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RESEARCH ARTICLE

Modified School-Based *Facing Your Fears* for Students with Autism Spectrum Disorder and Anxiety: A Preliminary Quasi-Experimental and Qualitative Analysis

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ABSTRACT

With a high prevalence of anxiety among children with Autism Spectrum Disorder, researchers have identified implementing effective treatments in real-world settings as a priority. In the present study, multiple methods were employed to evaluate the effectiveness of educators delivering a modified school-based *Facing Your Fears* Cognitive Behavior Therapy program to treat anxiety among students with Autism Spectrum Disorder. Participants included 5 students, 6 educators and 7 parents. Settings were a public elementary school and private school. Multiple methods included a quasi-experimental group design, time series design, semi-structured interviews and focus groups. Quantitative results indicated that with training and on-going feedback educators obtained a modest level of fidelity in implementing the intervention. Non-significant decreases in student anxiety symptoms across all informant ratings (students, parents and teachers) were observed. Social validity ratings across participants were high. Qualitative findings revealed the following themes: (a) outcomes; (b) program structure; (c) inclusion; and (d) factors critical for success. These preliminary results offer a model for researchers to collaborate with key stakeholders in adapting interventions for use in schools, bridging the gap between research and practice. They highlight educator's ability to deliver empirically-supported treatments to address anxiety among students with Autism Spectrum Disorder.

Keywords: autism spectrum disorder, anxiety, *Facing Your Fears*, cognitive behavior therapy, school-based mental health services.

Preliminary Evaluation of a Modified School-Based Facing Your Fears for Students with Autism Spectrum Disorder and Anxiety

Anxiety disorders and symptoms are recognized as one of the most common co-occurring conditions affecting children and youth with ASD.¹ Children with ASD exhibit anxiety through a wide variety of maladaptive behavior, including aggression, disruptive behaviors, and poor social responsiveness,² which significantly interferes with participation in home, school, and community activities. The impact of anxiety symptoms on this population has led researchers to identify effective treatments.

Cognitive Behavioral Therapy (CBT) has emerged as a promising approach to ameliorate a broad span of anxiety symptoms among children with ASD. To date, at least ten systematic reviews have examined the evidence base for treatment of anxiety among children and youth with ASD using CBT as the primary treatment approach.³⁻⁶ Collectively, conclusions from these reviews favour CBT as an effective intervention for reducing anxiety symptoms for children and youth with ASD when modifications are incorporated to address the specific needs of this population. Among these reviews, Kester and Lucyshyn⁵ found that in studies of CBT interventions with children with ASD school involvement was low to non-existent, warranting greater attention.

The school setting has been proposed as the preferred setting for addressing anxiety among children and youth by multiple authors.⁷⁻⁹ Advantages include: (a) providing an accessible location for students; (b) addressing problematic situations in real time; (c) reducing stigma; and (d) enhancing generalization. Furthermore, in addition to academic skills, educators are increasingly responsible for addressing the social and emotional needs of students, signaling a natural avenue for delivery of interventions to treat anxiety. Given the role schools play in the emotional development of children with ASD, there are surprisingly few school-based interventions available to address anxiety in this setting.¹⁰

The research literature examining school-based CBT programs in the treatment of anxiety among children with ASD is limited to four recently published studies. Clarke et al.¹¹ investigated the effectiveness of delivering the *Exploring Feelings* program¹² in a school setting. Using a quasi-experimental design, 28 youth ages 11-14 years old, across 6 schools participated. All had a

diagnosis of ASD and were identified by school staff as exhibiting heightened levels of anxiety. At posttreatment, participants in the treatment group demonstrated reduced levels of anxiety compared to the control group and engaged in fewer maladaptive coping strategies compared to pre-treatment and to youth in a control group. Luxford et al.¹³ conducted a randomized control trial to examine the effectiveness of the *Exploring Feelings* program. Thirty-five youth with ASD exhibiting clinically significant symptoms of anxiety were randomly assigned to the CBT intervention delivered in a school setting or a wait-list control group. Youth in the experimental group showed greater reductions in anxiety symptoms, school anxiety, and social worry compared to the control group following participation in the CBT intervention. Drmic et al.⁷ conducted the first pilot study of an adapted version of *Facing Your Fears (FYF)*, a clinic-based CBT program for youth with ASD and anxiety. Forty-four youth participated in group-based FYF delivered by school-based educators trained to implement the adapted program. Adaptations included: (a) reducing program length and changing parent involvement to fit with school schedules; (b) emphasizing emotional regulation strategies and exposure practice pertinent to the school environment; and (c) modifying worksheets and videos to reflect the school setting and cultural aspects. Results evidenced a statistically significant reduction, with medium to large effect sizes, in parent and youth reported anxiety symptoms postintervention. Most recently, Ileri et al.¹⁴ investigated the effectiveness of delivering the *Multimodal Anxiety and Social Skills Intervention* program (MASSI¹⁵) in a school setting in Kenya. Using an experimental design, 40 students, 5-21 years old with a diagnosis of ASD participated across two special education schools. Schools were randomly assigned to either treatment or control groups. At posttreatment, the intervention group demonstrated significant reductions in anxiety levels compared to the control group, as well as improvements in ASD-related social impairments.

Implementing anxiety interventions in real-world contexts has been identified as one of the top priorities for advancing research on co-occurring anxiety in youth with ASD.¹⁶ Likewise, greater collaboration between researchers and knowledge users has been identified as a key factor in effective dissemination.¹⁷ Defined as a collaborative approach to research, integrated knowledge translation (iKT) involves a reciprocal exchange between researchers and knowledge

users in the development and implementation of science-based interventions.¹⁸

Based on the results of a preliminary iKT study¹⁹ in which focus groups comprised of key stakeholders were employed to develop a modified school-based *Facing Your Fears* (FYF) program, this study examined the effectiveness of the co-created school-based FYF intervention delivered by educators in schools. As a continuation of the iKT approach to dissemination and implementation research, a mixed methods research approach was employed to address three quantitative and three qualitative research questions: (a) are educators in a school able to implement with fidelity a modified school-based FYF intervention; (b) is educator implementation of modified school-based FYF effective in ameliorating symptoms of anxiety in students with autism; (c) how do students, teachers and parents rate the social validity of the intervention; (d) what are educators' perspectives on skill acquisition and school based FYF implementation; (e) what are students' perceptions of changes in their level of anxiety across the course of the intervention; and (f) what are educator and parent perspectives on the social validity of the school-based FYF program.

Methods

Participants and Setting

Two groups participated in the study: educators and student-parent pairs. The sampling method employed was a form of convenience sampling; that is, participants were selected from schools based in an urban area of British Columbia. There were two intervention groups (Group A and Group B). Each group consisted of 3 educators, 2-3 students with ASD and 3-4 parents. The training sessions for educators took place at two schools: a Kindergarten to Grade 7 public school and a Kindergarten to Grade 12 independent school. All small group and parent sessions were conducted at each school during school hours. Class sessions occurred in the regular classroom of each participating student with ASD. Focus group sessions occurred at each respective school.

