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CASE REPORT

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A case series evaluation of the *Fearless Me!* © program for children with intellectual disabilities and anxiety

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Abstract

Objectives: Children and adolescents with intellectual disabilities (ID) have high rates of mental health disorders, particularly anxiety disorders. Cognitive behavior therapy (CBT) has largely remained unexamined as a treatment option for this population. *Fearless Me!* © is an adapted CBT treatment program specifically designed for children and adolescents with ID.

Method: Eleven children, aged between eight and 17, completed 10 therapy sessions. Measures of anxiety were completed pre and posttreatment and at 3 and 12-month follow-ups by both the children and parents.

Results: Six children reported significant reductions in anxiety, with all showing significant reductions in parent-reported child anxiety at either posttreatment assessment, 3-month follow-up, or 12-month follow-up. Results varied across the six children as all parents reported heightened anxiety, but not all children reported high levels of anxiety for themselves.

Conclusion: Overall, this evaluation provides a sound basis for continued investigation and research into the use of the

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Fearless Me! © modified CBT program to treat children with ID and anxiety.

KEYWORDS
anxiety, children, cognitive behavior therapy, intellectual disability

1 | INTRODUCTION

The treatment of mental health conditions among children with intellectual disabilities (ID) has largely been overlooked. The point prevalence rate of mental illness for children with ID is as high as 50%, with elevated rates of internalizing and externalizing problems compared to typically developing children (Einfeld et al., 2011). Anxiety has been reported as the most prevalent mood disorder (Emerson, 2003).

Historically, treatments for mental health conditions in people with ID have involved medication and/or behavioral interventions. They have largely been excluded from cognitive-based therapies because of cognitive deficits (Vereenooghe & Langdon, 2013). Recent research has found that adults with mild to moderate ID can engage in cognitive components of cognitive behavioral therapy (CBT; Dagnan et al., 2000; Oathamshaw & Haddock, 2006; Sams et al., 2006) and that the therapy is effective in reducing anxiety, depression, and anger when CBT is adapted for the needs of adults with ID (Osugo & Cooper, 2016; Vereenooghe & Langdon, 2013).

While CBT is considered the "gold standard" when treating mood disorders among typically developing adults and children (Compton et al., 2004), the potential for children with ID to benefit from CBT has not been systematically evaluated. A review of the neuropsychological deficits that are present in children with ID identified and informed ways in which CBT could be adapted for the unique learning needs of this population (Hronis et al., 2017). In combination with stakeholder involvement, including feedback from parents of children with ID (Hronis et al., 2020) and Australian clinicians (Hronis et al., 2018), the *Fearless Me!* © treatment program was developed (Hronis et al., 2022). CBT has already been adapted for the needs of children with various other developmental disabilities, such as autism spectrum disorder (ASD). Various treatment programs were evaluated for children with ASD (see Frank et al., 2022; Hunsche & Kerns, 2019; Kerns et al., 2016). The current study and adaptations focus specifically on children with ID and incorporate adaptations for their unique learning needs across the domains of attention, working memory, language and reading, memory and learning, and executive functioning. Existing protocols for other developmental disabilities, such as ASD, were not used so that the unique needs of children with ID could be adequately accommodated. Some of the neurocognitive issues faced by youth with ASD are also observed to impact youth with ID. Therefore, some modifications to treatment that are helpful for children with ASD may also be useful for children with ID. However, treatments for each group should still be considered and studied separately, as many of the existing CBT protocols that exist for youth with ASD include children with average to above-average ID (Walters et al., 2016).

Fearless Me! © (Hronis et al., 2022) is a multimodal CBT intervention for children with anxiety, specifically adapted to accommodate for the unique needs of children with ID as guided by the (Hronis et al., 2017) review. It involves face-to-face sessions as well as an online website that children and parents can use to practice CBT skills. The *Fearless Me!* © program aims to break down the elements of CBT into their simplest form. There are three modules: "Keep Calm" which teaches relaxation strategies, "Stop and Think" which helps identify and challenge anxious thoughts, and "Facing Fears" which focuses on behavioral changes and exposure. The *Fearless Me!* © program has been evaluated for feasibility and acceptability (Hronis et al., 2019) among 21 female adolescents with mild to moderate ID in a group format.

