., 2021).

METHOD

Participants

Participants were 504 youth in K – 12th grade (76% K – 6th grade; 55% boys or young men) and their mothers who presented to an anxiety disorders specialty research clinic to determine eligibility for participation in clinical trials. Mothers reported on their child's

educational and demographic variables. Thirty-six percent of youth were identified as having an IEP/504 Plan; 64% youth did not have an IEP/504 Plan. In terms of race, 83% of youth were White, 9% were Multiracial, 4% were Black, and 3% were Asian (1% did not report). In terms of ethnicity, 13% reported being Hispanic/Latinx and 85% reported being not Hispanic/Latinx (2% did not report). Most mothers (85%) were married, and most reported annual family incomes that fell within the upper-middle range according to U.S. standards.

Procedures

Parents contacted our Program and were administered a phone screen to determine whether anxiety was a primary concern for their child. Youth with primary anxiety concerns and their mothers were invited to participate in a comprehensive clinical research evaluation. After obtaining written informed assent/consent, youth and their mothers were administered a diagnostic evaluation and completed a series of behavioral tasks (not of interest to this study) and a battery of questionnaires. Mothers also provided demographic information and responded (yes/no) to questions asking whether their child has a 504 or IEP Plan. All procedures were approved by the university's Institutional Review Board (IRB).

Youth- and Mother-Completed Measures

Social Anxiety Symptoms

The social anxiety subscale of the *Multidimensional Anxiety Scale for Children, 2nd Edition* (MASC-2; March, 2013) was used to assess youth social anxiety symptom severity. The social anxiety subscale contains nine items (e.g., feeling nervous to perform in public) rated on a scale ranging from 0 (never) to 3 (often). Scores can range from 0 to 27, with higher scores indicating greater social anxiety symptom severity. The social anxiety subscale of the MASC-2 has evidence of convergent validity with other social anxiety measures and discriminates between social anxiety and other anxiety symptoms in school-age youth (e.g., Anderson et al., 2009; MASC-2; March, 2013). Cronbach's alphas in this sample were .86 for youth-report and .87 for mother-report.

School Impairment

The school subscale of the *Child Anxiety Impact Scale* (CAIS; Langley et al., 2004) was used to assess youth impairment due to anxiety in the school context. The school subscale contains 10 items assessing difficulty due to anxiety in completing common school-based tasks, such as giving oral reports or reading out loud, concentrating on work, getting to school on time, getting good grades, and eating lunch with other kids. Items are rated on a

scale ranging from 0 (not at all) to 3 (very much) and scores can range from 0 to 30, with higher scores indicating greater anxiety-related school impairment. The school subscale of the CAIS has evidence of convergent and divergent validity with other validated youth measures (i.e., the school competence subscale of the Child Behavior Checklist (Achenbach, 1991) and the school phobia subscale of the Screen for Child Anxiety Related Emotional Disorders (Birmaher et al., 1997) and construct validity as established by a confirmatory factor analysis among school-age youth (Langley et al, 2014). Cronbach's alphas in this sample were .87 for youth-report and .86 for mother-report.

Data Analysis

We first conducted preliminary analyses to examine data for nonnormality, missingness, and outliers. We also examined descriptive statistics and zero-order correlations for continuous variables. To better characterize the youth with and without IEP/504 Plans, we examined additional descriptive statistics and conducted *t*-tests, using SPSS Version 28.0. To test the primary hypotheses, we conducted linear regression analyses using Mplus Version 8. In each model, anxiety-related school impairment was the dependent variable, social anxiety symptom severity was the independent variable, and grade level (elementary: K – 6th grades; secondary: 7 – 12th grades) and the presence/absence of an IEP/504 Plan (i.e., school accommodation) were the moderator variables. All models included youth sex assigned at birth (0 = boy, 1 = girl) and ethnicity (0 = non-Hispanic/Latinx, 1 = Hispanic/Latinx) as covariates. Models using mother- and youth-report data were tested separately. Analyses were conducted using the maximum likelihood robust estimation and full information maximum likelihood (FIML) to account for missing data.

RESULTS

Preliminary Analyses

All variables were examined for skew and kurtosis and found to be normally distributed (skew and kurtosis all < |1|). No missing data patterns or outliers were identified. Descriptive statistics and zero-order correlations are presented in Table 1. Of note, youth- and mother-reports of social anxiety severity and anxiety-related school impairment were all positively and significantly correlated, with medium-to-large effect sizes (Cohen et al., 1988). Additional descriptive statistics revealed that 42% of boys had an IEP/504 Plan (58% did not) and 28% of girls had an IEP/504 Plan (72% did not). For youth in K – 6th grades, 33% had an IEP/504 Plan (67% did not), and for youth in 7 – 12th grades, 46% had an IEP/504 Plan (54% did not).