Educators

A total of six educators, five female and one male, participated in the study. Participants were of mixed ethnic heritage, including Caucasian, Southeast Asian, South Asian and Hispanic. Experience working in a school setting ranged from less than 1 year to more than 10 years, with four participants having more than 10 years of experience. Three of the participants were

education assistants; one was a teacher; one was an Integration Support Teacher (IST); and one was a school counselor. Five of the educators held a university degree. Overall, the educators were relatively inexperienced in implementing CBT therapies (range = 0 – 7 years); four educators (67%) reported no experience and all participants reported no experience with the *Facing Your Fears* program. Educators were assigned to one of two roles: Facilitators ($n = 2$) or Coaches ($n = 4$). Facilitators led each school-based FYF session, including small group sessions, class-wide sessions and parent sessions. They also provided support to coaches in planning and implementing FYF strategies and exposures. Coaches implemented the school-based FYF strategies and exposures with student participants.

Students and Parents

A total of five students and their parents participated in the study. Student participants were four males and one female, 11-13 years of age ($M = 12.2$). In addition to an ASD diagnosis, two students had a diagnosis of attention deficit hyperactivity disorder and one had a diagnosis of non-verbal learning disability and anxiety. One student was taking a prescribed anti-anxiety medication at the time of the study and had previously received treatment for anxiety. For the purpose of this study, student's anxiety levels at the recruitment stage were arbitrated by school staff without reference to clinical threshold criteria.

Parent participants consisted of four mothers and three fathers, including two mother-father dyads. Three families were married and two families were legally separated at the time of the study. Of the parent participants, two held a high school diploma, three held a college/technical diploma, and two held a graduate degree. The role of parents was to apply CBT strategies with their child in the home setting and conduct graded exposures at home.

Measurement

Educator CBT Knowledge and Intervention Fidelity

Assessment of CBT Knowledge. Educators completed a 20-item multiple-choice test at three assessment periods of the study: (a) prior to the training workshop, (b) following the training workshop, and (c) at the end of the 10-week school-based FYF intervention. The questionnaire is based on one developed by Reaven et al.²⁰, who evaluated training of clinicians in a community setting to implement *Facing Your Fears*.

Implementation Fidelity Checklist. An implementation fidelity measure was used to assess the degree to which facilitators implemented the school-based *FYF* intervention as intended. Given that each session contained both a common and varied set of core components, implementation fidelity was measured on a session-by-session basis using a checklist of components for each session. Items were scored on a 3-point scale, with a score of “0” indicating the key component was not present in the session; “1” indicating partial adherence to intervention component; and “2” representing full implementation of the intervention component. An average score for implementation fidelity was generated by dividing the sum of item ratings by the total possible points, multiplied by 100. Scores equal to or exceeding 80% indicated acceptable implementation fidelity. All student and parent sessions were video recorded and were later coded for facilitator implementation fidelity. Class sessions were not video recorded; therefore, implementation fidelity data were coded immediately following each class session. The average interobserver agreement (IOA) for facilitator implementation fidelity was 86%, with a range of 75% to 100%.

Student Anxiety Outcomes

Three report measures completed by students, parents, and teachers examined changes in anxiety levels of the student participants. All measures were administered at pre-intervention, post-intervention, and follow-up.

The Anxiety Scale for Children- Autism Spectrum Disorder (ASC-ASD). We used self-reported and parent reported versions of the ASC-ASD to measure anxiety symptoms.²¹ Designed specifically for use with youth between 8-16 years of age with ASD, the questionnaire includes 24 items. For each item, children and parents rated the frequency with which the child experienced anxiety symptoms based on a 4-point scale ranging from ‘never’ (score of 0) to ‘always’ (score of 3). A total score was generated by summing scores, with scores of 20 or higher indicating significant levels of anxiety. Rodgers et al.²¹ reported good psychometric properties for both the ASC-ASD-C ($\alpha = .94, r = .82$) and ASC-ASD-P ($\alpha = .94, r = .84$). In the current sample, the ASC-ASD was observed to have high internal consistency for self-report and parent report ($\alpha > .92$).

School Anxiety Scale- Teacher Report (SAS-TR). The SAS-TR²² is a 16-item teacher-report

questionnaire designed to assess anxiety-related behaviors of children ages 5 to 12 years old observable in a school setting. Classroom teachers for each participating student rated the frequency of anxious behaviors on a 4-point scale ranging from ‘never’ (score of 0) to ‘always’ (score of 3). Scores were calculated to obtain a total score for anxiety, with scores above 17 indicating heightened levels of anxiety. The SAS-TR demonstrates acceptable psychometric properties in children without ASD, including strong internal consistency ($\alpha > .90$) and a discriminant validity of $> 68\%$ in distinguishing children with and without clinical levels of anxiety²². In a sample of children with ASD, good reliability ($\alpha > .70$) has been demonstrated.¹³ For the current sample, the SAS-TR showed high internal consistency with Cronbach’s alpha of .94.

Social Validity

Social validity questionnaires were administered once at the completion of the intervention. The questionnaires gathered information on participants’ perspectives on the importance, acceptability and feasibility of the goals procedures, and outcomes of the school-based *FYF* intervention²³. Three similar versions were used to collect data from the three stakeholder groups: educators, parents, and students. The number of items varied from 13 on the student version to 22 on the educator version, with 3 open-ended questions on the parent and educator versions. Questions were rated on a 5-point Likert-type scale ranging from “not helpful” to “extremely helpful/useful” or from “strongly disagree” to “strongly agree”. Students used a pictorial scale that matched these rating categories. Faces with a gradient of expressions were ordered in a sequence from very sad (equivalent to “not helpful”) to very happy (equivalent to “extremely helpful”). An average score was calculated for each evaluation and used as a summative rating of social validity.

Research Designs

Multiple methods were employed to examine student, educator, and/or parent quantitative outcomes and qualitative perspectives of the modified school-based *FYF* program. Methods included a quasi-experimental pre-post group design, a descriptive time-series design across *FYF* program sessions, and qualitative semi-structured interviews and focus groups. Consistent with an iKT approach, multiple methods served to develop a community-research partnership with

participating schools and collaboratively refine the school-based *FYF* intervention.

Quasi-Experimental Group Design and Descriptive Time Series Design

A quasi-experimental group design was employed to evaluate educator CBT knowledge and student anxiety. For educator CBT knowledge, the design had three phases: (a) pre-*FYF* educator workshop; (b) post-*FYF* educator workshop; and (c) post-*FYF* intervention. For student anxiety, the design also had three phases: (a) pre-*FYF* intervention; (b) post-*FYF* intervention; and (c) follow-up at 6 to 8 weeks post-intervention. In addition, a descriptive time series design was employed across *FYF* program sessions to assess the average level of educator implementation fidelity of *FYF* program components.

In regard to quantitative data analysis, the non-parametric Friedman test was used to examine the statistical significance of changes in: (a) educator CBT knowledge from pre-training to post-training and post-*FYF* intervention; and (b) student anxiety from pre-to post-*FYF* intervention and follow-up. In addition, the reliable change index²⁴ was used to determine whether changes in each student's anxiety scores were statistically significant based on the measure's test-retest reliability. Following standard conventions, scores greater than ± 1.96 were considered clinically significant.