The current study aimed to build upon an initial feasibility evaluation of the *Fearless Me!* © program (Hronis et al., 2019) by evaluating it in a population with clinical and subclinical anxiety, with therapy delivered individually rather than in a group. It was predicted that children with ID and clinical/subclinical levels of anxiety would have reduced anxiety

after completing the intervention. It was hypothesized that reduction would be seen across both child and parent-rated anxiety. However, due to the exploratory nature of the research and the variability in a child's ability to rate their own degree of anxiety across time, no specific measure was selected priori as the primary outcome measure.

2 | METHODS

2.1 | Participants

The participants were 11 children aged between eight and 17. All participants had mild ID, moderate ID, or intellectual functioning in the borderline range. Participants were eligible if they met the following criteria: (1) mild/moderate/borderline ID; (2) aged between 8 and 18; (3) scored above 20 on the screen for child-related anxiety disorders (SCARED; Birmaher et al., 1999); (4) were not actively suicidal or engaging in significant self-harm; (5) had access at home to a computer or tablet; and (6) had a parent/carer able to attend sessions. Parents were required to confirm ID by providing a letter or assessment by a doctor or psychologist.

2.2 | Outcome measures

2.2.1 | Child measures

Kaufmann brief intelligence test second edition (KBIT-2; Kaufman & Kaufman, 2004): The KBIT-2 is a brief measure of intelligence for individuals aged 4–90 years. The KBIT-2 provides a measure of verbal and nonverbal intelligence. The verbal and nonverbal scores produce an IQ composite with a mean of 100 and a standard deviation of 15.

Subjective units of distress scale (SUDS): SUDS was adapted from Wolpe (1969), which originally used a 0–100 scale. SUDS are used with smaller scales when working with children to simplify the decision-making process (Kendall et al., 2005). The current study asked participants to respond to "How worried do you feel today?" on a four-point rating scale. Ratings of anxiety were shown alongside an image of a thermometer as recommended for children (Kendall et al., 2005).

Spence children's anxiety scale–child report (SCAS-C; Spence, 1998): Participants completed the SCAS-C, a 44-item self-rated measure of anxiety. Responses are rated using a 4-point scale. For children who did not understand the word "often," this was substituted with "a lot." The total score is calculated by adding scores on the subscales (maximum = 114), with higher scores reflecting greater anxiety. The SCAS-C has high internal reliability and construct validity, and factor structure has been confirmed (α = .87–.94; Spence, 1998).

Strengths and difficulties questionnaire–child report (SDQ-C; Goodman, 1997): The SDQ-C is a 25-item measure of emotional and behavioral functioning in children and adolescents, rated on a three-point scale. There are five subscales: emotional problems, conduct problems, hyperactivity/inattention, peer relationship problems, and prosocial behavior. In this study, only the emotional and peer relationship subscales were administered to reduce task length and cognitive load. Scores are categorized as falling within the "normal," borderline," or "abnormal" ranges. The SDQ-C has been validated among adolescents with ID (α = .71; Emerson, 2005). The SDQ emotion (SDQ-C-E) and peer relation (SDQ-C-R) subscales were used as these were most relevant to anxiety.

2.3 | Parent measures

Demographic questionnaire: Parents completed a demographic questionnaire including: child's date of birth, sex, school grade, cultural background, primary language spoken at home, and diagnoses. Parents were asked to state if

their child had received previous interventions for mood difficulties, as well as the type, duration, and frequency of therapy. Parents provided information about their child's fears, worries, and possible goals.

SCARED (Birmaher et al., 1999): The SCARED screened for clinical/subclinical anxiety. The 38-item parent-reported measure of child anxiety has five subscales which are summed to produce a total score. Scores equal to or above 25 indicate elevated anxiety. To capture children with either clinical or subclinical anxiety, this study included participants who scored on or over 20. A score of 20 was used to enable children with reported subclinical levels of anxiety to be captured, as well as to account for differences in how anxiety may present between children with and without ID. The SCARED has good internal consistency and discriminant validity between anxiety and depression and between anxiety disorders (Birmaher et al., 1999).

Spence children's anxiety scale–parent report (SCAS-P; Nauta et al., 2004): The SCAS-P is a 38-item parent-reported measure of child anxiety. Parents indicate on a 4-point scale how applicable the statements are to their child. There are six subscales that reflect DSM-IV anxiety disorders, with a total maximum score of 114. The internal reliability of the SCAS-P has been found to be consistently high, with internal reliability ranging from $\alpha = .86$ to .93 for the full-scale total score (Nauta et al., 2004).

