

# A theory of change informed pre-/post-course mixed-methods evaluation of the Toolbox parenting courses

Full-year report:  
January – December Data 2019

Myron Friesen  
School of Educational Studies and Leadership  
University of Canterbury

Submitted: August 2020

Parenting  
Place



## Executive Summary

As a follow-up to the 2018 Toolbox retrospective study and the development of the Theory of Change Model for Toolbox, the research and evaluation team designed a small evaluation and customer satisfaction survey for all participants to complete at the beginning (first session or before) of the Toolbox course and at the end of the course (last session). The purpose of this report is to describe the results from these surveys for all data collected in 2019.

The surveys in this study were specifically designed to assess parent self-reports of changes in parenting and family life according to three of the variables identified in the Toolbox Theory of Change; including relationship quality, parental efficacy, and family atmosphere. A fourth variable, parenting anxiety, was also added due to recent observations from Toolbox and Space facilitators about parents' who seemed quite anxious about their ability to adequately address concerns about their children and home life.

This analysis of the full-year data had the following objectives: (a) Assess parents' perceptions of change across the variables from the Toolbox Theory of Change, including parent-child and family relationships, parental efficacy, parenting anxiety, and family climate. (b) Examine potential moderating factors that might help explain individual differences in change over time (e.g., parenting anxiety). (c) Assess participants' post-course reflections on the quality of course information and facilitator preparedness and competence. (d) Assess participants' post-course reflections on their general satisfaction with the course, their key learnings and applications, and their recommendations for change.

A custom survey was designed and distributed to the majority of Toolbox participants. Due to the potentially limited time available to complete the survey (i.e., just prior starting or just after completing a course session), it was intentionally brief, with each measure incorporating only a few individual items. Quantitative items were based on a 5-point Likert scale or were dichotomised (Yes/No). Estimates of internal reliability were generally acceptable, but were uniformly better at the pre-course assessment. Test-retest correlations were modest.

Across 162 Toolbox courses that were delivered in 2019 and over 1600 participants (approximately), there were 355 pre- and post-course surveys returned with adequate data for including in the analyses (22% response rate). Parents reported being motivated to attend a Toolbox course to better understand their child or to address a rather specific parenting or family issue. The analyses of pre- to post-course changes across the four outcome measures showed that on average participants

reported statistically significantly lower relationship concerns, improved parental efficacy, and decreased parenting anxiety from pre- to post-course assessments, with moderately strong effect sizes. Parents' who scored higher on parenting anxiety had more relationship concerns, lower parental efficacy, along with a less positive and more negative home environments. As hypothesized, these main effects were qualified by significant interactions in each of these analyses. Parents who had greater parenting anxiety at the start of the course showed greater change from pre- to post-course across all four outcomes compared to the parents who reported less parenting anxiety.

Analyses of open-response questions showed that the vast majority of parents highly regarded their Toolbox course experience and spontaneously identified learning outcomes that corresponded with those in the Toolbox Theory of Change, including improved communication, perspective taking, use of behaviour management and boundaries, understanding parenting styles and learning new parenting skills, prioritizing time to connect as a family and focus on family atmosphere and values, gaining new insight into their child's individual differences, and learning to self-regulate in challenging parent-child interactions. Although parents did not report being motivated to attend a Toolbox course for social support, many participants reported that they valued the sharing, dialogue, and discussion in the group environment, and some wanted their facilitators to make room for more of this interaction. This was the most common recommendation for change.

In summary, the results of this study certainly extend the findings from the 2018 retrospective study and provide the best evidence to date of the positive effect that the Toolbox courses are having in the lives of participants. However, there are substantial limitations with this research due to the possibility of a biased sample, and restricted construct validity due to the brief nature of the survey. Nevertheless, these promising results do suggest that further research with a more robust design would be worthwhile to further test the Toolbox Theory of Change and potentially replicate and extend this preliminary evidence of positive change for families.

