



European Journal of Education and Psychology

ISSN: 1888-8992

ISSN: 1989-2209

ejepsy@ual.es

Asociación Universitaria de Educación y Psicología
España

Marin, Carla E.; Anderson, Tess; Lebowitz, Eli R.; Silverman, Wendy K.
Parental Predictors of School Attendance Difficulties in Children Referred to an Anxiety Disorders Clinic
European Journal of Education and Psychology, vol. 12, núm. 1, 2019, pp. 31-46
Asociación Universitaria de Educación y Psicología
Almería, España

Disponible en: <https://www.redalyc.org/articulo.oa?id=129365922003>

- Cómo citar el artículo
- Número completo
- Más información del artículo
- Página de la revista en redalyc.org

redalyc.org

Sistema de Información Científica Redalyc

Red de Revistas Científicas de América Latina y el Caribe, España y Portugal
Proyecto académico sin fines de lucro, desarrollado bajo la iniciativa de acceso
abierto

Parental Predictors of School Attendance Difficulties in Children Referred to an Anxiety Disorders Clinic

Carla E. Marin, Tess Anderson, Eli R. Lebowitz
and Wendy K. Silverman
Yale University School of Medicine (USA)

Difficulties with attending school are common in children referred to anxiety disorders clinics. Although parental factors have been posited as playing an important predictive role, little is known about which parental factors are associated with school attendance difficulties (SADs). We address this gap by examining family accommodation, parental psychological control, parental anxiety, and parental depression as possible predictors of SADs in children ($N=343$; ages 6 to 17 years, $M=10.40$ years, $SD=2.93$; 84% mothers; $M=41.20$ years, $SD=5.49$) who presented to a childhood anxiety disorders clinic. Forty-eight percent ($n=166$) had SADs including not attending school, arriving to school late and/or leaving early, not staying in the classroom during school hours, or behavior problems associated with attending school (e.g. morning tantrums). Logistic regression analyses using child and parent ratings revealed that of the parental variables examined, family accommodation and parental depression were significant predictors of SADs after controlling for the effects of parental psychological control, parental anxiety, child age, child anxiety and child depression. The study's findings suggest that high levels of family accommodation and high levels of parental depression increase the odds of SADs in anxious children.

Keywords: Childhood anxiety, school attendance, school refusal, family accommodation, parental predictors

Predictores parentales de las dificultades de asistencia escolar en los niños Referido a una clínica de trastornos de ansiedad. Las dificultades para asistir a la escuela son comunes en niños referidos a clínicas sobre trastornos clínicos de ansiedad. Aunque los factores de los padres se han postulado como que juegan un importante papel predictivo, poco se sabe sobre qué factores de los padres están asociados con los problemas de asistencia escolar (PAE). Abordamos esta brecha al examinar la adaptación familiar, el control psicológico de los padres, la ansiedad de los padres y la depresión de los padres como posibles predictores de PAE en los niños ($N=343$; edades de 6 a 17 años, $M=10.40$ años, $SD=2.93$; 84% de madres; $M=41.20$ años, $SD=5.49$) que acudieron a una clínica de trastornos de ansiedad infantil. El cuarenta y ocho por ciento ($N=166$) tenía PAE que incluían no asistir a la escuela, llegar tarde a la escuela y / o irse temprano, no quedarse en el aula durante las horas escolares o problemas de comportamiento asociados con la asistencia a la escuela (por ejemplo, berrinches matutinos). Los análisis de regresión logística con calificaciones de niños y padres revelaron que las variables parentales examinadas, la acomodación familiar y la depresión parental fueron predictores significativos de PAE después de controlar los efectos del control psicológico parental, la ansiedad parental, la edad infantil, la ansiedad infantil y la depresión infantil. Los hallazgos del estudio sugieren que los altos niveles de acomodación familiar y los altos niveles de depresión de los padres aumentan las probabilidades de PAE en niños ansiosos.

Palabras clave: Ansiedad infantil, asistencia escolar, rechazo escolar, alojamiento familiar, predictores parentales.

Defining school attendance difficulties (SADs) has had many twists and turns for close to a century, with varying emphasis of the difficulties as a societal problem (illegal truancy), a clinical entity (psychoneurotic truancy/school refusal) (Broadwin, 1932; Partridge, 1939), 'school phobia', characterized by an over-dependent mother-child relationship (Johnson, Falstein, Szurek, & Svensen, 1941), and a functional definition relating to approach versus avoidance motivation (Kearney & Silverman, 1993). Heyne, Gren-Landell, Melvin, and Gentle-Genitty (2018) provide a scholarly and comprehensive summary of the progressive development of these varied approaches to the definitions. Tonge and Silverman (2018) provide further commentary on Heyne et al., and other articles contained in a special issue on the topic, highlighting specific gaps in the literature, the need for pragmatic approaches to address the gaps in light of the complexities of SADs, and the promise of transformational change as research in the field continues.

Most research studies of SADs use percentage of time absent, most commonly between 10% and 25%, as the primary criterion for study sample inclusion (e.g., Berg, 1997; Heyne et al., 2002; Kearney, 2008). Using a specific percentage of time absent is reasonable to ensure participant sample selection is standardized in research. However, a stringent percentage of time absent criterion fails to capture the full breadth of children's SADs. Many children have difficulty attending school that can be operationalized as present versus absent, but SADs can also include behavior problems (e.g., morning tantrums, morning somatic complaints), not staying in the classroom during school hours (e.g., in office of guidance counselor, in office of school nurse), arriving to school late and/or leaving school early.