Strengths and difficulties questionnaire–parent report (SDQ-P; Goodman, 1997): The SDQ-P is a 25-item measure of emotional and behavioral functioning (Goodman, 1997), with items rated on a three-point scale. The five subscales are emotional problems, conduct problems, hyperactivity or inattention, peer relationship problems, and prosocial behavior. The scores of four subscales (not prosocial behavior) are summed to produce a total score. The SDQ is a robust measure for learning disability populations (Emerson, 2005).

Children's anxiety life interference scale–parent report (CALIS; Lyneham et al., 2013): The CALIS is a parent-reported measure of life interference and impairment associated with childhood anxiety. Sixteen items are added to produce a total score, each rated on a five-point scale (0 = *not at all*; 1 = *only a little*; 2 = *sometimes*; 3 = *quite a lot*; 4 = *a great deal*). The CALIS has good internal consistency among typically developing children ($\alpha = .90$ for mother reports and $\alpha = .88$ for father reports), with moderate to high retest reliability, good convergent and divergent validity, and sensitivity to change (Lyneham et al., 2013).

Emotions development questionnaire–parent form (EDQ-P; Wong et al., 2009): The EDQ-P (Wong et al., 2009) is a parent-reported measure assessing emotional competence, emotional understanding, theory of mind, emotion regulation, and emotion-coaching skills in children with ASD with or without ID. Forty items are rated on a five-point scale from "*Never*" = 1 to "*Always* = 5." Ratings are added to produce a total score. Higher scores indicate better emotional competence, with a maximum score of 200. The EDQ-P has excellent internal consistency ($\alpha = .91$; Ratcliffe et al., 2014).

2.4 | Procedure

The current study was approved by the University of Technology Sydney Ethics Committee (Approval No: ETH18-2384). Advertisements were circulated via disability organizations, schools, social media, and professional psychology memberships. Parents of children with ID contacted the lead researcher (A. H.) to express interest. Parents were screened for suitability using the SCARED questionnaire. Those with scores equal to or above 20 were offered a place in the study, while others were referred to alternate services.

Sessions were held at the university clinic and run by the lead researcher (A. H.) or provisionally registered psychologists. At the initial session, parents completed questionnaires: SCAS-P, CALIS, SDQ-P, and EDQ-P. The child and psychologist together completed the following measures: KBIT-2, SCAS-C, SUDS, and SDQ. The treating psychologist read the questions aloud to the child, and the child was provided with an A4 sheet with responses. The child could verbally respond or point to the answers, and the psychologist recorded responses. Children and a carer attended 10 therapy sessions outlined in the *Fearless Me!* © manual (Hronis et al., 2022). The therapists spent time working with the child and carer together, as well as with the

child/adolescent alone. Carers were always included at the end of each session to provide a review of the strategies covered and discuss homework tasks. Further details about the specific involvement of parents/carers in each therapy session are outlined in the treatment manual (Hronis et al., 2022). Three and 12-month follow-ups were conducted. Due to the sudden clinic closure associated with the COVID-19 pandemic, some clients were emailed links to complete the questionnaires online. All treatment had been completed before COVID lockdowns, and COVID lockdowns only affected the collection of 12-month data. Parents were specifically instructed to support their children to complete the child questionnaires in a quiet environment with minimal distraction. Parents assisted by reading out the questions for their child but not answering questions on their child's behalf. The same carer completed pre-, post, and follow-up measures.

2.5 | Treatment

As seen in Table 1, *Fearless Me!*© (Hronis et al., 2022) consists of 10 face-to-face sessions and an online program that breaks the elements of CBT into their simplest form and provides participants the opportunity to practice CBT skills through a range of exercises. The online exercises are designed to facilitate learning and homework practices and not to be stand-alone self-help resources. The *Fearless Me!* © programs are adapted specifically for children with ID according to the recommendations in the review by (Hronis et al., 2017). The recommendations incorporate adaptations for potential deficits in attention, memory and learning, working memory, reading, and executive functioning. Details as to how the program has been adapted for the learning needs of children with ID and detailed session plans can be found in the treatment manual (Hronis et al., 2022).

2.6 | Data analysis

Reliable change indices (RCI; Jacobson & Truax, 1991) were used to calculate significant changes for each participant. The RCI is a statistic that determines the magnitude of change score necessary on a measure to be considered statistically significant. The RCI indicates whether an individual change score is statistically significantly greater than what may occur due to random error. If the RCI is greater than ±1.96, the difference is reliable, as a

TABLE 1 Overview of Fearless Me! © sessions.