Brief Semi-Structured Interviews

Following each school-based *FYF* session, the first author conducted a brief semi-structured interview with facilitators to gain information regarding their perspectives about facilitating factors to skill acquisition and barriers to the implementation of the school-based *FYF* program. Example questions included, "How do you think the last session went; what worked/was helpful; what didn't work; and what will you do differently next time?" Audio-recordings of each interview were transcribed and data were hand-coded to identify emergent theme, using the six-stage thematic analysis process developed by Braun and Clarke.²⁵ Analysis involved identifying, comparing and contrasting patterns and themes across multiple debrief discussions; first with-in data for each facilitator, then across facilitator data. To ensure the credibility of qualitative findings, the first author completed member checks with the facilitators.²⁶ Results then were summarized and a copy was sent to participants for their evaluation of the accuracy of emergent themes. Both facilitators provided

written feedback indicating the themes were an accurate reflection of their own experience.

Beginning in session 4 and continuing weekly during small group sessions, students completed a worksheet designed to monitor the intensity of five identified fears using an 8-point scale. The self-reported ratings were used to guide semi-structured interviews with students. Example questions included, What does this rating mean to you; and do you notice a change in your ratings? Descriptive field notes were taken and analyzed using thematic analysis to assess themes related to students' perceptions of their weekly self-evaluation of changes in anxiety levels, and the clinical importance of these changes.

Focus Groups

Following the intervention, qualitative data related to the social validity of the school-based *FYF* program were gathered through focus groups with educators and parents. Open-ended questions were used to guide discussion around: (a) the structure and process of the intervention; (b) what was helpful or not helpful about the program, factors that are critical for success in a school setting; and (c) the clinical significance of outcomes. Textual data were analyzed using an inductive thematic analysis approach. Themes were similar across the educator groups and parent groups; therefore, data were collapsed. Themes were validated for content by a peer-debriefing method²⁶. The first author transcribed discussions from each focus group and coded the data by looking for key statements. All transcripts were coded before cross-group analysis was completed. Key statements were sorted into broad categories, identifying initial broad themes. Next, the second author examined the themes to check for accuracy. Validation of themes involved examining a total of 20% of the raw data across the four focus groups and applying the theme definitions, as well as reviewing all sorted key statements. In an iterative process, codes were discussed and subsequently initial themes were refined.

Intervention Procedures

School-based *FYF* intervention procedures were implemented by the first author with supervisory support from the second author. Prior to providing training and support to the educators in their implementation of the school-based *FYF* intervention, the first author, a Masters-level Special Educator and Board Certified Behavior Analyst (BCBA), had received two-years of training by clinical psychologists in clinic-based implementation

of CBT with children and youth with ASD, including clinic-based *FYF*.

Educator Training

The first author presented a 2-hour training workshop on the school-based *FYF* intervention at each of the participating school sites. Content included: (a) information about anxiety among individuals with ASD; (b) a brief description of core components of CBT and modifications to CBT for working with children with ASD; and (c) a session-by-session review of the modified school-based *FYF* intervention.

Following the workshop, educator participants (i.e., facilitators and coaches) implemented the school-based *FYF* intervention. Following each session, the first author provided in-person consultation with the facilitators. Each feedback session followed a consistent format: (a) question-and-answer period regarding the prior session; (b) feedback regarding adherence to objectives and activities of the previous session, including praise, missing elements and suggestions for delivery; and (c) planning for the up-coming session. In addition, a brief semi-structured interview was embedded in the feedback sessions to gain facilitators' perspectives on skill acquisition in implementing the *FYF* intervention. Feedback sessions varied from 15-30 minutes in duration.

School-Based *FYF* Intervention

Prior to the current study, the school-based version of the *FYF* program was developed in collaboration with a small group of key stakeholders using an iKT framework.¹⁹ While maintaining the core objectives, concepts and strategies of the clinic-based *FYF* program,²⁷ several modifications were incorporated to reflect the school setting. Modifications similar to those made by Drmic et al.⁷ included: (a) dividing students and parents into two groups; (b) spending more time distinguishing between "real fears" and "false alarms"; and (c) reducing the number of sessions. Unique modifications also were incorporated, including: (a) the addition of class sessions; (b) an exposure checklist for parents; (c) modifications to the tracking sheet to document exposure practice; (d) the addition of a brain science activity that had additional worksheets to identify the connection between thoughts, feelings, and behaviors; and (e) greater emphasis on practicing strategies to manage body's reaction to anxiety. The school-based *FYF* program is a 10-week intervention program comprised of three group components:

small group, class group, and parent group. These are described below.

Small Group. Small group sessions are designed for 2-4 children with ASD, with a total of 10 sessions, each 1-hour in duration. Similar to the original *FYF* program, school-based *FYF* is divided into two sections: (a) psychoeducation, and (b) planned exposure to anxiety-provoking situations. During the first five sessions (weeks 1-5) the facilitators provided psychosocial education, including an introduction to anxiety symptoms and basic CBT strategies. During the second half of the program (weeks 6-10), the facilitators focused on implementing specific tools through exposure practice. Concurrently, coaches and their assigned students developed a fear hierarchy on which they broke down a fear or anxiety-provoking situation into small steps and listed the steps from least to most anxiety provoking. Next, with their coach, students practiced facing their fear and managed their anxiety through role plays and/or *in vivo* exposure.

Parent Group. The parent sessions are designed for parents or primary caregivers of the child with ASD, with a total of 5 sessions, each 1-hour in duration. Facilitators conducted parent sessions every second week. In coordination with the small group session schedule, the first two sessions of the parent group began with psychoeducation. Parents were provided with: (a) an overview of the school-based *FYF* program; (b) information about the interaction between parental anxiety, parenting behaviors and the maintenance of anxiety symptoms; and (c) how to help their child recognize and regulate anxiety symptoms. The next three sessions were dedicated to coaching parents in creating an exposure hierarchy and supporting their child in participating in planned exposures at home.

Class Group. The class group sessions are designed for classmates (including the child with ASD), with a total of 3 sessions, each 45 minutes in duration. The facilitators conducted class sessions in weeks 1, 3, and 6 of the 10-week program. With a focus on psychoeducation, class group sessions provided peers and their classroom teacher with an opportunity to learn and develop useful strategies to address stress and anxiety. Core concepts shared with the class included: (a) identifying anxiety, (b) understanding anxiety (e.g., brain science), (c) externalizing anxiety, and (d) learning strategies to cope with anxiety.

Results

Quantitative results are reported for: (a) educators' CBT knowledge and school-based FYF implementation fidelity; (b) students' total anxiety scores; and (c) educator, parent and students' social validity ratings. Qualitative findings include: (a) educators' perspectives on skill acquisition and FYF implementation; (b) students' perceptions of changes in their anxiety levels; and (c) educators' and parents' perspectives on the social validity of school-based FYF program, and on factors that facilitate or hinder implementation.

Educator CBT Knowledge and Implementation Fidelity

CBT Knowledge

Educators demonstrated improvements in CBT knowledge following participation in the training workshop and the school-based FYF intervention compared to pre-workshop CBT knowledge. Results of the Friedman Test showed a statistically significant improvement in educators' CBT knowledge from pre-training ($M = 53\%$ correct, $SD = 18\%$) to post-training ($M = 68\%$ correct, $SD = 12\%$) and follow-up ($M = 75\%$ correct; $SD = 10\%$), $\chi^2 = 9.65$, $p = .008$. A post-

hoc analysis using the Nemenyi test showed that statistically significant improvement occurred between pre-training and follow-up ($p = .007$).