To ensure study samples are more representative of the population, it is important to broaden research samples so that they include children who are fully absent *and* children who show these other SADs. Further, it is not prudent to wait until children have excessive and chronic school absences to intervene, as chronic school absenteeism has been shown to be associated with negative child outcomes (e.g., Kearney, 2008). Kearney and Graczyk (2014) proposed a Response to Intervention (RtI) model to reduce SADs and promote school attendance. RtI is a 3-tiered school-based systematic approach that uses evidence-based practices to ensure academic and socioemotional success for students (Clark & Alvarez, 2010). Kearney and Graczyk argue that a RtI model is well-suited for promoting school attendance and addressing school absenteeism in part because of RtI's emphasis on early identification and treatment of student problems. Tier 1 focuses on universal interventions directed at all students, Tier 2 focuses on targeted interventions for at-risk students, and Tier 3 focuses on intensive interventions for students with severe problems. In Tier 1, students are regularly assessed to identify who might require Tier 2 interventions. Thus, broadening samples to include students with SADs is especially relevant for Tiers 1 (i.e., identifying students at risk) and 2 (i.e.,

targeted interventions for students at risk). Further, if predictors of SADs can be empirically established, such factors can help inform Tier 2 interventions.

In the present investigation we studied a sample of children with SADs referred to an anxiety disorders clinic and compared them to a sample of clinic referred anxious children without SADs. The primary aim was to identify predictors SADs. The focus was on parent variables because although posited as predictive (e.g., Kearney, LaSota, Lemos-Miller, & Vecchio, 2007; Place, Hulsmeier, Davis, & Taylor, 2002), data are scant. We could only identify one study that examined parental predictors of school refusal, and this study yielded nonsignificant findings (Carless, Melvin, Tonge, & Newman, 2015). Below is a brief background and justification for what is known about the variables we selected to study.

Family Accommodation

Family accommodation has been undergoing extensive and deep investigation in the child anxiety research literature (e.g., Benito et al., 2015; Lebowitz et al., 2013; Lebowitz, Omer, Hermes, & Scahill, 2014; Lebowitz et al., 2016; Norman, Silverman, & Lebowitz, 2015; Thompson-Hollands, Kerns, Pincus, & Comer, 2014). Family accommodation describes changes that parents make to their own behaviors to help their child avoid anxiety related distress. Parents may actively participate in their child's anxious symptoms, modify the family routines, or both. A recently completed clinical trial showed that a parent-based intervention that focused on reducing family accommodation (Supportive Parenting for Anxious Childhood Emotions; SPACE) was effective in reducing childhood anxiety (Lebowitz, Marin, Martino, Shimshoni, & Silverman, in press).

Despite its critical role in childhood anxiety, there are no studies on family accommodation in children with school refusal and/or SADs. Family accommodation may be relevant to SADs, as parents of children with SADs may accommodate in various ways such as allowing the child to arrive to school late, leave early, etc. School refusal has further been characterized by high levels of parental overprotection, a construct that has been implicated in contributing to high levels of family accommodation (Norman et al., 2015). In a sample of 63 children (aged 7 to 17 years; $M=13.5$, $SD=2.4$) with school refusal referred to an anxiety disorders clinic, Last and Strauss (1990) found that compared to healthy controls, parents of children with school refusal (least 10% missed days) reported higher levels of child dependency and overprotection.

Parental Psychological Control

Parental psychological control, characterized by shame and guilt induction, and by low autonomy granting, has been shown to have robust links with childhood

anxiety (e.g., Nanda, Kotchick, & Grover, 2012) and has been identified as a mediator of child anxiety treatment outcome (Settipani, O'Neil, Podell, Beidas, & Kendall, 2013; Silverman et al., in press). This variable has not been studied in children with school refusal or SADs, though low autonomy granting by parents has been suggested as an important parental characteristic amongst these children (Kearney, Chapman, & Cook 2005). Although not a study of parental psychological control per se, but of familial variables that included "active-recreational orientation," Hansen, Sanders, Massaro, and Last (1998) found that low levels of parental encouragement of social and recreational activities was predictive of high levels of school absenteeism (at least 10% missed days) in a sample of 76 children (aged 6 to 17 years; mean age and *SD* were presented separately for boys ($M=12.57$, $SD=2.90$) and girls ($M=11.88$, $SD=2.79$) referred to an anxiety disorders clinic. Ingul et al. (2018) noted that children who spend a majority of their time at home outside of school hours could lack opportunities for developing skills that foster autonomy and independence. Taken together, we reasoned that high parental psychological control would be predictive of SADs, because parental psychological control is similarly characterized by low parental encouragement of child autonomy.

Parental Anxiety and Parental Depression

There is a large literature demonstrating that parental anxiety and depression are common amongst children with anxiety disorders (e.g., Colletti et al., 2009; Silverman, Cerny, Nelles, & Burke, 1988; Woodruff-Borden, Morrow, Bourland, & Cambron, 2002). Children with school refusal similarly have parents with high levels of anxiety and/or high levels of depression (e.g., Bahali, Tahiroglu, Avci, & Seydaoglu, 2011; Bools, Foster, Brown & Berg, 1990; Kearney & Silverman, 1995; Last, Strauss, & Francis, 1987). Parental anxiety and/or depression may make it difficult for parents to adequately support a child with SADs (Heyne, 2006). Bahali et al. (2011), for example, examined 55 pairs of parents (mothers $M_{age}=36$, $SD=6$; fathers $M_{age}=41$, $SD=6$; age range not provided) who had children (aged > 5 years) with school refusal (e.g., at least 1 month absent) referred to a university-based general child outpatient clinic, and were compared with a community sample of parents ($n=56$; mothers $M_{age}=37$, $SD=5$; fathers $M_{age}=41$, $SD=5$; age range not provided) of non-school refusers. Findings showed that parents of school refusers reported significantly higher levels of anxiety and depression compared with parents of the non-school refusers. In the one study on parental predictors of school refusal, Carless et al. (2015) similarly found that parents of adolescents (aged 12 to 17 years; $M=13.93$, $SD=1.33$) with school refusal had higher levels of anxiety and higher levels of depression compared to healthy controls. However, after controlling for other parent and child factors, the effects of parental anxiety and parental depression no longer predicted school refusal.