Session	Content of session
Session 1	Psychoeducation about anxiety; introduction to thermometer rating scale; identification of feared stimuli.
Session 2	Deep breathing ("Balloon Breathing") and imagery as relaxation.
Session 3	Progressive muscle relaxation ("Squeeze and Relax"); review of relaxation strategies.
Session 4	Rationale for exposure using "Brave Ben" video; exposure hierarchy developed.
Session 5	Distinguishing thoughts, feelings, and actions ("Think Feel, Do").
Session 6	Identifying worry thoughts ("Thought Catching").
Sessions 7 and 8	Challenging thoughts ("Detective Thinking").
Session 9	Option: continue cognitive challenging OR develop hierarchies.
Session 10	Review of skills.

change of that size would not be expected from the unreliability of the measure (Jacobson & Truax, 1991). This method of data analysis is commonly used for the analysis of single cases and case series.

3 | RESULTS

Eleven children completed the program. Three children enrolled but did not complete. One did not complete due to time constraints, one due to travel, and another completed all therapy sessions but did not attend the final assessment. Children were of varying racial backgrounds, including Anglo-Saxon, Asian, South East Asian, and European. Results varied across the six children as all parents reported heightened anxiety, but not all children reported high levels of anxiety for themselves. Individual changes on measures of anxiety, anxiety interference, and strengths and difficulties are outlined below. As there were no significant changes on the EDQ-P or SDQ-P, the results are not reported. Changes in SUDS scores are not provided, as they appeared to have little sensitivity to change, with the majority of children consistently reporting the lowest level of anxiety at each session. Individual results are detailed below and summarized in Table 2.

3.1 | Participant one (P1)

P1 was a 17 year 1-month-old girl with moderate ID and Down syndrome. Her main fears were cockroaches, the dark, crossing the road, and loud noises. On the KBIT-2, P1 scored 63 for verbal IQ, 44 for nonverbal IQ, and 52 for composite score. Significant reductions in anxiety were found on the SCAS-P total score (RCI = 2.81) and on the SCAS-C total score (RCI = 2.27). There was no significant reduction in the CALIS (RCI = 1.13). On the child-reported SDQ emotional problems subscale, P1 initially scored in the borderline range, and this remained at the end of treatment. P1's initial score on the peer problems subscale of the SDQ was in the borderline range and reduced to the normal range at the end of treatment.

Significant reductions on the SCAS-C were found comparing pretreatment to 12-month, posttreatment to 12-month, and 3- to 12-month. On both SDQ-C scales, P1 scored in the borderline range pretreatment and the normal range posttreatment and at both follow-ups. On the SCAS-P, significant reductions were found between pretreatment and 3-month, and between pretreatment and 12-month, with significant reductions on the CALIS reported when comparing pretreatment to 3-month, pretreatment to 12-month, and posttreatment to 12-month.

3.2 | Participant two (P2)

P2 was a 12-year 10-month-old boy with ID, ASD, and mild cerebral palsy affecting his motor skills. P2's main fears related to social situations, such as attending parties and greeting people, as well as when plans were changed. On the KBIT-2, P2 scored 60 for verbal IQ, 52 for nonverbal IQ, and 51 for composite score. Significant reductions in anxiety were found on the SCAS-P total score (RCI = 2.81). The SCAS-C at pretreatment was not completed due to noncompliance, and thus a change score was unable to be calculated. There was no significant reduction in the CALIS (RCI = 0.38). On the child-reported SDQ emotional problems subscale, P2 initially scored in the abnormal range, which reduced to the normal range at the end of treatment. P2's initial score on the SDQ peer problems subscale was in the normal range and remained so at the end of the treatment.

On the SDQ-E, P2 scored in the abnormal range pretreatment, the normal range posttreatment, the abnormal range at 3-month, and the normal range at 12-month. On the SDQ-P, P2 scored in the normal range at all four data points. Significant reductions in anxiety were found on the SCAS-P from pretreatment to 3-month, whereas

TABLE 2 RCIs and changes on outcome measures.

