

Running head: EXPOSURE INTERVENTIONS IN SCHOOLS

PREDICTORS OF SCHOOL PSYCHOLOGISTS' USE OF EXPOSURE INTERVENTIONS

A DISSERTATION
SUBMITTED TO THE FACULTY
OF
RUTGERS,
THE STATE UNIVERSITY OF NEW JERSEY
BY
SHEVA WEISS
IN PARTIAL FULFILLMENT OF THE
REQUIREMENTS FOR THE DEGREE
OF
DOCTOR OF PSYCHOLOGY

NEW BRUNSWICK, NEW JERSEY

JANUARY 2021

APPROVED:

Elisa Shernoff, PhD

Jeffrey D. Shahidullah, PhD

Adam J. Lekwa, PhD

DEAN:

Denise Hien, PhD, ABPP

EXPOSURE INTERVENTIONS IN SCHOOLS

Copyright 2021 by Sheva Weiss

ABSTRACT

Objective: Anxiety disorders are the most prevalent mental health conditions among school-aged children (Merikangas et al., 2010) and have negative consequences for youth in schools (Ingul et al., 2019; Langley et al., 2004). The school setting is an ideal venue for the provision of mental health services and presents opportunities for free and equitable access to services (Merikangas et al., 2011). Given that school psychologists are well-positioned to address mental health needs of youth (Kazak et al., 2010; Shernoff et al., 2017; Simon et al., 2015), this study examined school psychologists' use of exposure, a highly effective but underutilized intervention for anxiety (Deacon, Farrell, et al., 2013; Freiheit et al., 2004; Kaczurkin & Foa, 2015; van Minnen et al., 2010). The study assessed school psychologists' patterns of knowledge, attitudes, comfort/self-efficacy, and training pertaining to exposure and investigated whether these variables influence their delivery of exposure. **Method:** School psychologists in the United States were anonymously surveyed online about their experience with exposure interventions. Participants were recruited through their graduate training program directors, school psychology state associations, and social media platforms. Data from 318 school psychologists were analyzed using descriptive statistics, correlational analyses, and multiple regression. Post hoc analyses explored potential mediators of use. **Results:** Over 50% of school psychologists did not use exposure interventions and their related knowledge, comfort/self-efficacy, and training significantly predicted their use of exposure. Attitudes were not found to uniquely predict use of exposure. **Conclusion:** Efforts to improve school psychologists' knowledge, training, and comfort/self-efficacy through graduate training will likely result in improved delivery of exposure interventions for anxious youth in schools. Implications for future training of school psychologists are discussed.

DEDICATION

For my Savta Slinger, a wellspring of wisdom and warmth. I hope to always make you proud.

ACKNOWLEDGEMENTS

How can I repay the Lord for all His bounty to me? (Psalms 116:12)

As I reflect on the process of completing this project, I am deeply grateful to the people who have helped me reach this milestone. I am indebted to my dissertation chair, Dr. Elisa Shernoff, whose guidance and keen feedback brought this paper to fruition. Elisa, thank you for serving as a compassionate and supportive presence throughout the past five years. I would like to extend my sincere appreciation to my dissertation committee members, Dr. Jeffrey Shahidullah and Dr. Adam Lekwa. Jeff, thank you for sharing your excellent vision and for encouraging me to develop a project that is personally meaningful. Adam, your insightful feedback and analytical expertise have greatly enhanced this dissertation.

I am grateful to the faculty of GSAPP who have encouraged me to challenge myself and to develop my professional identity. I am especially thankful to Dr. Jeff Segal, Sylvia Krieger, and Julie Skorny, who have fostered an atmosphere of camaraderie at GSAPP. I owe thanks to my GSAPP colleagues and treasure the friendships we have developed. I would like to specifically recognize Dina Siegel for giving of her time to discuss and proofread this project, and mostly for being an incredibly supportive friend throughout graduate school and beyond.

Words cannot express the appreciation I feel toward my family. To my parents and grandparents, for instilling within me the values that I hold so dear and for their unconditional love; to my siblings, for their moral support and comic relief; and to my in-laws, for their unwavering encouragement and love. Finally, and most of all, I wish to thank my husband. Yitzi, thank you for spending countless hours assisting me with this project, and above all, thank you for believing in me and for making my dreams your own. This accomplishment is truly ours to share.

TABLE OF CONTENTS

ABSTRACT.....	ii
DEDICATION.....	iii
ACKNOWLEDGEMENTS.....	iv
LIST OF TABLES.....	vii
LIST OF FIGURES	viii
INTRODUCTION	1
Consequences of Unmet Mental Health Needs	1
School Psychologists as Providers of Mental Health Services.....	3
Avoidance: A Primary Target of Exposure	4
Effectiveness of Exposure Interventions	5
Underutilization in Real-World Settings	6
Use of Exposure Interventions in Schools.....	7
Predictors of Implementation.....	8
Research Questions.....	20
METHOD	20
Participants.....	21
Procedures.....	21
Survey Development.....	23
Instrumentation	23
Analyses.....	27
Missing Values Analysis.....	31
RESULTS	32
Research Question 1: Descriptive Statistics	32
Research Question 2: Predictors of Exposure Use	36
Post Hoc Analyses	37
DISCUSSION.....	40
Patterns of Knowledge and Comfort/Self-Efficacy	40
Patterns of Training.....	41
Attitudes Toward Exposure	45
Organizational Obstacles	48
Patterns of Use	49
Predictors of Exposure Use.....	51

Pathway Toward Use	53
Limitations	55
Implications for Training and Practice	58
Conclusions	62
REFERENCES	63
APPENDICES	90

LIST OF TABLES

Table	Page #
1. Demographic and Background Data	90
2. Knowledge Domain Items	91
3. Knowledge of Treatment Protocols that Incorporate Exposure.....	92
4. Attitudes Domain Items	93
5. Obstacles to Delivering Exposure.....	94
6. Frequencies for Obstacles	95
7. Comfort/Self-Efficacy Domain Items.....	96
8. Helpfulness of Training in Exposure	97
9. Quality of Training Among Participants with Prior Formal Training	98
10. Training Domain Items	99
11. Use Domain Items.....	100
12. Correlations for Primary Study Variables.....	101
13. Descriptive Statistics for Scales in the Primary Regression Model.....	102
14. Multiple Regression Analysis for Use of Exposure.....	103
15. Model Summaries for Mediation Analyses	104

LIST OF FIGURES

Figure	Page #
1. Mediated Relationship Between Training and Use of Exposure	105
2. Mediated Relationship Between Knowledge and Use of Exposure	106
3. Mediated Relationship Between Attitudes and Use of Exposure	107

Predictors of School Psychologists' Use of Exposure Interventions

The lifetime prevalence of mental health disorders among youth (i.e., ages 13–18) is 49.5% (Merikangas et al., 2010). Despite advancements in the development of effective treatments, rates of mental health problems have increased over time. Nearly 50% of children in the United States (U.S.) with a mental health disorder do not receive any form of mental health treatment (Whitney & Peterson, 2019). Of those who seek treatment, approximately 80% drop out prematurely and do not receive a sufficient therapeutic dosage (Ingoldsby, 2010). Many do not access treatment until decades after they initially experience symptoms of mental illness (Kessler et al., 2005). Anxiety disorders are the most common psychiatric pediatric conditions (Merikangas et al., 2010; Pella et al., 2018), with a lifetime prevalence of 31.9% among youth. Onset of anxiety disorders typically occurs during childhood and symptoms tend to worsen with age. Individuals who do not meet criteria for a mental illness during their childhood and adolescent years are far less likely to experience mental illness later in life (Kessler et al., 2005).

Consequences of Unmet Mental Health Needs

Youth with untreated anxiety disorders often experience family and peer relationship difficulties and overall reduction in quality of life. Anxiety contributes to the development of chronic medical conditions (Scott et al., 2016), substance use, suicidality (Nepon et al., 2010; Sareen et al., 2005), crime and incarceration, homelessness, and economic burdens (e.g., hospitalizations; Insel, 2008; Kessler et al., 2008). Anxiety is commonly comorbid with and frequently serves a precursor to depression (Kessler et al., 2007; Kraines et al., 2019; Zhou et al., 2017), which is associated with increased suicidal risk, increased substance use, conduct difficulties, and decreased responsiveness to treatment (Foley et al., 2006; Klein Hofmeijer-Sevink et al., 2012; Melton et al., 2016; Mineka et al., 1998; Nock et al., 2010).

Anxiety also has detrimental effects on academic functioning. Children with anxiety disorders, and especially those with social anxiety, are at increased risk for underachievement or early school dropout (Langley et al., 2004). They often feel a pervasive sense of dread about school and thus display school refusal, which has long-term ramifications on social and academic functioning (Ingul et al., 2019; Lyon & Cotler, 2007). In fact, social anxiety is more predictive of future school dropout than depression (Stein & Kean, 2000). Premature school dropout has significant bearing upon future social and economic functioning (Sewell, 2008, as cited in Maeda et al., 2012).

Youth with anxiety often develop problems with concentration and attention in schools and are prone to be misdiagnosed with attention-deficit/hyperactivity disorder (Abramovitch et al., 2013). Impaired concentration on schoolwork was found to be the most widely reported academic difficulty among youth with anxiety (Nail et al., 2015). Attentional problems, a core feature of anxiety disorders, may arise when anxious youth selectively attend to threats in the environment at the expense of attending to other information. Difficulties with concentration result in further academic difficulties (Derakshan & Eysenck, 2009).

Youth with anxiety, especially those with social anxiety, struggle to read oral reports aloud, potentially due to perfectionism and fears of negative evaluation (Nail et al., 2015). Students are frequently expected to speak and read aloud in school settings; thus, youth with anxiety who struggle to do so are likely to face further negative academic outcomes (Duchesne et al., 2008). Importantly, Nail et al. (2015) found that the severity of anxiety was significantly, positively correlated with academic impairment and that improvement in anxiety was correlated with improvement in all academic domains assessed. Given the manifestation and consequences

of anxiety within the school setting, in both social and academic domains, one might argue that it is indeed quite appropriate for anxiety to be treated in schools.

School Psychologists as Providers of Mental Health Services

Youth are often unable to access mental health services in specialty mental health clinics due to a myriad of obstacles faced by their caregivers, including limited financial resources, limited time, scheduling difficulties, poor alliances between caregivers and clinicians, and insufficient insurance coverage (Cummings et al., 2013; Graaf & Snowden, 2019; Reardon et al., 2017; Staudt, 2007). Additionally, given the national shortage of mental health specialists, including psychiatrists and psychologists (Butryn et al., 2017), particularly in poor urban and rural areas (Beck et al., 2018), youth and families are often placed on long waitlists, live in areas where services are unavailable, and have difficulty finding clinicians who speak their language (Ingoldsby, 2010).

Given the obstacles to accessing mental health services in traditional outpatient settings, schools are often a de facto setting for delivery of mental health services to youth. In fact, 80% of youth who receive mental health services are serviced in schools (Merikangas et al., 2011), and many children do not receive services in other treatment settings (Farmer et al., 2003). School psychologists are often the primary mental health providers for youth (Jacob & Coustasse, 2008; McKay et al., 2004; Simon et al., 2015). School psychologists are well-positioned to treat anxiety, because they have access to the social and educational settings, where anxiety tends to manifest (Atkins et al., 2000; Kazak et al., 2010; Kendall et al., 2012) and have broad knowledge of complex school systems (e.g., behavioral health problems, systems functioning, intervention, assessment, consultation, and interdisciplinary team functioning; Forman, 2019). However, despite their ability to service children who would otherwise be unable

to access treatment (Eklund et al., 2017; Rose et al., 2003; Shernoff et al., 2016), school psychologists tend to underutilize evidence-based interventions (EBIs).

Avoidance: A Primary Target of Exposure

Anxiety arises as a reaction to stress and is experienced physiologically as a “fight or flight” reaction (i.e., increased heart rate and breathing, muscle tension, and excessive sweating; Daffre et al., 2020). Chronic anxiety occurs when natural extinction of fear is impaired and develops as a result of a functional disconnect between the amygdala and frontal areas of the brain (Aupperle & Paulus, 2010). When this happens, minor worries become persistent fears. Avoidance is a common reaction to anxiety and manifests behaviorally (e.g., avoiding anxiety provoking social situations) and cognitively (e.g., avoiding distressing thoughts or emotional states; Ehrenreich-May & Chu, 2014). Avoidance behaviors become increasingly entrenched, because they are negatively reinforced by a subsequent reduction in distress. Persistent avoidance leads to diminished academic performance, social withdrawal, and decline in overall functioning. Avoidance, a core feature of anxiety disorders, has also been implicated in the promotion and maintenance of depression, conduct, and impulse disorders (Ehrenreich-May & Chu, 2014), and is thus a critical target for treatment across disorders.

Avoidance of or premature escape from fear-evoking situations plays a central role in the development and maintenance of anxiety disorders, as it hinders adaptive learning and emotional processing (Ehrenreich-May & Chu, 2014; Harvey et al., 2004). According to the habituation model, avoidant children are robbed of opportunities to experience a natural desensitization toward feared stimuli or a reduction in physiological aspects of anxiety. Through exposure, children confront, rather than avoid feared stimuli, and subsequently experience a reduction in anxiety (Benito & Walther, 2015; Foa & Kozak, 1986).

According to the emotional processing theory (Foa et al., 2006), also known as the information processing theory, fear/anxiety is activated by associative networks in the brain that contain information about (a) a fear stimulus, (b) the escape/avoidance response, and (c) the meaning one ascribes to the fear (e.g., danger). Fear is adaptive in instances of legitimate threat or danger but problematic when it persists in the absence of danger and interferes with functioning. Chronic avoidance reinforces the fear network, hindering learning of anti-anxiety information and disconfirmation of negative beliefs (Ehrenreich-May & Chu, 2014). Through exposure to a feared stimulus, information that is incompatible with the original fear structure is encoded, creating an opportunity for new and corrective learning.

Effectiveness of Exposure Interventions

Exposure directly targets avoidance and is thus a core component of the majority of evidenced-based cognitive behavioral therapy (CBT) treatments for anxiety, trauma- and stressor- related, and obsessive-compulsive and related disorders (Chorpita & Daleiden, 2009). Through exposure, children confront feared stimuli and learn to tolerate the anxiety aroused (Craske et al., 2014). Exposure was found to be the most common treatment component contained within evidence-based manuals for anxiety and is included in nearly 80% of evidence-based treatment manuals for anxiety (Chorpita et al., 2005). In fact, given the hundreds of clinical trials and many meta-analytic reviews demonstrating the effectiveness of exposure interventions (e.g., Deacon & Abramowitz, 2004; Lely et al., 2019; Reynolds et al., 2012), researchers have suggested that exposure may have the most scientific support from among any other form of psychotherapy for any mental disorder (Deacon & Farrell, 2013).

Avoidance behaviors are common across comorbid mental health problems. As a result, targeting avoidance through exposure interventions may result in simultaneous improvements in

concurrent mental health problems (e.g., comorbid depression and anxiety). Given that avoidance is a mechanism that maintains pathology across disorders, exposure interventions feature prominently in transdiagnostic treatment protocols. Transdiagnostic protocols have been designed to address high rates of comorbidity among disorders by targeting underlying mechanisms of psychopathology that are common across various disorders (Kessler et al., 2007; Zhou et al., 2017). Exposure is the bedrock of anxiety treatments, and research has consistently demonstrated its effectiveness in treatment of anxiety, trauma- and stressor-related and obsessive-compulsive and related disorders (Becker et al., 2015; Franklin et al., 2000; Gould et al., 1995; Gould et al., 1997; Rapee et al., 2009; Rothbaum et al., 2000). Given their strong empirical support, exposure interventions are considered EBIs.

Underutilization in Real-World Settings

EBIs fall within the broad category of evidence-based practices in psychology. Evidence-based practices reflect a process wherein clinicians utilize relevant research to provide assessment and treatment services to promote optimal outcomes for individual clients (American Psychological Association [APA] Presidential Task Force on Evidence-Based Practice, 2006). EBIs are consistent with the evidence-based practices framework and refer to specific prevention and intervention programs that have demonstrated effectiveness outcomes through rigorous research designs and methods (American Psychological Association [APA], 2006; Forman et al., 2009).

Despite a proliferation of EBIs for common mental health disorders, EBIs are frequently underutilized in schools and implemented with poor fidelity (Forman, Fagley, et al., 2009; Hicks et al., 2014; McKevitt, 2012). Moreover, interventions that have not been backed by evidence of effectiveness are often used even when effective treatments are available (McHugh & Barlow,

2012). The discrepancy between what is known to work in clinical settings and what is actually implemented is quite glaring (Wampold et al., 2011; Weisz et al., 2013), especially regarding treatment of anxiety through exposure interventions (Becker-Haimes et al., 2017; van Minnen et al., 2010; Olatunji et al., 2009). The research to practice gap regarding use of exposure interventions with youth is even greater than for other EBIs, even among CBT therapists (Higa-McMillan et al., 2016; Whiteside et al., 2016). Despite strong empirical support for exposure interventions in both clinical trials and real-world practice (Stewart & Chambless, 2009), studies conducted in community settings reveal that they are (a) underutilized, (b) implemented with poor fidelity, and (c) delivered in an unnecessarily cautious manner (Deacon, Farrell, et al., 2013; Freiheit et al., 2004; Higa-McMillan et al., 2016).

Use of Exposure Interventions in Schools

Effective treatments and subsequent iterations of increasingly feasible protocols for youth with anxiety and posttraumatic stress disorder (PTSD) have been developed (Kaczurkin & Foa, 2015), including Coping Cat (Kendall & Hedtke, 2006), Brief Coping Cat (Beidas et al. 2013; Crawley et al. 2013), Modular Approach to Therapy for Children with Anxiety, Depression, Trauma, or Conduct Problems (MATCH-ADTC; Chorpita & Weisz, 2009), and Cognitive Behavioral Intervention for Trauma in Schools (CBITS; Jaycox et al., 2012). These treatment protocols incorporate exposure and address common obstacles to implementation, including inadequate training, cumbersomeness of manuals, and length of treatment (Bearman & Weisz, 2015; Chorpita & Weisz, 2009; Forman, Olin, et al., 2009; Hicks et al., 2014; Slade, 2003).

MATCH-ADTC is a transdiagnostic protocol which strategically addresses comorbidities and shifts in clients' presentations (Chorpita & Weisz, 2009; Shernoff et al., 2017), in comparison to traditional EBIs, which usually address one disorder or a cluster of similar disorders. The

School psychologists can use the MATCH-ADTC protocol to target a wide range of problems, instead of using several independent protocols to address a variety of comorbid problems.

Reducing time spent in preparing and delivering interventions may be especially important to school psychologists, who are often overburdened by heavy caseloads and have limited time to devote toward receiving training and delivering mental health services (Slade, 2003).

Furthermore, training in flexible, modular delivery of EBIs has been shown to result in improved attitudes toward EBIs, in comparison to training in manualized EBIs (Borntrager et al., 2009).

Despite the effectiveness of treatment protocols, they tend to be underutilized by school psychologists. In a survey of school psychologists' use of various EBIs, 77% of respondents indicated they "rarely/never" utilize Coping Cat and underutilize CBITS (Hicks et al., 2014). Importantly, implementation rates of MATCH-ADTC by school psychologists have not been empirically examined. Overall, the literature regarding use of exposure in schools is limited. This study aimed to fill this gap by examining school psychologists' use of exposure interventions, including manualized treatments/protocols. This study drew from the implementation science literature to examine variables that predict use of EBIs and exposure interventions.

Predictors of Implementation

Implementation science addresses the application of EBIs in service settings and identifies variables that contribute to the fidelity of implementation (Bauer et al., 2015; Eccles & Mittman, 2006). Implementation in service settings is a complex process impacted by a variety of interrelated personal and organizational factors (Fixsen et al., 2005; Greenhalgh et al., 2004; Rogers, 2010). Durlak and DuPre (2008) present a four-stage model of implementation: Dissemination (active provision of information about an innovation), adoption (decision to conduct an innovation), implementation (initial attempt to apply an innovation), and

sustainability (maintenance of an innovation over time). Fixsen et al. (2005) delineate a series of events that occur throughout the implementation process (i.e., exploration and adoption, program installation, initial program implementation, full operation, innovation, and sustainability).

According to implementation science theory, resistance to implementation (conceptualized in the current study as negative attitudes and beliefs) is expected, adaptations to the innovation are made, and organizational supports are assessed and added. A coalescence of school-based studies indicates that providers' knowledge, training, attitudes, comfort, and self-efficacy influence implementation of EBIs (Creed et al., 2016; Forman et al., 2012; Hicks et al., 2014; Reding et al., 2014).

Knowledge

In accordance with implementation science, knowledge of EBIs refers to awareness of the EBI (i.e., awareness knowledge), familiarity with ways to appropriately use it (i.e., how-to knowledge), and an understanding of the theoretical underpinnings of how the EBI works (i.e., principles knowledge; Rogers, 2010). Forman (2015) highlights the importance of knowledge of the content, principles, and processes involved in implementation. School psychologists are more likely to use EBIs if they perceive their knowledge and skills as adequate for implementation (Forman, Fagley, et al., 2009). Additionally, knowledge about the efficacy and effectiveness of interventions may influence implementation (Gallo et al., 2013), especially among school psychologists (Forman et al., 2012). Inadequate how-to knowledge or principles knowledge is likely to result in providers' rejection, discontinuation, or misuse of the intervention (Rogers, 2010).

School psychologists are often unfamiliar with evidence-based treatment manuals for common mental health problems (McKevitt, 2012). In a survey of Nationally Certified School

Psychologists' (NCSPs') knowledge and use of 16 evidence-based social-emotional learning (SEL) interventions ($N = 331$), overall responses reveal minimal knowledge of the majority of SEL interventions (McKevitt, 2012); at least 50% of respondents were unfamiliar with eight of the 16 programs. Similar rates of familiarity were obtained in another survey study that assessed NCSPs' ($N = 392$) familiarity with 14 EBIs previously deemed appropriate and feasible for use in school settings (Hicks et al., 2014). At least 46% of respondents reported being unfamiliar with all 14 EBIs. Across all EBIs, an average of 71% of NCSPs endorsed being not familiar, 19% endorsed being somewhat familiar, and 8% reported being familiar with the EBIs (Hicks et al., 2014).

Two of the EBIs assessed by Hicks et al. (2014), Coping Cat and CBITS, incorporate exposures as integral treatment components. Fifty-four percent of school psychologists reported they were unfamiliar with Coping Cat, 27% felt somewhat familiar and only 17% of school psychologists reported they were familiar with the manual (Hicks et al., 2014). Similar rates of familiarity with CBITS were reported by NCSPs. In the current study, school psychologists were asked about their familiarity with specific manuals that incorporate exposure and about their familiarity with exposure interventions, in general.

Extensive research highlights that behavior change is influenced by many factors and that knowledge alone does not necessarily result in use. Indeed, after participation in formal exposure training, providers' knowledge of course content and ability to clinically apply knowledge was associated with greater clinical proficiency but predicted reduced rates of use of exposure therapy (Harned et al., 2013). This finding may indicate that the impact of knowledge on exposure use is mediated by other variables. In a study examining providers' ($N = 302$) use of perinatal palliative care, increased knowledge and educational initiatives were associated with

increased comfort and confidence in delivery of services (Wool, 2013). It is likely that comfort and confidence (i.e., self-efficacy), as well as attitudes, mediate the relationship between knowledge and use of EBIs.

Attitudes

Attitudes refer to the degree to which concepts or actions are evaluated as favorable or unfavorable and are influenced by the person (e.g., values, goals, language, emotions, developmental influences), the social context, and the broad sociohistorical context (Albarracin & Shavitt, 2019). The validated and normed Evidence-Based Practice Attitude Scale (EBPAS; Aarons, 2004; Aarons et al., 2010) assesses attitudes toward EBIs and is based on (a) the intuitive appeal of the EBI, (b) clinicians' openness to new practices, and (c) clinicians' perceptions of the value of using the EBI relative to clinical judgement.

Attitudes toward EBIs and exposure predict rates and fidelity of implementation of these interventions (Aarons, 2004; Aarons et al., 2010, Becker et al., 2004; Nelson & Steele, 2007; Reding et al., 2014; van Minnen et al., 2010). There is little data about school psychologists' attitudes toward exposure; however, it is known that they have negative attitudes toward EBIs and specifically toward CBT interventions (Forman et al., 2012). Because attitudes toward EBIs correlate with attitudes toward exposure (Becker-Haimes et al., 2017), it is reasonable to presume that school psychologists may hold unfavorable attitudes toward exposure.

