Content and Common Elements Analysis of Storybooks on Childhood Anxiety: What Knowledge and Skills are Promoted to Children?

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Introduction

- Research indicates that bibliotherapy is an effective tool in reducing anxiety in children (Rapee, Abbott & Lyneham, 2006; Lewis, Kaushalendra, Coffman & Ollendick, 2015)
- Benefits of using bibliotherapy for children:
  - ➤ Treatment is inexpensive and easily accessible (Friedberg et al., 2014)
  - ➤ It is a medium that children enjoy and are familiar with (Coffman et al., 2012)
  - ➤ Pictures aid comprehension of difficult emotions (Paivio & Csapo 1973)
  - ➤ Characters help explore/process difficult thoughts/feelings (Goddard, 2011)
  - ➤ Provides modeling of healthy thoughts/feelings/behaviours (Goddard, 2011)
  - ➤ Promotes parental involvement in treatment (Dalzell, 2016)
- While there are many treatments for anxiety, no single approach is best across all youth when taking into account level of impairment and the child's unique characteristics (Merikangas et al., 2010)
- A module approach that considers common elements has gained prominence for its flexibility, efficiency, and personalized treatment approach (Chorpita, Daleiden & Weisz, 2005)
- Storybooks are conducive to a stepped care approach in which minimal intervention is used initially, freeing resources and increasing the number of children able to receive appropriate services, or they may also serve as an adjunct to traditional therapy (Kendall et al., 2016)
- It is necessary to understand which treatment skills are facilitated through storybooks so that parents and clinicians may create a treatment plan that addresses each child and family's unique needs

Methods

Pre Trial Procedure
- Ten (n=10) children's storybooks on anxiety were selected based on referral from clinical professionals and evidence based resources for children and parents
- One expert rater with clinical CBT training and one novice rater coded the books independently. Raters then met to discuss their responses, at which point the expert rater provided feedback to the novice rater
- An inter-rater agreement analysis was conducted to assess whether or not the novice rater achieved an acceptable level of training

Post Training Procedure
- Using NoveList K-8 Plus, 771 storybooks for children (aged 0-12) related to anxiety, worry, stress and fear (published between 2010-2021) were eligible for selection
- Books were eliminated if anxiety did not present as a focus or if skills and strategies were not reasonably promoted in the book summary
- A random order generator was used to rank order the remaining eligible books. Twenty randomly selected storybooks (n=20) were coded.

Measures
- Storybook CBT Rating Scale (Dalzell, 2016): Six modules were coded on a scale ranging from 0 (none) to 3 (a lot, good quality)
- 26 "Practice Elements" (Chorpita, Daleiden & Weisz, 2005): The most commonly identified treatment elements in clinical manuals were coded on a scale of 0 (not present) to 1 (present). Researchers added "peer support" based on pre-trial findings

Results

- An interrater reliability analysis demonstrated fair to perfect agreement between raters across modules. All Kappa statistics were significant (Table 1)
- A Kruskal-Wallis H Test (Figure 1) demonstrated significant differences between modules, $H(5) = 39.68$, $p < .001$. Results of the Bonferroni corrected post hoc test showed significant differences between Modules: 1 and 4 ($H(5) = 20.83$, $p = .050$), 1 and 6 ($H(5) = 52.93$, $p < .001$), 2 and 4 ($H(5) = 21.98$, $p = .039$), 2 and 6 ($H(5) = 54.08$, $p < .001$), 3 and 6 ($H(5) = 36.88$, $p < .001$), 4 and 5 ($H(5) = -22.78$, $p = .032$), 4 and 6 ($H(5) = 32.10$, $p = .003$), 5 and 6 ($H(5) = 54.88$, $p < .001$)
- Multiple regression analysis showed that the variance of modules 1, 2 and 3 were significantly predicted by the other modules (Table 2)
- The most common elements represented in storybooks were exposure, psychoeducation-child, self-monitoring and peer support (Figure 2)