Participant	Measure	Pre to posttreatment	Pretreatment to 3-month	Pretreatment to 12-month	Posttreatment to 3-month	Posttreatment to 12-month	Three-month to 12-month
P1	SCAS-C	2.27	1.67	4.55	−0.61	2.27	2.88
	SCAS-P	2.81	3.05	3.98	0.23	1.17	0.94
	CALIS	1.13	2.25	3.19	1.13	2.07	0.94
	SDQ-C-E						
	SDQ-C-R						
P2	SCAS-C	Missing					0.76
	SCAS-P	2.81	2.34	1.87	−0.47	−0.94	−0.47
	CALIS	0.38	3.57	2.07	3.19	1.69	−1.50
	SDQ-C-E						
	SDQ-C-R						
P3	SCAS-C	3.64	−0.30	−1.06	−3.94	−4.70	−0.76
	SCAS-P	2.34	0.47	1.87	−1.87	−0.47	1.41
	CALIS	3.38	4.70	3.38	1.32	0.00	−1.32
	SDQ-C-E						
	SDQ-C-R						
P4	SCAS-C	5.76	−0.30	3.33	−6.06	−2.42	3.64
	SCAS-P	−0.94	−0.94	0.00	0.00	0.94	0.94
	CALIS	1.13	2.82	3.01	1.69	1.88	0.19
	SDQ-C-E						
	SDQ-C-R						
P5	SCAS-C	2.12	1.82	−0.15	−0.30	−2.27	−1.97

(Continues)

TABLE 2 (Continued)

Participant	Measure	Pre to posttreatment	Pretreatment to 3-month	Pretreatment to 12-month	Posttreatment to 3-month	Posttreatment to 12-month	Three-month to 12-month
	SCAS-P	1.41	0.94	1.17	−0.47	−0.23	0.23
	CALIS	1.13	1.69	0.19	0.56	−0.94	−1.50
	SDQ-C-E						
	SDQ-C-R						
P6	SCAS-C	4.55	4.85	3.64	0.30	−0.91	−1.21
	SCAS-P	4.92	4.45	4.45	−0.47	−0.47	0.00
	CALIS	1.32	3.01	3.01	1.69	1.69	0.00
	SDQ-C-E						
	SDQ-C-R						
P7	SCAS-C	1.52	−1.06	0.76	−2.58	−0.76	1.82
	SCAS-P	0.00	0.00	1.41	0.00	1.41	1.41
	CALIS	3.01	2.63	1.88	−0.38	−1.13	−0.75
	SDQ-C-E						
	SDQ-C-R						
P8	SCAS-C	−0.61	−3.33	−3.18	−2.73	−2.58	0.15
	SCAS-P	−0.47	3.28	2.58	3.75	3.05	−0.70
	CALIS	2.07	3.01	3.19	0.94	1.13	0.19
	SDQ-C-E						
	SDQ-C-R						
P9	SCAS-C	4.55		Unavailable			
	SCAS-P	0.23					

TABLE 2 (Continued)

Participant	Measure	Pre to posttreatment	Pretreatment to 3-month	Pretreatment to 12-month	Posttreatment to 3-month	Posttreatment to 12-month	Three-month to 12-month
	CALIS	0.19					
	SDQ-C-E						
	SDQ-C-R						
P10	SCAS-C	0.45	2.12	Unavailable	1.67	Unavailable	
	SCAS-P	4.45	6.56		2.11		
	CALIS	−1.50	2.07		3.57		
	SDQ-C-E						
	SDQ-C-R						
P11	SCAS-C	−0.15	1.97		2.12		
	SCAS-P	3.51	1.87		−1.64		
	CALIS	Missing	3.57		Missing		
	SDQ-C-E						
	SDQ-C-R						
Total significant change	SCAS-C	6/10	3/9	3/7	1/9	1/7	2/8
	SCAS-P	6/11	5/10	3/8	2/10	1/8	0/8
	CALIS	3/10	9/10	6/8	2/9	1/8	0/8
	SDQ-C-E	5/11	3/10	5/8	2/10	2/8	3/8
	SDQ-C-R	3/11	1/10	2/8	2/10	2/8	3/8

Note: Green, significant positive change (reduced anxiety); yellow, no change; red, significant negative change (increased anxiety) on the reliable change index.

Abbreviations: CALIS, children's anxiety life interference scale; RCI, reliable change indices; SCAS-C, Spence children's anxiety scale–child report; SDQ-C, strengths and difficulties questionnaire–child report; SDQ-C-E, SDQ emotion.

significant reductions on the CALIS were reported when comparing pretreatment to 3-month, pretreatment to 12-month, and posttreatment to 3-month.