#### **How to cite this report:**

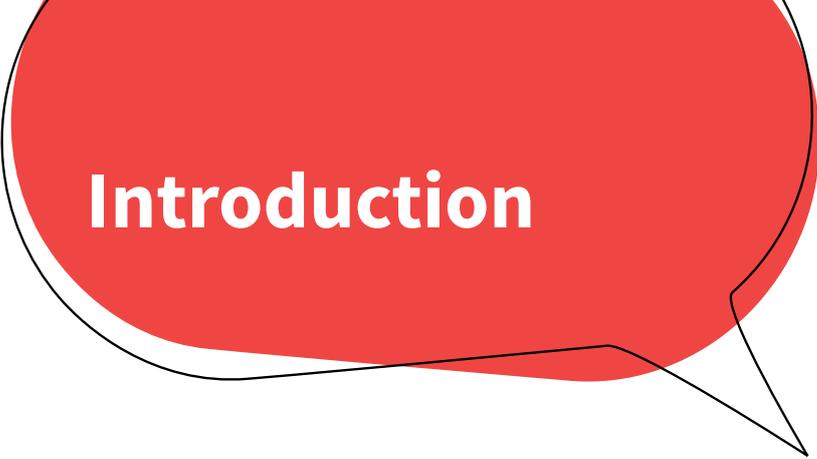
Friesen, M.D. (2020). A theory of change informed pre-/post-course mixed-methods evaluation of the Toolbox parenting courses. Parenting Place.  
<https://doi.org/10.26021/12073>

#### **Acknowledgments:**

Myron Friesen was awarded an independent research contract to assist the Parenting Place in the evaluation and redevelopment of their programmes from 2018 to 2020. Many thanks to the members of the Parenting Place Research, Evaluation, and Development team for their assistance with data collection, data entry, coding qualitative data, and feedback on an early draft of this report. Graphic design by Mahi Pai Media – Aotearoa.

## Contents

<b>Introduction</b>	<b>5</b>
<b>Measures</b>	<b>7</b>
Course Goals	7
Theory of Change Outcomes	7
Formative Evaluation and Qualitative Reflections	10
<b>Results</b>	<b>11</b>
Theory of Change Outcomes: Change Over Time	15
Moderation Analyses	17
Post-course Formative Evaluations & Qualitative Responses	20
<b>Discussion</b>	<b>25</b>
<b>Appendices</b>	<b>28</b>
APPENDIX A – Summary of findings and recommendations from the mid-year analyses.	28
APPENDIX B – Test-retest reliability estimates and convergent validity correlations across quantitative measures.	29
APPENDIX C – Toolbox Theory of Change short-term outcomes as related to the themes from participants’ key learning outcomes and additional positive course reflections.	30



# Introduction

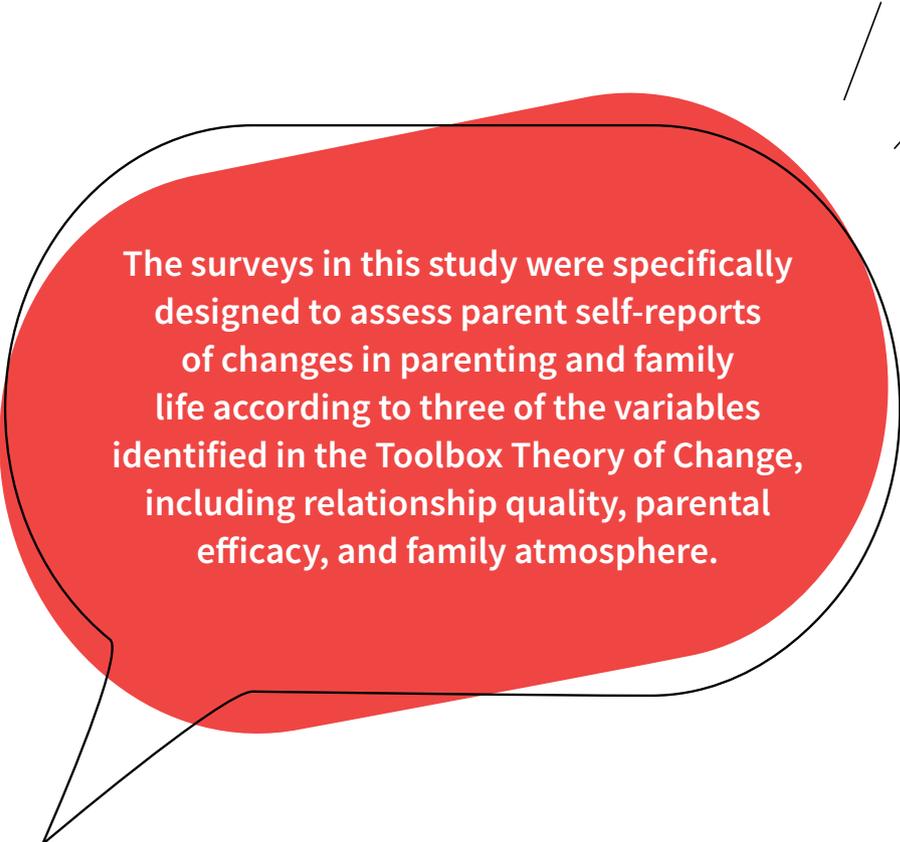
The Parenting Place Toolbox courses have long been one of the primary programmes of the organization with close to or over 200 courses run each year through the Greenlane centre and the many partner organizations across the country. As a follow-up to the 2018 Toolbox retrospective study and the development of the Theory of Change Model for Toolbox, the research and evaluation team designed a small evaluation and customer satisfaction survey for all participants to complete at the beginning (first session or before) of the Toolbox course and at the end of the course (last session). The purpose of this report is to describe the results from these surveys for all data collected in 2019.