Implementation Fidelity

Educator fidelity of implementation was calculated based on the percentage of core components that facilitators implemented across the 10-week intervention period. Implementation fidelity percentages ranged from 33% to 94% across all session groups and facilitators ($M = 79\%$ for student sessions; $M = 66\%$ for parent sessions). Figure 1 shows the average percentage of core components that Group A and Group B facilitators implemented during student sessions (see Figure 1). Variability in adherence to intervention components was observed across the first few student sessions for both facilitators. There was an overall upward trend across intervention sessions, with stabilization of level and trend across the last four sessions (average fidelity of 88%). Looking at individual facilitators during student sessions, the Group A facilitator evidenced an overall fidelity of 82%, and the Group B facilitator evidenced an overall fidelity of 77%.

Figure 1: Average Percentage of Facilitator Intervention Fidelity of Student Session Core Components

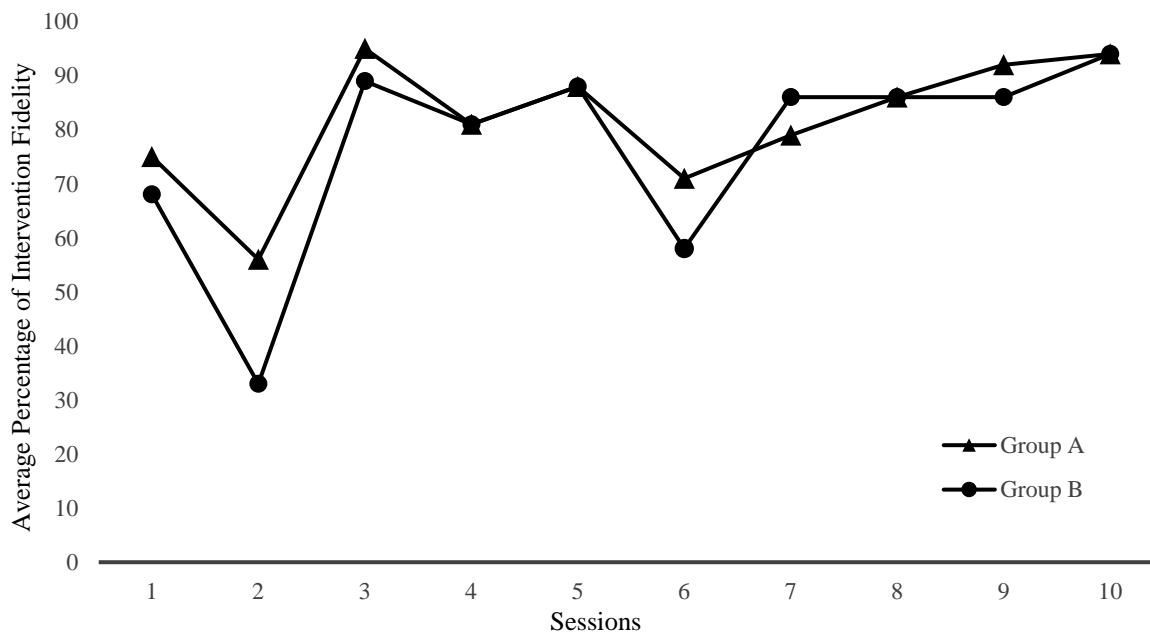
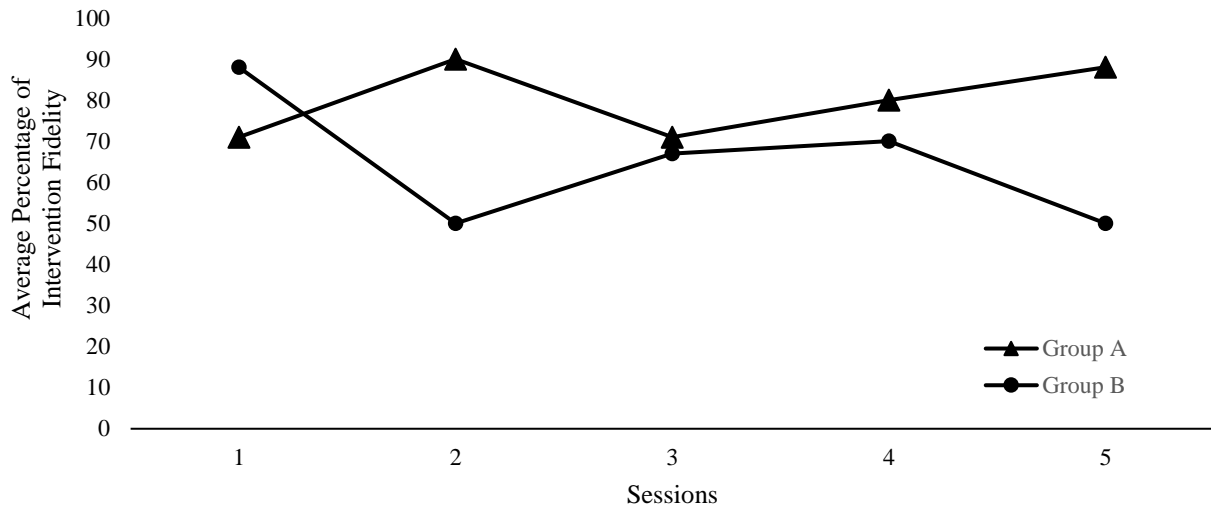


Figure 2 shows the average percentage of core components for parent sessions by facilitator (see Figure 2). In comparison to student sessions, a greater variability between facilitator implementation fidelity was observed for parent

sessions. The Group A facilitator showed low variability across sessions with a slight overall upward trend from session 1 to session 5 and an overall fidelity of 80%. In contrast, the Group B facilitator showed high variability across parent

sessions with an average of 51% fidelity for parent sessions.

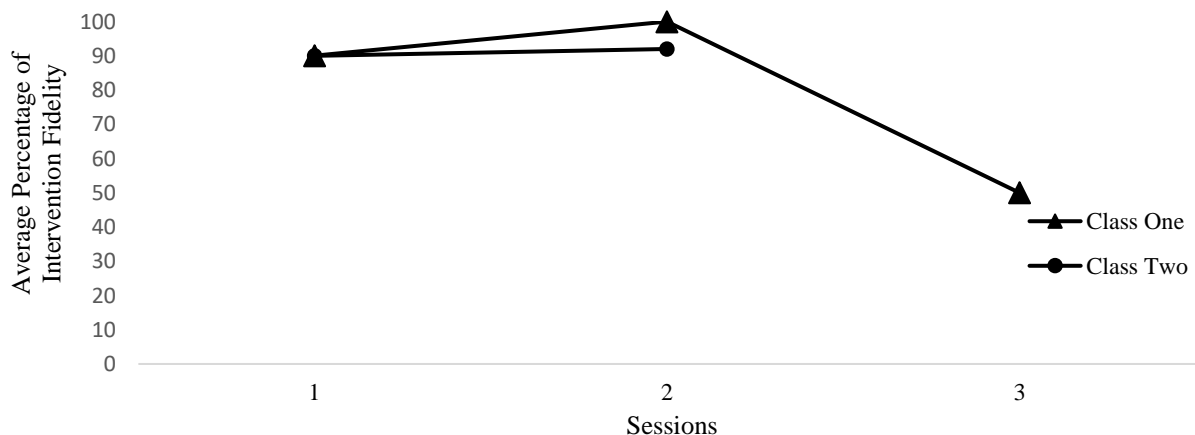
Figure 2: Average Percentage of Facilitator Intervention Fidelity of Parent Session Core Components



Due to low classroom teacher participation at one site and complex needs of classmates at the other site, implementation of class sessions was limited. Only 5 class sessions out of a possible 12 were delivered, all at one school site (Group A). Group B was situated in an independent school that offered specialized education for students with a variety of developmental disabilities. Given that class sessions of the school-based *FYF* were designed to provide universal instruction (Tier 1) for typically developing peers, following a discussion with school staff, it was agreed that the format of class session content poorly aligned with the abilities

of that target students' classmates. For this reason, the Group B facilitator (i.e., classroom teacher) declined to conduct the class sessions with her students. The average percentage of core components for class sessions delivered by the facilitator of Group A are shown in figure 3 (see Figure 3). Three sessions were delivered to classmates of one student with ASD (Class One) and two sessions were delivered to classmates of a second student with ASD (Class Two). Group A facilitator's average implementation fidelity for the class sessions delivered was 84% (5 sessions).