Present Study

The aim of the present study was to examine whether family accommodation, parental psychological control, parental anxiety, and parental depression were significant predictors of SADs. We hypothesized that high levels of family accommodation and high psychological control would increase the odds of having SADs (e.g., Kearney et al., 2005). More tentatively, we hypothesized that children whose parents reported high levels of anxiety and/or high levels of depression would also have increased odds of having SADs (e.g., Carless et al., 2015). Because of previously documented associations with school refusal, we included child age, child anxiety, and child depression as covariates in the models (e.g., Egger, Costello, & Angold, 2003). Because there is generally low agreement between parent and child reports (De Los Reyes, 2011; Silverman & Eisen, 1992), and to advance understanding of parents' and children's perspectives, separate logistic regression analyses were run with child and parent rated measures. Separate analysis of the child and parent ratings represent another important advance over past research, which generally include parent ratings only.

METHOD*Participants*

Participants were 343 children aged 6 to 17 years ($M=10.40$ years, $SD=2.93$; 50.4 % girls) and their parents (84% mothers; aged 30 to 54 years, $M=41.20$, $SD=5.49$), who presented consecutively to an anxiety disorders research clinic. Children were referred due to concerns with excessive fears, anxiety, and/or worry. Most of the children met diagnostic criteria for a Diagnostic and Statistical Manual (DSM-IV) primary anxiety disorder diagnosis (93.5% total; generalized anxiety disorder = 32.7%, social phobia = 27.4%, separation anxiety disorder = 16.3%, specific phobia = 10.2%, and the remaining 6.9% having other anxiety disorders (e.g., panic disorder). The remaining 6.5% of the sample met for either an externalizing disorder (e.g., attention deficit hyperactivity disorder, 4.2%) or a mood disorder (2.3%). The sample was predominantly White (84.8%) and non-Hispanic (86.6%) with a minority being multiracial (8.2%), African American (2.9%), or Asian (2.3%). Eighty-four percent of parents were married or cohabitating with a partner; 86.6% reported family incomes of at least \$61,000.

Inclusion criteria for the SADs group were based on parents' affirmative responses to specific items on the Anxiety Disorders Interview Schedule for Children – Parent Versions (Silverman & Albano, 1996) and the Child Behavior Checklist (Achenbach & Edelbrock, 1983) (see Measures). Of the 343 children, 48% ($n=166$) of children had SADs. The remaining 177 children presented to the clinic but did not have SADs (see Table 1 for additional sample characteristics).

Table 1. Sample Characteristics and Descriptive Statistics of Study Variables

	School Difficulties (<i>n</i> = 166)	Non-School Difficulties (<i>n</i> = 177)	χ^2	<i>t</i>	<i>p</i>
Child age [<i>M</i> (<i>SD</i>)]	10.68 (2.98)	10.15 (2.87)		1.68	.09
Child sex (female, %)	83 (5)	89 (50.3)	.000		.997
Child race (%)					
White	146 (90.1)	145 (82.9)			
Black	3 (1.9)	7 (4.0)	4.39		.22
Asian	2 (1.2)	6 (3.4)			
Multiracial	11 (6.8)	17 (9.7)			
Non Hispanic/Latino (%)	146 (49.2)	151 (50.8)	1.05		.31
Marital Status (%)					
Married	138 (84.7)	150 (85.2)			
Single	7 (4.3)	8 (4.5)	3.35		.34
Divorced	15 (9.2)	18 (10.2)			
Widowed	3 (1.8)	0			
Household Income (%)					
<\$41,000	15 (11.1)	8 (5.7)			
\$41,000 – \$99,999	40 (29.7)	41 (29.3)	7.43		.39
>\$100,000	80 (59.2)	91 (64.9)			
Primary Diagnoses (%)					
GAD	48 (28.9)	64 (36.4)			
SOP	47 (28.3)	47 (26.7)	19.84		.14
SAD	32 (19.3)	24 (13.6)			
SP	15 (9.0)	20 (11.4)			
Comorbidity (%)	136 (86.6)	130 (78.8)	3.44		.06
Parent and Child Rating Scales [<i>M</i> (<i>SD</i>)]					
FASA Total – P	18.91 (8.71)	14.67 (7.61)		4.75	.000
FASA Total – CR	14.32 (7.01)	12.30 (6.62)		2.72	.01
MASC 2– P	73.43 (19.60)	63.57 (18.23)		4.80	.000
MASC 2– SR	74.00 (25.44)	68.87 (24.18)		1.91	.06
PRPBI Psychological Control	3.22 (2.98)	3.30 (2.74)		-.28	.78
CRPBI Psychological Control	5.98 (3.85)	6.50 (4.13)		-1.21	.23
CDI	17.91 (8.82)	15.82 (8.31)		2.23	.03
BAI	9.77 (9.49)	6.86 (7.77)		3.09	.002
BDI	8.36 (6.63)	5.70 (4.90)		4.19	.000

Note. GAD = generalized anxiety disorder; SOP = social phobia; SAD = separation anxiety disorder; SP = specific phobia; FASA = Family Accommodation Scale – Anxiety; CR = Child Report; MASC 2-P =Multidimensional Anxiety Scale for Children – Parent; MASC 2 – SR= Multidimensional Anxiety Scale for Children – Self Report; PRPBI Psychological Control = Parent Report of Parenting Behavior Inventories; CDI = Children’s Depression Inventory; BDI = Beck Depression Inventory; BAI = Beck Anxiety Inventory.