The Toolbox Theory of Change identifies four categories of short-term outcomes that are the focus of all Toolbox courses. According to the Theory of Change, Toolbox courses should enable parents to develop (a) a greater understanding of and connection to their children; (b) increased parenting competency (skills, self-regulation, efficacy, and reflective capacity or mentalizing); (c) a positive family atmosphere, identity, and culture; and (d) a sense of support and community from the group context. Under each of these broad categories are more specific primary and/or secondary outcomes. The surveys in this study were specifically designed to assess parent self-reports of changes in parenting and family life according to three of the variables identified in the Toolbox Theory of Change, including relationship quality (category 'a'), parental efficacy (category 'b'), and family atmosphere (category 'c'). A fourth variable, parenting anxiety, was also added due to recent observations from Toolbox and Space facilitators about parents' who seemed quite anxious about their ability to adequately address concerns about their children and home life.

As the surveys would likely be completed by participants just prior to and just after the first and last sessions and time would be limited, it was important that the surveys were concise and very simple to complete. For this reason, the surveys did not employ validated measures of the targeted outcomes, and were custom designed to be as efficient as possible, while still avoiding measuring any of the outcomes with a single item. In August of 2019, the Research, Evaluation and Development team completed a preliminary analysis of the first six months of this data. The subsequent report included a variety of findings related to our assessment strategy and preliminary participant outcomes. Please see Appendix A below for a brief summary of these findings.

This analysis of the full-year data had the following objectives:

- (a) Assess parents' perceptions of change across the variables from the Toolbox Theory of Change, including parent-child and family relationships, parental efficacy, parenting anxiety, and family climate.
- (b) Examine potential moderating factors that might help explain individual differences in change over time (e.g., parenting anxiety)
- (c) Assess participants' post-course reflections on the quality of course information and facilitator preparedness and competence.
- (d) Assess participants' post-course reflections on their general satisfaction with the course, their key learnings and applications, and their recommendations for change.



**The surveys in this study were specifically designed to assess parent self-reports of changes in parenting and family life according to three of the variables identified in the Toolbox Theory of Change, including relationship quality, parental efficacy, and family atmosphere.**

# Measures

It should be noted that participant demographics and course enrolment data were not captured in these surveys. This is something that should be addressed in future iterations of this evaluation strategy.

## Course Goals

Course goals were assessed both pre- and post-course. For the pre-course survey, participants were asked to rank six goals according to which was most (1) to least (6) relevant for their motives in taking the Toolbox course. A seventh item allowed participants to identify their own goal if not mentioned on the survey. For the post-course survey, these same goals were listed and participants were asked to select each one that they felt had effectively been met by the course. Course goals included: *Improve my child/children's behaviour; Improve our family communication; Meet other parents; Better manage emotions in our family; Better understand my child/children; Improve our family relationships.*