Figure 3: Average Percentage of Facilitator Intervention Fidelity of Class Session Core Components for Group A



Student Anxiety

The Friedman Test examined changes in anxiety levels of student participants from multiple informants; teachers, parents, and student self-report. Non-significant changes in anxiety scores were found across informants from pre-intervention to post-intervention and follow-up. For student-reported anxiety, results did not show a statistically significant difference in anxiety scores from pre-intervention ($Mdn = 18$) to post-intervention ($Mdn = 8$) and follow-up ($Mdn = 10$): $\chi^2 = 9.26, p = .196$. Results did not show a statistically significant difference in anxiety scores on teacher report from pre-intervention ($Mdn = 31$) to post-intervention ($Mdn = 23$) and follow-up ($Mdn = 14.5$): $\chi^2 = 1.20, p = .549$. Likewise, the Friedman Test did not show a statistically significant difference in anxiety scores on parent report from pre-intervention ($Mdn = 22$)

to post-intervention ($Mdn = 27$) and follow-up ($Mdn = 22$): $\chi^2 = 2.80, p = .246$.

Table 1 shows individual student scores for the three anxiety measures along with reliable change indices (RCI; see Table 1). Notably, two students had low levels of anxiety at pre-treatment (i.e., scores below 20 on the ASC-ASD and below 17 on the SAS). When comparing pre-intervention to follow-up, within-participant score changes showed that all students self-rated lower anxiety scores at follow-up compared to pre-intervention, with one student demonstrating a clinically significant decrease in anxiety scores at follow-up. Similarly, a majority of parents and teachers reported lower anxiety scores at follow-up compared to pre-intervention, with one student meeting the criteria for clinically significant improvement at follow-up.

Table 1: Individual Student Scores for the Three Anxiety Measures and Clinical Significance

Child	ASC-ASD (C)		RCI (C)	ASC-ASD (P)		RCI (P)	SAS		RCI (T)
	I	III		I	III		I	III	
1	24	17	1.25	22	30	-1.57	33	29	1.29
2	9	4	0.89	14	12	0.36	12	23	-3.49*
3	35	16	3.39*	36	22	2.75*	8	6	0.63
4	8	3	0.89	37	29	1.57	31		--
5	18	10	1.43	16	13	0.59	32	27	1.59

Note: ASC-ASD (C) = child-reported anxiety measure, ASC-ASD (P) = parent-report anxiety measure, SAS = teacher-reported anxiety measure

*absolute value of RCI > 1.96

Social Validity

Table 2 summarizes the means, standard deviations, ranges and grand mean of social validity ratings for educators, parents and students (see Table 2). The three groups rated the social validity of the modified school-based FYF program highly, with a grand mean of 4.2 (range 3.8 to 4.5)

on a 5-point scale). With the exception of one student, all of the participants across groups stated that they enjoyed participating in the school-based FYF group and would recommend this program to other parents or would like to participate in school-based FYF again.

Table 2: Mean, Range, and Grand Mean Scores for Social Validity Questionnaires

	Educators		Parents		Students		GM
	M (SD)	R	M (SD)	R	M (SD)	R	
Group A	4.4(0.4)	4.0-4.7	4.2 (0.2)	4.1-4.3	3.3(0.8)	2.7-4.2	4.1
Group B	4.0(0.6)	3.3-4.4	4.8 (0.1)	4.7-4.9	4.2(0.9)	3.2-4.8	4.3
Total	4.2(0.5)	3.3-4.7	4.6 (0.3)	4.1-4.9	3.8(0.9)	2.7-4.8	4.2

Note. M = Mean; SD = Standard Deviation; R = Range; GM = Grand Mean

Facilitator Perspectives on Skill Acquisition and School-Based FYF Implementation

Five main themes emerged from the facilitator qualitative data. The themes and

corresponding subthemes, with counts of occurrence, are listed in Table 3 and described below (see Table 3).

Table 3: Themes, Subthemes, and Counts of Occurrence

Theme	Subtheme	Counts of occurrence		
		F1	F2	Total
Facilitating Factors	Knowledge	9	11	20
	Consistency	4	5	9
	Learner Needs	6	8	14
	Parent Involvement	3	4	7
Learning Process	Planning	5	3	8
	Coaching	3	3	6
	Adaptions	4	6	10
Challenges	Problem Behavior	21	8	29
	New Role	3	6	9
	Student Learning Style	1	5	6
	Competing Demands	3	10	13
	Staffing	3	3	5
Student Behavior	Low Engagement	6	3	9
	Reluctance	5	3	8
	Mood	5	2	7
Personal Expectations		11	12	23

Note. Values are counts of occurrence across multiple de-briefing sessions.

Facilitating Factors

Both facilitators reported a range of factors that were helpful in skill acquisition in implementing the school-based FYF intervention. Knowledge was the most commonly reported facilitating factor, being mentioned 20 times across the two facilitators. Throughout the intervention, they expressed the benefits of having input from others, whether it be related to: (a) the intervention itself, (b) the student’s learner profile, or (c) the development of their own knowledge. Consistency also was noted as a contributing factor to successful implementation, including repetition and predictability. As one facilitator commented, “I guess because we have had so many sessions that run in a similar way, it has become more of a routine for them and myself now”. A third facilitating factor relates to learner needs and the time dedicated to discussing and providing supports to meet these needs, including modifying vocabulary, pairing props with concepts (i.e., pinwheel for deep breathing), setting up the environment to reduce distractions, and using individualized visuals. A final facilitating factor identified by the educators was

parent involvement. They noted that the opportunity to receive input from parents was helpful in making sessions successful.

Learning Process

This theme relates to educators’ comments about what they learned during the process. Three subthemes were identified based on their experience: planning for upcoming sessions, coaching skills, and ability to make meaningful adaptations. Both facilitators expressed the belief that spending time preparing for upcoming sessions supported their learning as well as enriched the students’ learning. As the weeks of intervention passed, the facilitators noted a shift in their confidence and ability to coach students in facing their fears. As described by one facilitator, “Now that I know, I know how to coach it a little bit better”. This was echoed by the second facilitator who said, “I think now I am starting to understand this is going to be a process”. Both facilitators reflected on their growth in making modifications, which they believed enriched the learning experience of the students. Modifications included providing concrete

examples, changing the environment to reduce distractions, and modeling exposure steps.