Measures

-Diagnostic Interview

Anxiety Disorders Interview Schedule - Child and Parent Versions (ADIS-IV: C/P; Silverman & Albano, 1996). The ADIS: C/P are semi-structured interviews with good to excellent reliability, and strong correspondence with anxiety questionnaire ratings (Silverman, Saavedra, & Pina, 2001; Wood, Piacentini, Bergman, McCracken, & Barrios, 2002). Graduate-level clinicians or licensed psychologists, trained by WKS, administered the interviews. Diagnostic profiles were finalized during case presentation

meetings in which a final diagnostic profile was determined by group consensus. Case meetings were attended by study authors, licensed clinical psychologists and clinicians with expertise in the assessment of childhood anxiety.

We used the School Refusal module of the ADIS-IV/P to select children for inclusion in the SADs group. The School Refusal module contains questions such as, “Does your child have problems attending or staying in school?” and “Does your child often go to see the nurse or often complain of feeling sick while in school?” As noted, children whose parents responded affirmatively to these and other items were included in the SADs group.

-Measures Completed by Parents and Children

Family Accommodation Scale – Anxiety (FASA/FASA-CR; Lebowitz et al., 2015). Family accommodation was assessed using respective versions of the FASA. All items are rated along a 0 (Never) to 4 (Daily) rating scale. Total FASA accommodation scores are derived by summing the first 9 items of the FASA. The FASA and FASA-CR have demonstrated internal consistency ($\alpha=.80$) and convergent validity ($r=.45$) (Lebowitz et al., 2013; Lebowitz et al., 2015). Coefficient alpha in the current sample was .88 for parents and .80 for children.

Parenting Behavior Inventory (PRPBI/CRPBI; Schludermann & Schludermann, 1970). The PRPBI/CRPBI is a 30-item rating scale that assesses perceived parents’ behaviors toward the child, from the perspective of the parent and child, respectively. All items are rated on a 0 (Not like), 1 (Somewhat like) or 2 (A lot like) rating scale. We used the Psychological Control (PC) subscale in this study, which contains 10 items. Coefficient alphas between .76 and .82 have been reported for different informants (Schwarz, Barton-Henry, & Pruzinsky, 1985). Coefficient alpha in the current sample was .76 for parents and .77 for children.

Multidimensional Anxiety Scale for Children (MASC 2-P/MASC 2-SR; March, 1997). The MASC 2 is a 50-item rating scale, rated on a 0 (Never) to 3 (Often) point scale. The MASC 2-P and MASC 2-SR have been shown to have good reliability and validity (March, 1997). We used the total score on the MASC 2. Coefficient alpha in the current sample was .90 for parents and .93 for children.

-Measures Completed by Child

Child Depression Inventory (CDI; Kovacs, 1981). The CDI is a 27-item child self-rating scale that assesses cognitive, affective and behavioral signs of depression. Children are asked to select the item that best describes themselves in the past two weeks (e.g., I am sad once in a while, I am sad many times, or I am sad all the time). The CDI has been shown to have good internal consistency and moderate test-retest reliability and validity estimates (e.g., Kovacs, 1981). Coefficient alpha in the current sample was .88.

-Measures Completed by Parents

Child Behavior Checklist (CBCL; Achenbach & Edelbrock, 1983). The CBCL is a widely used, psychometrically strong parent rating checklist about their children's behavior problems. We used the following two items to determine children's inclusion in the SADs group: (1) fears going to school and (2) skips school. Parents' ratings correspond to scores of 0 (not true), 1 (somewhat or sometimes true), or 2 (very true or often true). Children were included if the parent rated either question with a "1" or "2". Coefficient alpha in the current sample across the two items was .93.

Beck Anxiety Inventory (BAI; Beck, Epstein, Brown, & Steer, 1988). The BAI is a 21-item questionnaire that assesses parental anxiety. Items were rated on a 0 (Not at all) to 3 (Severely, it bothered me a lot) point scale. The BAI is widely used in both research and clinical practice and has shown to have excellent psychometric properties (Beck, et al., 1988). Coefficient alpha in the current sample was .92.

Beck Depression Inventory (BDI; Beck, Ward, Mendelson, Mock, & Erbaugh, 1961). The BDI is a 21-item questionnaire that assesses parent depression. Parents are asked to select the item that best describes them in the past month (e.g., I do not feel sad; I feel sad; I am sad all the time and I can't snap out of it; I am so sad and unhappy that I can't stand it). The BDI has shown adequate reliability and internal consistency (Beck et al.). Coefficient alpha in the current sample was .88.

Procedure

The study was approved by the university's Institutional Review Board. All parents and children provided informed consent/assent, followed by their completion of diagnostic interviews and questionnaires. Prior to completion of each questionnaire, directions for each were read aloud by trained research assistants. Individual questionnaire items were read aloud to younger children and to children with reading difficulties, with the child reading along with the research assistant (who was instructed not to view the child's responses to reduce demand).