## Theory of Change Outcomes

Participants were asked to respond to eleven statements that were scored on a 5-point scale from Agree (1) to Disagree (5). The first four statements were written in pairs, with each pair assessing a slightly different construct. Two items queried parent-child relationships (*I am concerned about my relationships with my child/children; I have a warm, positive relationship with my child/children*), and two items queried family relationships (*There is a lot of conflict in our family; I look forward to the times when our family is together*). Three items assessed general parental efficacy (*I am confident in my abilities as a parent; I believe I have the skills to effectively parent my child/children; and I lack the skills to effectively solve our family's problems* [reverse-coded]). Finally, four items assessed parents' feelings of anxiety about their parenting role and responsibilities (*I get anxious when thinking about the challenges our family faces; I worry that I am not a good enough parent; I get worried that I'm parenting my child/children the wrong way; I get overwhelmed by all the information and advice on how I should parent*).

A description of how these individual items were combined into composite variables based on estimates of their reliability (internal consistency) is provided below. One interesting observation should be noted: almost all of the measures had better reliability at the pre-course assessment compared to post-course. This finding influenced which items were selected as part of the final composite measures. Further information about the convergent validity among the measures and test-retest reliability is provided in Appendix B below.

## Relationship concerns

Although the four items listed above were designed to assess family relationships and parent-child relationships separately, the pattern of correlations and poor internal reliability (<.70) at the post-course assessment required that the two positive items were dropped (see Table 1 below). The strongest and most consistent correlation was between the two negative items (*I am concerned about my relationship(s) with my child/children; There is a lot of conflict in our family*). In light of this, these two items were averaged together at both pre- and post-course assessments, respectively, to create the pre- and post-course measures of relationship concerns.

**TABLE 1:** Pre-course (below the diagonal) and post-course (above the diagonal) bivariate correlations for items assessing parent-child and family relationship quality.

		1	2	3	4
1.	I am concerned about my relationships with my children	1	-0.273**	-0.394**	-0.094
2.	I have a warm positive relationship with my children	-.549**	1	-0.121*	0.104
3.	There is a lot of conflict in our family	.542**	-.413**	1	-.230**
4.	I look forward to times when our family is together	-.258**	.303**	-.350**	1

**NOTE:** Pre-course correlations are below the diagonal and post-course correlations are above.

\* =  $p < .05$ ; \*\* =  $p < .01$

## Parental efficacy

Similar to the measure of relationship concerns, the three items assessing parental efficacy had one item that was not sufficiently correlated with the other two, which did not warrant including it in the composite measure due to lower reliability (*I lack the skills to effectively solve our family's problems*; see Table 2 below). Thus, parental efficacy at both pre- and post-course was the average of the two positive items (*I am confident in my abilities as a parent; I believe I have the skills to effectively parent my child/children*), respectively.

**TABLE 2:** Pre-course (below the diagonal) and post-course (above the diagonal) bivariate correlations for items assessing parental efficacy.

		1	2	3
1.	I am confident in my abilities as a parent	1	.635**	-.232**
2.	I believe I have the skills to effectively parent my child/children	.716**	1	-.211*
3.	I lack the skills to effectively solve our family’s problems	-.329**	-.315**	1

**NOTE:** Pre-course correlations are below the diagonal and post-course correlations are above.  
 \* =  $p < .05$ ; \*\* =  $p < .01$

### Parental anxiety

The four items assessing parenting anxiety and their inter-item correlations at both pre- and post-course are provided in Table 3 below. Similar to the measures above, the post-course correlations were weaker than the pre-course correlations. Nevertheless, at both time-points the four items had sufficient internal consistency reliability that they could be averaged together to create the respective composite measures (pre-course  $\alpha = .83$ ; post-course  $\alpha = .78$ ).

**TABLE 3:** Pre-course (below the diagonal) and post-course (above the diagonal) bivariate correlations for items assessing parenting anxiety.