Challenges

While facilitators' feedback on implementation of school-based FYF was primarily positive, they also identified challenges to implementation in the school setting that may have hindered their acquisition of skills. Five subthemes emerged: student problem behavior, new role, student learning style, competing demands, and staffing. Facilitators reported a variety of challenges that surfaced during the intervention period, which made delivering the intervention difficult. Most notably, student problem behavior was identified as a factor in interrupting the flow of sessions. This was particularly evident for one facilitator where it was the most dominant theme across sessions. This facilitator but not the other, also stated that parent behavior and EA behavior reduced session success due to incomplete homework assignments, missed sessions, workbooks left at home, and responses by coach to conflict. A re-occurring concern expressed predominately in early sessions by both facilitators was the novelty of the role. Both facilitators stated that the lack of experience with the program made it challenging to work through the activities. For example, they disclosed that "it was a little bit challenging because it is a new thing" and "I have never done it before either, so I didn't really know how we were going to work through it myself". One facilitator, more than the other, described learner profiles as a barrier to successful implementation of the school-based FYF intervention. For example, she explained that the students' different learning styles, including attention style and mastery of vocabulary, made it challenging to present the material: "different attention styles; it is really hard to deal with different kinds of attention and thoughts. One student wants to rush through and another needs time to process the information". Another challenge the facilitators frequently faced was competing demands and responsibilities. They reported that their numerous responsibilities made it difficult to sufficiently prepare for sessions or interrupted sessions. To a lesser degree, staffing was identified as barrier. This included staff being late, absent or disinterested, illustrated by the comment, "it would help if the teacher bought in a little bit".

Student Behavior

Another theme, one that correlated with the challenges theme, was student behavior. This reflected educators' concerns about student attitude, emotion and/or engagement. Three sub-

themes were identified: low student engagement, student reluctance, and mood. Both facilitators identified times of low student engagement. One facilitator commented that a student was often distracted and difficult to keep engaged in the activities. The other facilitator experienced a similar challenge, sharing that it was difficult "trying to get their full attention when we are to discuss something". One facilitator more than the other dealt with students' resistance or reluctance to participate in activities. She described that the "student was resistant because she does NOT want to face her fears. She says she is NEVER going to do it!". Both facilitators noted that occasionally a student's emotional state stemming from events occurring outside of the session affected their ability to participate in session activities. For instance, a facilitator noted that a student "came in already angry at her EA" which interfered with her ability to participate in the graded exposure practice.

Personal Expectations

A final theme that emerged from the thematic analysis was the educators' personal expectations of themselves. In addition to skill acquisition, facilitators reflected on their role and how their own emotions, confidence, or personal expectations influenced their experience in delivering the intervention. Each facilitator reflected on their vision of conducting sessions, including how the students learn the material and a desire to do well. As one facilitator stated, "some of my frustration is my own anxiety for wanting to see it go a certain way". Both discussed how their outlook changed over the course of the intervention. As an illustration, a facilitator proclaimed, "I think that I need to look at little successes; there have been little shifts here or there". Both stated that with practice their confidence would grow: "I am sure with experience it is going to be better" and "I think that now that I have gone through it once, I think it will run more smoothly".

Student Perceptions of Changes in Their Anxiety Levels

Two main themes emerged from the student qualitative data. These are described below.

Perception of Change in Ratings

As the weeks of intervention progressed, all students noted a change in their individual ratings. During the initial brief interviews (e.g., week 4 and 5), many of the students commented that their rating "is the same" or "it has not changed". One student emphatically responded "eight, eight, eight! They are all eight and will always be eight!" By week 7,

all students identified some change in their ratings, including the student who responded that her ratings would never change. During week 7, she reported while smiling that two of her ratings “went down to a seven”. Another student, during week 7, stated that his ratings “have changed a lot. I used to have bad thoughts, now I have good thoughts”.

Useful Strategies

This theme reflects the strategies students employed to manage their anxiety. The students described some of the strategies they used during graded exposure practice and the usefulness of the strategies. One student talked about how using helpful thoughts changed his feelings about his fears. Several students reflected that using fidget toys helped in managing strong emotions. As described by one student, “the bubble timer is really calming”.

Educator and Parent Perspectives on the Social Validity of the School-Based FYF Program

Four themes were identified across the educator and parent qualitative data. Themes, along with illustrative quotes from the participants, are described below.

Outcomes

Educators and parents perceived a variety of outcomes from their participation in the school-based FYF program. Comments highlighted gains in knowledge and use of strategies and skills. Participants identified strategies they had learned, felt able to apply, and found helpful in supporting the children with autism cope with anxiety. For instance, educators identified learning how to generate and apply helpful thoughts, a cognitive restructuring strategy. As described by an educator, “the helpful thoughts was the biggest thing – how I can neutralize it to be non-stressful – think of helpful thoughts. It is working”. Participants from both groups also discussed the benefits of learning how to break fears down into steps for graded exposure practice. Parents also reflected on learning how to address anxiety. As an example, one parent commented, “Oh, there is something we can do to help fight over fear and anxiety, I didn’t know that. I now know. That’s good”.

Both educators and parents also reflected on gains in students’ knowledge about and use of strategies. Several parents described how their children are using the tools at home and in the community. One parent shared how her son manages his anxiety using calming tools when they are stuck in traffic. Other parents, however,

discerned that application of tools and skills did not generalize across contexts. For example, one mother noted her child’s reluctance to allow her to use the tool and skills that he learned, telling her that “you can’t use it, only teachers can use it”.

In discussing their experience in participating in the intervention, two distinct but interrelated sub-themes emerged throughout educator and parent reflections: self-awareness and self-efficacy. Self-awareness refers to knowledge of one’s emotions and self-efficacy refers to confidence in one’s skills. Educators and parents noted examples of growth in students’ self-awareness and/or self-efficacy. For instance, in describing self-awareness, one educator described a student’s ability to express body reactions when anxious: “he is more aware of verbalizing it, what exactly is happening to him”. Educators also described students’ growing sense of self-efficacy: “he is getting more awareness that he can overcome the fear”.

Educators also commented on growth in self-efficacy of the participating students’ parents. They noted an increase in parents’ ability to recognize and respond to their child’s anxiety. For example, one facilitator stated that, “Mom is becoming more knowledgeable about how she is coaching and then gives her child a break if she realizes that her child has had too much”. Parallel to the perceptions of educators, parents commented that they learned skills and developed confidence to help their children cope with their anxiety, and that what they learned will be helpful in the future. As noted by one parent, “Dealing with their fears and anxieties is always challenging. I think this program made it easier to deal with those situations”. Educators also reflected on their own self-efficacy as illustrated by comments about their ability to coach students in facing their fear, such as “learning how to amend to suitable steps in facing fears” and “I know how to coach it a little bit better”.

Program Structure

This theme relates to the overall form of the program and components that participants identified as either contributing to or hindering their satisfaction with the intervention. In terms of satisfaction, educators identified parent participation as a key component, while parents highlighted the importance of the program being offered in a group setting in the school. As described by one parent, “the program in the school setting and with peers allows them to see that they

are not the only ones that have these fears. That's incredibly useful".

Parents across the two groups expressed gratitude for the opportunity to be part of the school-based FYF group and described the prominence of their involvement in parent sessions as important, including the importance of meeting in person to support their own learning. One parent commented, "I think for us, as parents, being in a group setting helps a lot because we are all facing the same issues". Another parent added, "I learned a lot from [other parents]; we have the same experiences, I didn't realize that".