Data Analysis

Logistic regression analyses were conducted to examine predictors (e.g., family accommodation, psychological control) of SADs. Separate models were conducted with parent and child rated measures. In each model all predictors were entered simultaneously to predict SADs. This approach provides a test of the association between each specific predictor on SADs while controlling for all other predictors in the model. Covariates in the parent model included child age and anxiety; covariates in the child model included child age, anxiety, and depression.

RESULTS

Preliminary Analyses

Analyses were conducted in Mplus version 7.4 (Muthén & Muthén, 2012) and SPSS 24. Prior to conducting main analyses, the data were examined for outliers, nonnormality, and missing data. Outliers were examined using non-model and model-based analyses. No outliers were identified. Missing data was accommodated using full information maximum likelihood methodology (Enders, 2010). We used an estimator with robust standard errors (Wilcox, 2003).

Main Analyses

Table 1 provides descriptive statistics comparing children with and without SADs on sociodemographic and study variables. There were no statistically significant differences between children with and without SADs on any sociodemographic variables or primary anxiety diagnoses. Children with SADs compared to children without SADs had significantly higher levels of family accommodation, parental anxiety, parental depression, child anxiety, and child depression. Table 2 provides bivariate correlations among study variables.

Table 2. Pearson's Bivariate Correlations Among Study Variables

Variable	1	2	3	4	5	6	7	8	9
1. FASA-P									
2. PRPBI-PC	.09								
3. BAI	.17**	.17**							
4. BDI	.19**	.21***	.57***						
5. MASC 2-P	.42***	.12*	.27**	.20**					
6. FASA-CR	.26***	.09	.01	-.03	.24**				
7. CRPBI-PC	.02	.15**	-.004	.01	.03	.06			
8. MASC 2-SR	.09	-.04	.03	-.02	.17**	.27***	.11*		
9. CDI	.36***	.09	.36**	.33***	.45***	.07	.04	.03	
10. Child Age	-.18***	-.01	.04	.08	-.02	-.07	-.14**	.15**	.02

Note. FASA = Family Accommodation Scale – Anxiety; CR = Child Report; MASC 2-P=Multidimensional Anxiety Scale for Children – Parent; MASC 2 – SR= Multidimensional Anxiety Scale for Children – Self Report; PRPBI Psychological Control = Parent Report of Parenting Behavior Inventories; CDI = Children's Depression Inventory; BDI = Beck Depression Inventory; BAI = Beck Anxiety Inventory; * $p > .05$; ** $p > .01$; *** $p > .001$.

Parent Model. Family accommodation (FASA), psychological control (PRPBI-PC), parental anxiety (BAI), and parental depression (BDI) were entered in the model to predict SADs. Child age and anxiety were included as covariates in the model. Results from logistic regression analysis showed that for every one unit increase in family accommodation, the change in log odds increased by .05 units (S.E.=.02). That is, every one unit increase in family accommodation increased the odds of SADs by 5%. For every one unit increase in parental depression, the change in log odds increased by

.06 units (S.E.=.03). That is, every one unit increase in parental depression increased the odds of SADs by 6%. Parental anxiety (logistic coefficient=-.002, S.E.=.02) and parental psychological control (logistic coefficient=-.06, S.E.=.04) did not predict SADs. In summary, parent rated family accommodation and parental depression predicted SADs, after controlling for the effects of psychological control, parental anxiety, child anxiety, child age, and child depression. The variables in the model accounted for 16% of explained variance in SADs (see Table 3 for logistic regression results).

Child Model. Family accommodation (FASA-CR) and psychological control (CRPBI-PC) were entered in the model to predict SADs. Child age, anxiety, and depression were included as covariates in the model. Results from logistic regression analysis showed that for every one unit increase in family accommodation, the change in log odds increased by .04 units (S.E.=.02). That is, every one unit increase in family accommodation increased the odds of SADs by 4%. Parental psychological control (logistic coefficient=-.05, S.E.=.03) did not predict SADs. In summary, only child rated family accommodation predicted SADs, after controlling for the effects of all other variables in the model. The variables in the model accounted for 6% of explained variance in SADs (see Table 3).

Table 3. Logistic Regression Analyses of Parental Predictors of SADs

Predictors	Logistic Coefficient	Exponent of Coefficient (OR)	95% Lower Limit	95% Upper Limit	p Value
<i>Model: Parent Ratings</i>					
Family Accommodation	.05**	1.05	1.02	1.09	.002
Psychological Control	-.06	0.94	0.87	1.02	.15
Parental Anxiety	-.002	1.00	0.97	1.03	.895
Parental Depression	.06*	1.07	1.01	1.12	.012
Child Age	.09*	1.09	1.003	1.19	.042
Child Anxiety	.02**	1.02	1.01	1.04	.009
<i>Model: Child Ratings</i>					
Family Accommodation	.04*	1.04	1.01	1.08	.015
Psychological Control	-.05	0.95	0.90	1.01	.096
Child Age	.05	1.05	0.97	1.14	.218
Child Anxiety	.001	1.00	0.99	1.01	.896
Child Depression	.02	1.02	0.99	1.06	.138

Note. SADs = school attendance difficulties; OR = odds ratio; * $p < .05$; ** $p < .01$.

DISCUSSION AND CONCLUSIONS

The present study examined parental predictors of SADs. The study addressed whether family accommodation, parental psychological control, parental anxiety, and parental depression were significant predictors of SADs.

Results from logistic regression analyses showed that high levels of family accommodation significantly increased the odds of children having SADs. This finding was consistent using both parent and child ratings. In contrast to the only study that

examined parental depression as a predictor of school refusal behavior (Carless et al., 2015), parental depression significantly increased the odds of children having SADs. Contrary to our hypotheses, neither parental psychological control nor parental anxiety significantly increased the odds of having SADs.