		1	2	3	4
1.	I get anxious when thinking about the challenges our family faces	1	-.483**	.429**	.346**
2.	I worry that I am not a good enough parent	.553**	1	.398**	.654**
3.	I get overwhelmed by all the information and advice on how I should parent	.416**	.550**	1	.470**
4.	I get worried that I’m parenting my child/children the wrong way	.511**	.703**	.543**	1

**NOTE:** Pre-course correlations are below the diagonal and post-course correlations are above.  
 \* =  $p < .05$ ; \*\* =  $p < .01$

## Home environment

Both the pre- and post-course surveys included 16 adjectives for describing the home environment. Parents were asked to select (i.e., circle) all the adjectives that described their home environment. Adjectives included six with a positive valence (*Close, Peaceful, Safe, Loving, Organised, Supportive*), six that were negative (*Chaotic, Divided, Lonely, Stressful, Hurting, Fighting*), and four that were neutral (*Busy, Coping, Mellow, Growing*). Items were scored as 1 if circled and 0 if blank. If any items were circled, the remaining items were judged to be intentionally left blank. Thus, only those participants who failed to circle all items were judged as missing data. Finally, items were summed across the three categories (positive, negative, and neutral). Due to the selection procedure and scoring of these items, it was not possible to estimate the reliability of these measures. However, one indication of their psychometric properties is the correlations from pre- to post-course for each measure respectively. Each of these correlations was positive, moderately strong, and statistically significant (positive home environment  $r = .57$ ; negative  $r = .46$ , neutral  $r = .37$ ).

## Formative Evaluation and Qualitative Reflections (post-course only)

Three items assessed participants' judgments of the course information, including: *The course information was relevant to my family situation; The course information was interesting and informative; I could put the course information into practice in my family situation*. Three items assessed participants' judgments of the facilitator's preparedness and competence: *The facilitator was well organised and prepared; The facilitator welcomed and accepted everyone in the group; The facilitator encouraged and competently managed discussion in the group*. Finally, one item assessed participants' perception of their overall course satisfaction (*Overall, I was satisfied with my experience in this course*). This item was combined with the facilitator competency items. All items were scored on the same 5-point scale as used for the relationship quality and parenting efficacy items (1=Agree to 5=Disagree). Each of these measures had acceptable internal reliability ( $\alpha = .76$  for both measures) and composite measures were created by averaging all items together.

## Qualitative evaluation questions

At the post-course assessment, two open-response questions asked participants to describe what they learned from the course and how the course could be improved. Specifically, these items asked, "What strategies, skills, or ideas have you learned from the course and found helpful?" and "Please provide any specific comments/recommendations that you have for helping us to improve this course."

# Results

## Completed surveys

Between January to June 2019 there were 92 Toolbox courses and we received 224 pre- and post-course surveys with adequate data. Another 500 surveys were returned that were unusable due to large amounts of missing data or were incorrectly completed (e.g., participants generally not following instructions). Even when accounting for all surveys returned (700+) this represents only about 70% of the participants that were expected to attend Toolbox courses in the first half of the year (1000+). Between July to December 2019, there were another 72 courses with 633 registered participants; however, we only received 131 useable pre- and post-course forms (21% return rate). This rather low rate of return and very low rate of adequate data is a serious concern and suggests that there needs to be better and ongoing follow-up with course facilitators about the importance of the surveys and the need to allow adequate time and explanation for participants to complete them on the first and last session. Since no demographic or course information was collected (i.e., which Toolbox course, community partner organisation, geographic region, etc.), it is impossible to know if certain partners or regions are having more difficulty with getting these completed than others.

As mentioned above, the early data (January to June) for these measures was first analysed and summarised in a preliminary report (see summary below in Appendix A). In light of this, we analysed if there were significant differences between the early group (January to June;  $n = 220$ ) and the latter group (July through December;  $n = 125$ ) across any of the quantitative measures in the study. These mean comparisons (one-way ANOVAs) revealed significant differences across four measures. On average, those who completed the course in the first half of the year reported better parental efficacy ( $M$  difference = 0.22) and lower parenting anxiety ( $M$  difference = 0.33) at the pre-course assessment, and lower negative home environment characteristics at both pre- and post-course assessments ( $M$  differences = 0.38 and 0.31, respectively). Although each of these differences were statistically significant, the effect sizes were moderate to small (Cohen's  $d$  ranged from 0.47 to 0.29). In light of these findings, the timing of course completion (early versus late) was entered as a control variable in follow-up analyses reported below.