The literature about attitudes toward exposure is derived mostly from studies of clinicians in community mental health clinics, who report feeling skeptical of its effectiveness (Becker-Haimes et al., 2017; van Minnen et al., 2010). Exposure suffers from a "public relations problem" despite its strong empirical support (Richard & Gloster, 2007, pp. 409–425; see also Olatunji et al., 2009). Given the distress that exposure evokes in clients, clinicians may feel that

intentionally provoking distress in clients is against the APA's Ethical Principles of Psychologists and Code of Conduct (2002) of "do no harm" (Gola et al., 2016). Additionally, some clinicians are concerned that exposure may be aversive and intolerable to clients (Feeny et al., 2003), may result in client decompensation (Rosqvist, 2005), direct harm (Richard & Gloster, 2007), or violations in confidentiality and boundaries if conducted outside clinical settings (Olatunji et al., 2009). Clinicians have also reported that exposure may be inapplicable to real-world practice (Becker et al., 2004) and may be associated with increased risk of malpractice lawsuits (Kovacs, 1996, as cited in Cook et al., 2004).

Clinicians treating PTSD worry that eliciting trauma related memories through exposure will retraumatize clients (Cook et al., 2004) and are concerned about experiencing vicarious traumatization (Zoellner et al., 2011). Some clinicians believe exposure may result in symptom exacerbation, despite evidence that other forms of treatment are more likely to result in increased anxiety symptoms (Cahill et al., 2006). Clinicians treating panic disorder have reported the belief that interoceptive exposure may lead to client decompensation or loss of consciousness (Deacon, Lickel, et al., 2013). Clinicians have also expressed concerns about potential treatment dropout (van Minnen et al., 2010) especially when intensive exposure approaches are warranted (e.g., prolonged exposure for panic; Deacon, Lickel et al., 2013).

School psychologists' attitudes toward providing exposure may be even more negative than attitudes of non-school-based providers. School psychologists operate within a complex system and may feel that exposure interventions are incompatible with the setting (Forman et al., 2013). Compatibility refers to the fit between the EBI and the organization's (e.g., the school setting) existing values, beliefs, and norms. Perceptions of compatibility impact adoption of EBIs in service settings; interventions perceived as more adaptable to the specific needs of the context

and client are more likely to be implemented successfully, in contrast to those perceived as inflexible (Durlak & DuPre, 2008; Martin et al., 2018; Rogers, 2010). School psychologists may believe that exposure is inappropriate for the complex school setting due to various obstacles they face, including limited organizational support (Hicks et al., 2014), heavy caseloads (Graves et al., 2014), and limited time (McIntosh et al., 2014; Pinkelman et al., 2015).

Additionally, attitudes toward delivering exposure might be impacted by school psychologists' perceptions of their primary professional roles and responsibilities. School psychologists feel a responsibility to primarily address issues that relate to academic programming (Agresta, 2004; Hanchon & Fernald, 2013; Slade, 2003). They are often overburdened by these responsibilities, which include evaluating students for special education placement (School Psychology International, 2009). While school psychologists have reported increased interest in providing mental health services in addition to academic assessment and programming, they rate their perceptions of ideal percentage of time engaged in counseling services as relatively low (Agresta, 2004).

Attitudes toward EBIs and exposure interventions are not fixed but are modifiable through discourse and training (Greenhalgh et al., 2004; Harned et al., 2013; Lochman et al., 2009). Clinicians' attitudes and decisions about implementing EBIs are influenced by the opinions of their peers (i.e., social networks; Forman, 2015). Training variables (e.g., graduate coursework, degree type, therapeutic orientation) also predict clinicians' attitudes (Harned et al., 2013; Hicks et al., 2014; Reding et al., 2014).

Comfort

Comfort is a feeling that enables clinicians to behave in an anxiety-neutral manner, so that they may deliver a steady level of performance, without feeling a sense of risk (Bardwick,

1995, as cited in White, 2009). Moderate levels of anxiety or discomfort may serve to improve performance, but excessive discomfort or anxiety worsen performance (Bardwick, 1991, as cited in White, 2009). Anxiety can be thought of as a form of discomfort; clinicians who are anxious or uncomfortable with an EBI are less likely to deliver that EBI (Meyer et al., 2014; Waller et al., 2012). Anxiety is not inherently counterproductive, but it becomes problematic when practitioners seek to avoid anxiety by providing an insufficient dose of an intervention or by refraining from using the intervention, altogether.

Exposure interventions are not only distressing for the client but also for the clinician delivering the treatment (Pittig et al., 2019). Schumacher et al. (2015) found that clinicians display a physiological stress response while conducting exposure interventions. Psychologists are generally uncomfortable and anxious about delivering exposure. Becker et al. (2004) found that 72% of ($n = 207$) licensed psychologists reported they were *not at all* comfortable delivering imaginal exposure to clients with PTSD, and only 10% were *very* comfortable. In contrast, in a subset of behaviorally trained psychologists ($n = 29$), only 6.9% reported they were *not at all* comfortable delivering imaginal exposure to clients with PTSD and 72.4% were *very comfortable* (Becker et al., 2004). Still, the discomfort associated with conducting exposure has been found to impede its delivery, even among behaviorally oriented clinicians. For example, Pittig et al. (2019) found that 37.3% of behaviorally trained clinicians ($N = 684$) reported their delivery of exposure is hindered by the strain and distress associated with providing the intervention.

Experiential Avoidance. The issue of discomfort is particularly salient to the delivery of exposure interventions; the process of exposing clients to distress may evoke secondary discomfort in clinicians and may therefore result in reluctance to deliver exposure (Castro &

Marx, 2007; Waller, 2009). This maladaptive tendency to avoid aversive experiences (e.g., body sensations, thoughts, emotions, memories) is referred to as experiential avoidance (Hayes et al., 1996). Clinicians with higher experiential avoidance tend to be less tolerant of the distress exposure interventions evoke in clients (e.g., Scherr et al., 2015).

Clinicians with relatively high experiential avoidance, as measured by the Acceptance and Action Questionnaire (AAQ; Bond et al., 2011; Hayes et al., 2004) and Multidimensional Experiential Avoidance Questionnaire (MEAQ; Gámez, et al., 2011) were found to allot less time to delivering exposure for obsessive-compulsive disorder (Scherr et al., 2015). Similarly, clinicians with relatively higher anxiety (conceptualized as discomfort in the current study), as measured by the Brief Symptom Inventory (Derogatis, 1983) were less likely to use CBT techniques, including exposure, to treat clients with eating disorders (Waller et al., 2012).

Self-Efficacy

Self-efficacy refers to the way individuals judge their capabilities to successfully perform tasks (Bandura, 1982). Perceptions of efficacy impact motivation and behavior and mediate the relationship between knowledge and action (Schunk et al., 2014). In the context of social learning theory, self-efficacy is determined through performance attainments (experiences of mastery); observations of others' success; and social persuasion that one possesses the necessary capabilities and physiological states related to capability, strength, and vulnerability (Bandura, 1982). Bandura's theory of determinants of self-efficacy has been validated in various studies of school psychologists. For example, school psychologists with increased mastery experiences (e.g., in consultation) reported increased self-efficacy (Guiney et al., 2014).

Given its influence on performance, self-efficacy is critical toward advancing implementation of innovations (Schunk & Pajares 2009; Schunk et al., 2014). In a study of

service providers from several disciplines ($N = 174$) who had received training in an evidence-based parenting program, providers' confidence after participation in training predicted increased use of EBIs (Shapiro et al., 2012). In a study of 405 school psychologists' training, self-efficacy, and use of an EBI (i.e., Applied Behavior Analysis), training predicted increased use of the EBI, and self-efficacy mediated the relationship between training and use (Runyon et al., 2018).

Bandura (1982) suggests that in addition to its influence on behavior, self-efficacy affects emotional arousal, particularly in unfamiliar or aversive situations that evoke anxiety and stress. Given that exposure interventions are often anxiety-provoking and thus avoided by anxious clinicians (Castro & Marx, 2007; Scherr et al., 2015), self-efficacy may predict use of exposure even more than it predicts use of other EBIs. A randomized controlled trial of 181 clinicians indicates that higher perceived self-efficacy predicts increased use of exposure after participation in training (Harned et al., 2013). Similarly, Pittig et al. (2019) found that perceived competence impacted use of exposure interventions among 684 clinicians working in outpatient settings. Still, whereas studies demonstrate the influence of self-efficacy on implementation of exposure, its impact on use of exposure has yet to be examined in schools.

Training

The implementation science literature emphasizes the impact of formal training on implementation of EBIs (Fixsen et al., 2010; Forman, 2015; Hernandez & Hodges, 2003; Rogers, 2010). Fixsen et al. (2010) report that practitioners must be actively trained to apply the intervention in the relevant service setting to ensure that it is delivered as intended. Increasing and enhancing training opportunities is a primary way to improve knowledge (Forman, 2015) and may also result in improvements in clinicians' attitudes, comfort, self-efficacy, and delivery of EBIs (e.g., Creed et al., 2016; Hicks et al., 2014; Shernoff et al., 2017). Training of school

psychologists has been deemed critical toward advancing adoption of EBIs and improving mental health outcomes for youth (Burns, 2013; Shernoff et al., 2017). Training modalities that school psychologists rely on to improve their knowledge of EBIs include professional development opportunities, web-based training (McKevitt, 2012), and in-service training (Owens et al., 2017). Graduate training programs have been identified as critical avenues through which to improve use of EBIs among school psychologists. In a study of doctoral psychology students ($N = 172$) from 60 APA accredited training programs, the extent of graduate training experiences in EBIs was associated with improved attitudes toward EBIs and predicted intent to use or to seek out additional training in EBIs (Karekla et al., 2004).

Training in Graduate Programs. A survey of school psychology training directors ($N = 97$) revealed that while directors tend to view EBIs as relatively important, many are unfamiliar with EBIs (29% unfamiliar and 30% somewhat familiar across EBIs; Shernoff et al., 2003). Additionally, 41% of directors reported school psychology students receive no exposure to the EBIs included in the study. Directors also indicated their students receive inadequate training on the importance of treatment fidelity. Although studies suggest that school psychology graduate training programs have increased the number of courses offered on EBIs in recent years (See Reddy et al., 2017) and that training of school psychologists has been improving (42% of recent school psychologists surveyed reported receipt of sufficient training in EBIs, in contrast to 22% nonrecent school psychologists; Hicks., et al., 2014), a survey of NCSP's ($N = 392$), revealed that 71% of respondents perceive their graduate training in EBI as inadequate (Hicks et al., 2014). Furthermore, practicum and internship training supervisors struggle to provide training to students due to lack of knowledge and skill in supporting learning of EBIs (Reddy et al., 2017).

Research has concluded that a general lack of graduate and postgraduate training in EBIs may contribute to inadequate use of exposure (e.g., Higa-McMillan et al., 2017).

Training in Exposure Interventions. Studies of clinicians in community settings reveal that clinicians seldom receive sufficient training in exposure interventions. Becker et al. (2004) found only 27% of 207 licensed psychologists reported they had received training in in-vivo exposure, 29% reported receipt of training in imaginal exposure, and only 8% had received training in imaginal exposure in graduate school. Notably, only 13% of study participants reported receipt of training in exposure for other anxiety disorders, and 59% of clinicians reported that limited training was the greatest obstacle to their delivery of exposure. This lack of training contributes to overly cautious delivery or underutilization of exposure interventions (Becker-Haimes et al., 2017; van Minnen et al., 2010).

A meta-analysis study indicated that training in exposure therapy had large, positive effects on clinicians' knowledge of exposure ($d_+ = 1.18$), attitudes toward exposure ($d_+ = 0.84$), and self-efficacy in delivering exposure ($d_+ = 0.72$); medium effects of training on clinicians' intent to use exposure ($d_+ = 0.41$) and use of exposure ($d_+ = 0.35$) were found (Trivasse et al., 2020). Training variables that predict positive attitudes toward specific EBIs and exposure interventions include having a CBT orientation, doctoral-level training, and increased clinical experience (Harned et al., 2013; Hicks et al., 2014; Reding et al., 2014). Additionally, Ruzek et al. (2016) and Chin et al. (2019) found that participation in an exposure therapy training workshop was associated with improved attitude toward exposure (e.g., beliefs about importance and helpfulness of prolonged exposure for PTSD). Training is also associated with increased comfort and competence with delivering cognitive behavioral and exposure interventions (e.g., Creed et al., 2016; Ruzek et al., 2016). For example, in a study of 943 clinicians who treated

veterans with PTSD, participants reported higher levels of self-efficacy in delivering exposure after participation in a training workshop and in a post-training telephone consultation meeting (Ruzek et al., 2016).

Training in exposure interventions is more effective when it directly addresses negative attitudes and beliefs pertaining to exposure interventions (Farrell et al., 2013; Harned et al., 2013). Training should specifically address provider concerns regarding safety, tolerability, and ethicality of exposure interventions through experiential activities. Although therapists may be familiar with research indicating that exposure therapy is safe, ethical, and tolerable, they may continue to associate exposure with danger if they are not provided with experiences wherein this expectation of danger is violated (Farrell et al., 2013). Trainers are thus encouraged to present case examples of successful exposure treatments (Farrell et al., 2013).

Intensity and Scope of Training. The intensity of training has important implications for use of interventions. For example, higher intensity training in the Coping Power EBI led to better outcomes (i.e., reduction in externalizing behavior, improvements in academic and social skills) and improved engagement with students (Lochman et al., 2008, 2009). Similarly, in a study that compared the effectiveness of three levels of training in exposure interventions, the most comprehensive level of training resulted in enhanced use of exposure and reduced susceptibility to implementation obstacles (Harned et al., 2013). This level of comprehensive training not only focused on knowledge acquisition, but also targeted clinicians' negative attitudes toward exposure and utilized role plays and practice assignments to facilitate improved delivery of exposure in clinical practice. Ruzek et al. (2016) found that key training elements for exposure therapy include teaching emotional processing theory and engaging trainees via role plays and video case examples.

The development of the Progress Cascading Model (Balkhi et al., 2016), a competency-based training model for teaching and mentoring students in exposure therapy, has shown promise in improving trainees' attitudes, competence, and confidence in delivering exposure. Participation in the training model involves a progression through the following steps: orientation to exposure theory, demonstration of competence and comfort in the role of therapist aide, progression to co-therapist role with supervision, progression to the role of independent therapist, and optional advancement to the role of treatment team leader.

In summary, while training predicts improved knowledge, attitudes, and use of EBIs, school psychologists tend to receive inadequate training in EBIs. Moreover, studies of clinicians in community-based settings reveal their training in exposure therapy is largely insufficient. This study built upon the extant research base by examining school psychologists' training in exposure interventions and the association between training and use of exposure. Specifically, participants were asked about perceptions of adequacy of training, the extent of their participation in various types of training (e.g., graduate coursework, workshops), and the extent to which their training had addressed common concerns about exposure, how to deliver exposure, theory of exposure, and information about effectiveness of exposure.

Research Questions

The aim of this study was to answer the following questions:

1. What are school psychologists' perceived knowledge, attitudes, comfort/self-efficacy, training, and use of exposure interventions?
2. How do school psychologists' perceived knowledge, attitudes, comfort/self-efficacy, and training in exposure interventions impact their use of exposure?

Method

Participants

Participants were 318 school psychologists currently practicing in schools in the U.S. Participant characteristics reflected the demographics of school psychologists in the U.S. (McNamara et al., 2019; Walcott & Hyson, 2018; see Table 1). Participants were recruited through their state-level school psychology professional organizations and graduate program training directors, who were asked to disseminate a link to an online survey, as well as through social media (e.g., Trainers of School Psychology Facebook page, graduate school alumni listservs). A power analysis indicated that a sample size of 84 would be sufficient to detect medium effects in a multiple regression analysis with four predictor variables (Cohen, 1992) and that a sample size of 91 would be sufficient in the instance of five predictors (e.g., four predictors and a control variable). A medium effect size was selected for the power analysis, based on previous studies that employ similar methodology and indicate that medium effect sizes are found pertaining to training, attitudes, and self-efficacy (e.g., Scheer et al., 2015). Based on studies with similar recruitment of school psychologists (e.g., McClain et al., 2020), the researchers expected to successfully recruit approximately 200 school psychologists.

Procedures

Prior to conducting the study, approval was obtained from the Rutgers Institutional Review Board. Data for the survey were collected through an online survey development and distribution program, Qualtrics software (Qualtrics, 2020). Initial requests to disseminate the survey were emailed to 50 state-level school psychology professional organizations and to 197 school psychology program chairs or coordinators in the U.S. The email contained instructions to complete the voluntary, confidential survey and a link to access the online survey. Twenty-one state associations and 30 program directors responded that they had disseminated the link to their

members or program alumni, respectively. It should be noted that initial emails to program directors did not specifically instruct them to respond to indicate agreement to disseminate the survey, so accurate response rates cannot be obtained.

The surveys were then distributed by state associations and training directors through various platforms, including postings on state association websites, social media pages, professional newsletters, and alumni listservs. The researcher of this study also posted the survey on various social media platforms, including Facebook pages (i.e., *Trainers of School Psychology*, several state association Facebook pages) and Facebook groups (i.e., *Child Psychology*, *Get School Psyched Up!*, *School Psychology Professional Development*, *Early Childhood School Psychology*, *Educational and Child Psychologist/Psychology related Group*).

Upon clicking the link to the survey, participants were directed to the survey introduction, which contained information about their rights as study participants, including informed consent and anonymity. Participants were asked to complete and submit the survey within one week. A second request was sent to state associations and graduate program directors, requesting that they distribute a follow-up email with a link to the survey and cover letter. The follow-up inquiry to participants conveyed appreciation to those who had completed the surveys and prompted those who had not responded to complete and submit the survey. See Appendix A for a copy of the initial email inquiry sent to state-level school psychology professional organizations, Appendix B for a copy of the email inquiry sent to graduate program training directors, Appendix C for the initial contact email to participants, Appendix D for the follow-up email to participants, Appendix E for the informed consent, and Appendix F for the survey. In order to increase the response rate and reduce non-response bias, participants were given the

opportunity to enter a raffle to win one of two \$100 Amazon gift cards. Email addresses were not linked to any survey responses, in order to protect participants' confidentiality.

Survey Development

Several published surveys have investigated a single predictor or several predictors examined in the current study, but none have examined exposure with this particular combination of predictors. The survey questions were developed and honed through an iterative process. During the development phase, input from two experts in the field was solicited, and feedback was incorporated. The survey was piloted with a group of school psychology doctoral students, and then revised as recommended.

Extensive review of the related literature and of surveys assessing similar domains enabled the researchers of this study to identify the range of aspects encapsulated by predictors examined. Litwin (1995) explains that study participants often have firsthand experiences and information that may be overlooked by experts. Thus, when reviewing the literature, the researchers paid close attention to information expressed by school psychologists in the workforce. Given the review of prior literature, as well as input and evaluation of the survey from experts in the field, the survey can be said to have content validity (Litwin, 1995). Although minimal information about the validity of the survey is available due to its recent development, the internal consistency reliability of the knowledge, comfort/self-efficacy, training, use, and experiential avoidance domains were calculated and deemed adequate.

Instrumentation

The survey assessed school psychologists' use of and predictors of using exposure interventions in schools. The predictors assessed were knowledge, attitudes, comfort/self-efficacy, and training. The survey also explored organizational obstacles to delivery of exposure

and participants' tendency to avoid situations that elicit anxiety or distress (i.e., experiential avoidance). After the informed consent and introductory items, there were six blocks: (1) knowledge, (2) attitudes, (3) comfort/self-efficacy, (4) training, (5) use and intent to use, and (6) demographics and experiential avoidance. The titles of the survey blocks were not visible to participants, in order to minimize biased patterns of responding. The survey items assessed frequency or severity (see Appendix F). All survey items were summarized descriptively (i.e., Research Question 1) and other items were included in regression analyses (i.e., Research Question 2) and post hoc analyses. The introductory items, which inquired about participants' delivery of school-based counseling services, were not analyzed in this study.

Eight items comprised the knowledge domain scale. One item assessed general knowledge of exposure and was rated on a 4-point scale (0 = *not at all* to 3 = *very*). One item focused on familiarity with the theoretical underpinnings of exposure and was rated on a 4-point scale (0 = *very unfamiliar* to 3 = *very familiar*). Five items assessed familiarity with manuals that incorporate exposure and were rated on a 4-point scale (0 = *I have no knowledge of this treatment* to 3 = *I have a comprehensive understanding of this treatment*). In addition, one multiple choice item asked participants to indicate what they believed was the primary goal of exposure interventions. Response options included (a) *to eliminate students' anxiety*, (b) *to increase students' confidence and ability to withstand anxiety*, (c) *to reduce physiological hyperarousal (i.e., fight or flight reactions)*, and (d) *to improve overall emotion regulation*, with an (e) *other* option to specify a primary goal not listed.

The attitudes scale was drawn from a checklist of 17 obstacles that was developed for the current study and reflected the dimensions of attitudes included on the EBPAS (Aarons, 2004; Aarons et al., 2010). The checklist included 11 attitudinal obstacles, which reflected

beliefs about the effectiveness, appropriateness, and consequences of exposure (e.g., *exposure may exacerbate symptoms of anxiety, exposure may result in violations of confidentiality*). One follow-up, open-ended item asked participants to indicate whether they had used innovative practices to overcome challenges to delivering exposure in schools, and if so, to describe the strategies or practices employed.

The checklist of 17 obstacles also assessed the degree to which four organizational obstacles and two therapist distress obstacles impeded participants' use of exposure interventions. Organizational obstacles reflected beliefs about limited time, inadequate training, inadequate support from supervisors/colleagues, and inadequate access to training materials. Therapist distress obstacles reflected beliefs that exposure would elicit anxiety or distress for the individual conducting the exposure.

The comfort/self-efficacy domain scale was comprised of two items. One item prompted participants to indicate how comfortable they would feel while delivering exposure. This item was rated on a 4-point scale (0 = *very uncomfortable* to 3 = *completely comfortable*). A second item assessed participants' confidence in their ability to effectively deliver exposure and was rated on a 4-point scale (0 = *not at all confident* to 3 = *very confident*).

The training domain scale was made up of 16 items. Eight items assessed the helpfulness of training in exposure obtained through various modalities (e.g., required course in graduate school, clinical internship). These items were rated on a 5-point scale (0 = *n/a; I did not receive training* to 4 = *very helpful*). Five items assessed the quality of exposure training. These items were rated on a 4-point scale (0 = *not at all* to 3 = *considerably*) and asked participants to indicate the extent to which their training addressed concerns about conducting exposure,

theoretical underpinnings of exposure, how to deliver exposure, and information about the effectiveness of exposure.

Three additional training questions were included. One item prompted participants to rate the adequacy of graduate school training in EBIs, in general, and was rated on a 4-point scale (0 = *very inadequate* to 3 = *very adequate*). One multiple-choice item asked participants whether a particular theoretical orientation was emphasized in their graduate school training. Response options included (a) *cognitive-behavioral*, (b) *psychodynamic*, (c) *family/systems*, (d) *integrative*, with an (e) *other* option to specify a theoretical orientation not listed and another (f) option to indicate that *no specific orientation was emphasized*. In addition, one item asked about participants' likelihood of attending a free exposure therapy training workshop. This item was rated on a 4-point scale (0 = *definitely not* to 3 = *definitely*).

The use domain scale was comprised of two items. One item asked about frequency of using exposure interventions and was rated on a 4-point scale (0 = *never* to 3 = *almost always*). A second item asked participants to indicate the extent to which they emphasize the exposure element of treatment protocols and was rated on a 5-point scale. (0 = *n/a; I do not use treatments that incorporate exposure*, 1 = *I use treatments but skip the exposure modules*, 2 = *I emphasize exposure less than other treatment elements*, 3 = *I emphasize exposure equally to other treatment elements*, and 4 = *I emphasize exposure more than other treatment elements*.) The internal consistency reliability of the use scale was high ($\alpha = .86$).