This is the first study to demonstrate that family accommodation is a significant predictor of SADs in a clinic referred sample of anxious children. Family accommodation has received substantial attention in recent years (e.g., Benito et al., 2015; Lebowitz et al., 2013). Parents of children with SADs may accommodate by allowing their child to either arrive late or leave early, or miss specific class periods, raising the likelihood the child will miss even more school (partial absences may be associated with chronic absenteeism) (Kearney, 2008). In line with a RtI model (Kearney & Glaczik, 2014), broadening samples and identifying parent factors is relevant to Tiers 1 (identifying at risk students) and 2 (interventions for at risk students). If replicated, these findings could lead to evidence-based targets for prevention and treatment interventions for children with SADs, including parent-based interventions, such as SPACE (Lebowitz et al., in press). Future studies might examine whether reducing family accommodation with SPACE leads to decreased SADs.

Parental depression, but not parental anxiety, significantly increased the odds of children having SADs. When parental anxiety was examined as the only predictor of SADs, every one unit increase in parental anxiety significantly increased the odds of SADs by 4%. These findings suggest that when parents report both high levels of anxiety and high levels of depression, parental depression has a greater impact on SADs than parental anxiety. It has been suggested that parental depression may make it difficult for parents to adequately support a child with SADs (e.g., Heyne, 2006). Another likely explanation is a more nuanced relationship between parental depression and SADs in which genetic, biological, and behavioral conditioning processes increase the risk of SADs in anxious children who have depressed parents (Ingul et al., 2018).

Our study is the first to examine parental psychological control in children with SADs and/or school refusal. Although psychological control was not found to be a significant predictor, perhaps it is low autonomy granting, not parental psychological control (e.g., parental shaming/ guilt induction) that is more associated with SADs. It would be helpful for future studies to include separate measures of parental autonomy granting and parental shaming/guilt induction to determine the relative contribution of these parent variables to SADs.

This is a novel study that used a broader definition of school refusal and the first to use both parent and child ratings of parental factors; nevertheless, it is not without limitations. First, we are not able to make inferences about the direction of effects between family accommodation and parental depression on SADs because of the study's cross-sectional design. The use of longitudinal designs in future studies can help

elucidate the direction of effects. Second, researchers should consider augmenting rating scale data with observational data. Third, the sample in the current study was predominantly White and of high socioeconomic status. We are unable to generalize these findings to more diverse populations. Fourth, subsequent studies should include both maternal and paternal data to obtain a fuller family picture of these variables as predictors of SADs. These limitations notwithstanding, as the first study in this area, the findings pave the way for theoretical and clinical investigations of the role of parents in SAD in children referred to an anxiety disorders clinic.

Acknowledgement

This study was supported in part by grants (K23MH103555, R21MH113946) from the National Institute of Mental Health.

REFERENCES

- Achenbach, T.M., & Edelbrock, C. (1983). *Manual for the Child Behavior Checklist and Revised Child Behavior Profile*. Queen City, VT: Queen City Printers.
- Bahali, K., Tahiroglu, A.Y., Avci, A., & Seydaoglu, G. (2011). Parental psychological symptoms and familial risk factors of children and adolescents who exhibit school refusal. *East Asian Archives of Psychiatry*, 21(4), 164-169.
- Beck, A. T., Epstein, N., Brown, G., & Steer, R.A. (1988). An inventory for measuring clinical anxiety: Psychometric properties. *Journal of Consulting and Clinical Psychology*, 56(6), 893-897. doi: 10.1037/0022-006X.56.6.893
- Beck, A.T., Ward, C. H., Mendelson, M., Mock, J., & Erbaugh, J. (1961). An inventory for measuring depression. *Archives of General Psychiatry*, 4(6), 561-571. doi: 10.1001/archpsyc.1961.01710120031004
- Benito, K.G., Caporino, N.E., Frank, H.E., Ramanujam, K., Garcia, A., Freeman, J., ... Storch, E. A. (2015). Development of the pediatric accommodation scale: Reliability and validity of clinician- and parent-report measures. *Journal of Anxiety Disorders*, 29, 14-24. doi: 10.1016/j.janxdis.2014.10.004
- Berg, I. (1997). School refusal and truancy. *Archives of Disease in Childhood*, 76(2), 90-91. doi:10.1136/adc.76.2.90
- Bools, C., Foster, J., Brown, I., & Berg, I. (1990). The identification of psychiatric disorders in children who fail to attend school: A cluster analysis of a non-clinical population. *Psychological Medicine*, 20(1), 171-181. doi:10.1017/S0033291700013350
- Broadwin, I.T. (1932). A contribution to the study of truancy. *American Journal of Orthopsychiatry*, 2(3), 253-259. doi:10.1111/j.1939-0025.1932.tb05183.x
- Carless, B., Melvin, G.A., Tonge, B.J., & Newman, L.K. (2015). The role of parental self-efficacy in adolescent school-refusal. *Journal of Family Psychology*, 29(2), 162-170. doi:10.1037/fam0000050