## Course Goals

Table 4 below shows the mean and standard deviation of how the course goals were ranked at the pre-course survey and then the percentage of participants that indicated the course had been helpful in achieving that goal at the post-course survey. As the goals are considered individually, reliability and validity analyses were not estimated with this data. An important qualification about this data is that well over one third of participants failed to rank the pre-course goals, and instead treated the goals as a selection exercise (tick box). When this happened, all selected goals were given the value of 3.5, unless there was only one goal selected, which was then ranked first. The means and standard deviations for the goals at the pre-course survey reported in Table 1 below only represent those participants who correctly followed the instructions for the ranking exercise.

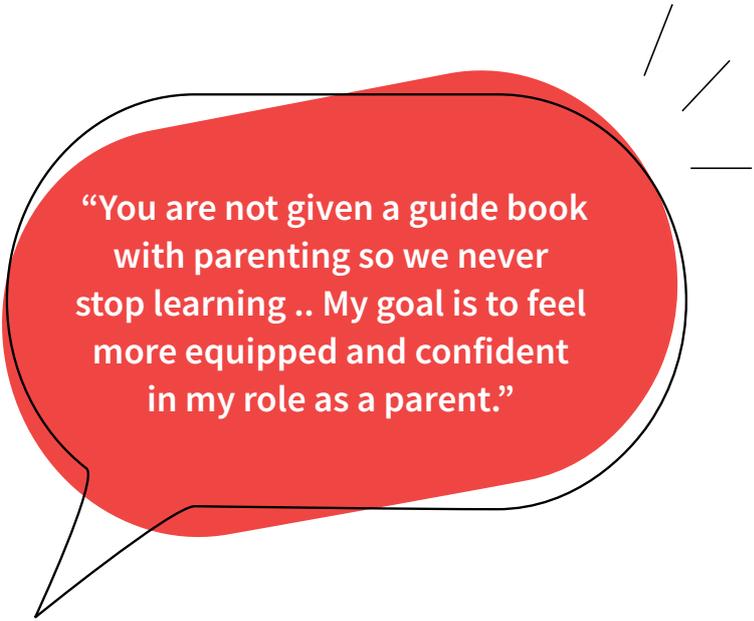
Table 4 shows that parents' top ranked goal in attending a Toolbox course was to better understand their child/children. After this, the mean scores for four of the six goals were generally grouped around the middle of the scale (3.02 to 3.50), with relatively large standard deviations. This suggests that there were not strong motivating factors for these particular goals and parents were coming to Toolbox for a variety of these reasons. The lowest ranked goal for parents was to meet other parents. This suggests that these parents are clearly coming to Toolbox motivated by issues concerning their children rather than as a possible source for social support. After the course, the vast majority of parents (>85%) indicated that Toolbox had helped achieve each of these goals, even those that were not highly ranked.

TABLE 4: Descriptive statistics and mean comparisons across all study variables (pre- to post-course).

MEASURE	Pre-course Descriptives	Post-course Descriptives	t;p	d (effect size)
Course goals	<i>M (SD)</i> Rank	%		
Better understand children	2.44 (1.42)	97.5		
Manage emotions in the family	3.02 (1.38)	92.9		
Improve family communication	3.21 (1.38)	94.9		
Manage child behaviour	3.26 (1.59)	89.3		
Improve family relationships	3.50 (1.43)	93.5		
Meet other parents	5.61 (1.05)	85.9		
Relationship concerns (child, family)	<i>M (SD)</i>	<i>M (SD)</i>		
1=Agree; 5=Disagree	3.25 (1.23)	3.75 (1.00)	9.66; <.001	0.45
Parental efficacy	<i>M (SD)</i>	<i>M (SD)</i>		
1=Agree; 5=Disagree	2.09 (0.78)	1.61 (0.58)	11.81; <.001	0.69
Parental anxiety	<i>M (SD)</i>	<i>M (SD)</i>		
1=Agree; 5=Disagree	2.98 (1.07)	3.50 (0.95)	9.84; <.001	0.51
Home environment	<i>M (SD)</i>	<i>M (SD)</i>		
Positive (out of 6)	2.62 (1.75)	2.92 (1.51)	3.56; <.001	0.18
Negative (out of 6)	1.57 (1.31)	0.79 (1.08)	11.22; <.001	0.65
Neutral (out of 4)	1.58 (0.96)	1.69 (0.91)	1.93; .054	0.12
Post-course Formative				
1=Agree; 5=Disagree		<i>M (SD)</i>	% Scores = 1	
Information quality and relevance		1.23 (0.44)	66.6%	
Facilitator preparedness and competence		1.06 (0.20)	87.7%	

NOTE: Pre-course goals: Rank statistics provided only for those who correctly completed ranking exercise (39% missing). *N* = 324 to 331 for pre-/post-course comparisons due to random missing data across different variables.