The experiential avoidance domain scale was comprised of 11 items that assessed participants' tendency to avoid anxiety-provoking situations. Items were rated on a 4-point scale, (0 = *disagree* to 3 = *agree*). Higher scores were indicative of higher levels of experiential avoidance. These items were drawn from the MEAQ, a measure which contains questions

pertaining to several dimensions of experiential avoidance, including behavioral avoidance, distress aversion, procrastination, distraction and suppression, repression and denial, and distress endurance. The reliability of the MEAQ has been previously demonstrated (i.e., internal consistency in the initial validation study, $\alpha = .92$, internal consistency of the subscales averaged across samples, $\alpha = .83$, and excellent convergent validity with avoidance measures); however, previous measures of reliability should be interpreted with caution, as the scale has been modified for the current survey. The internal consistency reliability of the scale with this sample was adequate ($\alpha = .71$). One item (i.e., Item 7) was excluded from the analyses, because it reduced the reliability of the overall scale.

Seven demographic questions were included in the survey. Six items inquired about participants' theoretical orientation, highest degree attained, type of degree program attended, types of schools where they were employed, licensure status, and gender. In addition, participants were asked to report in written form the year they graduated from their training program (see Appendix F).

Analyses

Analysis Plan for Research Question 1: Descriptive Statistics

Descriptive statistics (e.g., means, frequencies, standard deviations) summarized response patterns for survey items that pertained to the five primary survey domains (i.e., knowledge, attitudes, comfort/self-efficacy, training, and use). Descriptive statistics also summarized demographic data.

Analysis Plan for Research Question 2: Predictors of School Psychologists' Use of Exposure Interventions

Zero order correlations examined relationships among key variables. A simultaneous multiple linear regression analysis determined predictors of school psychologists' use of exposure. There were four predictor variables (i.e., knowledge, attitudes, comfort/self-efficacy, and training), one control variable (i.e., experiential avoidance), and one criterion variable (i.e., use of exposure). See Appendix G for a list of items that were included in the variables entered in the regression analysis.

The knowledge predictor variable was drawn from seven items. One item assessed general knowledge of exposure and another item assessed familiarity with the theoretical underpinnings of exposure. Five items that assessed familiarity with specific treatment manuals that incorporate exposure were averaged to obtain a score for familiarity with treatment manuals. A participant's final score on knowledge was based on the average of their scores for general knowledge, familiarity with theory, and knowledge of specific manuals. The internal consistency reliability of the knowledge predictor variable was deemed adequate ($\alpha = .70$).

The attitudes predictor variable was drawn from a checklist of obstacles to the delivery of exposure. The number of total attitudinal obstacles (i.e., obstacles that pertain to beliefs about effectiveness, appropriateness, and consequences of exposure) endorsed was summed to obtain an attitudes score for each participant, with higher scores representing more negative attitudes toward exposure interventions. However, a restricted range of participant responses appeared to have impacted the results, as few participants reported facing more than six obstacles from a list of 11 attitudinal obstacles (see Table 6).

The comfort/self-efficacy predictor variable was drawn from two items. One item assessed comfort during delivery of exposure and a second assessed confidence (i.e., self-efficacy) in one's ability to effectively deliver exposure. Comfort and self-efficacy were initially

conceptualized as two distinct constructs, each assessed with one item. However, given multicollinearity between the constructs based on responses in the current study ($\alpha = .88$), the variables were combined. Participants' ratings on the two items were averaged to obtain a single score, representing comfort/self-efficacy.

The training predictor variable was drawn from six items that assessed helpfulness and quality of training in exposure interventions. There were two items that assessed helpfulness of graduate school training. The highest rating obtained either through a required or an elective course in graduate school constituted a participant's score for training helpfulness. Four items that assessed quality of training in exposure (i.e., the extent training addressed concerns about conducting exposure, theoretical underpinnings of exposure, how to deliver exposure, and information about the effectiveness of exposure) were averaged to obtain a score for training quality. A participant's final score on training was based on the weighted mean of their scores for training helpfulness and training quality. The internal consistency reliability of the training scale for the current sample was deemed adequate ($\alpha = .78$).

The use predictor variable was drawn from two items and was calculated by obtaining an average score for each participant indicating their frequency of using exposure and the extent to which they emphasize the exposure element of treatment. Frequency of using exposure was rated on a 4-point scale, ranging from 0 to 3. Emphasis on exposure was rated on 5-point scale, ranging from 0 to 4; however, scores of 0 = *n/a; I do not use treatments that incorporate exposure* and 1 = *I use treatments but skip the exposure modules* were collapsed into a single score of 0, resulting in a 4-point scale, ranging from 0 to 3. The internal consistency reliability of the use scale was high ($\alpha = .86$). The strength of the unique contribution of each predictor variable (i.e., controlling for all other predictor variables) was measured by the semi-partial

correlations. Participants' experiential avoidance (as measured by a 10-item scale) was included as a control variable in the analysis.

Post Hoc Analyses

The post hoc analyses were exploratory and based upon results from the primary regression analysis which examined the impact of knowledge, attitudes, comfort/self-efficacy, and training on use of exposure.

Does Knowledge Mediate the Effect of Training on Use? Because the primary regression analysis (i.e., Research Question 2) indicated that knowledge had the largest unique effect on use, regression analyses investigated whether knowledge of exposure mediated the effect of training on use of exposure. Comfort/self-efficacy and attitudes were included as control variables. The mediation procedure outline by Baron & Kenny (1986) was used to conduct all mediation analyses.

The following steps were conducted for all mediation analyses:

1. The independent variable predicted the dependent variable (i.e., the *c* path).
2. The independent variable predicted the mediator (i.e., the *a* path).
3. The mediator predicted the dependent variable, controlling for the effect of the independent variable (i.e., the *b* path).
4. The effect of the independent variable on the dependent variable lessened (i.e., partial mediation) or completely disappeared (i.e., full mediation) when the mediator was controlled for. The Sobel test was used to determine whether the result was significant.

Does Comfort/Self-Efficacy Mediate the Effect of Knowledge on Use? Because the primary regression analysis (i.e., Research Question 2) indicated that comfort/self-efficacy had a unique effect on use, regression analyses investigated whether comfort/self-efficacy mediated the

effect of knowledge on use of exposure. In this mediation analysis, attitudes and training were included as control variables.

Does Comfort/Self-Efficacy Mediate the Effect of Attitudes on Use? A third mediation analysis was conducted to interpret non-significant results from the primary regression model (i.e., Research Question 2). In the primary analysis, the impact of attitudes on use was assessed when all other variables (i.e., knowledge, comfort/self-efficacy training, and experiential avoidance) were entered as covariates/control variables. As part of this mediation analysis (i.e., steps 3–4 outlined by Baron and Kenny, 1986), the model displayed whether attitudes predicted use of exposure, when the comfort/self-efficacy variable was not entered as a control variable. That is, this mediation determined whether comfort/self-efficacy mediated (i.e., full mediation) the relationship between attitudes and use of exposure.

Missing Values Analysis

Data were analyzed using JASP (Version 0.12.2; JASP Team, 2020). There were 378 initial survey responses recorded in Qualtrics. A total of 60 cases were excluded from the analyses: six participants did not meet inclusion criteria, 10 indicated consent but did not respond to any survey questions, and an additional 44 did not respond to questions pertaining to primary research questions. The maximum sample size for the study was $N = 318$. Analysis of missing data was conducted based on the 318 surveys which included data related to primary survey domains (i.e., knowledge, attitudes, comfort/self-efficacy, training, and use of exposure). Missing value analysis indicated missing data ranged from 0% to 12.3%, depending on the survey item. Thirty percent of respondents were missing 2% of data (i.e., one survey item), 11.1% ($n = 9$) were missing 4% of data (i.e., two survey items). An additional 11% of cases with missing data were missing between 6% to 20% of data.

All available participant data were included in descriptive statistical analyses (i.e., Research Question 1). To determine which cases would be included in the regression analyses (i.e., Research Question 2 and post-hoc analyses), Little's Missing Completely at Random (MCAR) Test (Little, 1988) was conducted. For all instances of missing data, data were determined to be missing completely at random. Given the non-systematic nature of missingness, cases with missing data on key variables of interest were deleted listwise in the regression analyses, so that there were 281 participants included in the primary regression analyses (i.e., Research Question 2).

Results

Research Question 1: Descriptive Statistics

Demographics

Table 1 summarizes the frequencies for demographic data, including gender, type of psychology degree program attended, highest degree attained, and licensure-status. Data are based on the 318 participants who responded to items pertaining to primary survey domains. The final sample included 84.7% female participants. Ninety-one percent of respondents had attended school psychology training programs and the remaining participants had attended counseling psychology or combined clinical-school psychology training programs. The highest degrees attained included Education Specialist Degree (EdS; 43.9%), Master's (MA; 25.7%), Doctor of Philosophy (PhD; 18.6%), Doctor of Psychology (PsyD; 10.4%), and Doctor of Education (EdD; 1.4%). Thirty-six percent of participants were licensed psychologists. Employment settings included elementary schools (73.5%), middle schools (40.3%), high schools (38.2%), and preschools (31.7%). Sixty-three percent of participants reported having a cognitive-behavioral theoretical orientation.

Knowledge of Exposure Interventions

The knowledge scale assessed knowledge of exposure, familiarity with theory, and knowledge of specific treatment protocols on a 4-point rating scale, ranging from 0 to 3. A mean score of 1.38 ($SD = 0.54$) was obtained. Eighty-six percent of participants were *slightly to moderately* knowledgeable about exposure and 82.7% were *somewhat unfamiliar to somewhat familiar* with theory of exposure (see Table 2). Knowledge of specific treatment protocols differed by protocol ($M = 0.88$, $SD = 0.57$). Participants tended to be more familiar with Coping Cat, Brief Coping Cat, and CBITS and less familiar with Friends for Life and MATCH-ADTC (see Table 3). Participants' beliefs about the primary goal of exposure interventions varied as follows: 42.8%—*increase students' confidence and ability to withstand anxiety*, 34.6%—*reduce physiological hyperarousal*, 17.5%—*improve overall emotion regulation*, and 2.8%—*eliminate students' anxiety*.

Attitudes Toward Exposure Interventions

Participants' scores on the attitudes scale reflected their beliefs about the effectiveness, appropriateness, and consequences of exposure (see Table 4), and scores were based on the number of attitudinal obstacles endorsed. On average, participants endorsed facing two to three attitudinal obstacles to delivering exposure ($M = 2.73$, $SD = 2.45$). Twenty percent of participants did not endorse any attitudinal obstacles, 80.4% endorsed at least one attitudinal obstacle, 60.4% endorsed at least two, 47.3% endorsed at least three, and only 4.6% endorsed eight or more attitudinal obstacles (see Table 6).

Organizational and Therapist Distress Obstacles

Organizational obstacles (i.e., inadequate time, training, supervisor/colleague support, and access to training materials) were endorsed more frequently than attitudinal obstacles, with

79.1% of participants endorsing inadequate time (see Table 5). Therapist distress obstacles were endorsed by less than 10% of participants.

Comfort/Self-Efficacy in Delivering Exposure Interventions

Comfort/self-efficacy was rated on a 4-point rating scale, ranging from 0 to 3. A mean score of 1.40 ($SD = 0.81$) was obtained for this domain scale. Scores tended to fall between *somewhat uncomfortable* (40.2%) and *somewhat comfortable* (37.3%) and between *barely confident* (37.8%) *somewhat confident* (35.8%; see Table 7).

Training in Exposure Interventions

The mean score for the training domain scale (i.e., helpfulness and quality) was 1.57 ($SD = 1.24$). Seventy-three percent of participants ($n = 214$) had received some form of formal training in exposure (i.e., excluding independent reading) and 55.6% ($n = 164$) had received training in a required or elective course in graduate school. Training modalities endorsed most frequently were independent reading (e.g., books, articles; 70.3%), required course in graduate school (53.6%) and workshops/webinars (50.9%; see Table 8).

The mean score for training helpfulness, among participants with prior training, ranged from 2.42–2.70, depending on the training modality, indicating training was generally viewed as *slightly* to *moderately* helpful, and more than 85% of participants with prior training found that training was at least *slightly helpful* for each modality. Quality of training was rated on a 4-point scale, ranging from 0 to 3 (see Table 9). The mean score for quality of training was 1.29 ($SD = 0.95$) among all participants and was 1.62 among participants with prior training, indicating that participants tended to feel their training *slightly* to *somewhat* addressed key aspects of exposure (i.e., concerns about exposure, theory, how to deliver exposure, and information about effectiveness).

The mean score for quality of training in EBIs was 1.88 ($SD = 0.85$). Seventy-three percent of participants reported their graduate training in EBIs was generally adequate, and 27% reported EBI training was generally inadequate. Participants reported likelihood of attending a free exposure therapy workshop ($M = 2.14$, $SD = 0.69$) varied as follows: 0.0%—*definitely not*, 17.9%—*probably not*, 50.5%—*probably*, and 31.6%—*definitely*. In terms of theoretical orientation emphasized in graduate school, 59.7% of participants endorsed a cognitive-behavioral approach (see Table 10).

Use of Exposure Interventions for Anxiety

The use scale assessed frequency of using exposure interventions for anxiety and the extent to which participants emphasized exposure when implementing principle-based or manualized exposure treatments for anxiety (see Table 11). The mean score for the use domain scale was 0.55 ($SD = 0.72$) on a 4-point scale, ranging from 0 to 3. The mean score for frequency of use was 0.55 ($SD = 0.71$) on a 4-point scale (0 = *never* to 3 = *almost always*). Participants' frequency of using exposure interventions varied as follows: 55.6% —*never*, 36.0%—*occasionally*, 6.3%—*often*, and 2.1%—*almost always*. Among those who endorsed using treatments that incorporate exposure, their emphasis on exposure varied as follows: 14.3%—use treatments but skip exposure elements, 48.4%—emphasize exposure less than other treatment elements, 31.8%—emphasize exposure equally to other treatment components, and 5.6%—emphasize exposure more than other treatment elements.

Participants were asked about their future likelihood of using exposure interventions for students with anxiety (i.e., intent to use). Items were rated on a 4-point scale (0 = *not at all* to 3 = *considerably*). The mean score for intent to use exposure was 1.18 ($SD = 0.89$), and 46.2% of participants reported they were *slightly* likely to use exposure interventions.

Trends of Knowledge and Use

Although 86.2% of participants reported they were *slightly to moderately* knowledgeable about exposure, only 42.7% of these participants used exposure altogether, and only 13% of these participants reported emphasizing exposure equally to or more than other treatment elements for anxiety. Among the 6.9% of study participants who indicated they were *very* knowledgeable about exposure, 95.2% reported using exposure at least occasionally and 71.4% emphasized exposure equally to or more than other anxiety treatment elements.

Research Question 2: Predictors of Exposure Use

Preliminary correlation analyses were conducted for each of the above variables, in addition to several additional variables (see Table 12). Correlations between the following variables and use of exposure interventions were significant: knowledge, $r(287) = .644, p < .001$, attitudes, $r(287) = -.164, p < .01$, comfort/self-efficacy, $r(287) = .563, p < .001$, training in exposure interventions, $r(287) = .543, p < .001$, intent to use exposure, $r(285) = .712, p < .001$, training in EBIs, $r(279) = .164, p < .01$, and experiential avoidance, $r(280) = -.299, p < .001$. Given that participants' tendency to avoid distress was associated with less use (i.e., negatively correlated), experiential avoidance was included as a control variable in the primary multiple regression analysis.

Table 13 summarizes descriptive statistics for the predictor and criterion variables in the primary regression model (i.e., Research Question 2). A simultaneous multiple regression analysis was conducted to examine whether knowledge, attitudes, comfort/self-efficacy, and training predicted use of exposure interventions, when controlling for experiential avoidance. The total variability in use of exposure explained by the predictor and control variables was significant, adjusted $R^2 = .488, F(5, 275) = 54.33, p < .001$. Knowledge, comfort/self-efficacy,

and training made significant unique contributions. Knowledge uniquely accounted for 5.9% of the variance in use of exposure interventions, $t(275) = 5.69, p < .001, sr^2 = .059$. Comfort/self-efficacy uniquely accounted for 2.7% of the variance in use, $t(275) = 3.87, p < .001, sr^2 = .027$ and training in exposure interventions uniquely accounted for 2.2% of the variance in use, $t(275) = 3.49, p < .001, sr^2 = .022$ (see Table 14). Although the predictor variables had a small unique effect on use (as indexed by their respective sr^2 values), together, they accounted for 48% of the variance in use of exposure, when experiential avoidance was not included as control variable, adjusted $R^2 = .484, F(4, 283) = 68.37, p < .001$; that is, 48% of variance in use is attributable to the combined influences (i.e., the overlap) of the predictor variables.

The unique contribution of attitudes to use of exposure interventions (i.e., when all other variables were entered as control variables) was not significant, $t(275) = -1.58, p = .116$. Participants' scores were based on the number of obstacles they reported facing, but few participants reported facing more than six from a list of 11 obstacles. To determine whether restriction of range impacted the results, the continuous attitudes scale was transformed to a binary scale, ranging from 0 to 1. Participants who endorsed fewer than six obstacles were assigned as score of 0 and those who endorsed six or more obstacles were assigned a score of 1. When the responses were merged in this manner (i.e., when the scale was dichotomized), to correct for restriction of range, attitudes emerged as a significant predictor of use, even when controlling for all other predictor variables. However, attitudes only accounted for a small unique proportion of variance in use, $t(275) = -1.99, p = .047, sr^2 = .006$. The original ordinal scale was used in the regression and mediation analyses.

Post Hoc Analyses

Knowledge as a Mediator Between Training and Use

Training in exposure (i.e., helpfulness and quality) was used to predict use of exposure, with knowledge of exposure expected to mediate the relationship between training and use, when controlling for the effects of the other primary predictor variables (i.e., attitudes and comfort/self-efficacy; see Figure 1). First, training was a significant predictor of use (the *c* pathway). Training significantly predicted use of exposure, $t(284) = 7.10, p < .001, sr^2 = .102$. Second, training was used to predict the mediator variable of knowledge (the *a* pathway), showing that training positively predicted knowledge, $t(291) = 8.51, p < .001, sr^2 = .120$. Third, the relationship between the mediator knowledge and use of exposure was examined controlling for the effects of training (the *b* pathway). Knowledge positively predicted use of exposure, $t(283) = 6.14, p < .001, sr^2 = .068$. Lastly, the mediated relationship between training and use was examined for a drop in prediction when the mediator was added to the model (the *c'* pathway). The results indicated partial mediation; the impact of training on use was significantly smaller, when knowledge (i.e., the mediator) was controlled for in the model, $t(283) = 3.81, p < .001, sr^2 = .026$. The Sobel test was used to determine that the *ab* effect was significantly greater than zero, $Z = 4.98, p < .001$ (See Table 15).

Comfort/Self-Efficacy as a Mediator Between Knowledge and Use

Knowledge of exposure was used to predict use of exposure, with the comfort/self-efficacy variable expected to mediate the relationship between knowledge and use, when controlling for the effects of the other primary predictor variables (i.e., training and attitudes; see Figure 2). First, knowledge was a significant predictor of use (the *c* pathway). Knowledge significantly predicted use of exposure, $t(284) = 9.046, p < .001, sr^2 = .154$. Second, knowledge was used to predict comfort/self-efficacy, the mediator variable (the *a* pathway), which demonstrated that knowledge positively predicted comfort/self-efficacy, $t(291) = 9.797, p < .001$,

$sr^2 = .191$. Third, the relationship between the mediator (i.e., comfort/self-efficacy) and use of exposure was examined controlling for the effects of knowledge (the b pathway). Comfort/self-efficacy positively predicted use, $t(283) = 3.959, p < .001, sr^2 = .028$. Lastly, the mediated relationship between knowledge and use was examined for a drop in prediction when the mediator was added to the model (the c' pathway). The results indicated partial mediation; the impact of knowledge on use was significantly smaller, when comfort/self-efficacy (i.e., the mediator) was controlled for in the model, $t(283) = 6.135, p < .001, sr^2 = .068$. The Sobel test was used to determine that the ab effect was significantly greater than zero, $Z = 3.67, p < .001$.

Comfort/Self-Efficacy as a Mediator Between Attitudes and Use

Attitudes toward exposure was used to predict use of exposure, with comfort/self-efficacy expected to mediate the relationship between attitudes and use (see Figure 3). First, attitudes emerged as a significant predictor of use (the c pathway). Note that attitudes were found to significantly predict use in this instance unlike in the primary regression analysis (i.e., Research Question 2), because there were no variables entered as covariates in this mediation analysis. Attitudes significantly predicted use of exposure, $t(286) = 2.82, p = .005, sr^2 = .027$. Second, attitudes were used to predict the mediator variable of comfort/self-efficacy (the a pathway), which showed that attitudes predicted comfort/self-efficacy, $t(306) = -2.60, p = .01, sr^2 = .022$. Third, the relationship between the mediator (i.e., comfort/self-efficacy) and use of exposure was examined, controlling for the effects of attitudes (the b pathway). Comfort/self-efficacy positively predicted use of exposure, $t(285) = 11.13, p < .001, sr^2 = .295$. Lastly, the mediated relationship between attitudes and use was examined for a drop in prediction when the mediator was added to the model (the c' pathway). The results indicated full mediation; the relationship between attitudes and use of exposure was no longer significant after controlling for the effects

of comfort/self-efficacy, $t(285) = -1.34, p = .183, sr^2 = .004$. The Sobel test was used to determine that the *ab* effect was significantly greater than zero, $Z = 2.53, p = .011$.

Discussion

The purpose of this study was to examine school psychologists' use of exposure interventions for students with anxiety. Previous studies have indicated that exposure interventions are perceived negatively and underused by clinicians in community mental health centers (Becker-Haimes et al., 2017; Meyer, 2014; Richard & Gloster, 2007). This study is unique in its focus on use of exposure interventions by school psychologists. Specifically, the study examined perceived knowledge, attitudes, comfort/self-efficacy, and training in exposure interventions, as well as the association between these variables and school psychologists' use of exposure interventions.

Patterns of Knowledge and Comfort/Self-Efficacy

Approximately 75%–80% of school psychologists in the sample endorsed minimum to moderate knowledge and comfort/self-efficacy with exposure interventions. The extant literature (e.g., Forman et al., 2012; Forman, Fagley, et al., 2009; Hicks et al., 2014; McKevitt, 2012) highlights that knowledge of EBIs among school psychologists is largely insufficient. Although prior studies have not explicitly examined patterns of school psychologists' knowledge of exposure, their knowledge of EBIs has been studied. A greater percentage of school psychologists in this study reported having at least some knowledge of exposure compared to prior studies examining knowledge of EBIs. McKevitt (2012) found that approximately 50% of school psychologists reported they were unfamiliar with various EBIs. In the current study, over three-quarters of participants indicated at least some knowledge of exposure, an EBI for anxiety.

Similarly, rates of participants' knowledge of specific treatment manuals that incorporate exposure exceeded prior estimates. Three-quarters of school psychologists in this sample were at least minimally familiar with two evidence-based manuals that incorporate exposure (i.e., Coping Cat and CBITS), whereas Hicks et al. (2014) found that 53% of school psychologists were unfamiliar with these two treatment manuals. Still, the results clearly point to a gap in knowledge of exposure among school psychologists, as the extent of their reported knowledge was still relatively low.

In addition, school psychologists in this sample indicated limited comfort and confidence in delivering exposure interventions. Previous studies have similarly found that conducting exposure interventions may induce distress for clinicians and may activate a physiological stress response (Pittig et al., 2019; Schumacher et al., 2015). The overall pattern of limited knowledge and comfort/self-efficacy reported by school psychologists in this study is consistent with prior studies indicating that clinicians have reservations about delivering exposures and believe that exposures are unethical and/or harmful to clients (see Farrell et al., 2016).

Patterns of Training

Although nearly three-quarters of participants had received formal training in exposure, 61% indicated inadequate training constituted an obstacle to their delivery of exposure in schools. These results are consistent with prior studies demonstrating a gap in training in EBIs among psychologists. In the early 21st century, a survey of graduate students in psychology training program ($N = 176$; 80% in clinical psychology programs) indicated that 50% had participated in one or two courses on EBIs and 18% had participated in three or more courses (Karekla et al., 2004). Estimates of graduate training in EBIs within school psychology training programs were even lower at this time. For example, when averaging across a list of EBIs, 41%

of 97 school psychology training directors indicated their students receive no exposure to the EBIs (Shernoff et al., 2003).