- Clark, J.P., & Alvarez, M. (Eds.). (2010). *Response to intervention: A guide for school social workers*. USA: Oxford University Press.
- Colletti, C.J.M., Forehand, R., Garai, E., Rakow, A., McKee, L., Fear, J.M., & Compas, B.E. (2009). Parent depression and child anxiety: An overview of the literature with clinical implications. *Child & Youth Care Forum*, 38(3), 151-160. doi:10.1007/s10566-009-9074
- De Los Reyes, A. (2011). Introduction to the special section: More than measurement error: Discovering meaning behind informant discrepancies in clinical assessments of children and adolescents. *Journal of Clinical Child & Adolescent Psychology*, 40(1), 1-9. doi: 10.1080/15374416.2011.533405
- Egger, H.L., Costello, J.E., & Angold, A. (2003). School refusal and psychiatric disorders: A community study. *Journal of the American Academy of Child & Adolescent Psychiatry*, 42(7), 797-807. doi: 10.1097/01.CHI.0000046865.56865.79
- Enders, C.K. (2010). *Applied missing data analysis*. New York, NY: The Guilford Press.
- Hansen, C., Sanders, S.L., Massaro, S., & Last, C.G. (1998). Predictors of severity of absenteeism in children with anxiety-based school refusal. *Journal of Clinical Child Psychology*, 27(3), 246-254. doi: 10.1207/s15374424jccp2703_2
- Heyne, D. (2006). School refusal. In J.E., Fisher & W.T. O'Donohue (Eds), *Practitioner's guide to evidence-based psychotherapy* (pp. 600-619). Boston, MA: Springer.
- Heyne, D., King, N.J., Tonge, B.J., Rollings, S., Young, D., Pritchard, M., & Ollendick, T.H. (2002). Evaluation of child therapy and caregiver training in the treatment of school refusal. *Journal of the American Academy of Child & Adolescent Psychiatry*, 41(6), 687-695. doi: 10.1097/00004583-200206000-00008
- Heyne, D., Gren-Landell, M., Melvin, G., & Gentle-Genitty, C. (2018). Differentiation between school attendance problems: Why and how? *Cognitive and Behavioral Practice*. Advanced online publication. doi: 10.1016/j.cbpra.2018.03.006
- Ingul, J. M., Havik, T., & Heyne, D. (2018). Emerging school refusal: A school-based framework for identifying early signs and risk factors. *Cognitive and Behavioral Practice*. Advanced online publication. doi: 10.1016/j.cbpra.2018.03.005
- Johnson, A.M., Falstein, E. I., Szurek, S.A., & Svendsen, M. (1941). School phobia. *American Journal of Orthopsychiatry*, 11(4), 702-711. doi:10.1111/j.1939-0025.1941.tc05860.x
- Kearney, C.A. (2008). School absenteeism and school refusal behavior in youth: A contemporary review. *Clinical Psychology Review*, 28(3), 451-471. doi: 10.1016/j.cpr.2007.07.012
- Kearney, C.A., Chapman, G., & Cook, L.C. (2005). School refusal behavior in young children. *International Journal of Behavioral Consultation and Therapy*, 1(3), 216-222. doi: 10.1037/h0100746
- Kearney, C.A., & Graczyk, P. (2014). A response to intervention model to promote school attendance and decrease school absenteeism. *Child & Youth Care Forum*, 43(1), 1-25. doi: 10.1007/s10566-013-9222-1
- Kearney, C.A., LaSota, M.T., Lemos-Miller, A., & Vecchio, J. (2007). Parent training in the treatment of school refusal behavior. In J.M. Briesmeister & C.E. Schaefer (Eds.), *Handbook of parent training: Helping parents prevent and solve behavior problems*, (pp. 164-193). Hoboken, NJ: John Wiley & Sons.

- Kearney, C.A., & Silverman, W.K. (1993). Measuring the function of school refusal behavior: The School Refusal Assessment Scale. *Journal of Clinical Child Psychology*, 22(1), 85-96. doi: 10.1207/s15374424jccp2201_9
- Kearney, C.A., & Silverman, W.K. (1995). Family environment of youngsters with school refusal behavior: A synopsis with implications for assessment and treatment. *The American Journal of Family Therapy*, 23(1), 59-72. doi: 10.1080/01926189508251336
- Kovacs, M. (1981). Rating scales to assess depression in school-aged children. *Acta Paedopsychiatrica*, 46(5-6), 305-315.
- Last, C.G., & Strauss, C.C. (1990). School refusal in anxiety-disordered children and adolescents. *Journal of the American Academy of Child and Adolescent Psychiatry*, 29(1), 31-35. doi: 10.1097/00004583-199001000-00006
- Last, C.G., Strauss, C.C., & Francis, G. (1987). Comorbidity among childhood anxiety disorders. *The Journal of Nervous and Mental Disease*, 175(12), 726-730. doi: 10.1097/00005053-198712000-00004
- Lebowitz, E.R., Leckman, J.F., Feldman, R., Zagoory-Sharon, O., McDonald, N., & Silverman, W.K. (2016). Salivary oxytocin in clinically anxious youth: Associations with separation anxiety and family accommodation. *Psychoneuroendocrinology*, 65, 35-43. doi: 10.1016/j.psychneuen.2015.12.007
- Lebowitz, E.R., Marin, C. E., Martino, A., Shimshoni, Y., Silverman, W.K. (in press). Parent-based treatment as efficacious as CBT for childhood anxiety: A randomized noninferiority study of SPACE. *Journal of the American Academy of Child and Adolescent Psychiatry*.
- Lebowitz, E.R., Omer, H., Hermes, H., & Scahill, L. (2014). Parent training for childhood anxiety disorders: the SPACE program. *Cognitive and Behavioral Practice*, 21(4), 456-469. doi: 10.1016/j.cbpra.2013.10.004
- Lebowitz, E.R., Scharfstein, L., & Jones, J. (2015). Child-report of family accommodation in pediatric anxiety disorders: Comparison and integration with mother-report. *Child Psychiatry and Human Development*, 46(4), 501-511. doi: 10.1007/s10578-014-0491-1
- Lebowitz, E.R., Woolston, J., Bar-Haim, Y., Calvocoressi, L., Dausser, C., Warnick, E., ... Leckman, J. F. (2013). Family accommodation in pediatric anxiety disorders. *Depression and Anxiety*, 30(1), 47-54. doi: 10.1002/da.21998
- March, J.S., Parker, J.D., Sullivan, K., Stallings, P., Conners, C.K. (1997). The Multidimensional Anxiety Scale for Children (MASC): Factor structure, reliability, and validity. *Journal of the American Academy of Child & Adolescent Psychiatry*, 36(4), 554-565. doi: 10.1097/00004583-199704000-00019
- Muthén, L.K., & Muthén, B.O. (2012). Mplus Version 7 user's guide. *Los Angeles, CA: Muthén & Muthén*.
- Nanda, M.M., Kotchick, B.A., & Grover, R.L. (2012). Parental psychological control and childhood anxiety: The mediating role of perceived lack of control. *Journal of Child and Family Studies*, 21(4), 637-645. doi: 10.1007/s10826-011-9516-6
- Norman, K.R., Silverman, W.K., & Lebowitz, E.R. (2015). Family accommodation of child and adolescent anxiety: Mechanisms, assessment, and treatment. *Journal of Child and Adolescent Psychiatric Nursing*, 28(3), 131-140. doi: 10.1111/jcap.12116