Forty-seven participants (14%) also listed additional goals to those provided. A content analysis of this data identified 18 different goal categories, with 14 of these only identified by three participants or less. The category that related to the most participants were goals around general parenting development ( $n = 12$ ). These parents described an ongoing process of learning and parental development, and taking a Toolbox course was one opportunity to continue growing and improving. Two participants nicely summarised this sentiment with the following comments, *“You are not given a guide book with parenting so we never stop learning”* and *“[My goal is to] feel more equipped and confident in my role as a parent.”* The next most frequent goal identified by participants ( $n = 8$ ) were several ideas on supporting/ understanding their children’s health, wellbeing, communication, emotional development, and positive behaviour. Third, a need for better parental regulation ( $n = 5$ ; e.g., controlling emotions, maintaining presence) was a focus for a handful of parents. The following two comments illustrate how parents related their parenting need to their child’s behaviour: *“Avoid losing my temper and learn how to deal with bad behaviours”* and *“Be more patient. Understand my children’s needs better.”* Finally, a few parents ( $n = 4$ ) wanted to strengthen their co-parenting relationship and strategies with their partner. This was described as developing a *“joint parenting game plan”* and *“parenting from the same page”*.



**“You are not given a guide book with parenting so we never stop learning .. My goal is to feel more equipped and confident in my role as a parent.”**

## Theory of Change Outcomes: Change Over Time

### Average group-level change pre- to post-course

Table 4 above shows the results of paired-sample t-tests, that examined if, on average, the participants' reported significant changes in their relationship concerns, parental efficacy, parenting anxiety, and home environment from pre- to post-course. Please note that these analyses do not control for any third variables or test if the results were moderated by other variables in the study. Follow-up analyses to test this possibility are reported further below. The results from the paired t-tests show that on average participants reported significantly lower relationship concerns, improved parental efficacy, and decreased parenting anxiety from pre- to post-course assessments with moderately strong effect sizes.

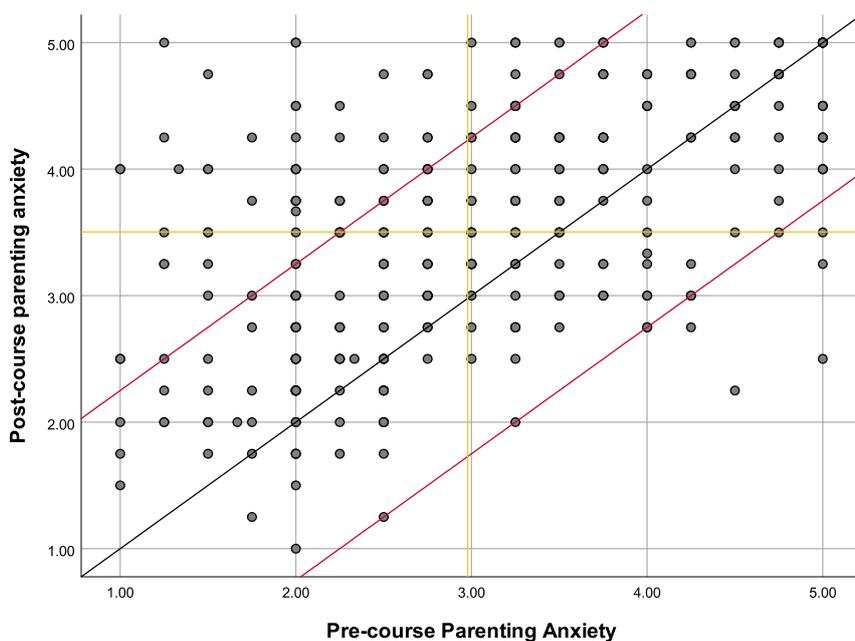
In terms of the home environment, Table 4 shows that on average participants reported significantly more positive home characteristics, with a rather small effect size, and significantly fewer negative home characteristics, with a moderately strong effect size. The slight change in neutral home characteristics was not statistically significant.

