

Introduction

- Anxiety disorders are among the most common and debilitating psychiatric illnesses in children; these disorders are associated with adverse outcomes, including impaired cognitive development, academic and social functioning, and deficits in family life (Breinholst, Esbjørn, Reinholdt-Dunne, & Stallard, 2012).
- While effective treatments do exist (i.e., cognitive behavioral therapy; CBT), children and their families are often face barriers that prevent them from seeking and receiving appropriate treatment (Reid et al., 2017).
- To address these barriers and increase access to care, there has been growing emphasis on using technology to help deliver CBT-based interventions to children and families who may not be able to access treatment.
- The present study is an examination of demographic and intervention preferences of parent-child dyads who participated in an NIMH-SBIR funded RCT focused on evaluating the feasibility and efficacy of different forms of self-help, including an adaptive CBT-based skills mobile health (mHealth) app: *Anchors Away*.
- With these data, we raise important considerations for future mHealth app developers to better reach populations who may be underrepresented and under-served by these easy-to-use treatment approaches.

Methods

- Parents and children, ages 6-11, with subclinical levels of anxiety were recruited for a feasibility and efficacy of a CBT-based skills mobile app, *Anchors Away*.
- Recruitment occurred through advertisements in pediatric practices, community centers and social media.
- Descriptive statistics were calculated to better understand who enrolls in feasibility and efficacy studies for mHealth apps and intervention preferences related to mHealth.

Results

- A total of 526 families completed the online screener; 118 (22%) met study criteria, enrolled, and participated.
- Most common reasons for exclusion were use of psychotropic medication or recent psychotherapy (31%), clinically elevated anxiety [SCAS \geq 64.5] (33%), or other child behaviors parents reported being unable to manage (37%).



References

- Breinholst, S., Esbjørn, B. H., Reinholdt-Dunne, M. L., & Stallard, P. (2012). CBT for the treatment of child anxiety disorders: A review of why parental involvement has not enhanced outcomes. *Journal of anxiety disorders*, 26(3), 416-424.
- Reid, A. M., Bolshakova, M. I., Guzik, A. G., Fernandez, A. G., Striley, C. W., Geffken, G. R., & McNamara, J. P. (2017). Common barriers to the dissemination of exposure therapy for youth with anxiety disorders. *Community mental health journal*, 53(4), 432-437

Results (cont.)

Table 1: Participant Demographics (N = 140)

	Parent M (SD)	Child M (SD)
Age	39.48 (6.01)	8.95 (1.67)
	Parent	Child
Gender		
% Male	3.6	51.4
% Female	96.4	48.6
% Non-binary	0.0	0.0
Race		
% American Indian or Alaskan Native	5.0	4.3
% Asian	7.2	3.6
% Black or African American	9.4	8.6
% Hawaiian or Pacific Islander	1.4	0.0
% White	77.0	75.0
% Multi-racial/Other	0.0	8.6
Ethnicity		
% Hispanic or Latino	5.7	10.0
% Non-Hispanic or Latino	94.3	90.0
	Parent	
Marital Status		
% Single	6.4	
% Married/domestic partnership	87.1	
% Co-habiting	2.9	
% Separated	1.4	
% Divorced	2.1	
% Widowed	0.0	
Participating Parent Education		
% Less than 9 th grade	0.0	
% Some high school	0.0	
% High school graduate	3.6	
% Some college	6.4	
% Associates degree	4.3	
% Bachelors degree	35.0	
% Masters degree	30.7	
% Doctoral degree or other professional degree	20.0	

Table 2: Household Characteristics (N = 140)

Household	
Highest Level of Household Education	
% Less than 9 th grade	0.0
% Some high school	0.0
% High school graduate	2.1
% Some college	8.6
% Associates degree	0.7
% Bachelors degree	31.4
% Masters degree	32.9
% Doctoral degree or other professional degree	24.3
Household Income	
% Below \$15,000	0.7
% \$15,000-\$20,000	1.4
% \$21,000-\$30,000	3.6
% \$31,000-\$40,000	2.9
% \$41,000-\$50,000	8.6
% \$51,000-\$60,000	7.1
% \$61,000-\$70,000	6.4
% \$71,000-\$80,000	7.9
% \$81,000-\$90,000	7.1
% \$91,000-\$100,000	9.3
% Above \$100,000	45.0