Table 1.
Descriptive Statistics and Zero-Order Correlations Between Study Variables

	1	2	3	4
1. Social Anxiety – Y		.295*** (.617)	.447*** (.999)	.177*** (.360)
2. Social Anxiety - M			.223*** (.458)	.439*** (.977)
3. School Impairment – Y				.243*** (.501)
4. School Impairment – M				
<i>Range</i>	0-27	0-27	0-30	0-30
<i>M</i>	13.262	16.796	9.430	8.702
<i>SD</i>	7.214	6.209	7.359	6.674

Note. Y = youth-report, M = mother-report. Cohen's d included in parentheses. * $p < .05$, ** $p < .01$, *** $p < .001$

T-tests revealed that youth with IEP/504 Plans had significantly higher social anxiety severity compared with youth without IEP/504 Plans, according to mother-report, $t(436) = -2.089$, $p < .05$, but not youth-report, $t(435) = 0.81$, $p = .935$. Youth with IEP/504 Plans also had significantly higher levels of anxiety-related school impairment compared to those without, according to mother-report, $t(472) = -6.355$, $p < .001$, and youth-report, $t(456) = -2.079$, $p < .05$. Regarding grade-level differences, youth in secondary grades had higher levels of social anxiety symptom severity than youth in elementary grades, according to mother-report, $t(436) = -2.747$, $p < .01$, and youth-report, $t(435) = -7.077$, $p < .001$. Likewise, youth in secondary grades had higher levels of anxiety-related school impairment than those in elementary grades, according to mother-report, $t(472) = -4.351$, $p < .001$, and youth-report, $t(456) = -6.339$, $p < .001$.

Primary Analyses

We first examined regression models with grade included as an exploratory moderator. There were no significant interaction effects ($ps > .05$), so interaction terms involving grade were dropped and grade was retained as an additional covariate. Results of the final regression models are presented in Table 2. In the model with mother-report data, there were significant effects of youth sex, grade, social anxiety symptom severity, and the presence of an IEP/504 Plan on anxiety-related school impairment. In the model with youth-report data, there were significant effects of grade and social anxiety symptom severity only on anxiety-related school impairment. We did not find any significant interactions between social anxiety and the presence or absence of an IEP/504 Plan in the mother- or youth-report models.

Table 2.
Linear Regression Analyses Examining Associations Between Social Anxiety and Anxiety-Related School Impairment with IEP/504 as a Moderator

Model	Mother-Report			Youth-Report		
	β	<i>B</i>	<i>SEB</i>	β	<i>B</i>	<i>SEB</i>
Sex	-0.090*	-1.199	0.531	-0.045	-0.668	0.614
Ethnicity	0.028	0.549	0.871	0.086	1.841	0.993
Grade	0.122**	1.895	0.734	0.157**	2.691	0.783
Social Anxiety	0.424***	0.454	0.046	0.407***	0.423	0.056
IEP/504	0.208***	2.890	0.603	0.067	1.021	0.646
Anxiety x IEP/504	-0.040	-0.077	0.101	-0.019	-0.034	0.095

Note: Sex coded 0 = boy, 1 = girl; Ethnicity coded 0 = not Hispanic, 1 = Hispanic; Grade coded 0 = elementary, 1 = secondary; IEP/504 coded 0 = child does not have an IEP/504 Plan, 1 = child has an IEP/504 Plan. * $p < .05$, ** $p < .01$, *** $p < .001$

DISCUSSION

IEP/504 Plans are granted to anxious students to reduce their anxiety-related impairment at school. This study is the first to show that having an IEP/504 Plan may not mitigate the anxiety-related school impairment associated with social anxiety symptoms. Aligned with other recently reported data suggesting that some school-based accommodations enable anxious students to avoid anxiety-provoking situations (e.g., Conroy et al., 2020; Ginsburg et al., 2021), our data show associations between having an IEP/504 Plan and anxiety-related school impairment, at least based on parent report. This association emerged across levels of social anxiety severity, student sex, ethnicity, and grade level. Future research is needed to examine these associations over time, and to account for the specific nature of accommodations granted in students' IEP/504 Plans to determine if indeed having an IEP/504 Plan *contributes* to avoidance of anxiety. If so, this would be problematic in allowing for the occurrence of negative reinforcement (i.e., avoiding anxiety-provoking situation maintains continued anxiety and avoidance). It would also mean these plans have the potential to reduce student confidence and perpetuate additional student (and parent) requests for readjustment of expectations (Wehby et al., 2003). Our finding that having an IEP/504 Plan was not associated with anxiety-related school impairment based on youth-report mirrors findings relating to *family* accommodation, which show that youth are more likely than their parents to view accommodation as more helpful and less problematic, at least at the time of the assessment (Lebowitz et al., 2015).