It is not surprising that previous estimates of training in school psychology programs were lower than in clinical/counseling psychology programs; in addition to preparing school psychology graduate students to provide mental health services, which is a primary focus in clinical and counseling psychology training programs, school psychology training programs are tasked with preparing students to engage in a wide variety of activities (e.g., NASP Practice Model; NASP, 2012), including evaluating students for special education and providing academic supports. Furthermore, school psychology training programs have limited time to provide training (see Shernoff et al., 2003) as trainers face pressure to conform to training standards set by multiple accreditation agencies, including NASP, APA, and state licensures (Hicks et al., 2014).

Despite these challenges, a recent study by Reddy et al. (2017) indicates that training in school psychology training programs has been improving in recent years and may be approaching previous estimates of graduate training in EBIs within clinical and counseling psychology programs (see Karekla et al., 2004). Reddy et al. (2017) found that 75% of school psychology training programs in the U.S. ($N = 460$) reported their programs offer mandatory EBI courses and 95% reported offering elective EBI courses. In a national survey of school psychologists ($N = 392$; Hicks et al., 2014), fewer participants (54%) reported they received training in various EBIs in required graduate school courses, but an upward trend in training in EBIs was noted, as recent graduates endorsed participation in training more frequently than non-recent graduates.

At first glance, it appears that reports of prior graduate training in the current sample more closely mirror the findings noted by Hicks et al. (2014), as only 46% participants in the current sample indicated they had received training in exposure in required graduate courses. However, this study inquired about graduate training in exposure, but did not examine graduate training in EBIs, in general. It is important to consider the possibility that more than 46% of participants had taken graduate coursework on EBIs (as was indicated in Reddy et al., 2017) but that coursework may not have covered exposure interventions. The notion that graduate courses in EBIs may not cover exposure interventions may partially explain why exposure is underutilized even among CBT therapists (Whiteside et al., 2016).

Although there is limited data regarding patterns of training particularly in exposure interventions in school psychology training programs, surveys of clinicians in non-school based settings reveal a serious gap in exposure training. In a survey of 207 licensed psychologists, Becker et al. (2004) found that 29% had received training in imaginal exposure for PTSD, 27% had been trained to provide in vivo exposure for PTSD, and only 13% reported they were trained in exposure for other anxiety disorders (including obsessive-compulsive disorder [OCD], per DSM-IV). Given that school psychology training programs are tasked with providing training in a broad range of academic and behavioral domains, it is somewhat surprising that a greater proportion of school psychology participants in this study (i.e., 46%) indicated receipt of prior training in comparison to estimates of training among clinical psychologists.

Despite rising rates of training in school psychology graduate training programs, 61% of participants in this sample indicated that inadequate training in exposure constituted an obstacle to use of the intervention in schools, which is consistent with prior studies. For example, 55% of participants in the study by Hicks et al. (2014) indicated that limited training is an obstacle to

their delivery of EBIs, and Becker et al. (2004) also found that a lack of training was perceived to be a critical barrier to delivery of exposure interventions.

Given that graduate school has been identified as a key leverage point for increasing knowledge and skills among school psychologists (Shernoff et al., 2017), it is encouraging to note that training in EBIs appears to have improved in recent years and that nearly half the participants in this sample had received training in exposure through graduate coursework. However, Karekla et al. (2004) found that the number of EBI courses graduate students had taken did not predict students' knowledge of the EBI, in comparison to non-EBIs. Moreover, when averaging across participants in the current study, graduate training in exposure was not rated as significantly more helpful than training obtained in clinical service settings (i.e., practicum, internship, fellowship), workshops/conferences, or even through independent reading. These data are surprising given that graduate training is the primary method through which students learn the skills needed in their professions. It is important to consider that graduate courses on EBIs are not likely to focus solely on exposure interventions, while workshops tend to be more narrowly focused and may have concentrated on key elements of training (e.g., how to deliver exposure in service settings). It should be noted that participants' reports of training obtained in clinical service settings may reflect the helpfulness of formal training provided, as well as experiential training/supervision provided in these settings. Further research that specifically differentiates formal training from experiential training will help distinguish the relative helpfulness of these modalities.

The limited helpfulness of graduate training (in terms of number of courses and impact on knowledge and skills, see Karekla et al., 2014) highlights the need to identify which aspects of training should be emphasized in order to promote graduate students' understanding and

delivery of EBIs in schools, as noted by Hicks et al. (2014). This study contributes to the literature about training of EBIs in graduate school, as it attempted to capture not only the extent of training but also the helpfulness of training and the degree to which training addressed key targets previously identified in the implementation science literature. Across all training modalities, training was described as slightly to moderately helpful and was noted to slightly to moderately address key aspects of exposure, including concerns about exposure, theoretical rationale, how to deliver, and information about effectiveness. Identification of key training elements is especially important within school psychology training programs in order to inform trainers about ways to maximize the limited time they do have within their graduate courses.

Attitudes Toward Exposure

Participants endorsed a variety of attitudinal obstacles to delivering exposure, indicating concerns about potential negative outcomes, the ethicality of exposure interventions, and the appropriateness of exposure within schools. Nearly 50% of participants believed exposure would be upsetting for parents; 30%–35% believed exposure may exacerbate symptoms of anxiety, result in a lawsuit, or retraumatize students; 20%–30% believed exposure is inappropriate for the school setting, may result in student decompensation, or may result in harmful consequences for students. These concerns are consistent with prior research on clinicians' attitudes toward exposure therapy. For example, Deacon et al. (2013) surveyed 66 therapists about their perceptions of interoceptive exposure for panic disorder. Concerns about potential negative outcomes of exposure (e.g., premature client dropout, exacerbation of anxiety symptoms) were noted, even though participants indicated that these negative outcomes occurred extremely infrequently. In a study by Becker et al. (2004) of community mental health clinicians ($N = 335$)

across 31 sites, clinicians indicated negative beliefs about exposure (assessed on the EBPAS), and their attitudes were found to predict use of exposure.

Deacon & Farrell (2013) reviewed the literature on perceptions of exposure and highlighted three major themes—that exposure is unethical, places clients at unacceptably high risk of harm, and is stressful for clinicians. They note that clinicians may be biased against exposure because the intervention induces distress, albeit temporarily, instead of alleviating distress which one might naturally expect therapeutic interventions to do (Deacon & Farrell, 2013). Given the elicitation of distress inherent to exposure interventions, some clinicians believe that exposure interventions violate the APA’s Ethical Principles of Psychologists and Code of Conduct (2002) which warns psychologists to “Take care to do no harm.” Indeed, school psychologists (8%) in the current sample endorsed concerns about the ethicality of exposure, indicating these beliefs impede their delivery of exposure.

Deacon & Farrell (2013) point out that exposing students to highly distressing situations which would not ordinarily be encountered by most people is unnecessary and indeed unethical. With regard to exposing clients to anxiety experienced in relatively normal circumstances, Deacon & Farrell (2013) emphasize that the goal of inducing temporary distress through exposure is to ultimately reduce long-term harmful consequences and at times debilitating effects of anxiety. From this perspective, concerns regarding the ethicality of exposure do not appear to be substantiated, and in fact, depriving clients of the opportunity to benefit from highly effective treatments may raise ethical concerns.

Many participants in the current study expressed concerns outlined in prior research (see Deacon & Farrell, 2013; Farrell et al., 2016) and reported the belief that exposure is harmful for students. These beliefs often stem from misconceptions about exposure—that the intense

physiological experience of anxiety may result in a medical emergency (e.g., loss of consciousness) or that exposure can result in severe decompensation (e.g., severe behavioral disinhibition, psychotic episode). Additional misconceptions cited in the literature include beliefs that clients will drop out from treatment due to exposure or become angry.

It is critical to recognize that children with anxiety are accustomed to a high level of distress; thus, there is little basis to assume that they will decompensate from the distress induced by the exposure intervention. Given the undeniable evidence for effectiveness of exposure across all ages and with severely anxious youth, many of the concerns indicated by participants in this study appear to stem from misconceptions and a lack of knowledge about the nature and effectiveness of exposure.

Nearly 50% of participants indicated that concerns about upsetting parents served as an obstacle to delivering exposure interventions in schools. This concern may be especially relevant in the school context; within schools, students are often referred for counseling by their teachers or by other school-based providers, whereas in community mental centers, parents are typically the individuals who seek out services. Although prior studies indicate that clients and their caregivers find exposure more preferable than psychopharmacological interventions (Brown et al., 2007; Deacon & Abramowitz, 2005), caregivers' perceptions of exposure interventions delivered specifically within schools have not been examined. It is important to recognize that the legitimacy of this concern has not been examined in the current study; that is, parents have not been surveyed about their perceptions of school-based exposure interventions. The concerns raised by participants in this study highlight the need for increased partnerships and communication between families and schools. Future research can help clarify caregiver perceptions of school-based exposure interventions.

In the current study, less than 10% of participants indicated that their personal feelings of anxiety or concerns about experiencing distress while conducting exposure served as an obstacle to their delivery of exposure; however, it is notable that experiential avoidance (i.e., their tendency to avoid distressing situations), which was included as a control variable in this study, was found to be negatively associated with use of exposure. Future research might consider whether psychologists might struggle to recognize the role of their own anxiety and might project this anxiety onto clients (as suggested by the large proportion of therapists who indicated concerns about the harmful consequence of anxiety on students).

Organizational Obstacles

Participants endorsed a variety of organizational obstacles to delivering exposure, including inadequate time (79%), inadequate training (61%), inadequate access to training materials (51%) and colleagues and supervisors do not support use of exposure (17%). The frequencies are notably consistent with those reported by Hicks et al. (2014): In a national survey of school psychologists ($N = 392$), several barriers to implementation of EBIs were endorsed, including lack of time (78%), inadequate training in EBIs (55%), inadequate access to resources (67%), and inconsistency of EBIs with supervisor's approach (19%).

Although this study focused on the impact of personal implementer factors (i.e., knowledge, attitudes, comfort/self-efficacy, and training), the implementation science literature highlights that a variety of external environmental and organizational factors also influence treatment delivery, particularly in the school context (Durlak & DuPre, 2008; Fixsen et al., 2005; Forman et al., 2013). These organizational, contextual variables which impact delivery of EBIs, in general, have been identified as especially relevant to the implementation of EBIs in schools (see Forman, 2019). Although this study minimally assessed school psychologists' perceptions

of organizational obstacles, future studies should examine how these obstacles and the specific school context impact or moderate delivery of exposure interventions.

It is important to recognize that the survey questions pertaining to obstacles did not distinguish between types of exposure interventions (e.g., in vivo exposure, imaginal exposure, interoceptive exposure, flooding, systematic desensitization) nor the specific problem targeted (e.g., PTSD, OCD, social anxiety, panic disorder, school avoidance). School psychologists' perceptions about providing exposure may differ based on the type of exposure and problem at hand. Future studies that differentiate between these factors will enrich the research base about attitudes toward exposure.

Patterns of Use

Fifty-six percent of school psychologists in this sample indicated no prior use of exposure interventions; among those who reported delivering exposure, many emphasized exposure less than other treatment elements. Implementation science seeks to address the research to practice gap that has been demonstrated by this study. EBIs are commonly underutilized and implemented with poor fidelity (Wampold et al., 2011; Meyer et al., 2014), and implementation of exposure interventions has been found to be particularly low (Becker et al., 2017; Higga-McMillan et al., 2016). In a survey of 207 licensed psychologists working in private practice, university, or medical centers, only 17% endorsed using imaginal exposure to treat PTSD. Recent estimates of use of exposure by child therapists is even lower. In a survey of 332 child anxiety therapists from a variety of backgrounds (i.e., social workers, doctoral psychologists, marriage and family therapists, and masters level counselors), only 5% indicated they provide exposure interventions, even though 80% of the sample endorsed using CBT techniques (Whiteside et al., 2016). Similarly, in a study that compared usual care practices with evidence-

based practices for youth anxiety in a public mental health system (Higa-McMillan et al., 2016), only 15% of 616 surveyed therapists reported using exposure, even though many therapists endorsed using EBIs.

The implementation science literature highlights the role of the context, which includes the setting, climate, and social supports (Aarons et al., 2012; Burns, 2013; Forman, et al., 2013). Schools have been identified as particularly complex systems for implementing and supporting the sustainment of EBIs (e.g., Domitrovich et al., 2015). It is important to recognize that school psychologists do not operate alone but must coordinate services with teachers, contend with classroom schedules, and respond to parents' preferences. Uptake of EBIs in schools is further compounded by high levels of stress among teachers (see Atkins et al., 2017) and the overwhelming and various demands placed upon school psychologists.

Indeed, studies have documented inadequate application of EBIs in school settings (e.g., Forman, Fagley, et al., 2009; Hicks et al., 2014). For example, in a study by Hicks et al. (2014), 392 school psychologists were asked to rate their knowledge, training in, and use of various EBIs. When averaging across the EBIs, 89% reported using them rarely or never. Considering the scope of the school psychologist's role and the myriad contextual obstacles to delivering EBIs within schools (e.g., limited time, high student caseloads, high demand for evaluation services), implementation of EBIs in schools is an especially complex process. Given the reluctance to using exposure that has been established in the literature, in addition to the contextual obstacles present within schools, it is not surprising that inadequate use of exposure was reported by participants in this study.

Despite the gap in use, it is encouraging to note that nearly 50% of participants in this sample endorsed at least minimal use of exposure, in comparison to estimates of 5% (see

Whiteside et al., 2016) and 15% (see Higa-McMillan et al., 2016), as noted above. Still, among participants who endorsed using exposure, only 31% indicated they emphasize exposure equally to other treatment elements and only 6%—more than other treatment elements. Although this study did not explicitly inquire about fidelity of exposure interventions, the finding that exposure is underutilized when delivered as part of a larger treatment package may suggest that problems with treatment fidelity are present in schools.

Predictors of Exposure Use

Knowledge, comfort/self-efficacy, and training were all significant predictors of school psychologists' use of exposure interventions, with knowledge having the strongest unique effect on use. This finding contributes to the implementation science literature which has previously demonstrated the impact of knowledge, comfort, self-efficacy, and training on frequency and fidelity of implementation of EBIs in schools (e.g., Forman et al., 2012; Rogers, 2010; Shapiro et al., 2012).

It is not surprising that knowledge accounted for the greatest proportion of variance in use of exposure, relative to other predictor variables. Indeed, knowledge has been deemed a prerequisite for implementation of interventions, such that inadequate knowledge often results in misuse or rejection of an intervention (Rogers, 2010). The knowledge variable in this study not only assessed general familiarity with exposure interventions but also theoretical understanding of the technique—with the latter suggesting that a deeper knowledge of the underlying principles is associated with higher rates of use. Studies of the effectiveness of training in EBIs indicate that intensive knowledge (provided via formal training) is more likely to translate to use, relative to superficial knowledge. For example, Lochman et al. (2008) found that when counselors in 57 schools were randomly assigned to one of three training conditions, the condition with the

highest intensity training in the Coping Power EBI led to better outcomes (i.e., reduction in externalizing behavior, improvements in academic and social skills) and improved engagement with students. Similarly, in a randomized controlled trial comparing the effectiveness of three levels of training in exposure among 46 mental health clinicians, the most comprehensive level of training resulted in enhanced use of exposure and reduced susceptibility to implementation obstacles (Harned et al., 2013).

Results of this study also suggest that comprehensive knowledge may be required in order for school psychologists to feel sufficiently confident and to use the intervention in clinical practice. Participants who endorsed minimum to moderate knowledge of exposure tended to feel uncomfortable, lacked confidence in their abilities, and tended to underutilize exposure, altogether. In contrast, those with extensive and deeper knowledge tended to feel more comfortable/confident and were more likely to use exposure.

These findings are consistent with social learning theory, which indicates that self-efficacy is impacted by modeling, feedback, mastery experiences, and by social influences/persuasion that one has the capabilities to perform a given task (Bandura, 1982). Formal training is a primary means through which students can be “persuaded” to deliver the intervention, especially when the social environment is generally supportive of using the interventions taught. Moreover, given that participants were asked about the helpfulness of training provided in clinical settings (i.e., externship, internship, fellowship), the survey may have tapped mastery experiences, which result from actual utilization of the techniques and have been identified as determinants of self-efficacy.

Self-efficacy has been noted to be related to emotional arousal, especially in anxiety-provoking situations (Bandura, 1982), such as the delivery of exposure (see Castro & Marx,

2007; Scherr et al., 2015). Under high levels of emotional arousal (which can be thought of as a form of discomfort), individuals are unlikely to develop a sense of confidence.

When considering the link between self-efficacy and emotional arousal, as well as the particular discomfort involved in providing exposure interventions (Meyer et al., 2014; Waller et al., 2012), it is perhaps not surprising that participant scores on these two variables were nearly identical (and thus combined into a single predictor variable). The notion that self-efficacy is not only a reflection of knowledge and skill but also a reflection of one's emotional state is consistent with studies highlighting that self-efficacy is an important factor in adoption of treatments but is not necessarily indicative of proficiency (Harned et al., 2013).

The finding that training uniquely predicted use of exposure is consistent with a substantial body of research indicating that training is a key method through which to influence implementation of EBIs (Fixsen et al., 2010; Forman, 2015; Hernandez & Hodges, 2003; Rogers, 2010). Furthermore, the training variable in the current study inquired about aspects of training that have previously been found to critically influence use, including the degree to which their training addressed trainees' concerns about delivering exposure interventions.

Pathway Toward Use

A series of mediation analyses suggested a specific pathway toward use of exposure interventions: (a) Training in exposure predicted knowledge of exposure, (b) knowledge of exposure predicted comfort/self-efficacy in delivering exposure, and (c) comfort/self-efficacy predicted use of exposure in schools. This pathway is based on the following mediation analyses: (a) Knowledge mediated the effect of training on use and (b) comfort/self-efficacy mediated the effect of knowledge on use.

When considering this pathway, it appears that interventions designed to improve training of school psychologists have the potential to bring about improvements in their knowledge, comfort, and confidence in delivering exposure. This proposed pathway is in line with the notion that training students is critical to ensuring youth are ultimately provided with evidence-based mental health services (see Shernoff et al., 2017). A recent meta-analysis (Trivasse et al., 2020) of 15 experimental studies (i.e., pre-post intervention or independent groups design) found that training in exposure interventions had large positive effects on knowledge, attitudes, and self-efficacy; and medium positive effects on intent to use and use of exposure interventions.

The pathway outlined above demonstrates that training (directly and indirectly) predicted school psychologists' use of exposure in the current study. The survey assessed the degree to which training had addressed core aspects of exposure (i.e., concerns about exposure, theoretical understanding of exposure, how to deliver exposure, information about effectiveness) and therefore lends further support to the finding that these aspects of training are indeed predictive of use. Similarly, Trivasse et al. (2020) noted that many of the effective training interventions delivered in the studies attempted to directly target participants' concerns about conducting exposure.

In one of these 15 studies (Ruzek et al., 2016), the training provided to 943 licensed mental health clinicians mapped closely onto the four elements of training assessed on the current survey and was similarly found to be associated with improved self-efficacy, attitudes toward, and intent to use exposure. In Ruzek et al. (2016) the workshop provided an understanding of (a) rationale/theory and (b) evidence of effectiveness of exposure. The workshop also attempted to target (c) concerns about exposure and provide a solid foundation on (d) how to implement exposure, by illustrating delivery of prolonged exposure for PTSD with a

range of clients and presentations, including angry, highly emotional, and avoidant/under-engaged clients. It should be noted that this study (i.e., Ruzek et al., 2016) specifically examined effects of training in prolonged exposure for PTSD. The current study indicates that these four elements of training are similarly predictive of self-efficacy, in addition to use of exposure, among school psychologists treating anxiety in school-aged children.

A third mediation analysis indicated that comfort/self-efficacy mediated the relationship between attitudes toward and use of exposure. This finding implies that participants with more positive beliefs about exposure (as indicated by fewer attitudinal obstacles endorsed) tended to feel more comfortable and confident in delivering exposure. The mediating role of self-efficacy has been previously demonstrated by Runyon et al. (2018) who found that training predicted increased use of Applied Behavior Analysis, a behavioral EBI, among 405 school psychologists, and self-efficacy mediated the relationship between training and use of the EBI. Furthermore, the study by Ruzek et al. (2016; $N = 943$) highlights that participation in exposure training workshops targeting concerns about exposure and participation in ongoing case consultation are associated with improved self-efficacy (e.g., Ruzek et al., 2016).

Limitations

There are several limitations worth noting. First, the recruitment strategy involved soliciting participation through narrowly focused venues, including school psychology training program alumni and state association member listservs. Therefore, the sample cannot necessarily be viewed as nationally representative. Second, study participation was relatively low; the survey was sent to 197 school psychology program directors and 50 state associations, but only 30 and 21, respectively, responded to express agreement to disseminate the survey. This further indicates that sample cannot be assumed to represent school psychologists across the nation.

In addition, self-selection bias may have affected results; that is, school psychologists with stronger attitudes about providing services to anxious youth or participants with greater experience using exposure interventions may have been disproportionately drawn to respond after viewing the invitation email which indicated that the survey pertained to exposure. The results may therefore overestimate school psychologists' involvement with exposure. Indeed, the survey indicated that 79% of participants had received training in exposure through independent reading, which suggests they may have been more interested in using exposure than the general population of school psychologists.

Additionally, the historical backdrop may have influenced school psychologists' decisions about whether to participate in the survey. Survey requests were sent in May 2020 during the global Covid-19 pandemic, at a time when program directors and school psychologists were likely especially overburdened. Given the inopportune timing, program directors may have been less likely to disseminate the survey and school psychologists may have been less likely to respond. Furthermore, those who did respond may have been less affected by the pandemic than non-responders. Still, despite potential systematic differences between responders and non-responders, the current sample size was adequate to ensure power and the demographics reflected national characteristics of school psychologists, in terms of gender and degree status (McNamara et al., 2019; Walcott & Hyson, 2018; see Table 1).

The impact of social desirability should be considered. Although participants were informed that they would remain anonymous, they may have been inclined to present a more favorable impression of their involvement with exposure interventions. Furthermore, the Dunning-Kruger effect (i.e., a cognitive bias) may have led participants who were unskilled at exposure to overestimate their knowledge (Dunning et al., 2003; Kruger & Dunning, 1999).

Future studies should incorporate objective measurement methods (e.g., observations, direct assessment of knowledge) to improve the external validity of findings.

Additionally, given that the survey was developed for the current study, its reliability and validity data are not robust. Internal consistency reliability was calculated and deemed adequate for all variables, except attitudes. Future research should investigate the reliability and validity of all scales, and particularly of the attitudes scale. Additionally, replication studies with a nationally representative sample of school psychologists will be important to verify the results of this study.

The assumptions of linear regression appear to be supported, including independence of observations, normality of residuals, and freedom from multicollinearity (see Appendix H). Heteroscedasticity did not appear to be a problem (see Figure H3); however, the residuals versus predicted graph demonstrates that the lower bound of the outcome variable (i.e., use of exposure) may have impacted the spread of residuals, particularly in the lower left quadrant. Taken together, conclusions regarding the nature of the relationships among key variables can be drawn from the regression; however, the model may be less precise in the lower range of use. Future studies that better quantify the construct of use of exposure will clarify the nature of these results.

A restricted range of responses on the attitudes scale (which ranged from 0 to 11) may have limited the scale's sensitivity, thereby reducing its ability to detect significant results. It is important to consider that the attitudes scale may not adequately tap the construct of attitudes, which has been previously demonstrated to impact use. The available data about the scale's reliability is limited, because it was developed for the current study.

Errors of omission are important to consider. Although the researchers selected predictor variables based on key variables which have been shown to affect implementation, additional factors may have impacted participants' use of exposure interventions. For example, patterns of use may have been influenced by school psychologists' perceptions of their primary role within schools, but the study did not examine the variance in use accounted for by perceived role. Other factors that may influence school psychologists' use of exposure pertain to organizational obstacles, such as limited time, funding, and social support (e.g., Pinkelman et al., 2015); while the impact of organizational obstacles was superficially assessed and found to be non-significant, future studies should more comprehensively investigate the impact of organizational obstacles on use.

Implications for Training and Practice

Overall, this study highlights the pivotal role of training in influencing school psychologists' knowledge and eventual use of exposure interventions. Given that graduate training courses have been identified as ideal venues for improving delivery of services to anxious youth. (e.g., Creed et al., 2016; Hicks et al., 2014; Karekla et al., 2004; Shernoff et al., 2017), this section will identify ways to improve graduate training in exposure interventions.