Table 2: Self-reported use and comfort with technology

Use	Parent N=140			Child N=140	
	M (SD)	Range	M (SD)	Range	
Smartphones	5.00 (0.00)	5-5	3.95 (1.17)	0-5	
Texting	4.98 (0.15)	4-5	2.68 (1.83)	0-5	
Controller-based games	1.76 (1.27)	0-5	2.88 (1.66)	0-5	
Motion-based games	1.88 (1.17)	0-5	2.66 (1.59)	0-5	
Social media	4.57 (1.07)	0-5	0.71 (1.45)	0-5	
Touch-based mobile games	2.51 (1.66)	0-5	3.59 (1.44)	0-5	
Video-conferencing	3.41 (1.20)	0-5	2.74 (1.62)	0-5	
Web browsing	4.97 (0.17)	4-5	3.36 (1.55)	0-5	
Comfort	M (SD)	Range	M (SD)	Range	
Smartphones	4.90 (0.32)	3-5	4.52 (0.86)	0-5	
Texting	4.97 (0.17)	4-5	3.52 (1.67)	0-5	
Controller-based games	2.94 (1.60)	0-5	3.69 (1.70)	0-5	
Motion-based games	3.19 (1.46)	0-5	3.68 (1.66)	0-5	
Social media	4.39 (1.02)	0-5	1.06 (1.70)	0-5	
Touch-based mobile games	3.92 (1.26)	0-5	4.19 (1.40)	0-5	
Video-conferencing	4.33 (0.94)	1-5	3.30 (1.87)	0-5	
Web browsing	4.96 (0.20)	4-5	3.62 (1.63)	0-5	

Note: Use rated on a 0-5 scale (0 = Have not used, 5 = Daily); Comfort rated on a 0-5 scale (0 = Have not used, 5 = Very comfortable)

Figure 1: In general, my preference versus a self-guided software program providing health-related information for my family or myself is...