Our study addresses glaring gaps in the research literature on youth anxiety and school-based intervention, and therefore represents a novel and important contribution. We showed that school-based accommodations may not help students in intended ways. The fact that we showed this solely by relying on reports of the presence or absence of IEP/504 Plans, a quick, efficient, simple, and naturalistic method that does not require teacher participation, as in past studies, renders our findings even more novel and interesting. Although this approach did not allow us to identify specific school-based accommodations, it nevertheless is an approach that is worthy of consideration in future work. Of further note, about one-third of our sample had an IEP/504 Plan. While lower than the proportion cited in other treatment-seeking samples (e.g., 57%; Green et al., 2017), it is still striking that (1) up to one-half of clinically anxious youth may be receiving accommodations that may or may not help in intended ways, (2) and up to one-half of anxious youth may not be receiving necessary accommodations at all (LoCurto et al., 2021). The mismatch between anxiety prevalence and the prevalence of youth receiving school-based services highlights the importance of further examining the nature of these accommodations and their impact.

Another unique contribution of our study was reporting descriptive information about the youth who had IEP/504 Plans and those who did not. A greater proportion of boys compared to girls, and secondary students compared to elementary students, had IEP/504 Plans. This information may be especially important to future research seeking to advance understanding of which specific accommodations help or harm, and for whom. We also reported data revealing differences in levels of social anxiety severity and anxiety-related school impairment based on grade level and IEP/504 status in a large clinical sample of children referred to an anxiety disorders specialty program and using both youth- and mother-reports. Youth with IEP/504 Plans were significantly more socially anxious (mother-report) and impaired due to their anxiety (mother-and-youth report) compared to youth without these plans. Additionally, youth in secondary school had higher levels of social anxiety symptom severity and impairment than youth in elementary school according to both youth- and mother-reports (also reflected in the regression analyses). These findings suggest the need for both parents and school staff to be informed about the problematic nature of social anxiety in school, especially as youth move up in grade level. This can help ensure that these youths' needs are met to mitigate impairment related to their anxiety symptoms.

Limitations, Future Directions, and Implications

Results are limited by the concurrent study design, which prohibits any causal or temporal interpretations. For example, youth with initial higher levels of social anxiety and anxiety-related impairment are perhaps more likely to receive, and have parents who request, IEP/504 Plans. Or perhaps certain IEP/504 Plans mitigate impairment over time. Future research would benefit from prospective designs to address these possibilities. Our

results are further limited by the exclusive use of youth and parent ratings. Although there is no singular gold standard method to assess anxiety, and many anxiety rating scales have excellent psychometric properties (Etkin et al., 2021a,b), future research would benefit from additional informants (e.g., fathers, teachers) and methods (e.g., behavioral observation). It would also be beneficial to gather information about the content of students' IEP/504 Plans, including the specific accommodations they entail and the length of time they have been implemented. Specifically, coding accommodations based on whether they are avoidance- or approach- oriented, as in Conroy and colleagues (2020), would allow for more nuanced conclusions about which accommodations help or harm, and the mechanisms by which this occurs. Future research could also compare a dimensional approach to measuring social anxiety, as we took in this study, to a categorical approach to determine potential differences in the impact of school-based accommodations for youth with and without diagnosed social anxiety disorder. Finally, this sample was largely ethnically and socioeconomically homogenous and from the U.S. It is important to examine whether and what type of educational plans in other countries mitigate impairment in the face of anxiety in populations of youth from across the world with diverse backgrounds, needs, and challenges. This will help determine our findings' generalizability.

This and future research focusing on how plans such as IEP/504s may contribute to social anxiety and associated avoidance and impairment may have important educational implications. School staff including teachers, administrators, and counselors, should carefully consider which accommodations may be unintentionally maintaining or increasing student's social anxiety and related impairment and take steps to reconceptualize the accommodations being offered, if warranted. Greater collaboration between parents, mental health experts, and schools would be beneficial to establish optimal ways to help anxious students succeed in the classroom while addressing the impact of anxiety in school. It has been suggested that school staff may benefit from specialized anxiety-training, and shown that empirically studied psychosocial interventions (e.g., cognitive-behavioral interventions) can support anxious students' academic success (Ginsburg et al., 2021; Masia Warner et al., 2016). Specifically considering the role of social anxiety and the principles underlying evidence-based interventions (e.g., facing fears instead of avoiding) may be important in both guiding the selection of accommodations and offering students solutions that help minimize impairment.

CONCLUSION

School-based accommodations, which are often granted through formal plans such as IEP/504s, intend to help alleviate school-based impairment for students with anxiety and other challenges. However, for youth with social anxiety, who are especially vulnerable to

school-based difficulties and impairment, it is not known whether these well-intentioned plans reduce or exacerbate impairment. In this study, we examined this question for the first time, and we did not find evidence that IEP/504 Plans mitigate associations between social anxiety symptoms and anxiety-related school impairment among clinically anxious youth. Rather, these plans were directly associated with anxiety-related school impairment, according to youth's mothers. While further research is needed to replicate and extend results of this study, our results suggest that schools should carefully consider how accommodations may impact youth with social anxiety and provide interventions that encourage approach-rather than avoidance-related behavior.

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