In this study, quality of training was based on the degree to which training addressed the following four targets: (1) concerns about conducting exposure (i.e., attitudinal and organizational obstacles, (2) how to deliver exposure (i.e., practical implementation), (3) theoretical underpinnings of exposure, and (4) effectiveness of exposure. The recommendations outlined below were developed with these four targets in mind and are expected to improve school psychologists' delivery of exposure interventions in schools.

Trainers should directly address concerns about exposure (Farrell et al., 2013; Harned et al., 2013; Target 1). School psychologists in the current study endorsed attitudinal obstacles to using exposure that relate to key themes previously identified in research (e.g., Farrell et al., 2016). Given concerns about (a) negative outcomes of exposure, (b) ethicality of exposure interventions, and (c) appropriateness of these interventions in schools, it is critical for trainers to address these concerns and non-defensively dispel trainees' misconceptions about exposure. Addressing negative attitudes through verbal persuasion or debate may be less effective than showing trainees the benefits of exposure (e.g., by displaying videos of effective exposures or by actively engaging students, as the identified client, in an exposure exercise). Previous studies have also demonstrated the benefits of appealing to participants' empathy by showing case examples in videos. Targeting emotions may be another way to indirectly improve trainees' attitudes toward exposure.

Trainers should provide opportunities for observation of exposure delivery (Targets 3 and 4). This will afford trainees the chance to view exposure interventions carried out effectively, with positive outcomes for youth. Although real-life observations are likely to be especially effective, trainers may wish to access videos of case examples. To increase likelihood of generalizability within schools, trainers are encouraged to display exposure interventions that are particularly relevant to the school context. For example, videos related to issues of school avoidance, social anxiety, and verbal presentations can be shown.

Trainers should provide opportunities for students to practice exposure by incorporating role play activities (Ruzek et al., 2016; Targets 3 and 4). This study identified comfort/self-efficacy as a predictor of use. The extant literature indicates that comfort and self-efficacy naturally improve with practice (i.e., mastery experiences, see Bandura 1982); in other words,

comfort/self-efficacy tend to yield improvements in use, and use tends to result in heightened levels of comfort and confidence. Thus, without adequate opportunities to practice using exposure, trainees are not likely to develop a baseline level of comfort/confidence necessary to deliver the interventions. Additionally, given that clinicians who tend to avoid distressing situations are less likely to use exposure (i.e., experiential avoidance), requirements to practice exposure in graduate school may help these individuals to overcome their anxiety about delivering exposure.

Training will be more effective when augmented by performance feedback (Targets 3 and 4). Trainers should incorporate general behavioral principles, such as praising specific aspects of exposures that were carried out well by students. Additionally, critical feedback, when specific and delivered sensitively will likely be beneficial. Training models that incorporate opportunities for in-vivo supervision and performance feedback (e.g., Progress Cascading Model) are likely to improve trainees' attitudes toward, competence, and self-confidence in delivering exposure (Balkhi et al., 2016).

Trainers should aim to provide comprehensive knowledge of exposure by providing information about theoretical underpinnings (Target 2) and information about effectiveness of exposure interventions (Target 4). The results of the current study suggested that that school psychologists with superficial knowledge of exposure were unlikely to develop confidence in their abilities and were unlikely to deliver the interventions in schools.

Trainers should provide a clear rationale for how exposure interventions work (Rogers, 2010; Target 2). Trainees who understand the theoretical underpinnings of exposure are more likely to use the interventions frequently and with greater fidelity (Ruzek et al., 2016). Given that delivering exposure interventions may be distressing for clinicians, they may be unlikely to

deliver the intervention without a clear understanding of how the intervention works. The current guiding theory of exposure is emotional processing theory (Foa et al., 2006), also known as information processing theory. These theories are based on inhibitory learning principles.

Trainers should also provide information about the effectiveness of exposure interventions (Gallo et al., 2013; Target 4). Given the focus on research/evidence in psychology doctoral training programs, school psychologists in doctoral training programs may be more likely to use interventions when they perceive them to be evidence-based (Forman et al., 2012). However, given the lack of knowledge of EBIs among trainers in school psychology graduate programs (Shernoff et al., 2003), it may be necessary for trainers to hone their understanding of the theoretical rationale and knowledge about effectiveness of exposure.

The implementation science literature highlights that resistance to implementing EBIs is expected and often founded upon reasonable concerns, which must be addressed through assessing and adding supports (Forman et al., 2012). Rogers (2010) emphasizes that the perceived compatibility of the intervention with the service settings is critical. Importantly, nearly 30% of participants endorsed concerns about the appropriateness of using exposure in schools and indicated organizational barriers to using exposure in schools. Taken together, a two-pronged approach is likely necessary to improve delivery of exposure interventions, and of EBIs in general, within the complex school setting. First, efforts should be made to improve graduate training of school psychology students, so that the coursework directly teaches how to deliver exposure, explains underlying rationale, and addresses concerns about delivery. Second, it is important for researchers and professors to remain open to the possibility that modifications to exposure interventions and manualized treatments may be warranted, when considering the contextual obstacles within schools, multifaceted role of the school psychologist, and complex

organizational school setting. In a similar vein, it may be worth exploring ways that teachers can assist with the delivery of exposure, to reduce the burden on school psychologists and to aid in identifying and providing interventions before problems escalate. From the perspective of implementation science, future studies should examine ways to embed the philosophy of exposure into the school environment.

Conclusions

Overall, this study indicated that exposure interventions are largely underutilized by school psychologists. Knowledge, comfort/self-efficacy, and training uniquely predicted use of exposure interventions. Although attitudes did not uniquely predict use of exposure, the mediating role of self-efficacy may have contributed to this non-significant finding. Additionally, knowledge mediated the effects of training on use and comfort/self-efficacy mediated the effects of knowledge on use, as well as the effects of attitudes on use. These findings indicate that improving training for school psychology trainees is a pivotal way of influencing their future delivery of exposure interventions.

References

- Aarons, G. (2004). Mental health provider attitudes toward adoption of evidence-based practice: The Evidence-Based Practice Attitude Scale (EBPAS). *Mental Health Services Research, 6*(2), 61–74. <https://doi.org/10.1023/B:MHSR.0000024351.12294.65>
- Aarons, G. A., Glisson, C., Hoagwood, K., Kelleher, K., Landsverk, J., & Cafri, G. (2010). Psychometric properties and US national norms of the Evidence-Based Practice Attitude Scale (EBPAS). *Psychological Assessment, 22*(2), 356. <https://doi.org/10.1037/a0019188>
- Aarons, G. A., & Sommerfeld, D. H. (2012). Leadership, innovation climate, and attitudes toward evidence-based practice during a statewide implementation. *Journal of the American Academy of Child & Adolescent Psychiatry, 51*(4), 423–431. <https://doi.org/10.1016/j.jaac.2012.01.018>
- Abramovitch, A., Dar, R., Mittelman, A., & Schweiger, A. (2013). Don't judge a book by its cover: ADHD-like symptoms in obsessive compulsive disorder. *Journal of Obsessive-Compulsive and Related Disorders, 2*(1), 53–61. <https://doi.org/10.1016/j.jocrd.2012.09.001>
- Agresta, J. (2004). Professional role perceptions of school social workers, psychologists, and counselors. *Children & Schools, 26*(3), 151–163. <https://doi.org/10.1093/cs/26.3.151>
- Albarracin, D., & Shavitt, S. (2019). Attitudes and attitude change. *Annual Review of Psychology, 69*, 299–327. <https://doi.org/10.1146/annurev-psych-122216-011911>
- American Psychological Association. (2002). Criteria for evaluating treatment guidelines. *American Psychologist, 57*(12), 1052–1059. <https://doi.org/10.1037/0003-066X.57.12.1052>

American Psychological Association Presidential Task Force on Evidence-Based Practice.

(2006). Evidence-based practice in psychology. *American Psychologist*, 61(4), 271–285.

<https://doi.org/10.1037/0003-066X.61.4.271>

Atkins, M. S., Adil, J. A., Jackson, M., McKay, M. M., & Bell, C. C. (2000, March 5–8). An ecological model for school-based mental health services. In: A System of Care for Children's Mental Health: Expanding the Research Base. Proceedings of the 13th Annual Research Conference (Tampa, FL).

Atkins, M. S., Cappella, E., Shernoff, E. S., Mehta, T. G., & Gustafson, E. L. (2017). Schooling and children's mental health: Realigning resources to reduce disparities and advance public health. *Annual Review of Clinical Psychology*, 13(1), 123–147.

<https://doi.org/10.1146/annurev-clinpsy-032816-045234>

Aupperle, R. L., & Paulus, M. P. (2010). Neural systems underlying approach and avoidance in anxiety disorders. *Dialogues in Clinical Neuroscience*, 12(4), 517–531.

<https://doi.org/10.31887/DCNS.2010.12.4/raupperle>

Balkhi, A. M., Reid, A. M., Guzik, A. G., Geffken, G. R., & McNamara, J. P. (2016). The progress cascading model: A scalable model for teaching and mentoring graduate trainees in exposure therapy. *Journal of Obsessive-Compulsive and Related Disorders*, 9, 36–42.

<https://doi.org/10.1016/j.jocrd.2016.02.005>

Bandura, A. (1982). Self-efficacy mechanism in human agency. *American Psychologist*, 37(2), 122–147. <https://doi.org/10.1037/0003-066X.37.2.122>

Baron, R. M., & Kenny, D. A. (1986). The moderator–mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology*, 51(6), 1173.

- Barrett, P. (2005). *FRIENDS for Life: Group Leaders' Manual for Children*. Barrett Research Resources.
- Bauer, M. S., Damschroder, L., Hagedorn, H., Smith, J., & Kilbourne, A. M. (2015). An introduction to implementation science for the non-specialist. *BMC Psychology*, 3(1), 32. <https://doi.org/10.1186/s40359-015-0089-9>
- Bearman, S., & Weisz, J. (2015). Review: Comprehensive treatments for youth comorbidity – evidence-guided approaches to a complicated problem. *Child and Adolescent Mental Health*, 20(3), 131–141. <https://doi.org/10.1111/camh.12092>
- Beck, A. J., Manderscheid, R. W., & Buerhaus, P. (2018). The future of the behavioral health workforce: Optimism and opportunity. *American Journal of Preventive Medicine*, 54(6), S187–S189. <https://doi.org/10.1016/j.amepre.2018.03.004>
- Becker, C. B., Zayfert, C., & Anderson, E. (2004). A survey of psychologists' attitudes towards and utilization of exposure therapy for PTSD. *Behaviour Research and Therapy*, 42(3), 277–292. [https://doi.org/10.1016/S0005-7967\(03\)00138-4](https://doi.org/10.1016/S0005-7967(03)00138-4)
- Becker, K., Lee, B., Daleiden, E., Lindsey, M., Brandt, N., & Chorpita, B. (2015). The common elements of engagement in children's mental health services: Which Elements for Which Outcomes? *Journal of Clinical Child & Adolescent Psychology*, 44(1), 30–43. <https://doi.org/10.1080/15374416.2013.814543>
- Becker-Haimes, E. M., Okamura, K. H., Wolk, C. B., Rubin, R., Evans, A. C., & Beidas, R. S. (2017). Predictors of clinician use of exposure therapy in community mental health settings. *Journal of Anxiety Disorders*, 49, 88–94. <https://doi.org/10.1016/j.janxdis.2017.04.002>

- Beidas, R. D. S., Mychailyszyn, M. P., Podell, J. L., & Kendall, P. C. (2013). Brief cognitive-behavioral therapy for anxious youth: the inner workings. *Cognitive and Behavioral Practice, 20*(2), 997–1003. <https://doi.org/10.1016/j.cbpra.2012.07.004>
- Benito, K. G., & Walther, M. (2015). Therapeutic process during exposure: Habituation model. *Journal of Obsessive-Compulsive and Related Disorders, 6*, 147–157. <https://doi.org/10.1016/j.jocrd.2015.01.006>
- Bond, F. W., Hayes, S. C., Baer, R. A., Carpenter, K. M., Guenole, N., Orcutt, H. K., Waltz, T., & Zettle, R.D., (2011). Preliminary psychometric properties of the Acceptance and Action Questionnaire-II: A revised measure of psychological inflexibility and experiential avoidance. *Behavior Therapy, 42*(4), 676–688. <https://doi.org/10.1016/j.beth.2011.03.007>
- Borntrager, C. F., Chorpita, B. F., Higa-McMillan, C., & Weisz, J. R. (2009). Provider attitudes toward evidence-based practices: Are the concerns with the evidence or with the manuals? *Psychiatric Services, 60*(5), 677–681. <https://doi.org/10.1176/ps.2009.60.5.677>
- Brown, A. M., Deacon, B. J., Abramowitz, J. S., Dammann, J., & Whiteside, S. P. (2007). Parents' perceptions of pharmacological and cognitive-behavioral treatments for childhood anxiety disorders. *Behaviour Research and Therapy, 45*(4), 819–828. <https://doi.org/10.1016/j.brat.2006.04.010>
- Burns, M. K. (2013). Contextualizing school psychology practice: Introducing featured research commentaries. *School Psychology Review, 42*(3), 334–342. <https://doi.org/10.1080/02796015.2013.12087477>

- Butryn, T., Bryant, L., Marchionni, C., & Sholevar, F. (2017). The shortage of psychiatrists and other mental health providers: Causes, current state, and potential solutions. *International Journal of Academic Medicine*, 3(1), 5.
- Cahill, S. P., Foa, E. B., Hembree, E. A., Marshall, R. D., & Nacasch, N. (2006). Dissemination of exposure therapy in the treatment of posttraumatic stress disorder. *Journal of Traumatic Stress: Official Publication of The International Society for Traumatic Stress Studies*, 19(5), 597–610. <https://doi.org/10.1002/jts.20173>
- Castro, F., & Marx, B. P. (2007). Exposure therapy with adult survivors of childhood sexual assault. In: D. C.S. Richard, & D. Lauterbach (Eds.), *Handbook of the exposure therapies* (pp. 153–167). Academic Press.
- Chin, E. G., Bernecker, S., Buchanan, E. M., Cunningham, S., Schumacher, J. A., & Coffey, S. F. (2019). A novel dissemination effort for prolonged exposure: Practice and dissemination curriculum. *Psychological Trauma: Theory, Research, Practice, and Policy*, 11(3), 314. <https://doi.org/10.1037/tra0000362>
- Chorpita, B.F., & Daleiden, E.L., (2009). Mapping evidence-based treatments for children and adolescents: Application of the distillation and matching model to 615 treatments from 322 randomized trials. *Journal of Consulting and Clinical Psychology*, 77(3), 566–579. <https://doi.org/10.1037/a0014565>
- Chorpita, B. F., Daleiden, E. L., & Weisz, J. R. (2005). Identifying and selecting the common elements of evidence based interventions: A distillation and matching model. *Mental Health Services Research*, 7(1), 5–20. <https://doi.org/10.1007/s11020-005-1962-6>
- Chorpita, B. F., & Weisz, J. R. (2009). *Modular approach to therapy for children with anxiety, depression, trauma, or conduct problems (MATCH-ADTC)*. PracticeWise.

- Cohen, J. (1992). Statistical power analysis. *Current Directions in Psychological Science*, 1(3), 98–101. <https://doi.org/10.1111/1467-8721.ep10768783>
- Cook, J. M., Schnurr, P. P., & Foa, E. B. (2004). Bridging the gap between posttraumatic stress disorder research and clinical practice: The example of exposure therapy. *Psychotherapy: Theory, Research, Practice, Training*, 41(4), 374–387. <https://doi.org/10.1037/0033-3204.41.4.374>
- Craske, M. G., Treanor, M., Conway, C. C., Zbozinek, T., & Vervliet, B. (2014). Maximizing exposure therapy: An inhibitory learning approach. *Behaviour Research and Therapy*, 58, 10–23. <https://doi.org/10.1016/j.brat.2014.04.006>
- Crawley, S. A., Kendall, P. C., Benjamin, C. L., Brodman, D. M., Wei, C., Beidas, R. S., Podell, J. L., & Mauro, C. (2013). Brief cognitive-behavioral therapy for anxious youth: Feasibility and initial outcomes. *Cognitive and Behavioral Practice*, 20(2), 123–133. <https://doi.org/10.1016/j.cbpra.2012.07.003>
- Creed, T. A., Frankel, S. A., German, R. E., Green, K. L., Jager-Hyman, S., Taylor, K. P., Adler, A. D., Wolk, C. B., Stirman, S. W., Waltman, S. H., Williston, M. A., Sherrill, R., Evans, A. C., & Beck, A. T. (2016). Implementation of transdiagnostic cognitive therapy in community behavioral health: The Beck Community Initiative. *Journal of Consulting and Clinical Psychology*, 84(12), 1116–1126. <https://doi.org/10.1037/ccp0000105>
- Cummings, J. R., Wen, H., & Druss, B. G. (2013). Improving access to mental health services for youth in the United States. *JAMA*, 309(6), 553–554. <https://doi.org/10.1001/jama.2013.437>

- Daffre, C., Oliver, K. I., & Pace-Schott, E. F. (2020). Neurocircuitry of anxiety disorders. In E. Bui, M. Charney, A. Baker, (Eds.), *Clinical handbook of anxiety disorders* (pp. 15–41). Humana Press.
- Deacon, B. J., & Abramowitz, J. S. (2005). Patients' perceptions of pharmacological and cognitive-behavioral treatments for anxiety disorders. *Behavior Therapy*, 36(2), 139–145. [https://doi.org/10.1016/S0005-7894\(05\)80062-0](https://doi.org/10.1016/S0005-7894(05)80062-0)
- Deacon, B. J., & Farrell, N. R. (2013). Therapist barriers to the dissemination of exposure therapy. In D. McKay, & E. Storch (Eds.), *Handbook of treating variants and complications in anxiety disorders*. Springer Press.
- Deacon, B. J., Farrell, N. R., Kemp, J. J., Dixon, L. J., Sy, J. T., Zhang, A. R., & McGrath, P. B. (2013). Assessing therapist reservations about exposure therapy for anxiety disorders: The therapist beliefs about exposure scale. *Journal of Anxiety Disorders*, 27(8), 772–780. <https://doi.org/10.1016/j.janxdis.2013.04.006>
- Deacon, B. J., Lickel, J. J., Farrell, N. R., Kemp, J. J., & Hipol, L. J. (2013). Therapist perceptions and delivery of interoceptive exposure for panic disorder. *Journal of Anxiety Disorders*, 27(2), 259–264. <https://doi.org/10.1016/j.janxdis.2013.02.004>
- Derakshan, N., & Eysenck, M. W. (2009). Anxiety, processing efficiency, and cognitive performance: New developments from attentional control theory. *European Psychologist*, 14(2), 168–176. <https://doi.org/10.1027/1016-9040.14.2.168>
- Derogatis, L. R., & Melisaratos, N. (1983). The brief symptom inventory: An introductory report. *Psychological Medicine*, 13(3), 595–605. <https://doi.org/10.1017/S0033291700048017>

- Domitrovich, C. E., Pas, E. T., Bradshaw, C. P., Becker, K. D., Keperling, J. P., Embry, D. D., & Ialongo, N. (2015). Individual and school organizational factors that influence implementation of the PAX good behavior game intervention. *Prevention Science, 16*(8), 1064–1074. <https://doi.org/10.1007/s11121-015-0557-8>
- Duchesne, S., Vitaro, F., Larose, S., & Tremblay, R. (2008). Trajectories of Anxiety During Elementary-school Years and the Prediction of High School Noncompletion. *Journal of Youth and Adolescence, 37*(9), 1134–1146. <https://doi.org/10.1007/s10964-007-9224-0>
- Dunning, D., Johnson, K., Ehrlinger, J., & Kruger, J. (2003). Why people fail to recognize their own incompetence. *Current Directions in Psychological Science, 12*(3), 83–87. <https://doi.org/10.1111/1467-8721.01235>
- Durlak, J. A., & DuPre, E. P. (2008). Implementation matters: A review of research on the influence of implementation on program outcomes and the factors affecting implementation. *American Journal of Community Psychology, 41*(3–4), 327–350. <https://doi.org/10.1007/s10464-008-9165-0>
- Eccles, M., & Mittman, B. (2006). Welcome to Implementation Science. *Implementation Science, 1*(1), 1. <https://doi.org/10.1186/1748-5908-1-1>
- Ehrenreich-May, J., & Chu, B. C. (2014). *Transdiagnostic mechanisms and treatment for youth psychopathology*. The Guilford Press.
- Eklund, K., Meyer, L., Way, S., & Mclean, D. (2017). School psychologists as mental health providers: The impact of staffing ratios and Medicaid on service provisions. *Psychology in the Schools, 54*(3), 279–293. <https://doi.org/10.1002/pits.21996>

- Farmer, E., Burns, B., Phillips, S., Angold, A., & Costello, E. (2003). Pathways into and through mental health services for children and adolescents. *Psychiatric Services*, 54(1), 60–66. <https://doi.org/10.1176/appi.ps.54.1.60>
- Farrell, N. R., Deacon, B. J., Dixon, L. J., & Lickel, J. J. (2013). Theory-based training strategies for modifying practitioner concerns about exposure therapy. *Journal of Anxiety Disorders*, 27(8), 781–787. <https://doi.org/10.1016/j.janxdis.2013.09.003>
- Farrell, N. R., Kemp, J. J., Blakey, S. M., Meyer, J. M., & Deacon, B. J. (2016). Targeting clinician concerns about exposure therapy: A pilot study comparing standard vs. enhanced training. *Behavior Research and Therapy*, 85, 53–59. <https://doi.org/10.1016/j.brat.2016.08.011>
- Feeny, N. C., Hembree, E. A., & Zoellner, L. A. (2003). Myths regarding exposure therapy for PTSD. *Cognitive and Behavioral Practice*, 10(1), 85–90. [https://doi.org/10.1016/S1077-7229\(03\)80011-1](https://doi.org/10.1016/S1077-7229(03)80011-1)
- Fixsen, D. L., Blase, K. A., Duda, M. A., Naoom, S. F., & Van Dyke, M. (2010). Implementation of evidence-based treatments for children and adolescents: Research findings and their implications for the future. In J. R. Weisz & A. E. Kazdin (Eds.), *Evidence-Based Psychotherapies for Children and Adolescents* (pp. 435–450). The Guilford Press.
- Fixsen, D. L., Naoom, S. F., Blase, K. A., Friedman, R. M., Wallace, F. (2005). Implementation research: A synthesis of the literature (FMHI Publication No. 231). University of South Florida, Louis de la Parte Florida Mental Health Institute, National Implementation Research Network.

- Foa, E. B., Huppert, J. D., & Cahill, S. P. (2006). Emotional processing theory: An update. In B. O. Rothbaum (Ed.), *Pathological anxiety: Emotional processing in etiology and treatment* (pp. 3–24). Guilford Press.
- Foa, E. B., & Kozak, M. J. (1986). Emotional processing of fear: Exposure to corrective information. *Psychological Bulletin*, 99(1), 20–35. <https://doi.org/10.1037/0033-2909.99.1.20>
- Foley, D. L., Goldston, D. B., Costello, E. J., & Angold, A. (2006). Proximal psychiatric risk factors for suicidality in youth: The Great Smoky Mountains Study. *Archives of General Psychiatry*, 63(9), 1017–1024. <https://doi.org/10.1001/archpsyc.63.9.1017>
- Forman, S. (2015). *Implementation of mental health programs in schools: A change agent's guide*. American Psychological Association.
- Forman, S. (2019). Implementation science and school psychology: Future needs for research and practice. *Journal of School Psychology*, 76, 62–65. <https://doi.org/10.1016/j.jsp.2019.07.018>
- Forman, S. G., Fagley, N. S., Chu, B. C., & Walkup, J. T. (2012). Factors influencing school psychologists' "willingness to implement" evidence-based interventions. *School Mental Health*, 4(4), 207–218. <https://doi.org/10.1007/s12310-012-9083-z>
- Forman, S. G., Fagley, N. S., Steiner, D., & Schneider, K. (2009). Teaching evidence-based interventions: Perceptions of influences on use in professional practice in school psychology. *Training and Education in Professional Psychology*, 3(4), 226–232. <https://doi.org/10.1037/a0016874>

- Forman, S. G., Olin, S. S., Hoagwood, K. E., Crowe, M., & Saka, N. (2009). Evidence-based interventions in schools: Developers' views of implementation barriers and facilitators. *School Mental Health, 1*(1), 26. <https://doi.org/10.1007/s12310-008-9002-5>
- Forman, S. G., Shapiro, E. S., Coddling, R. S., Gonzales, J. E., Reddy, L. A., Rosenfield, S. A., Sanetti, L. M. H., & Stoiber, K. C. (2013). Implementation science and school psychology. *School Psychology Quarterly, 28*(2), 77–100. <https://doi.org/10.1037/spq0000019>
- Franklin, M. E., Abramowitz, J. S., Kozak, M. J., Levitt, J. T., & Foa, E. B. (2000). Effectiveness of exposure and ritual prevention for obsessive-compulsive disorder: Randomized compared with nonrandomized samples. *Journal of Consulting and Clinical Psychology, 68*(4), 594–602. <https://doi.org/10.1037/0022-006x.68.4.594>
- Freiheit, S. R., Vye, C., Swan, R., & Cady, M. (2004). Cognitive-behavioral therapy for anxiety: Is dissemination working? *The Behavior Therapist, 27*(2), 25–32. <https://doi.org/10.1016/j.janxdis.2013.09.013>
- Gallo, K. P., Comer, J. S., & Barlow, D. H. (2013). Direct-to-consumer marketing of psychological treatments for anxiety disorders. *Journal of Anxiety Disorders, 27*(8), 793–801. <https://doi.org/10.1016/j.janxdis.2013.03.005>
- Gámez, W., Chmielewski, M., Kotov, R., Ruggero, C., & Watson, D. (2011). Development of a measure of experiential avoidance: The multidimensional experiential avoidance questionnaire. *Psychological Assessment, 23*(3), 692. <https://doi.org/10.1037/a0023242>
- Gola, J. A., Beidas, R. S., Antinoro-Burke, D., Kratz, H. E., & Fingerhut, R. (2016). Ethical considerations in exposure therapy with children. *Cognitive and Behavioral Practice, 23*(2), 184–193. <https://doi.org/10.1016/j.cbpra.2015.04.003>

Gould, R. A., Buckminster, S., Pollack, M. H., Otto, M. W., & Massachusetts, L. Y. (1997).