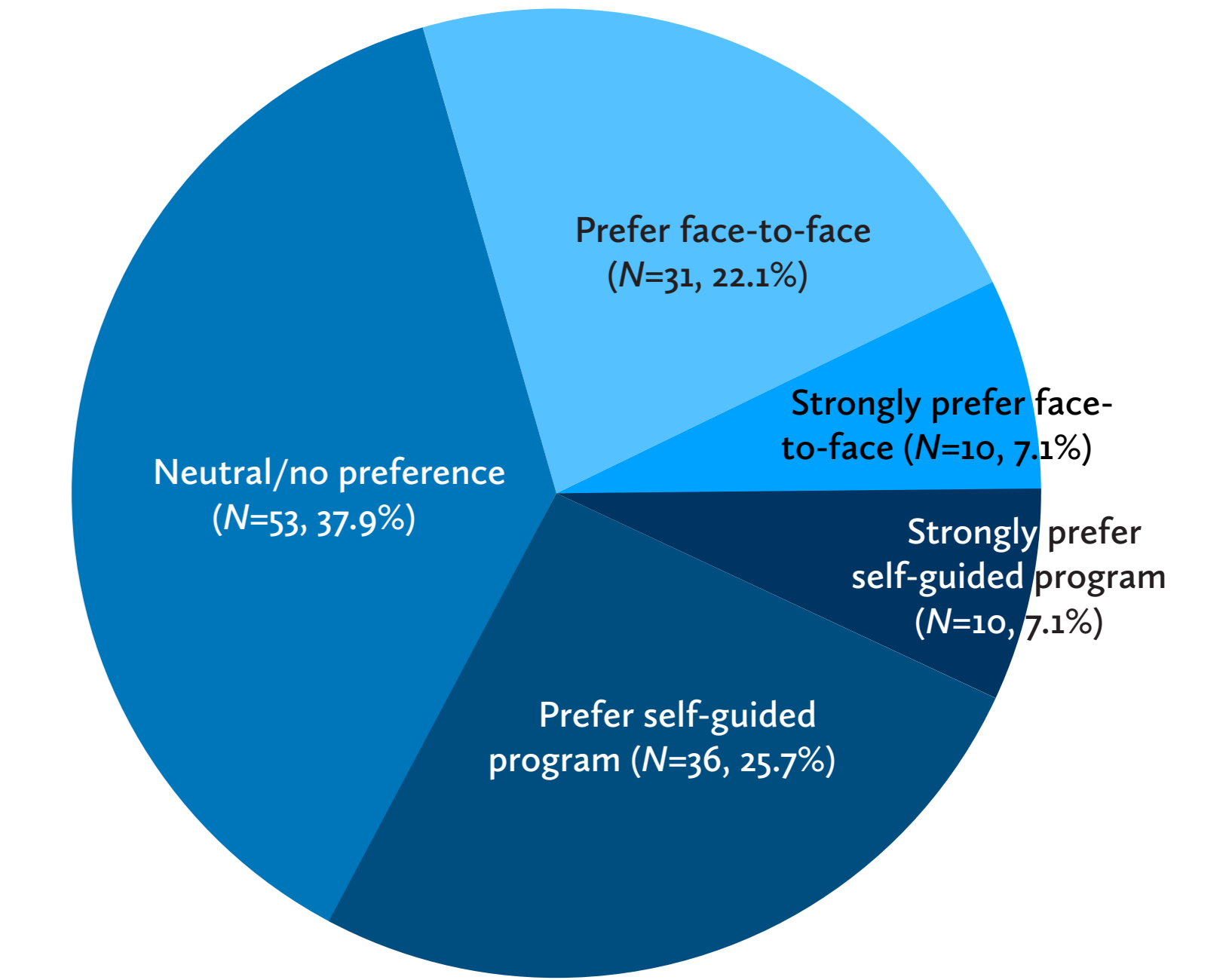
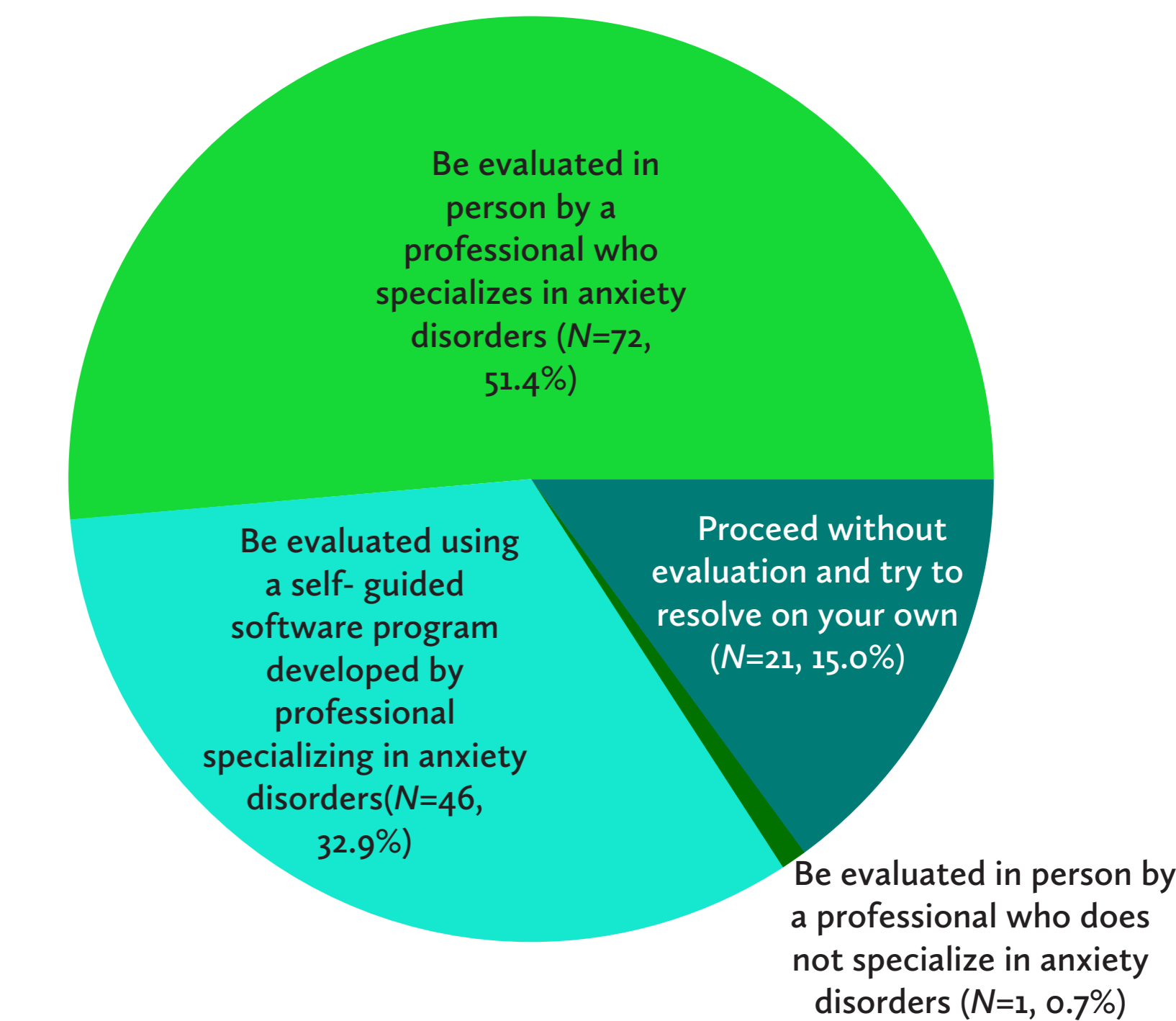


Figure 2: If you noticed interference from anxiety in your child's life, would you rather...



Discussion

- The majority of families with children ages 6 to 11 interested in self-help for anxiety and other mental health problems were open to a self-guided mHealth program. When it comes to significant impairment in daily life functioning, a little over half of participants preferred in person evaluation by an anxiety specialist, though a substantial portion preferred self-guided mHealth evaluation (32.9%).
- Participants in this self-help seeking sample of parents and children aged 6 to 11 were predominantly white and wealthy.
- Further research from this RCT will evaluate the feasibility, satisfaction, and mental health outcomes of parent-child dyads randomized to mHealth versus traditional self-help (eBook) and wait-list control.
- In future research, we need to expand recruitment efforts to target lower SES and minority families to better understand the utility of mHealth in more diverse populations and how it can be used to mitigate pediatric mental health disparities.

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