3.3 | Participant three (P3)

P3 was a 17-year 7-month-old boy with ID and severe cerebral palsy. He had previously had psychological intervention, though his parents were unable to recall the frequency of sessions or type of therapy. P3 was reported to experience general worry and "think[s] too far into the future." On the KBIT-2, P3 scored 85 for verbal IQ, 64 for nonverbal IQ, and 71 for composite score. There were significant reductions in the SCAS-P total score (RCI = 2.34) and SCAS-C total score (RCI = 3.64). There was a significant reduction in the CALIS total score (RCI = 3.38). On the child-reported SDQ emotional problems subscale, P3 initially scored in the borderline range, and this had reduced to the normal range at the end of the treatment. P3's initial score on the peer problems subscale of the SDQ was in the normal range and remained so at the end of the treatment.

On the SCAS-C, a significant increase was reported when comparing posttreatment to 12-month and posttreatment to 3-month, with no significant reduction found for other comparisons. On the SDQ-E, P3 scored in the borderline range pretreatment, the normal range posttreatment, the borderline range at 3-month, and the normal range at 12-month. On the SDQ-P, P3 scored in the normal range at all four points. Significant reductions in the CALIS were found comparing pretreatment to 3-month and to 12-months.

3.4 | Participant four (P4)

P4 was a 17-year 7-month-old girl with ID, severe cerebral palsy, spastic dystonia and visual impairments. She had received intervention for mood concerns, which lasted for 3 months. P4 was reported to feel anxious in new situations and when in new surroundings, particularly when without parents or a sibling. She also experienced anxiety talking to new people and friends, and asking for assistance. During the program, P4 enrolled in a school camp which she had not attended before, and was very anxious about attending. On the KBIT-2, P4 scored 61 for verbal IQ, 40 for nonverbal IQ, and 45 for composite score. No significant reductions in anxiety were found for P4 on the SCAS-P total score (RCI = −0.94). Significant reductions in anxiety were found, however, for the SCAS-C total score (RCI = 5.67). There was no significant reduction in the CALIS total score (RCI = 1.13). On the child-reported SDQ emotional problems subscale, P4 initially scored in the normal range, and this remained so at the end of treatment. P4's initial score on the peer problems subscale of the SDQ was in the normal range and remained so at the end of the treatment.

With the SCAS-C, significant reductions were reported when comparing pretreatment to 12-month and 3-month to 12-month. On the two SDQ-C scales, P4 scored in the normal range at all four points.

3.5 | Participant five (P5)

P5 was a 15-year 8-month-old boy with ID and comorbid ASD. His mother reported a history of childhood anxiety and depression. The primary language spoken at home was Russian, though P5 spoke fluent English in the session and attended an English-speaking school. He has previously taken antidepressant medication and had weekly sessions with a psychologist for 2 months. P5's main fears and worries related to changes in routine, new situations, school tests, someone "getting angry" with him and loud noises. On the KBIT-2, P5 scored 58 for verbal IQ, 81 for nonverbal IQ, and 65 for composite score. No significant reductions in anxiety were found on the SCAS-P total score (RCI = 1.14). There were significant reductions in the SCAS-C (RCI = 2.12). There was no significant reduction

in the CALIS (RCI = 1.13). On the child-reported SDQ emotional problems subscale, P5 initially scored in the borderline range, and this increased to the abnormal range at the end of the program. P5's initial score on the peer problems subscale of the SDQ was in the abnormal range, and this was reduced to the borderline range by the end of treatment.

As shown in Table 2, no significant reduction in the SCAS-C was found for any comparison. On the SDQ-E, P5 scored in the borderline range pretreatment, the abnormal range posttreatment and at 3-month, and the normal range at 12 months. On the SDQ-P, P5 scored in the abnormal range pretreatment and in the borderline range at subsequent three points.

3.6 | Participant six (P6)

P6 was an 8 year 8-month old boy with ID and comorbid ASD. He had not previously received intervention for mood disorders. P6 experienced claustrophobia, particularly in the car, elevators, and small rooms. On the KBIT-2, P6 scored 81 for verbal IQ, 69 for nonverbal IQ, and 71 for composite score. There was a significant reduction in anxiety on the SCAS-P (RCI = 4.92) and the SCAS-C (RCI = 4.55). There was no significant reduction in the CALIS total score (RCI = 1.32). P6 initially scored in the normal range on the child-reported SDQ emotional problems subscale and peer subscale, and this remained so at the end of treatment.