Participants also identified program factors that inhibited their satisfaction. These were the quantity of information presented, the time allocated to learning the material, and competing demands. The interconnection of these three factors is captured by one parent's comment, "there is too little time. There is so much information that we absorbed. I felt overwhelmed, but you want to sit there and digest it". In addition, participants described how competing demands interfered with their engagement. One educator summarized this experience: "I struggled a little to be present every session. I had to say 'no' [to other tasks] or I couldn't see some kids, this stressed me a little bit".

Inclusion

Educators and parents across all groups consistently commented on the practical importance of the intervention. Their comments suggested how the benefits of the program extended beyond the participating students. For example, an educator commented, "it was really applicable. A lot of it was really applicable to day-to-day life. I like that". This was echoed by a parent: "it is helpful just even in our own lives, when you caught yourself having thoughts like that, to go hmmm, wait a second that wasn't a very helpful thought". Furthermore, participants concurred that a broader population of students would benefit from the program. Educators from one of the groups discussed a plan on how to incorporate the program into their regular curriculum, while an educator from another group discussed her plans for continued use of the strategies with all the students she supports. Both educator groups discussed how to extend training to their fellow teachers and educational assistants and offer the program to a wider population of students.

Factors Critical for Success

Educators provided their views on factors critical for success in a school setting. Availability of

resources was considered the most critical across all educator participants. They reflected on how they enjoyed the program; however, they suggested allocating resources (such as time, staff, and training assistance) to sustain offering the program in schools. Parent involvement also was identified as critical to successful implementation of school-based FYF. As stated by one educator and agreed by the others, "unless you have that home-school connection, I think this would be hard to work".

Parent participants highlighted some of the challenges they faced during the intervention and the importance of addressing these challenges to increase feasibility of implementation in a school setting. Specifically, parents identified generalization as a concern. One parent stated:

One thing is generalization, those things I mentioned, he uses [the tools at school] but [will] not allow [their] use at home ... even the meter. ... the problem is [my] child won't allow me to do that... he says, "no, no that is for school, put it away please. You cannot use it, only teachers can use it. You are not allowed". That is the problem, it is a barrier.

Parents also suggested that it would be helpful to have a joint session with their children, as this may address the challenge of generalization, in particular the use of strategies across environments. Having a joint session also was mentioned by an educator, as she believed this would enhance participation as a team. Parents in one group also suggested that it would be valuable to include classmates in the intervention. Although, the proposed intervention included class-wide sessions, it was not possible to deliver these class sessions at these parents' school site due to the complex needs of the student population. Parents suggested peer coaching as another avenue for inclusion of peers.

Discussion

We conducted the multiple methods study to examine the effectiveness and social validity (i.e., acceptability and feasibility) of a modified school-based FYF program in reducing child anxiety. Quasi-experimental and descriptive group design methods examined: (a) student anxiety outcomes following participation in school-based FYF; (b) educator CBT knowledge and implementation fidelity of school-based FYF; and (c) participants' ratings of the social validity of the intervention. Qualitative methods examined participants' perspectives related to the effectiveness and social

validity of the school-based *FYF* program, including factors that were helpful or challenging in regard to implementation by educators in school. Triangulation of results across methods offer preliminary support for the delivery of the modified school-based *FYF* in school settings with educators as intervention agent.

Student Anxiety Outcomes

Quantitative findings from student self-report, parent report or teacher report did not show a statistically significant decrease in anxiety symptoms for student participants from pre-intervention to post-intervention and follow-up. These finding may be explained in part by students' pre-intervention anxiety levels. Total scores at pre-intervention were below clinical levels of anxiety for half of the students identified by the school to take part in the intervention. These findings also may be explained by the study's small sample size. With only five children as participants, the study had very low power to detect statistically significant effects. Although results evidenced a near 2-fold average reduction from pre-intervention to follow-up in students' self-reported anxiety scores (average anxiety score decreased from 18 to 10) and more than a 2-fold average reduction in teachers' report (average anxiety score decreased from 31 to 14.5), statistically significant results would only be evident if effects were extremely large.

Although findings showed a non-significant decrease in student anxiety levels, parents and educators, and to a lesser extent, students, reported that they were better equipped to manage students' anxiety symptoms following the school-based *FYF* intervention. This viewpoint is consistent with Kazdin's²⁸ acknowledgement that "clinically significant change can occur when there is a large change in symptoms, a medium change in symptoms, and no change in symptoms" (p. 332). This perspective also is consistent with a recent conceptualization that treatment gains for this population may be better understood from an inhibitory learning approach instead of the conventional habituation learning model.²⁹ The evaluation of progress and success shifts from a focus on fear reduction to fear tolerance. During the exposure process, when faced with an anxiety provoking condition, individuals learn a new safety schema that competes with an existing fear schema. Within an inhibitory learning approach, success is defined by an individual's ability to face the fear, thereby accepting negative emotional states, rather than fear reduction over time.³⁰

In considering clinically meaningful change, qualitative data illuminated student perceptions of change in self-reported anxiety ratings for specific treatment targets (i.e., Fear Tracker targets). For example, across the course of the *FYF* program, one student who initially resisted participating in discussions and practicing facing her fear began to openly share with the group a decrease in her Fear Tracker ratings and success in practicing a step in her fear hierarchy. Another student in a latter *FYF* session described how he faced his fear the previous weekend while on a trip with his family, and how brave he felt.

CBT Knowledge Acquisition and School-Based *FYF* Implementation Fidelity

Educators demonstrated modest, non-significant gains in knowledge of CBT concepts and strategies immediately following the training workshop and significant gains in CBT knowledge after conducting one course of the school-based *FYF* intervention. These results highlight the importance of using a variety of teaching strategies to train educators in implementing new interventions. Joyce and Showers³¹ discussed the efficacy of various training components to support teachers in their acquisition and transfer of new knowledge and skills into their practice. They highlighted the importance of *in vivo* coaching to increase the transfer of training into the classroom. Study results appear to confirm this observation, as significant improvements in educators' CBT knowledge occurred at follow-up after they received *in vivo* coaching in *FYF* implementation.

In terms of implementation fidelity, one facilitator but not the other reached the minimum standard for acceptable treatment (80%) across cohorts. Both facilitators reached a higher level of adherence to protocol for the student sessions (82% and 77%, respectively) compared to the parent sessions (80% and 51% respectively). This difference in adherence may reflect the process of teaching parents versus teaching students. It is possible that the facilitators, teachers of children and youth, did not possess sufficient knowledge and skill in how to teach and coach parents. Given this, training educators to deliver the school-based *FYF* program should include attention to best practices in adult learning and parent training.³²

Both facilitators described how the novelty of the approach and related CBT skills limited their confidence in delivering the program at the onset of the intervention. For student sessions, implementation fidelity was observed to gradually

increase over the course of the 10-week intervention, with a slight dip at Session 6 with the introduction of planned graded exposure practice. This increase reflects each facilitator's growth in skills and confidence in their knowledge and skill application. Furthermore, both facilitators reported that their confidence grew with more opportunities to deliver the intervention. This is in line with research that shows a positive relationship between educators' sense of efficacy and their effectiveness in implementing programs.³³

Social Validity

Quantitative and qualitative data converged to indicate that participants perceived the goals, procedures and outcomes of school-based *FYF* to be socially valid; that is, important, acceptable and feasible.²³ Qualitative findings identified a number of factors that may have contributed to the social validity of the intervention. Educators and parents agreed that the strategies were easy to learn and implement in a variety of settings. Strategies, in particular calming strategies, learned in *FYF* sessions were implemented in other settings including the classroom, home and community by some participants. Participating educators and parents supported integrating the psychoeducation component of school-based *FYF* into the general classroom and showing students how the skills can be used daily to assist with commonly occurring feelings of anxiety. This finding speaks to creating an inclusive learning environment.