Table 2. Multiple Regression Analysis Predicting Scores on Modules 1-6

Dependant Module	Adj R^2	F	Significant Unique Contributions
(1)	.64	7.72**a	Module 2: $b = .47$, $t(14) = 2.46*$
(2)	.51	4.94**b	Module 1: $b = .64$, $t(14) = 2.46*$
(3)	.43	3.92*c	N/A
(4)	.13	1.56d	N/A
(5)	.11	1.45e	N/A
(6)	.11	1.94f	N/A

Note. Module predictors: a. 2, 3, 4, 5, 6; b. 1, 3, 4, 5, 6; c. 1, 2, 4, 5, 6; d. 1, 2, 3, 5, 6; e. 1, 2, 3, 4, 6; f. 1, 2, 3, 4, 5; *= $p < .05$; **= $p < .01$

Table 1. Inter-Rater Reliability of Pre-Trial Storybook Ratings

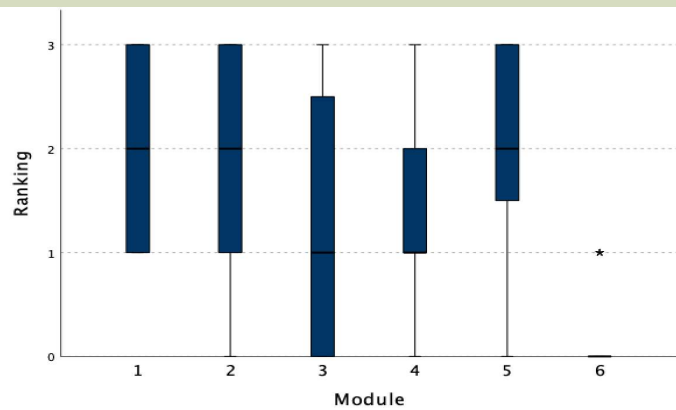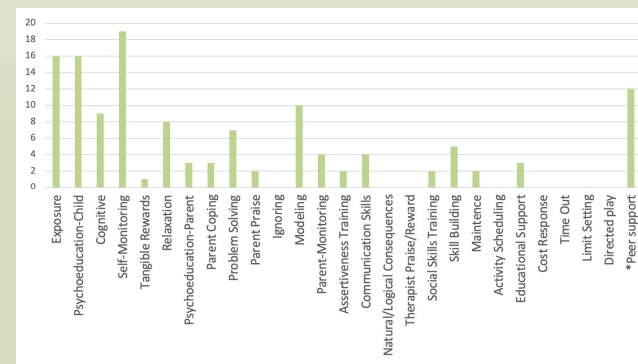| Module	Kappa	Asymptotic Standardized Error	Approximate T	Approximate Significance	% of Agreement
(1) Psychoeducation	.500	.247	2.212	.027*	70%
(2) Self-Monitoring	.315	.149	2.267	.023*	50%
(3) Behavioural Techniques	.600	.184	3.620	<.001**	70%
(4) Cognitive Restructuring	.825	.149	3.826	<.001**	90%
(5) Exposure	.697	.191	3.596	<.001**	80%
(6) Cultural Elements	1.00	.000	3.162	.002**	100%

Figure 2. Frequencies of common elements across storybooks (n=20)

Figure 1. Results from Independent Samples Kruskal-Wallis H Test Comparing Median Scores on Modules 1-6 (n=20)

Discussion

- There was significant differentiation between modules, with different interventions being promoted in children's storybooks
- Storybooks that scored high on psychoeducation were more likely to score high on self-monitoring and vice versa
- Cultural elements was most differentiated from the other 5 modules, however, these findings are not surprising given that cultural elements are not conceptually related to intervention treatments for anxiety
- The most common elements represented in this sample is consistent with the 5 core modules, with the exception of peer support. Future studies might consider coding for this treatment element
- The primary limitation of this study is the small sample size. However, results are preliminary and apart of an ongoing study on skills promoted in children's storybooks associated with anxiety
- The identification of these skills is critical to understanding the advantages and limits of bibliotherapy and will aid clinicians in recommending and developing future treatment options for childhood anxiety