With the SCAS-C, significant reductions were reported when comparing pretreatment to 3-month and pretreatment to 12-month. On the SDQ-E, P5 scored in the borderline range pretreatment, the abnormal range posttreatment and at 3-month, and the normal range at 12 months. On the two SDQ scales, P6 scored in the normal range at all four points. For two-parent measures, significant reductions were found when comparing pretreatment to 3-month and pretreatment to 12-month.

3.7 | Participant seven (P7)

P7 was a 15 years 1-month old girl, with ID and a rare genetic condition. Her mother reported a history of anxiety and weekly to fortnightly sessions with a psychologist 3 years prior, for 1 and a 1/2 years. P7 was reported to experience distressing nightmares resulting in a fear of the dark and to worry about the future. On the KBIT-2, P7 scored 75 for verbal IQ, 75 for nonverbal IQ, and 71 for composite score. No significant reductions in anxiety were found for P7 on the SCAS-P total score (RCI = 0.00). Reductions in anxiety were found for the SCAS-C total score, but this was not significant (RCI = 1.52). There was a significant reduction in anxiety life interference on the CALIS total score (RCI = 3.01). On the child-reported SDQ emotional problems subscale, P7 initially scored in the normal range, and this remains so at the end of treatment. P7's initial score on the peer problems subscale of the SDQ was initially in the normal range and remained so at the end of the treatment.

No significant reduction in the SCAS-C or the SCAS-P was found. On both SDQ-C scales, P7 scored in the normal range at all four points.

3.8 | Participant eight (P8)

P8 was a 16 year 11-month-old boy with an ID and comorbid ASD, ADHD, and diagnosed anxiety. He had received psychological intervention on four occasions over a 4-week period in the previous year. P8 was fearful of loud noises, dogs, cockroaches, and being late. On the KBIT-2, P8 scored 40 for verbal IQ, 40 for nonverbal IQ, and 40 for composite score. No significant reductions in anxiety were found for P8 on the SCAS-P (RCI = −0.47) or SCAS-P

(RCI = 0.61). There was a significant reduction in anxiety life interference on the CALIS (RCI = 2.07). On the SDQ emotional problems subscale, P8 initially scored in the abnormal range, and this reduced to the borderline range posttreatment. P8's initial score on the peer problems subscale was initially in the normal range and remained so at the end.

No significant reductions were found on the SCAS-C from 3- to 12-month for P8, whereas his scores significantly increased for other comparisons. On the SDQ-E, he scored in the abnormal range pretreatment, in the borderline range posttreatment, and in the normal range at both follow-ups. His scores on SDQ-P remained in the normal range at all four points. Significant reductions on the SCAS-P were reported for all comparisons except for 3- to 12-month.

3.9 | Participant nine (P9)

P9 was a 9 year 10-month old girl with diagnosed ID, ASD, Epilepsy, and Cerebral Palsy. Her mother reported P9 as fearful of storms, rain, and losing her mother. On the KBIT-2, P9 scored 65 for verbal IQ, 78 for nonverbal IQ, and 71 for composite score. No significant reductions in anxiety were found for P9 on the SCAS-P (RCI = 0.23). Significant reductions in anxiety were found for the SCAS-C (RCI = 4.55). There was no significant reduction in anxiety life interference on the CALIS (RCI = 0.19). On the child-reported SDQ emotional problems subscale, P9 initially scored in the normal range and remained so at the end of the treatment. P9's initial score on the peer problems subscale was in the abnormal range. This was at the normal range by the end of treatment. P9's scores at follow-ups were not available due to no response.

3.10 | Participant 10 (P10)

P10 was a 13-year 9-month-old boy with diagnosed ID, ASD, and ADHD. His father reported P10 as fearful of people touching his belongings and others laughing at him. On the KBIT-2, P10 scored 53 for verbal IQ, 85 for nonverbal IQ, and 64 for composite score. Significant reductions in anxiety were found for P10 on the SCAS-P total score (RCI = 4.45). No significant reductions were found in the SCAS-C total score (RCI = 0.45) or the CALIS total score (RCI = 1.50). On the child-reported SDQ emotional problems subscale, P10 initially scored in the normal range and remained so at the end of the treatment. P10's initial score on the peer problems subscale was in the borderline range, and this remained so at the end of treatment.

Significant reductions in the SCAS-C were found for pretreatment to 3-month. P10 scored in the normal range on the SDQ-E and the borderline range on the SDQ-P at all three points. For two-parent measures, significant reductions were found from pretreatment to 3-month and posttreatment to 3-month. Twelve-month follow-up data is not available due to no response.