Cognitive-behavioral and pharmacological treatment for social phobia: A meta-analysis.

Clinical Psychology: Science and Practice, 4(4), 291–306.

<https://doi.org/10.1111/j.1468-2850.1997.tb00123.x>

Gould, R. A., Ott, M. W., & Pollack, M. H. (1995). A meta-analysis of treatment outcome for panic disorder. *Clinical Psychology Review*, 15(8), 819–844.

[https://doi.org/10.1016/0272-7358\(95\)00048-8](https://doi.org/10.1016/0272-7358(95)00048-8)

Graaf, G., & Snowden, L. (2019). Public health coverage and access to mental health care for youth with complex behavioral healthcare needs. *Administration and Policy in Mental Health and Mental Health Services Research*, 47(4) 395–409.

<https://doi.org/10.1007/s10488-019-00995-2>

Graves Jr, S. L., Proctor, S. L., & Aston, C. (2014). Professional roles and practices of school psychologists in urban schools. *Psychology in the Schools*, 51(4), 384–394.

<https://doi.org/10.1002/pits.21754>

Greenhalgh, T., Robert, G., Macfarlane, F., Bate, P., & Kyriakidou, O. (2004). Diffusion of innovations in service organizations: Systematic review and recommendations. *The Milbank Quarterly*, 82(4), 581–629. <https://doi.org/10.1111/j.0887-378X.2004.00325.x>

Guiney, M., Harris, A., Zusho, A., & Cancelli, A. (2014). School psychologists' sense of self-efficacy for consultation. *Journal of Educational and Psychological Consultation*, 24(1),

28–54. <https://doi.org/10.1080/10474412.2014.870486>

Hanchon, T., & Fernald, L. (2013). The provision of counseling services among school psychologists: An exploration of training current practices, and perceptions. *Psychology in the Schools*, 50(7), 651–671. <https://doi.org/10.1002/pits.21700>

- Harned, M. S., Dimeff, L. A., Woodcock, E. A., & Contreras, I. (2013). Predicting adoption of exposure therapy in a randomized controlled dissemination trial. *Journal of Anxiety Disorders, 27*(8), 754–762. <https://doi.org/10.1016/j.janxdis.2013.02.006>
- Harvey, A. G., Watkins, E., Mansell, W., & Shafran, R. (2004). *Cognitive behavioral processes across psychological disorders: A transdiagnostic approach to research and treatment*. Oxford University Press.
- Hayes, S., Strosahl, K., Wilson, K., Bissett, R., Pistorello, J., Toarmino, D., Polusny, M. A., Dykstra, T. A., Batten, S. V., Bergan, J., Stewart, S. H., Zvolensky, M. J., Eifert, G. H., Bond, F. W., Forsyth, J. P., Karekla, M., & McCurry, S. (2004). Measuring experiential avoidance: A preliminary test of a working model. *The Psychological Record, 54*(4), 553–578. <https://doi.org/10.1007/BF03395492>
- Hayes, S. C., Wilson, K. G., Gifford, E. V., Follette, V. M., & Strosahl, K. (1996). Experiential avoidance and behavioral disorders: A functional dimensional approach to diagnosis and treatment. *Journal of Consulting and Clinical Psychology, 64*(6), 1152. <https://doi.org/10.1037//0022-006x.64.6.1152>
- Hernandez, M., & Hodges, S. (2003). Building upon the theory of change for systems of care. *Journal of Emotional and Behavioral Disorders, 11*(1), 19–26. <https://doi.org/10.1177/106342660301100104>
- Hicks, T., Shahidullah, J., Carlson, J., & Palejwala, M. (2014). Nationally certified school psychologists' use and reported barriers to using evidence-based interventions in schools: The influence of graduate program training and education. *School Psychology Quarterly, 29*(4), 469–487. <https://doi.org/10.1037/spq0000059>

- Higa-McMillan, C., Kotte, A., Jackson, D., & Daleiden, E. L. (2017). Overlapping and non-overlapping practices in usual and evidence-based care for youth anxiety. *The Journal of Behavioral Health Services & Research*, 44(4), 684–694. <https://doi.org/10.1007/s11414-016-9502-2>
- Higa-McMillan, C. K., Francis, S. E., Rith-Najarian, L., & Chorpita, B. F. (2016). Evidence base update: 50 years of research on treatment for child and adolescent anxiety. *Journal of Clinical Child & Adolescent Psychology*, 45(2), 91–113. <https://doi.org/10.1080/15374416.2015.1046177>
- Ingoldsby, E. M. (2010). Review of interventions to improve family engagement and retention in parent and child mental health programs. *Journal of Child and Family Studies*, 19(5), 629–645. <https://doi.org/10.1007/s10826-009-9350-2>
- Ingul, J. M., Havik, T., & Heyne, D. (2019). Emerging school refusal: A school-based framework for identifying early signs and risk factors. *Cognitive and Behavioral Practice*, 26(1), 46–62. <https://doi.org/10.1016/j.cbpra.2018.03.005>
- Insel, T.R. (2008). Assessing the economic costs of serious mental illness. *The American Journal of Psychiatry*, 165(6), 663–665. <https://doi.org/10.1176/appi.ajp.2008.08030366>
- Jacob, S., & Coustasse, A. (2008). School-based mental health: A de facto mental health system for children. *Journal of Hospital Marketing & Public Relations*, 18(2), 197–211. <https://doi.org/10.1080/15390940802232499>
- JASP Team (2020). JASP (Version 0.12.2) [Computer software].
- Jaycox, L., Kataoka, S., Stein, B., Langley, A., & Wong, M. (2012). Cognitive Behavioral Intervention for Trauma in Schools. *Journal of Applied School Psychology*, 28(3), 239–255. <https://doi.org/10.1080/15377903.2012.695766>

- Kaczurkin, A. N., & Foa, E. B. (2015). Cognitive-behavioral therapy for anxiety disorders: An update on the empirical evidence. *Dialogues in Clinical Neuroscience, 17*(3), 337.
<https://doi.org/10.31887/DCNS.2015.17.3/akaczurkin>
- Karekla, M., Lundgren, J. D., & Forsyth, J. P. (2004). A survey of graduate training in empirically supported and manualized treatments: A preliminary report. *Cognitive and Behavioral Practice, 11*(2), 230–242. [https://doi.org/10.1016/S1077-7229\(04\)80034-8](https://doi.org/10.1016/S1077-7229(04)80034-8)
- Kazak, A. E., Hoagwood, K., Weisz, J. R., Hood, K., Kratochwill, T. R., Vargas, L. A., & Banez, G. A. (2010). A meta-systems approach to evidence-based practice for children and adolescents. *American Psychologist, 65*(2), 85–97. <https://doi.org/10.1037/a0017784>
- Kendall, P.C., & Hedtke, K. A. (2006). *Cognitive-behavioral therapy for anxious children; Therapist manual* (3rd ed.). Workbook Publishing.
- Kendall, P.C., Settapani, C.A., & Cummings, C.M. (2012). No need to worry: The promising future of child anxiety research. *Journal of Clinical Child & Adolescent Psychology, 41*(1), 103–115. <https://doi.org/10.1080/15374416.2012.632352>
- Kessler, R. C., Berglund, P., Demler, O., Jin, R., Merikangas, K. R., & Walters, E. E. (2005). Lifetime prevalence and age-of-onset distributions of DSM-IV disorders in the National Comorbidity Survey Replication. *Archives of General Psychiatry, 62*(6), 593–602.
<https://doi.org/10.1001/archpsyc.62.6.593>
- Kessler, R. C., Heeringa, S., Lakoma, M. D., Petukhova, M., Rupp, A. E., Schoenbaum, M., Wang, P. S., & Zaslavsky, A. M. (2008). Individual and societal effects of mental disorders on earnings in the United States: Results from the national comorbidity survey replication. *The American Journal of Psychiatry, 165*(6), 703–711.
<https://doi.org/10.1176/appi.ajp.2008.08010126>

- Kessler, R. C., Merikangas, K., Wang, P., & Kessler, R. (2007). Prevalence, comorbidity, and service utilization for mood disorders in the United States at the beginning of the twenty-first century. *Annual Review of Clinical Psychology*, 3, 137–158.
<https://doi.org/10.1146/annurev.clinpsy.3.022806.091444>
- Klein Hofmeijer-Sevink, M., Batelaan, N., van Megen, H., Penninx, B., Cath, D., van Den Hout, M., & van Balkom, A. (2012). Clinical relevance of comorbidity in anxiety disorders: A report from the Netherlands Study of Depression and Anxiety (NESDA). *Journal of Affective Disorders*, 137(1–3), 106–112. <https://doi.org/10.1016/j.jad.2011.12.008>
- Kraines, M. A., White, E. J., Grant, D. M., & Wells, T. T. (2019). Social anxiety as a precursor for depression: Influence of interpersonal rejection and attention to emotional stimuli. *Psychiatry Research*, 275, 296–303. <https://doi.org/10.1016/j.psychres.2019.04.001>
- Kruger, J., & Dunning, D. (1999). Unskilled and unaware of it: how difficulties in recognizing one's own incompetence lead to inflated self-assessments. *Journal of Personality and Social Psychology*, 77(6), 1121–1134. <https://doi.org/10.1037//0022-3514.77.6.1121>
- Langley, A. K., Bergman, R., McCracken, J., & Piacentini, J. C. (2004). Impairment in childhood anxiety disorders: Preliminary examination of the Child Anxiety Impact Scale-Parent Version. *Journal of Child and Adolescent Psychopharmacology*, 14(1), 105–114.
<https://doi.org/10.1089/104454604773840544>
- Lely, J. C., Smid, G. E., Jongedijk, R. A., W. Knipscheer, J., & Kleber, R. J. (2019). The effectiveness of narrative exposure therapy: a review, meta-analysis and meta-regression analysis. *European Journal of Psychotraumatology*, 10(1), 1550344.
<https://doi.org/10.1080/20008198.2018.1550344>
- Litwin, M. S. (1995). *How to measure survey reliability and validity* (Vol. 7). Sage publications.

- Lochman, J. E., Boxmeyer, C., Powell, N., Qu, L., Wells, K., & Windle, M. (2009). Dissemination of the Coping Power program: Importance of intensity of counselor training. *Journal of Consulting and Clinical Psychology, 77*(3), 397. <https://doi.org/10.1037/a0014514>
- Lochman, J. E., Wells, K., & Lenhart, L. (2008). *Coping power child group program facilitator guide* (Vol. 2). Oxford University Press.
- Lyon, A., & Cotler, S. (2007). Toward reduced bias and increased utility in the assessment of school refusal behavior: The case for diverse samples and evaluations of context. *Psychology in the Schools, 44*(6), 551–565. <https://doi.org/10.1002/pits.20247>
- Maeda, N., Hatada, S., Sonoda, J., & Takayama, I. (2012). School-based intensive exposure therapy for school refusal behavior. *Clinical Case Studies, 11*(4), 299–311. <https://doi.org/10.1177/1534650112457456>
- Martin, P., Murray, L. K., Darnell, D., & Dorsey, S. (2018). Transdiagnostic treatment approaches for greater public health impact: Implementing principles of evidence-based mental health interventions. *Clinical Psychology: Science and Practice, 25*(4), e12270. <https://doi.org/10.1111/cpsp.12270>
- McClain, M. B., Shahidullah, J. D., Mezher, K. R., Haverkamp, C. R., Benallie, K. J., & Schwartz, S. E. (2020). School-clinic care coordination for youth with ASD: A national survey of school psychologists. *Journal of Autism and Developmental Disorders, 50*(9), 3081–3091. <https://doi.org/10.1007/s10803-019-03985-3>
- McHugh, R. K., & Barlow, D. H. (Eds.). (2012). *Dissemination and implementation of evidence-based psychological interventions*. Oxford University Press.

McIntosh, K., Predy, L., Upreti, G., Hume, A., Turri, M., & Mathews, S. (2014). Perceptions of contextual features related to implementation and sustainability of school-wide positive behavior support. *Journal of Positive Behavior Interventions*, 16(1), 31–43.

<https://doi.org/10.1177/1098300712470723>

McKay, M. M., Hibbert, R., Hoagwood, K., Rodriguez, J., Murray, L., Legerski, J., & Fernandez, D. (2004). Integrating evidence-based engagement interventions into “real world” child mental health settings. *Brief Treatment & Crisis Intervention*, 4(2) 177–186.

<https://doi.org/10.1093/brief-treatment/mhh014>

McKevitt, B. C. (2012). School psychologists’ knowledge and use of evidence-based, social-emotional learning interventions. *Contemporary School Psychology*, 16(1), 33–45.

<https://doi.org/10.1177/0013161X18785867>

McNamara, K., Walcott, C. M., & Hyson, D. (2019). Results from the NASP 2015 membership survey, part two: Professional practices in school psychology. *NASP Research Reports*, 4(1), 1–14.

Melton, T. H., Croarkin, P. E., Strawn, J. R., & McClintock, S. M. (2016). Comorbid anxiety and depressive symptoms in children and adolescents: A systematic review and analysis. *Journal of Psychiatric Practice*, 22(2), 84–98.

<https://doi.org/10.1097/PRA.0000000000000132>

Merikangas, K., He, J., Burstein, M., Swanson, S., Avenevoli, S., Cui, L., Benjet, C., Georgiades, K., & Swendsen, J., (2010). Lifetime prevalence of mental disorders in U.S. adolescents: Results from the National Comorbidity Survey Replication–Adolescent Supplement (NCS-A). *Journal of the American Academy of Child & Adolescent Psychiatry*, 49(10), 980–989. <https://doi.org/10.1016/j.jaac.2010.05.017>

- Merikangas, K. R., He, J. P., Burstein, M., Swendsen, J., Avenevoli, S., Case, B., Georgiades, K., Heaton, L., Swanson, S., & Olfson, M. (2011). Service utilization for lifetime mental disorders in US adolescents: Results of the National Comorbidity Survey–Adolescent Supplement (NCS-A). *Journal of the American Academy of Child & Adolescent Psychiatry*, 50(1), 32–45. <https://doi.org/10.1016/j.jaac.2010.10.006>
- Meyer, J. M., Farrell, N. R., Kemp, J. J., Blakey, S. M., & Deacon, B. J. (2014). Why do clinicians exclude anxious clients from exposure therapy? *Behaviour Research and Therapy*, 54, 49–53. <https://doi.org/10.1016/j.brat.2014.01.004>
- Mineka, S., Watson, D., & Clark, L. A. (1998). Comorbidity of anxiety and unipolar mood disorders. *Annual Review of Psychology*, 49(1), 377–412. <https://doi.org/10.1146/annurev.psych.49.1.377>
- Nail, J., Christofferson, J., Ginsburg, G., Drake, K., Kendall, P., McCracken, J., J. T., Birmaher, B., Walkup, J. T., Compton, S. N., Keeton, C., & Sakolsky, D. (2015). Academic impairment and impact of treatments among youth with anxiety disorders. *Child & Youth Care Forum*, 44(3), 327–342. <https://doi.org/10.1007/s10566-014-9290-x>
- Nelson, T. D., & Steele, R. G. (2007). Predictors of practitioner self-reported use of evidence-based practices: Practitioner training, clinical setting, and attitudes toward research. *Administration and Policy in Mental Health and Mental Health Services Research*, 34(4), 319–330. <https://doi.org/10.1007/s10488-006-0111-x>
- Nepon, J., Belik, S., Bolton, J., & Sareen, J. (2010). The relationship between anxiety disorders and suicide attempts: Findings from the national epidemiologic survey on alcohol and related conditions. *Depression and Anxiety*, 27(9), 791–798. <https://doi.org/10.1002/da.20674>

- Nock, M. K., Hwang, I., Sampson, N. A., & Kessler, R. C. (2010). Mental disorders, comorbidity and suicidal behavior: Results from the National Comorbidity Survey Replication. *Molecular Psychiatry*, 15(8), 868–876. <https://doi.org/10.1038/mp.2009.29>
- Olatunji, B. O., Deacon, B. J., & Abramowitz, J. S. (2009). The cruelest cure? Ethical issues in the implementation of exposure-based treatments. *Cognitive and Behavioral Practice*, 16(2), 172–180. <https://doi.org/10.1016/j.cbpra.2008.07.003>
- Owens, J. S., Coles, E. K., Evans, S. W., Himawan, L. K., Girio-Herrera, E., Holdaway, A. S., Zoromski, A.K., Schamberg, T., & Schulte, A. C. (2017). Using multi-component consultation to increase the integrity with which teachers implement behavioral classroom interventions: A pilot study. *School Mental Health*, 9(3), 218–234. <https://doi.org/10.1007/s12310-017-9217-4>
- Pella, J. E., Ginsburg, G. S., Casline, E., Pikulski, P. J., & Drake, K. L. (2018). Children's perceptions of barriers to session attendance in school-based treatment for anxiety. *School Mental Health*, 10(4), 417–427. <https://doi.org/10.1007/s12310-018-9253-8>
- Pinkelman, S., McIntosh, K., Rasplia, C., Berg, T., Strickland-Cohen, M. K. (2015). Perceived enablers and barriers related to sustainability of school-wide positive behavioral interventions and supports. *Behavioral Disorders*, 40(3), 171–183. <https://doi.org/10.17988/0198-7429-40.3.171>
- Pittig, A., Kotter, R., & Hoyer, J. (2019). The struggle of behavioral therapists with exposure: Self-reported practicability, negative beliefs, and therapist distress about exposure-based interventions. *Behavior Therapy*, 50(2), 353–366. <https://doi.org/10.1016/j.beth.2018.07.003>

- Rapee, R. M., Gaston, J. E., & Abbott, M. J. (2009). Testing the efficacy of theoretically derived improvements in the treatment of social phobia. *Journal of Consulting and Clinical Psychology, 77*(2), 317–327. <https://doi.org/10.1037/a0014800>
- Reardon, T., Harvey, K., Baranowska, M., O'Brien, D., Smith, L., & Creswell, C. (2017). What do parents perceive are the barriers and facilitators to accessing psychological treatment for mental health problems in children and adolescents? A systematic review of qualitative and quantitative studies. *European Child & Adolescent Psychiatry, 26*(6), 623–647. <https://doi.org/10.1007/s00787-016-0930-6>
- Reddy, L. A., Forman, S. G., Stoiber, K. C., & Gonzalez, J. E. (2017). A national investigation of school psychology trainers' attitudes and beliefs about evidence-based practices. *Psychology in the Schools, 54*(3), 261–278. <https://doi.org/10.1002/pits.21999>
- Reding, M., Chorpita, B., Lau, A., & Innes-Gomberg, D. (2014). Providers' attitudes toward evidence-based practices: Is it just about providers, or do practices matter, too? *Administration and Policy in Mental Health and Mental Health Services Research, 41*(6), 767–776. <https://doi.org/10.1007/s10488-013-0525-1>
- Reynolds, S., Wilson, C., Austin, J., & Hooper, L. (2012). Effects of psychotherapy for anxiety in children and adolescents: A meta-analytic review. *Clinical Psychology Review, 32*(4), 251–262. <https://doi.org/10.1016/j.cpr.2012.01.005>
- Richard, D. C. S., & Gloster, A. T. (2007). Exposure therapy has a public relations problem: A dearth of litigation amid a wealth of concern. In D. C. S. Richard, & D. Lauterbach (Eds.), *Comprehensive handbook of the exposure therapies* (pp. 409–425). Academic Press.
- Rogers, E. M. (2010). *Diffusion of innovations*. Simon and Schuster.