Parent involvement also was closely linked to participants' perceptions of the intervention's social validity. Educators found it valuable to receive information from parents while parents found it valuable to connect with other parents with similar experiences. These findings echo the long-held understanding that family-school collaboration serves an important role in the promotion of academic, social and emotional development of children.³⁴

Educators and parents reported that the intervention produced many positive changes for the students. Among these changes was an increase in students' use of strategies to manage their anxiety symptoms. Parents in particular described the social significance of these changes. They perceived an increased ability to support their child when faced with an anxiety-provoking situation, which led to greater participation in and enjoyment of community outings for the whole family. The majority of participants expressed observable

improvements in students' willingness to engage in tasks and activities at school and home. Parents also described improvements in their child's ability to communicate their emotional state, allowing the parent to respond more effectively in the moment.

While the general perception of the intervention was positive, participants also provided suggestions for future improvement. Both educators and parents recommended providing opportunities for greater involvement by parents. They suggested including joint sessions with parents and students, which they believed would promote generalization across environments. Likewise, participants endorsed integrating program components into class lessons, making the concepts and strategies available to all students. As well, they proposed creating more opportunities for the inclusion of peers, such as integrating peer coaching into the program.

Clinical and Research Implications

As described above, a preliminary iKT study was conducted prior to the mixed methods study.¹⁹ In this preliminary study, focus groups were conducted to understand knowledge users' perspectives on the strengths and barriers of the *Facing Your Fears (FYF)* program, as well as practical considerations for implementation in a school setting. The insights provided by knowledge users then informed the design of the modified *FYF* intervention, whose effectiveness and social validity were examined in this study. The preliminary iKT study provides one example of how integrating knowledge users' perspectives into the research process can contribute to the acceptability and feasibility of an intervention, as documented in the social validity results of the mixed methods study.

In this study, a quasi-experimental group design was employed using the results of the preliminary iKT study as an independent variable to examine the effectiveness of educators implementing the modified school-based *FYF* intervention in schools. Despite the large number of school-aged children with ASD exhibiting anxiety symptoms and the vital role educators play in promoting prosocial behaviours for this population, few studies have involved educators in the process.⁵ Consistent with dissemination research in the child mental health field, the treatment outcomes found in the present study are not as robust as findings reported in efficacy studies conducted in controlled research settings³⁵. Nonetheless, the findings provide a valuable contribution to the literature in three important ways. First, the study is among the

first to evaluate educators delivering a CBT program to treat anxiety for students with ASD in the school setting. Results of this study showed that educators may be viable intervention agents and able to deliver the program with a degree of fidelity. Second, the results shed light on knowledge users' perspectives on facilitating factors for the uptake and implementation of intervention components, as well as effective training practices for educators. Finally, it builds on transportability efforts dedicated to examining the effectiveness of CBT programs delivered in the school setting.^{7,10} In alignment with the argument that effective dissemination of empirically-supported treatments requires effectiveness studies³⁵, the mixed methods study offers an initial contribution toward bridging the gap between research and practice in the treatment of anxiety for students with autism in school settings.

Due to unforeseen factors, it was not possible to maintain continuity of participants from the preliminary iKT study to the subsequent mixed methods study. Within an iKT approach, ideally there is sustained partnership between researchers and knowledge users, in which the intervention is built and refined over time (i.e., build the intervention with educators and then test with the same educators in a reiterative cycle). Thus, while the results of this mixed methods study may provide a starting point for the development of a viable school-based *FYF* program, its sustainability likely would be stronger if the intervention development process was conducted in a more reiterative fashion. Although the use of quasi-experimental and experimental group designs may preclude the enrolment of the same educators and families, due to the need to establish pre-intervention conditions, continuity could be established by conducting subsequent studies in the same schools or school districts with the same administrators. In a related point, the recruitment process experienced in the mixed methods study highlights the challenges of conducting research in real world settings, such as schools. In order for this intervention to be implemented, multiple levels of agreement needed to be obtained (i.e., district-level administrators, school level administrators, front-line educators, as well as parents and students). At any given point in the recruitment process, one group of prospective participants may decide not to participate, thus requiring the recruitment process to begin anew with another school. This challenge highlights a potential barrier for the conduct of future research on the school-based *FYF* program, but also in regard to its adoption within a school district.

Limitations and Future Directions

The findings of this study should be considered within the context of its limitations. First, the sample size was small. With only five student participants, the power of our statistical analysis of student outcomes was limited. This contributed to non-significant results when comparing student average anxiety scores from pre-intervention to post-intervention and follow-up. The small sample size also constrains our ability to generalize the study's findings to a wider population. We encountered several obstacles to recruiting participants including: (a) administrator reluctance to release staff to conduct the intervention groups; (b) educator apprehension of their skills to simultaneously address mental health (anxiety) and special education (autism) needs; (c) parent availability to attend parent sessions; and (d) student enrollment with similar characteristics (i.e., age and cognitive level) within a single school site. Future studies of school-based *FYF* should consider recruitment and retention strategies that may overcome these obstacles.

A second limitation was our inability to implement class sessions with both groups of students and educators. Although educator and parent participants recognized the value of the class-wide sessions, multiple factors contributed to unsuccessful implementation. The obstacles encountered echo previously identified factors that hinder the implementation of science-based interventions in schools. These include limited administrative support, time constraints, teacher buy-in, and a poor fit of intervention components to the setting.⁹ Given the prevalence of anxiety among children with and without ASD,^{1,36} the school-based *FYF* program has potential to offer a valuable intervention for all students at tier 1 (class-wide sessions) in addition to students with ASD at tier 2 (targeted group sessions). To address these barriers, one avenue to examine is identifying and incorporating *champions* into the implementation process. Conceptualized as individuals within a system who actively advocate for and facilitate change, champions may be vital to the adoption and adaptation of new interventions in school settings.³⁷

Summary and Conclusion

Based on the results of a previous iKT study¹⁹ this study employed multiple research methods (i.e., quasi-experimental group design, time-series design, qualitative semi-structured interviews and focus groups) to examine the

effectiveness and social validity of educators implementing a modified school-based FYF intervention in schools. Consistent with dissemination research in the child mental health field, treatment outcomes were not as robust as findings reported in efficacy studies conducted in more controlled research settings.³⁸ Nonetheless, the findings provide a valuable contribution to the literature in three ways. First, the study is among the first to evaluate educators' delivery of a CBT program to treat anxiety for students with ASD in school settings. Results showed that educators can be viable intervention agents, able to deliver the program with fidelity. Second, results shed light on knowledge users' perspectives on facilitating and hindering factors for the uptake and implementation of school-based FYF, as well as on methods for training educators to effectively

implement the intervention in schools. Finally, the study contributes to research on how to effectively adapt and transport CBT programs originally developed in clinic settings to school settings, thus increasing the access of students with ASD and anxiety disorders to empirically supported interventions.^{7,9}

Conflicts of Interest Statement

The authors have no conflict of interests to declare.

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