3.11 | Participant 11 (P11)

P11 was a 16 year 5-month-old girl with diagnosed ID and anxiety. Her mother reported P11 as fearful of being alone and speaking in front of others. On the KBIT-2, P11 scored 55 for verbal IQ, 40 for nonverbal IQ, and 42 for composite score. Significant reductions in anxiety were found for P11 on the SCAS-P total score (RCI = 3.51). No significant reductions were found on the SCAS-C (RCI = 0.15). Posttreatment data was missing for the CALIS. On the child-reported SDQ emotional problems subscale, P11 initially scored in the borderline range but scored in the abnormal range posttreatment. P11's initial score on the peer problems subscale was in the normal range and remained so at the end of treatment.

Significant reductions in the SCAS-C were found for pretreatment to 3-month. P11 scored in the normal range on the SDQ-E and the borderline range on the SDQ-P at all three points. For two-parent measures, significant reductions were found from pretreatment to 3-month and posttreatment to 3-month. Twelve-month follow-up data is not available due to no response.

4 | DISCUSSION

This study aimed to evaluate the *Fearless Me!* © program, a CBT intervention for children with ID and anxiety. It was hypothesized the intervention would reduce anxiety, and this was supported by the results. All children had significant reductions in at least one measure of anxiety or anxiety life interference. Six children had significant reductions in anxiety on the self-reported measure of anxiety, six had significant reductions in anxiety on the parent measure of anxiety, and three children had significant reductions in anxiety life interference. Some children also had reductions in the emotional and peer subscales of the SDQ. There were no significant reductions on the EDQ-P or SDQ-P.

To our knowledge, this study is one of the first to evaluate the use of CBT for anxiety in children with ID. CBT shows promise for use with children and adolescents with mild to moderate ID when adapted for their learning needs. A strength of the study was that parents were involved in sessions and actively assisted children with the completion of homework tasks. The active involvement of parents, including attending therapy sessions, involvement at the end of each therapy session, and assistance with homework tasks, enabled data to be collected from parents, unlike in the initial feasibility trial (Hronis et al., 2019), where parents were not involved and there was a low rate of completion of parental measures. Furthermore, as is typical of youth with ID, the sample varied greatly in terms of children's age, IQ subscale patterns, and comorbidities, which reflects the real work applicability of this treatment and evaluation.

There were limitations to the research. The *Fearless Me!* © program was evaluated by single case reliable change analysis. While this level of analysis does not hold the same position as an RCT within the evidence hierarchy, it remains important for laying the groundwork for controlled trials. A further limitation was that most measures used have not been validated within ID populations. The SUDS measures were deemed invalid due to patterns of responding which appeared to indicate a lack of sensitivity. It is possible that the anxiety self-report measures not validated with children with ID were also not sensitive, or there may have been a lack of understanding of items. Validation of the assessment measures amongst children with ID is required, and this warrants further investigation and future research. Furthermore, as the lead researcher was also involved in the delivery of therapy and conducting the assessments, parents and children may have been biased in their likelihood to report positive treatment benefits. Similarly, the lead researcher or child's parents reading the assessment questions to the child participant may have impacted how the children responded. Finally, the role of parental anxiety is important to consider in future research (Keefer & Vasa, 2021), as parental anxiety is known to play a key role in the development and maintenance of a child's anxiety. In addition, parental accommodation of a child's anxiety would benefit from additional focus in the Fearless Me! Program, to specifically look at coaching parents in how to assist their child through exposure hierarchies and measures adherence to best practices while facilitating the exposures (e.g., minimizing reassurance, encouraging the child to remain in the exposure scenario).

5 | CONCLUSION

Overall, this evaluation provides a basis for continued research into the use of *Fearless Me!* © for children with ID and anxiety. A fully powered RCT should be undertaken. The current research also indicates the possibility for children with ID to be able to engage in more cognitive-based therapies such as CBT and encourages research to be conducted into the use of CBT for other emotional and mental health disorders within this population.

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CONFLICT OF INTEREST STATEMENT

The authors declare no conflict of interest.

DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available on request from the corresponding author, [A. H.]. The data are not publicly available due to [restrictions, e.g., their containing information that could compromise the privacy of research participants].

ETHICS STATEMENT

This study approval was obtained from the university ethics committee. All participants provided full consent to participate in the research.

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