- Rose, R. J., Viken, R. J., Dick, D. M., Bates, J. E., Pulkkinen, L., & Kaprio, J. (2003). It does take a village: Nonfamilial environments and children's behavior. *Psychological Science*, 14(3), 273–277. <https://doi.org/10.1111/1529-1006.03434>
- Rosqvist, J. (2005). *Exposure treatments for anxiety disorders: A practitioner's guide to concepts, methods, and evidence-based practice*. Routledge
- Rothbaum, B. O., Meadows, E. A., Resick, P., & Foy, D. (2000). Cognitive-behavioral therapy. In E. B. Foa, T. M. Keane, & M. J. Friedman (Eds.), *Effective treatments for PTSD* (pp. 60–83). Guilford Press.
- Runyon, K., Stevens, T., Roberts, B., Whittaker, R., Clark, A., Chapman, C., & Boggs-Lopez, M. (2018). The Role of Self-Efficacy and Autonomy Support in School Psychologists' Use of ABA. *Contemporary School Psychology*, 22(1), 51–62. <https://doi.org/10.1007/s40688-017-0126-1>
- Ruzek, E. (2016). Effects of a comprehensive training program on clinician beliefs about and intention to use prolonged exposure therapy for PTSD. *Psychological Trauma*, 8(3), 348–355. <https://doi.org/10.1037/tra0000004>
- Sareen, J., Cox, B. J., Afifi, T. O., de Graaf, R., Asmundson, G. J., Ten Have, M., & Stein, M. B. (2005). Anxiety disorders and risk for suicidal ideation and suicide attempts: A population-based longitudinal study of adults. *Archives of General Psychiatry*, 62(11), 1249–1257. <https://doi.org/10.1001/archpsyc.62.11.1249>
- Scheer, D., Scholz, M., Rank, A., & Donie, C. (2015). Inclusive beliefs and self-efficacy concerning inclusive education among German teacher trainees and student teachers. *Journal of Cognitive Education and Psychology*, 14(3), 270–293. <https://doi.org/10.1891/1945-8959.14.3.270>

- Scherr, S. R., Herbert, J. D., & Forman, E. M. (2015). The role of therapist experiential avoidance in predicting therapist preference for exposure treatment for OCD. *Journal of Contextual Behavioral Science*, 4(1), 21–29. <https://doi.org/10.1016/j.jcbs.2014.12.002>
- Schumacher, S., Miller, R., Fehm, L., Kirschbaum, C., Fydrich, T., & Ströhle, A. (2015). Therapists' and patients' stress responses during graduated versus flooding in vivo exposure in the treatment of specific phobia: A preliminary observational study. *Psychiatry Research*, 230(2), 668–675. <https://doi.org/10.1016/j.psychres.2015.10.020>
- Schunk, D. H., Meece, J. L., & Pintrich, P. R. (2014). *Motivation in education: Theories, research, and applications* (4th ed.). Pearson.
- Schunk, D. H., & Pajares, F. (2009). Self-efficacy theory. In K. R. Wentzel & A. Wigfield (Eds.), *Handbook of motivation at school* (pp. 35–53). Routledge.
- Scott, K. M., Lim, C., Al-Hamzawi, A., Alonso, J., Bruffaerts, R., Caldas-de-Almeida, J. M., Florescu, S., de Girolamo, G., Hu, C., de Jonge, P., Kawakami, N., Medina-Mora, M. E., Moskalewicz, J., Navarro-Mateu, F., O'Neill, S., Piazza, M., Posada-Villa, J., Torres, Y., & Kessler, R. C. (2016). Association of mental disorders with subsequent chronic physical conditions: World mental health surveys from 17 countries. *JAMA Psychiatry*, 73(2), 150–158. <https://doi.org/10.1001/jamapsychiatry.2015.2688>
- Shapiro, C. J., Prinz, R. J., & Sanders, M. R. (2012). Facilitators and barriers to implementation of an evidence-based parenting intervention to prevent child maltreatment: The Triple P-Positive Parenting Program. *Child Maltreatment*, 17(1), 86–95. <https://doi.org/10.1177/1077559511424774>

- Shernoff, E. S., Bearman, S. K., & Kratochwill, T. R. (2017). Training the next generation of school psychologists to deliver evidence-based mental health practices: Current challenges and future directions. *School Psychology Review, 46*(2), 219–232.
- Shernoff, E. S., Frazier, S. L., Mariñez-Lora, A., Lakind, D., Atkins, M. S., Jakobsons, L., Hamre, B. K., Bhaumik, D. K., Parker-Katz, M., Neal, J. W., Smylie, M. A., & Patel, D. A. (2016). Expanding the role of school psychologists to support early career teachers: A mixed method study. *School Psychology Review, 45*, 226–249.
<https://doi.org/10.4135/9781452232355.n15>
- Shernoff, E. S., Kratochwill, T. R., & Stoiber, K. C. (2003). Training in Evidence-Based Interventions (EBIs): What are school psychology programs teaching? *Journal of School Psychology, 41*(6), 467–483. <https://doi.org/10.1016/j.jsp.2003.07.002>
- Simon, A. E., Pastor, P. N., Reuben, C. A., Huang, L. N., & Goldstrom, I. D. (2015). Use of mental health services by children ages six to 11 with emotional or behavioral difficulties. *Psychiatric Services, 66*(9), 930–937.
<https://doi.org/10.1176/appi.ps.201400342>
- Slade, E. (2003). The relationship between school characteristics and the availability of mental health and related health services in middle and high schools in the United States. *The Journal of Behavioral Health Services & Research, 30*(4), 382–392.
<https://doi.org/10.1007/BF02287426>
- Staudt, M. (2007). Treatment engagement with caregivers of at-risk children: Gaps in research and conceptualization. *Journal of Child and Family Studies, 16*(2), 183–196.
<https://doi.org/10.1007/s10826-006-9077-2>

- Stein, M. B., & Kean, Y. M. (2000). Disability and quality of life in social phobia: Epidemiologic findings. *American Journal of Psychiatry*, 157(10), 1606–1613.
<https://doi.org/10.1176/appi.ajp.157.10.1606>
- Stewart, R. E., & Chambless, D. L. (2009). Cognitive-behavioral therapy for adult anxiety disorders in clinical practice: A meta-analysis of effectiveness studies. *Journal of Consulting and Clinical Psychology*, 77(4), 595. <https://doi.org/10.1037/a0016032>
- Trivasse, H., Webb, T. L., & Waller, G. (2020). A meta-analysis of the effects of training clinicians in exposure therapy on knowledge, attitudes, intentions, and behavior. *Clinical Psychology Review*, 80, 101887. <https://doi.org/10.1016/j.cpr.2020.101887>
- van Minnen, A., Hendriks, L., & Olff, M. (2010). When do trauma experts choose exposure therapy for PTSD patients? A controlled study of therapist and patient factors. *Behaviour Research and Therapy*, 48(4), 312–320. <https://doi.org/10.1016/j.brat.2009.12.003>
- Walcott, C. M., & Hyson, D. (2018). Results from the NASP 2015 membership survey, part one: Demographics and employment conditions. *NASP Research Reports*, 3(1), 1–17.
- Waller, G. (2009). Evidence-based treatment and therapist drift. *Behaviour Research and Therapy*, 47(2), 119–127. <https://doi.org/10.1016/j.brat.2008.10.018>
- Waller, G., Stringer, H., & Meyer, C. (2012). What cognitive behavioral techniques do therapists report using when delivering cognitive behavioral therapy for the eating disorders? *Journal of Consulting and Clinical Psychology*, 80(1), 171–175.
<https://doi.org/10.1037/a0026559>
- Wampold, B., Budge, S., Laska, K., Del Re, A., Baardseth, T., Flückiger, C., Minami, T., Kivlighan, D. M., & Gunn, W. (2011). Evidence-based treatments for depression and

- anxiety versus treatment-as-usual: A meta-analysis of direct comparisons. *Clinical Psychology Review*, 31(8), 1304–1312. <https://doi.org/10.1016/j.cpr.2011.07.012>
- Weisz, J. R., Chorpita, B. F., Palinkas, L. A., Schoenwald, S. K., Miranda, J., Bearman, S. K., Daleiden, E. L., Ugueto, A. M., Ho, A., Martin, J., Gray, J., Alleyne, A., Langer, D. A., Southam-Gerow, M. A., Gibbons, R. D., & the Research Network on Youth Mental Health. (2012). Testing standard and modular designs for psychotherapy treating depression, anxiety, and conduct problems in youth: A randomized effectiveness trial. *Archives of General Psychiatry*, 69(3), 274–282. <https://doi.org/10.1001/archgenpsychiatry.2011.147>
- Weisz, J. R., Kuppens, S., Eckshtain, D., Ugueto, A., Hawley, K., & Jensen-Doss, A. (2013). Performance of evidence-based youth psychotherapies compared with usual clinical care: A multilevel meta-analysis. *JAMA Psychiatry*, 70(7), 750–761. <https://doi.org/10.1001/jamapsychiatry.2013.1176>
- White, A. (2009). *From comfort zone to performance management*. White & MacLean.
- Whiteside, S. P., Deacon, B. J., Benito, K., & Stewart, E. (2016). Factors associated with practitioners' use of exposure therapy for childhood anxiety disorders. *Journal of Anxiety Disorders*, 40, 29–36. <https://doi.org/10.1016/j.janxdis.2016.04.001>
- Whitney, D., & Peterson, M. (2019). US national and state-level prevalence of mental health disorders and disparities of mental health care use in children. *JAMA Pediatrics*, 173(4), 389–391. <https://doi.org/10.1001/jamapediatrics.2018.5399>
- Wool, C. (2013). Clinician confidence and comfort in providing perinatal palliative care. *Journal of Obstetric, Gynecologic, & Neonatal Nursing*, 42(1), 48–58. <https://doi.org/10.1111/j.1552-6909.2012.01432.x>

- Zhou, Y., Cao, Z., Yang, M., Xi, X., Guo, Y., Fang, M., Cheng, L., & Du, Y. (2017). Comorbid generalized anxiety disorder and its association with quality of life in patients with major depressive disorder. *Scientific Reports*, 7(1), 40511. <https://doi.org/10.1038/srep40511>
- Zoellner, L. A., Feeny, N. C., Bittinger, J. N., Bedard-Gilligan, M. A., Slagle, D. M., Post, L. M., & Chen, J. A. (2011). Teaching trauma-focused exposure therapy for PTSD: Critical clinical lessons for novice exposure therapists. *Psychological Trauma: Theory, Research, Practice, and Policy*, 3(3), 300–308. <https://doi.org/10.1037/a0024642>

Table 1*Demographic and Background Data*

Characteristic	Current Sample		NASP Membership ^a
	%	<i>n</i>	%
Gender			
Female	85	238	84
Male	14	39	15
Non-binary or Not described	1	4	0.5
Years in Practice ^b	<i>M</i> = 10.3 (<i>SD</i> = 9 years)		<i>M</i> = 12.2 (<i>SD</i> = 10 years)
0–5 years ^c	40	112	30
6–10 years	20	55	16
11–15 years	15	41	14
16+ years	25	69	28
Highest Degree Earned			
Doctoral level	30	85	25
PhD	19	52	-
PsyD	10	29	-
EdD	1	4	-
Master's degree	26	72	20
Specialist degree	44 (EdS)	123	55
Grade Level Served ^d			
Pre-K/K	32	89	-
Elementary	74	206	-
Middle/Junior High	40	113	-
High School	38	107	-
All levels	15	41	-
More than one level	49	138	-
Licensed Psychologists	36	99	21
Theoretical Orientation			
Cognitive-Behavioral	63		-
Psychodynamic	2		-
Family/Systems	3		-
Integrative	15		-
Other	5		-
No specific orientation	12		-

Note. *N* = 318. Values may not add up to the total group *n* due to unreported data. NASP = National Association of School Psychologists.

^a McNamara et al. (2019); Walcott & Hyson (2018). ^b Data for current sample were based on years since graduation from graduate school. ^c 1–5 years in NASP Membership study. ^d Participants selected all applicable options.

Table 2*Knowledge Domain Items*

Knowledgeable of exposure interventions for anxiety ($n = 318$) ^a	%
Not at all	6.9
Slightly	41.8
Moderately	44.3
Very	6.9
Familiarity with theories that guide exposure for anxiety ($n = 318$) ^b	%
Very unfamiliar	5.4
Somewhat unfamiliar	25.5
Somewhat familiar	57.2
Very familiar	12.0
Primary goal of exposure ($n = 318$)	%
To eliminate students' anxiety	2.8
To increase students' confidence and ability to withstand anxiety	42.8
To reduce physiological hyperarousal	34.6
To improve overall emotion regulation	17.5
Other	2.2

Note. Participant scores ranged from 0–3.

^a $M = 1.51$. ^b $M = 1.76$.

Table 3*Knowledge of Treatment Protocols that Incorporate Exposure (%)*

Manual	No knowledge of treatment	Heard of treatment	Basic understanding of treatment and how it works	Comprehensive understanding of treatment and how it works	<i>M</i>
Coping Cat ^a	27.5	23.1	33.9	15.5	1.37
Brief Coping Cat ^b	38.5	28.2	26.6	6.7	1.02
MATCH- ADTC ^c	71.3	17.0	6.	5.1	0.45
CBITS ^d	20.8	32.2	34.4	12.6	1.39
Friends for Life ^e	87.6	9.5	2.5	0.3	0.16

Note. *n* ranged from 312–317. Participant scores ranged from 0–3. MATCH-ADTC = Modular Approach to Therapy for Children with Anxiety, Depression, Trauma, or Conduct Problems; CBITS = Cognitive Behavioral Intervention for Trauma in Schools.

^a Kendall & Hedtke (2006). ^b Beidas et al. (2013); Crawley et al. (2013). ^c Chorpita & Weisz (2009). ^d Jaycox et al. (2012). ^e Barrett (2005).

Table 4*Attitudes Domain Items*

Attitudinal obstacle to delivering exposure (<i>n</i> = 306)	%
Exposure may be upsetting to parents	47.7
Exposure may exacerbate symptoms of anxiety for students	34.0
Exposure may result in a lawsuit if it does not proceed as planned	33.3
Exposure may be retraumatizing for students	32.2
Exposure is inappropriate for the school setting	28.4
Exposure may be intolerable for students/lead to student decomposition	26.1
Exposure may result in harmful consequences for students	23.5
Exposure based interventions are too inflexible for delivery in schools	17.7
Exposure may result in violations of students' confidentiality	16.7
It is unethical to intentionally evoke distress in students	8.5
Exposure may result in vicarious trauma (i.e., traumatic for the psychologist)	7.5

Note. On average, participants endorsed two to three attitudinal obstacles.

Table 5*Obstacles to Delivering Exposure*

Organizational	%
Inadequate time to deliver the intervention	79.1
Inadequate training in effective delivery of exposure	60.8
Inadequate access to training materials (i.e., worksheets, manuals)	51.0
Colleagues and supervisors do not support use of exposure	17.3
Therapist distress	%
Therapists' personal feelings of anxiety about delivering exposure	6.2
Conducting exposure-based interventions is distressing for the therapist	3.3

Table 6*Frequencies for Obstacles*

No. of obstacles endorsed	<i>n</i>	% of Sample
Attitudinal obstacles		
0	62	20.3
1	60	19.6 ($\geq 1 = 80.4$)
2	41	13.4 ($\geq 2 = 60.4$)
3	44	14.4 ($\geq 3 = 47.3$)
4	36	11.8 ($\geq 4 = 33.0$)
5	24	7.8 ($\geq 5 = 21.2$)
6	15	4.9 ($\geq 6 = 13.3$)
7	12	3.9 ($\geq 7 = 8.5$)
8	4	1.3 ($\geq 8 = 4.6$)
9	3	.98 ($\geq 8 = 3.2$)
10	6	1.96 ($\geq 10 = 2.3$)
11	1	.33 (.03)
Organizational obstacles		
0	32	10.5
1	67	21.9 ($\geq 1 = 89.2$)
2	76	24.8 ($\geq 2 = 67.3$)
3	107	35.0 ($\geq 3 = 42.4$)
4	23	7.5
Therapist distress obstacles		
0	284	92
1	19	6
2	5	2

Note. $n = 306$. Values in parentheses represent the percentage of participants who endorsed a minimum of the associated number of obstacles. On average, participants endorsed two to three attitudinal obstacles.

Table 7*Comfort/Self-Efficacy Domain Items*

Comfort while delivering exposure ($n = 306$) ^a	%
Very uncomfortable	11.4
Somewhat uncomfortable	40.2
Somewhat comfortable	37.3
Completely comfortable	11.1
Confidence in ability to effectively deliver exposure ($n = 307$) ^b	%
Not at all confident	18.6
Barely confident	37.8
Somewhat confident	35.8
Very confident	7.8

Note. Scores for items ranged from 0–3.

^a $M = 1.48$. ^b $M = 1.33$.

Table 8*Helpfulness of Training in Exposure*

Training Modality	Total % no training received	Helpfulness among participants who had received training					Total % training received	
		I did not receive training	Not at all %	Slightly %	Moderately %	Very %		<i>M (SD)</i>
Required course in graduate school	46.4		6.3	48.1	31.0	14.6	2.54 (0.82)	53.6
Elective course in graduate school	74.5		13.7	42.5	31.5	12.3	2.42 (0.87)	25.5
Practica or externship	61.0		12.3	43.9	24.6	19.3	2.51 (0.94)	39.0
Clinical internship	71.5		14.5	28.9	28.9	27.7	2.70 (1.03)	28.5
Postdoctoral fellowship	92.2		13.6	31.8	36.4	18.2	2.59 (0.94)	7.7
Professional conferences	54.5		7.6	51.5	32.6	8.3	2.42 (0.75)	45.5
Workshops or webinars	49.1		7.5	47.6	31.3	13.6	2.51 (0.82)	50.9
Independent reading	29.7		4.4	53.9	28.9	12.8	2.50 (0.77)	70.3

Note. Scores for training helpfulness, among participants who received training, ranged from 1–4. A score of 0 represented no training received. Mean helpfulness across all training modalities = 2.53.

Table 9*Quality of Training Among Participants with Prior Formal Training*

Training Aspect	Extent training aspect was addressed (%)				<i>M</i>
	Not at all	Slightly	Somewhat	Considerably	
Concerns about conducting exposure	16.4	34.7	33.8	15.1	1.47
Theoretical underpinnings of exposure	10.5	26.0	34.3	29.2	1.82
How to deliver exposure	20.1	27.4	36.5	16.0	1.48
Information about effectiveness of exposure	12.8	24.3	44.0	18.8	1.69
Training in specific treatment manuals ^a	35.8	28.0	25.7	10.6	1.11

Note. *n* ranged from 218–219. For purposes of this table, participants (*n* = 73) who indicated “N/A: I did not receive training” on a previous training item (see Table 7) were excluded from these percentages. Participant scores ranged from 0–3. For purposes of this table, independent reading was not considered a form of formal prior training.

^a Training in specific treatment manuals was not factored into the overall score for quality of training reported in the results section.

Table 10*Training Domain Items*

Adequacy of graduate training in evidence-based interventions ($n = 286$) ^a	%
Very Inadequate	7.7
Mostly Inadequate	19.2
Mostly Adequate	50.4
Completely Adequate	22.7
Approach to treatment emphasized in graduate training ($n = 290$)	%
Cognitive-Behavioral	59.7
Psychodynamic	2.1
Family/Systems	5.5
Integrative	9.3
Other	4.5
No specific orientation was emphasized	19.0
Likelihood of attending a free exposure therapy workshop ($n = 307$) ^b	%
Definitely not	0.0
Probably not	17.9
Probably	50.5
Definitely	31.6

^a $M = 1.88$; range = 0–3. ^b $M = 2.14$; range = 0–3.

Table 11*Use Domain Items*

Frequency of using exposure for anxiety ($n = 286$) ^a	%
Never	55.6
Occasionally	36.0
Often	6.3
Almost always	2.1
Extent emphasize exposure treatment element when implementing principle-based or manualized anxiety treatment ($n = 285$) ^b	%
N/A: I do not use treatments that incorporate exposure	55.8
I use treatments but skip the exposure modules	6.3
I emphasize exposure less than other treatment elements	21.4
I emphasize exposure equally to other treatment elements	14.0
I emphasize exposure more than other treatment elements	2.5

^a $M = 0.55$; range = 0–3. ^b $M = 1.01$; range = 0–4.

Table 12*Correlations for Primary Study Variables*

Variable	1	2	3	4	5	6	7	8
1. Use	—							
2. Intent to use	.712***	—						
3. Knowledge	.644***	.594***	—					
4. Attitudes	-.164**	-.230***	-.045	—				
5. Comfort/Self- efficacy	.563***	.556***	.618***	-.147**	—			
6. Training	.543***	.534***	.597***	-.084	.461***	—		
7. Training in EBIs	.164**	.130*	.266***	.197***	.116	.445***	—	
8. Experiential avoidance	-.299***	-.242***	-.235***	.163**	-.177**	-.225***	-.100	—

Note. Lower attitudes scores indicate more positive attitudes.

* $p < .05$ ** $p < .01$ *** $p < .001$.

Table 13*Descriptive Statistics for Scales in the Primary Regression Model*

Scale	<i>M</i>	<i>SD</i>	Range	Cronbach's α
Use	0.55	0.72	0–3	.86
Knowledge	1.40	0.52	0–3	.70
Attitudes	2.76	2.46	0–11	–
Comfort/Self-efficacy	1.43	0.81	0–3	.88
Training	1.57	1.24	0–4	.78
Experiential avoidance	0.84	0.36	0–3	.71

Note. Use was included as the criterion variable in the multiple regression analyses; knowledge, attitudes, comfort/self-efficacy, and training were included as predictor variables, and experiential avoidance was included as a control variable. Descriptive statistics reported in this table (i.e., in the regression analysis) vary slightly from the descriptive statistics obtained for each variable (i.e., when calculated independently, outside the context of this regression analysis). This discrepancy is due to slightly reduced sample size in the regression analysis.

Table 14*Multiple Regression Analysis for Use of Exposure*

Variable	<i>B</i>	β	<i>t</i>	<i>p</i>	<i>sr</i> ²	95% CI	
						<i>LL</i>	<i>UL</i>
Knowledge	0.49	0.35	5.69	<.001	.06	0.32	0.66
Attitudes	−0.02	−0.07	−1.58	0.116		−0.05	0.01
Comfort/Self-efficacy	0.19	0.22	3.87	<.001	.03	0.10	0.29
Training	0.11	0.19	3.49	<.001	.02	0.05	0.17
Experiential avoidance	−0.25	−0.12	−2.76	.006	.01	−0.42	0.07

Note. $n = 281$. Adjusted $R^2 = .488$, $F(5, 275) = 54.33$, $p < .001$. Experiential avoidance was included as a control variable. CI = confidence interval; *LL* = lower limit; *UL* = upper limit.

Table 15*Model Summaries for Mediation Analyses*

Model	<i>F</i> ratio	<i>p</i>	adjusted <i>R</i> ²
Model 1: Knowledge mediates effect of training on use			
Path c	69.63	<.001	.42
Path a	161.91	<.001	.51
Path b and Path c'	68.37	<.001	.48
Model 2: Comfort/Self-Efficacy mediates the effect of knowledge on use			
Path c	81.71	<.001	.46
Path a	70.64	<.001	.42
Path b and Path c'	68.37	<.001	.48
Model 3: Comfort/Self-efficacy mediates the effect of attitudes on use			
Path c	7.93	.005	.024
Path a	6.76	.01	.018
Path b and Path c'	67.56	<.001	.32

Note. Model 1 controlled for the effects of comfort/self-efficacy and attitudes; Model 2 controlled for the effects of training and attitudes.

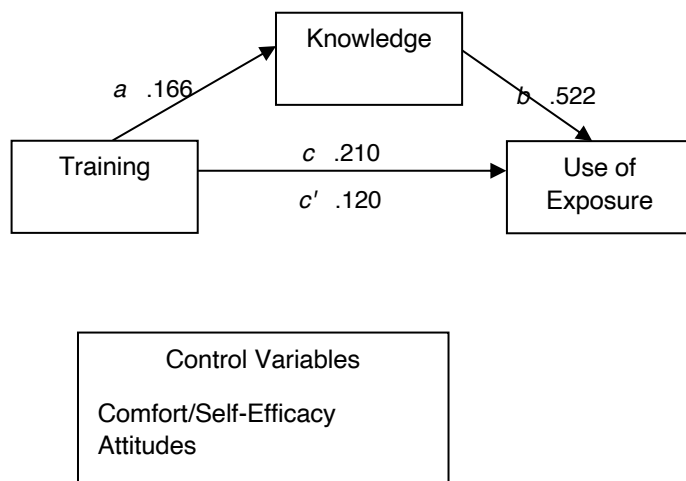


Figure 1. Mediated Relationship Between Training and Use of Exposure

Note. Values reported are the b values for each path.

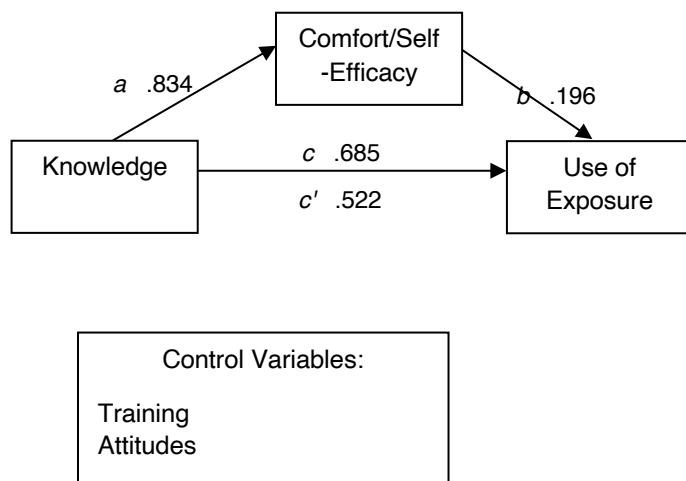


Figure 2. Mediated Relationship Between Knowledge and Use of Exposure

Note. Values reported are the b values for each path.

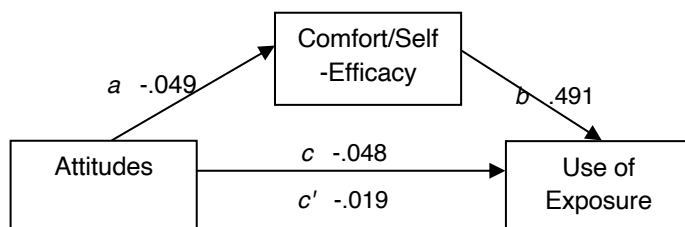


Figure 3. Mediated Relationship Between Attitudes and Use of Exposure

Note. Values reported are the *b* values for each path.

Appendix A

Initial Email Inquiry to State Associations

My name is Sheva Weiss and I am a school psychology doctoral student in the Graduate School of Applied and Professional Psychology at Rutgers University. I am collaborating with Dr. Elisa Shernoff, Associate Professor of School Psychology at Rutgers University, Dr. Jeffrey Shahidullah, Assistant Professor of School Psychology at Rutgers University, and Dr. Adam Lekwa, Assistant Research Professor of School Psychology at Rutgers University. **As part of my doctoral dissertation, we are investigating school psychologists' use and predictors of using exposure-based interventions for youth with anxiety.** This research study was approved by the Rutgers State University IRB (Study ID: Pro2020000779).