- Partridge, J.M. (1939). Truancy. *Journal of Mental Science*, 85(354), 45-81. doi: 10.1192/bjp.85.354.45
- Place, M., Hulsmeier, J., Davis, S., & Taylor, E. (2002). The coping mechanisms of children with school refusal. *Journal of Research in Special Educational Needs*, 2(2), 1-10. doi: 10.1111/j.1471-3802-2002.00167.x
- Schwarz, J.C., Barton-Henry, M.L., & Pruzinsky, T. (1985). Assessing child-rearing behaviors: A comparison of ratings made by mother, father, child, and sibling on the CRPBI. *Child Development*, 56(2), 462-479. doi: 10.2307/1129734
- Schludermann, E., & Schludermann, S. (1970). Replicability of factors in children's report of parent behavior (CRPBI). *The Journal of Psychology*, 76(2), 239-249. doi: 10.1080/00223980.1970.9916845
- Settipani, C.A., O'Neil, K.A., Podell, J.L., Beidas, R.S., & Kendall, P.C. (2013). Youth anxiety and parent factors over time: Directionality of change among youth treated for anxiety. *Journal of Clinical Child & Adolescent Psychology*, 42(1), 9-21. doi: 10.1080/15374416.2012.719459
- Silverman, W.K. & Albano, A.M. (1996). *The Anxiety Disorders Interview Schedule for DSM-IV (Child and Parent Versions)*. New York: Oxford University Press.
- Silverman, W.K., Cerny, J.A., Nelles, W.B., & Burke, A.E. (1988). Behavior problems in children of parents with anxiety disorders. *Journal of the American Academy of Child and Adolescent Psychiatry*, 27(6), 779-784. doi: 10.1097/00004583-198811000-00020
- Silverman, W.K., & Eisen, A.R. (1992). Age differences in the reliability of parent and child reports of child anxious symptomatology using a structured interview. *Journal of the American Academy of Child & Adolescent Psychiatry*, 31(1), 117-124. doi: 10.1097/00004583-199201000-00018
- Silverman, W.K., Marin, C. E., Rey, Y., Kurtines, W.M., Jaccard, J., & Pettit, J.W. (in press). Group-versus parent-involvement CBT for childhood anxiety disorders: Treatment specificity and long-term recovery mediation. *Clinical Psychological Science*.
- Silverman, W.K., Saavedra, L.M., & Pina, A.A. (2001). Test-retest reliability of anxiety symptoms and diagnoses with the anxiety disorders interview schedule for DSM-IV: Child and parent versions. *Journal of American Academy of Child & Adolescent Psychiatry*, 40(8), 937-944. doi: 10.1097/00004583-200108000-00016
- Thompson-Hollands, J., Kerns, C. E., Pincus, D.B., & Comer, J.S. (2014). Parental accommodation of child anxiety and related symptoms: Range, impact, and correlates. *Journal of Anxiety Disorders*, 28(8), 765-773.
- Tonge, B.J., & Silverman, W.K. (2019). Reflections on the field of school attendance problems: For the times they are a-changing? *Cognitive and Behavioral Practice*. Advance online publication. doi: 10.1016/j.cbpra.2018.12.004
- Wilcox, R.R., & Keselman, H.J. (2003). Modern robust data analysis methods: Measures of central tendency. *Psychological Methods*, 8(3), 254-274. doi: 10.1037/1082-989X.8.3.254
- Wood, J.J., Piacentini, J.C., Bergman, L.R., McCracken, J., & Barrios, V. (2002). Concurrent validity of the anxiety disorders section of the Anxiety Disorders Interview Schedule for the DSM-IV: Child and parent versions. *Journal of Clinical Child & Adolescent Psychology*, 31(3), 335-342. doi: 10.1207/S15374424JCCP3103_05

Woodruff-Borden, J., Morrow, C., Bourland, S., & Cambron, S. (2002). The behavior of anxious parents: Examining mechanisms of transmission of anxiety from parent to child. *Journal of Clinical Child and Adolescent Psychology*, 31(3), 364-374. doi: 10.1207/S15374424JCCP3103_08

Received: 11st November 2018

Reception modifications: 14th January 2019

Accepted: 16th January 2019