We are recruiting school psychologists currently practicing in the school setting. **We would greatly appreciate you sharing our study information with your members if your state association allows the dissemination of research requests.** Is there additional information you need from our research team in order to share our study with your members? If you do not require any additional information from our research team in order to share our study information with your membership, feel free to disseminate the below information.

Thank you for your consideration.

Warm Regards,

Sheva Weiss, PsyD Candidate
Elisa Shernoff, PhD, NCSP
Jeffrey Shahidullah, PhD, NCSP
Adam J. Lekwa, PhD, NCSP

[Initial email script for contacting participants]

Appendix B

Initial Email Inquiry to Graduate Program Training Directors

My name is Sheva Weiss and I am a school psychology doctoral student in the Graduate School of Applied and Professional Psychology at Rutgers University. I am collaborating with Dr. Elisa Shernoff, Associate Professor of School Psychology at Rutgers University, Dr. Jeffrey Shahidullah, Assistant Professor of School Psychology at Rutgers University, and Dr. Adam Lekwa, Assistant Research Professor of School Psychology at Rutgers University. **As part of my doctoral dissertation, we are investigating school psychologists' use and predictors of using exposure-based interventions for youth with anxiety.** This research study was approved by the Rutgers State University IRB (Study ID: Pro2020000779).

We are recruiting school psychologists currently practicing in the school setting. We would greatly appreciate you sharing our study information with your graduate program alumni. Is there additional information you need from our research team in order to share our study with your alumni? If you do not require any additional information from our research team in order to share our study information, feel free to disseminate the information below.

Thank you for your consideration.

Warm Regards,

Sheva Weiss, PsyD Candidate
Elisa Shernoff, PhD, NCSP
Jeffrey Shahidullah, PhD, NCSP
Adam J. Lekwa, PhD, NCSP

[Initial email script for contacting participants]

Appendix C

Initial Email Script for Contacting Participants

Dear Colleague:

You are invited to participate in a survey about school psychologists' beliefs and experiences with using exposure-based interventions. We believe that the results of this study will provide valuable information about the most effective ways to help youth struggling with anxiety. The information you provide can help school psychologists and graduate educators better understand the obstacles encountered when providing mental health interventions to vulnerable youth in schools. **Participants must be currently employed as a school psychologist in a public or private school district in the United States.**

This study has been approved by the Institutional Review Board at Rutgers University (Study ID: Pro2020000779). Participation is voluntary and the survey is estimated to take approximately 10 minutes to complete. All responses will be kept strictly confidential. There is no foreseeable risk to participants, and you may opt out at any time.

As a gesture of appreciation for your time to complete this survey, you may enter your email address to be entered into a drawing for one of two \$100 electronic Amazon gift cards.

If you are interested in participating in the current study, please select the following link:
https://rutgers.ca1.qualtrics.com/jfe/form/SV_cOPYer5qENq8ptX

Your responses will be submitted to a confidential, encrypted online database, and your email address will not in any way be associated with your responses or any of the findings. All information received will be incorporated into group data. If possible, please submit your responses within 7 days of receiving this email.

If you have any general questions about the survey, please contact the Principal Investigator, Sheva Weiss, at (908) XXX-XXXX or at sc1716@gsapp.rutgers.edu

We believe that your participation in this study about treatment of anxiety is especially meaningful amidst the current climate of global anxiety. **Please feel free to forward the survey to your friends and colleagues. We appreciate your help!**

Sincerely,

Sheva Weiss, PsyD Candidate
Elisa Shernoff, PhD, NCSP
Jeffrey Shahidullah, PhD, NCSP
Adam J. Lekwa, PhD, NCSP

Appendix D

Follow-Up Email Script for Contacting Participants

Dear Colleague:

This is a follow-up email regarding my dissertation on **school psychologists' perceptions of and experiences with training and use of exposure-based interventions**. If you have completed the survey already, thank you so much! You may either forward this email to other school psychologists who you think may be interested in completing the survey or disregard it. Gift card winners will be notified by email after all responses have been recorded, in approximately 4-6 weeks. If you have not completed the survey yet and would like to do so, you can use the link below or copy and paste the URL below to be directed to the survey. As a school psychologist, you can provide valuable information about your own experience with delivering mental health services. The survey should take about 10 minutes.

Follow this link to the survey:

https://rutgers.ca1.qualtrics.com/jfe/form/SV_cOPYer5qENq8ptX

Or copy and paste the URL below into your internet browser:

https://rutgers.ca1.qualtrics.com/jfe/form/SV_cOPYer5qENq8ptX

Thank you for your time and cooperation!

All the best,

Sheva Weiss, PsyD Candidate

Appendix E

Consent to Take Part in a Research Study

Title of Study: Predictors of School Psychologists' Use of Exposure-Based Interventions

Principal Investigator: Sheva Weiss, PsyM

This online consent form is part of an informed consent process for a research study, and it will provide information that will help you decide whether you want to take part in the study. It is your choice to take part or not. Ask questions if there is anything in the form that is not clear to you. If you decide to take part, instructions at the end of document will tell you what to do next. Your alternative to taking part in the research is not to take part in it.

Who is conducting this research study and what is it about?

You are being asked to take part in research conducted by Sheva Weiss who is a student in the Graduate School of Applied and Professional Psychology Department at Rutgers under the supervision of Elisa Shernoff, Ph.D. The purpose of this study is to examine school psychologists' knowledge, attitudes, comfort, self-efficacy, training and practices regarding delivering exposure interventions. We anticipate approximately 200 subjects will take part in the research.

What will I be asked to do if I take part?

You will be asked to complete a survey, in which you will respond to a series of questions about your knowledge, attitudes, training, and practices regarding exposure-based interventions. Participation in this study is voluntary and is estimated to take approximately 10 minutes to complete.

What are the risks and/or discomforts I might experience if I take part in the study?

There are no foreseeable risks or discomforts in taking part in this study. If you feel uncomfortable with a question, you can skip that question or withdraw from the study altogether.

Are there any benefits to me if I choose to take part in this study?

There are no direct benefits or guaranteed compensation for completing the survey. If you choose to provide your email address at the end of the study, you will be entered into a drawing for one of two \$100 electronic Amazon gift cards. The study may also give you an opportunity to reflect on your training in and experiences with providing mental health services. Additionally, the information may contribute to improved training of school psychologists and more positive effects on student populations.

Will I be paid to take part in this study?

You will not be paid to take part in this study.

How will information about me be kept private or confidential?

All efforts will be made to keep your responses confidential, but total confidentiality cannot be guaranteed.

We will use Qualtrics to collect and forward your anonymous responses to us. You may choose to provide your email address if you wish to participate in a raffle to win one of two \$100 gift cards to Amazon.com. Your identifiable information will not be stored with your responses. Instead, your responses will be assigned a subject # which will be stored separately from your responses so others will not know which responses are yours. Once data collection is complete, your identifiable information will be destroyed so no link will exist between your identity and your responses. We will download your responses to a secure file that requires a password to access. Only study staff will have access to the password. Responses will be deleted from the file after analysis is complete and study findings are professionally presented or published. No information that can identify you will appear in any professional presentation or publication.

What will happen to information I provide in the research after the study is over?

After information that could identify you has been removed, de-identified responses may be used by or distributed to investigators for other research without obtaining additional informed consent from you.

What will happen if I do not want to take part or decide later not to stay in the study?

Your participation is voluntary. If you choose to take part now, you may change your mind and withdraw later. In addition, you can choose to skip questions that you do not wish to answer. If you do not click on the 'submit' button after completing the form, your responses will not be recorded. If you choose to provide your email address, once you click the 'submit' button at the end of the form, your responses cannot be withdrawn as we will not know which ones yours are. If you choose to record your email address, you may withdraw your consent for use of data you submit, but you must do this in writing to the PI, Sheva Weiss.

Who can I call if I have questions?

If you have concerns or questions about this research study, please contact the Principal Investigator, Sheva Weiss at (908) XXX-XXXX or sc1716@gsapp.rutgers.edu. You can also contact my faculty advisor, Dr. Elisa Shernoff, at ess91@gsapp.rutgers.edu or at (848) 445-3902.

If you have questions about your rights as a research subject, you can contact the IRB Director at: Arts and Sciences IRB (732) 235-2866 or the Rutgers Human Subjects Protection Program at (973) 972-1149 or email humansubjects@ored.rutgers.edu.

Please print out this consent form if you would like a copy of it for your files.

If you do not wish to take part in the research, close this website address. If you wish take part in the research, follow the directions below:

By beginning this research, I acknowledge that I am 18 years of age or older and have read and understand the information. I agree to take part in the research, with the knowledge that I am free to withdraw my participation in the research without penalty.

Click on the "I Agree" button to confirm your agreement to take part in the research.

Appendix F

Survey Measure

Exposure-Based Interventions in Schools

Start of Block 1: Informed Consent

Consent to Take Part in a Research Study

By beginning this research, I acknowledge that I am 18 years of age or older and have read and understand the information. I agree to take part in the research, with the knowledge that I am free to withdraw my participation in the research without penalty.

Click on the "I agree" button to confirm your agreement to take part in the research.

- ☐ I agree
- ☐ I do not agree

End of Block 1: Informed Consent

Start of Block 2: Introductory Items

To what extent do you provide individual or group counseling to students with anxiety?

- ☐ Not at all
- ☐ Minimally
- ☐ Moderately
- ☐ Extensively

Which modalities of anxiety treatment do you tend to utilize in schools? (Select all that apply)

- ☐ Manualized treatments
- ☐ Principle-based treatments
- ☐ Supportive counseling
- ☐ Relaxation Training (e.g., deep breathing)
- ☐ Exposure-based interventions
- ☐ N/A: I do not tend to provide anxiety-treatments to students with anxiety

End of Block 2: Introductory Items

Start of Block 3: Knowledge

How **knowledgeable** are you about exposure-based interventions*** for anxiety?

*(***techniques used to reduce a student's anxiety whereby the student is repeatedly exposed to a distressing stimulus [e.g. social interactions, sensations of panic, experience of not measuring up]. While the student's anxiety is likely to increase during the initial stages of treatment, overtime, the client's anxiety is expected to be reduced.)*

- Not at all
- Slightly
- Moderately
- Very

How familiar are you with the theories/principles that guide exposure-based interventions for anxiety (i.e., habituation, inhibitory learning)?

- Very unfamiliar
- Somewhat unfamiliar
- Somewhat familiar
- Very familiar

Please select the option that best describes your knowledge of the following treatment manuals.

	I have no knowledge of this treatment	I have heard of this treatment	I have a basic understanding of this treatment and how it works	I have a comprehensive understanding of this treatment and how it works
Coping Cat/Cat Project	○	○	○	○
Brief Coping Cat	○	○	○	○
MATCH-ADTC	○	○	○	○
CBITS	○	○	○	○
Friends for Life program	○	○	○	○

What do you believe is the **primary goal** of exposure-based interventions?

- To eliminate students' anxiety
- To increase students' confidence and ability to withstand anxiety
- To reduce physiological hyperarousal (i.e., fight or flight reactions)
- To improve overall emotion regulation
- Other

End of Block 3: Knowledge

Start of Block 4: Attitudes, Comfort, Self-Efficacy

If a free exposure therapy workshop was offered nearby during the next 12 months, would you attend?

- Definitely not
- Probably not
- Probably
- Definitely

How **comfortable** would you feel during a session of delivering exposure therapy?

- Very uncomfortable
- Somewhat uncomfortable
- Somewhat comfortable
- Completely comfortable

How **confident** are you in your ability to effectively deliver exposure-based interventions?

- Not at all confident
- Barely confident
- Somewhat confident
- Very confident

Which of the following do you perceive to be obstacles to your delivery of exposure-based interventions in schools? (Select all that apply)

- Exposure is inappropriate for the school setting
- Exposure-based interventions are too inflexible for delivery in schools
- Colleagues and supervisors do not support use of exposure
- Inadequate time to deliver the intervention
- Inadequate access to training materials (i.e., worksheets, manuals)
- Inadequate training in effective delivery of exposure
- Therapist's personal feelings of anxiety about delivering exposure
- Conducting exposure-based interventions is distressing for the therapist
- It is unethical to intentionally evoke distress in students
- Exposure may result in vicarious trauma (i.e., traumatic for the psychologist)
- Exposure may result in a lawsuit if it does not proceed as planned
- Exposure may be upsetting to parents
- Exposure may result in violations of students' confidentiality
- Exposure may exacerbate symptoms of anxiety for students
- Exposure may be intolerable for students/lead to student decomposition
- Exposure may result in harmful consequences for students
- Exposure may be retraumatizing for students
- Other

Have you used strategies or innovative practices to overcome challenges to delivering exposure-based interventions in schools (e.g., limited time, funding, institutional support, access to manuals, stress)? If yes, please describe the strategies or practice.

- Yes: Please describe

- No

End of Block 4: Attitudes, Comfort, Self-Efficacy

Start of Block 5: Training

Rate the helpfulness of training you have received in providing exposure-based interventions through the following modalities.

	N/A: I did not receive training	Not at all helpful	Slightly helpful	Moderately helpful	Very helpful
Required course in graduate school	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Elective course in graduate school	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Practica or externship	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Clinical internship	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Postdoctoral fellowship	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Professional conferences	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Workshops or webinars	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Independent reading (e.g., books, articles)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

How adequate was your graduate school training in **evidence-based interventions**, in general?

- Very inadequate
- Mostly inadequate
- Mostly adequate
- Completely adequate

To what extent did your training in exposure-based interventions address the following aspects?

	Not at all	Slightly	Somewhat	Considerably
Concerns about conducting exposure	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Theoretical underpinnings of exposure	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
How to deliver exposure	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Information about effectiveness of exposure	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Training in specific treatment manuals (e.g., Coping Cat, MATCH-ADTC, or others)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Was a specific approach to conceptualization/treatment emphasized in your graduate training program?

- ☐ Cognitive-Behavioral
- ☐ Psychodynamic
- ☐ Family/Systems
- ☐ Integrative
- ☐ Other: Please describe
- ☐ No specific orientation was emphasized

End of Block 5: Training

Start of Block 6: Use

When implementing principle-based or manualized exposure treatments for anxiety, to what extent do you emphasize the behavioral exposure component?

- ☐ N/A: I do not use treatments that incorporate exposure
- ☐ I use treatments but skip the exposure modules
- ☐ I emphasize exposure less than other treatment elements
- ☐ I emphasize exposure equally to other treatment elements
- ☐ I emphasize exposure more than other treatment elements

How often do you use exposure-based interventions when treating anxiety?

- ☐ Never
- ☐ Occasionally
- ☐ Often
- ☐ Almost always

How likely are you to use exposure-based interventions for students with anxiety, in the future?

- ☐ Not at all
- ☐ Slightly
- ☐ Somewhat
- ☐ Considerably

End of Block 6: Use

Start of Block 7: Demographics and Experiential Avoidance

What is your theoretical orientation?

- ☐ Cognitive-Behavioral
- ☐ Psychodynamic
- ☐ Family/Systems
- ☐ Integrative
- ☐ Other: Please describe
- ☐ I don't subscribe to any orientation

What is your terminal degree?

- ☐ Master's
- ☐ Eds
- ☐ PhD
- ☐ PsyD
- ☐ EdD

What type of degree program did you attend?

- ☐ School Psychology
- ☐ Clinical Psychology
- ☐ Counseling Psychology
- ☐ Social Work
- ☐ Other

What year did you graduate with a terminal degree from your graduate training program?

What type of school do you work at? (Select all that apply)

- ☐ Preschool
- ☐ Elementary School (K-8)
- ☐ Middle School
- ☐ High School
- ☐ Other

What is your gender?

- ☐ Male
- ☐ Female
- ☐ Transgender
- ☐ Non-Binary
- ☐ Other: Please describe
- ☐ Prefer not to describe

Are you a licensed psychologist?

- ☐ Yes

- No

Please rate the extent to which you agree or disagree with the following statements (adapted from MEAQ):

	Disagree	Slightly disagree	Slightly agree	Agree
I won't do something if I think it will make me feel uncomfortable.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I work hard to avoid situations that might bring up unpleasant thoughts and feelings in me.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
If I have any doubts about doing something, I just won't do it.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I'm quick to leave any situation that makes me feel uneasy.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I usually try to distract myself when I feel something painful.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I work hard to keep out upsetting feelings.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am able to "turn off" my emotions when I don't want to feel.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel disconnected from my emotions.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
People should face their fears.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am willing to put up with pain and discomfort to get what I want.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I continue working toward my goals even if I have doubts.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

End of Block 7: Demographics and Experiential Avoidance

Appendix G

Scales in Primary Regression Analysis

Predictor and criterion variables in the regression and mediation analyses were based on the following survey items.

Knowledge

Participant's score = mean of: (Item 1), (Item 2), and (mean of Items 3–7)

1. How knowledgeable are you about exposure-based interventions for anxiety?
2. How familiar are you with the theories/principles that guide exposure-based interventions for anxiety?

Please select the option that best describes your knowledge of the following treatment manuals.

3. Coping Cat/Cat Project
4. Brief Coping Cat
5. MATCH ADTC
6. CBITS
7. Friends for Life program

Attitudes

Participant's score = number of total attitudinal obstacles endorsed

1. Exposure may be upsetting to parents
2. Exposure may exacerbate symptoms of anxiety for students
3. Exposure may result in a lawsuit if it does not proceed as planned
4. Exposure may be retraumatizing for students
5. Exposure is inappropriate for the school setting
6. Exposure may be intolerable for students/lead to student decomposition
7. Exposure may result in harmful consequences for students
8. Exposure-based interventions are too inflexible for delivery in schools
9. Exposure may result in violations of students' confidentiality
10. It is unethical to intentionally evoke distress in students
11. Exposure may result in vicarious trauma (i.e., traumatic for the psychologist)

Comfort/Self-Efficacy

Participant's score = mean of Items 1–2

1. How comfortable would you feel during a session of delivering exposure therapy?
2. How confident are you in your ability to effectively deliver exposure-based interventions?

Training

Participant's score = weighted mean of: (highest rating on either Item 1 or Item 2) and (mean of Items 3–6)

Rate the helpfulness of the training you have received in providing exposure-based interventions through the following modalities.

1. Required course in graduate school
2. Elective course in graduate school

To what extent did your training in exposure-based interventions address the following aspects?

3. Concerns about conducting exposure
4. Theoretical underpinnings of exposure
5. How to deliver exposure
6. Information about effectiveness of exposure

Use

Participant's score = mean of Items 1–2

1. When implementing principle-based or manualized exposure treatments for anxiety, to what extent do you emphasize the behavioral exposure component?
2. How often do you use exposure-based interventions when treating anxiety?

Experiential Avoidance

Participant's score = mean of Items 1–10

1. I won't do something if I think it will make me feel uncomfortable.
2. I work hard to avoid situations that might bring up unpleasant thoughts and feelings in me.
3. If I have any doubts about doing something, I just won't do it.
4. I'm quick to leave any situation that makes me feel uneasy.
5. I usually try to distract myself when I feel something painful.
6. I work hard to keep out upsetting feelings.
7. I feel disconnected from my emotions.
8. People should face their fears.
9. I am willing to put up with pain and discomfort to get what I want.
10. I continue working toward my goals even if I have doubts.

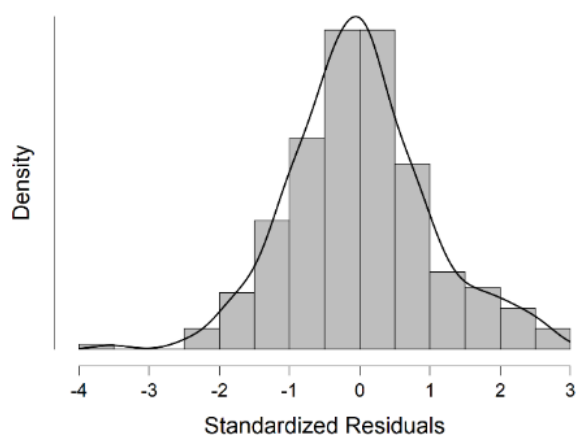
Appendix H

Assumptions of Linear Regression and Associated Plots

Normality of Residuals

Figure H1

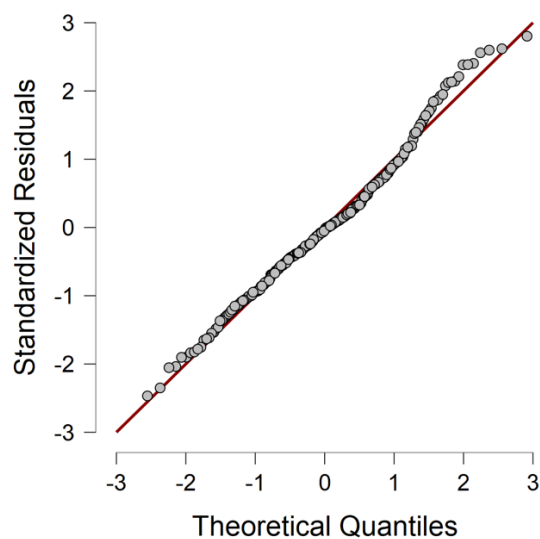
Standardized Residuals Histogram



Note. This plot displays a normal distribution of residuals.

Figure H2

Q-Q Plot Standardized Residuals

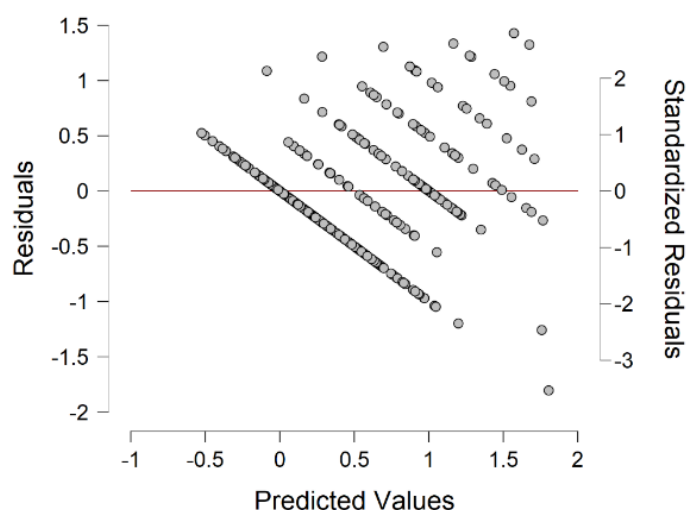


Note. Comparison of residuals to “ideal” normal distribution indicates normality of distribution.

Linearity and Homoscedasticity

Figure H3

Residuals vs. Predicted



Note. The spread of residuals does not indicate evidence of heteroscedasticity. This plot should be interpreted with caution given the lower bound of the outcome variable (i.e., use of exposure).

Table H1

Casewise Diagnostics

Case Number	Standard Residual	Use	Predicted Value	Residual	Cook's Distance
136	-3.585	0.000	1.805	-1.805	0.095

Note. Case 136 exerted unusual influence on the results, given the unusual pattern of the participant's responses. This participant obtained the following scores on primary variables in the regression model: Use = 0, knowledge = 2.7, comfort/self-efficacy = 2, attitudes = 0, and training = 4. Despite relatively high levels of knowledge and training, this participant denied use of exposure. Of note, when this case was excluded from the regression model, the unique impact of knowledge increased, $sr^2 = .068$ (compared to $sr^2 = .059$); however, the direction and significance of the results remained unchanged.

Table H2

Residuals Statistics

Variable	Minimum	Maximum	<i>M</i>	<i>SD</i>	<i>N</i>
Predicted Value	-0.525	1.805	0.553	0.507	281
Residual	-1.805	1.429	6.125e-19	0.510	281
Standard Predicted Value	-2.127	2.469	-5.859e-17	1.000	281
Standard Residual	-3.585	2.825	-7.755e-5	1.002	281

No Multicollinearity/Independence of Residuals**Table H3***Collinearity Statistics*

Variable	Collinearity Statistics		<i>B</i>	β	<i>t</i>	<i>p</i>
	Tolerance	VIF				
Knowledge	0.474	2.111	0.49	0.35	5.69	<.001
Attitudes	0.944	1.059	−0.02	−0.07	−1.58	0.116
Comfort/Self-efficacy	0.588	1.702	0.19	0.22	3.87	<.001
Training	0.613	1.632	0.11	0.19	3.49	<.001
Experiential avoidance	0.915	1.093	−0.25	−0.12	−2.76	.006

Note. VIF = Variance Inflation Factor. Collinearity statistics do not demonstrate multicollinearity; all tolerance values are below 10 and the VIF is approximately 1 for all variables.