### Individual-level change pre- to post-course

To get an idea of how many participants reported a reliable degree of change, each individual's change scores (pre-course – post-course) were applied to a reliable change index based on the reliability of the measure. This test helps determine how many participants showed substantive change over and above the reliability issues with the measures. An easy way to illustrate this analysis is by plotting the pre- and post-course scores for one measure on a graph with the pre-course scores on the horizontal (x) axis and the post-course scores on the vertical (y) axis (see Figure 1 below for an example for parenting anxiety). The horizontal line through the middle of the graph is the 'line of no change'. If participants' scores are identical across the two measurement points, they will fall exactly on this line. Scores above the diagonal show a decrease in parental anxiety, whereas scores below the diagonal show an increase in parental anxiety (i.e., lower scores = greater agreement with the items in the measure).

As can be seen in Figure 1 below, a substantial majority of participants' scores are above the diagonal (67%) suggesting that the majority of participants reported some type of reduction in parenting anxiety. The scores beyond the red diagonal lines shows those participants whose change in parenting anxiety could be considered a reliable change. If these measures were valid psychological assessments of anxiety, this would

indicate clinically significant change. As can be seen, the majority of participants fall between the two reliable change markers, whereas just over one in five participants (22.5%) reported a reliable decrease in anxiety, and there were also a small handful of participants (3.4%) who reported a reliable increase in parenting anxiety. These analyses were repeated for the measures of relationship concerns and parental efficacy, respectively. Because these measures had poorer reliability, their reliable change index was even broader and the percentage of participants who showed reliable change was lower. Across both measures, 56% of participants showed a decrease in relationship concerns and an increase in parental efficacy. However, only 10% of the scores for each measure could be considered reliable positive change. There were also a small percentage of participants whose relationship concerns showed a reliable increase (0.6%) and whose parental efficacy showed a reliable decrease (1.1%). These analyses were not repeated for the home environment measures as it was not possible to estimate the reliability of these measures.



**Figure 1.** Scatterplot of individual changes in parenting anxiety from pre- to post-course. The black horizontal line identifies those participants whose scores did not change at all. The red horizontal lines represent the reliable change index. Points between these lines are those participants who reported slight to moderate change but not beyond measurement error. Scores outside of the reliable change index, suggest substantive change. The yellow lines show the average group scores pre- and post-course.

## Modern Analyses

Although the data for this study was collected continuously throughout the year as people enrolled for and completed courses and the evaluation forms were returned and data was entered, the data from the first half of the year was initially analysed to determine if there were substantial problems with the measures that needed to be immediately addressed and to provide feedback to course facilitators. Even though there were some psychometric concerns with the measures, these were not substantial enough to warrant significant changes to the questionnaires. Because of this, and as reported above, we tested the two data sets to see if there were significant differences between them. In light of those significant differences identified for parental efficacy, parenting anxiety, and negative home environment characteristics we tested if the significant changes from pre- to post-course were moderated by the significant differences between participants in the first half versus the second half of the year.

In addition, we also decided to examine the possibility that individual differences in parenting anxiety prior to the course moderated the degree of change parents' reported from pre- to post-course. For example, parenting anxiety before the course was significantly correlated with all of the other measures post-course. Increasing parenting anxiety was associated with increased relationship concerns ( $r = .45$ ) and lower parental efficacy ( $r = -.28$ ), but higher positive home characteristics ( $r = .27$ ), and slightly lower negative home characteristics ( $r = -.14$ ). Thus, it might be possible that those with higher levels of parenting anxiety may be more responsive to the learning outcomes from the course in an attempt to alleviate anxiety about their parenting. From this perspective, we would hypothesize that those with higher parenting anxiety would show greater change from pre- to post-course.

To test these possibilities, we divided the sample in half based on the median score for pre-course parenting anxiety, allowing us to compare those above the median with lower anxiety to those below the median with higher anxiety. We then employed repeated measures analysis of variance and entered both pre-course parenting anxiety (high vs. low) and timing of course participation (early vs. late) as the moderators. Most importantly, the results from these analyses showed that the main effect of change from pre- to post-course remained statistically significant and was the strongest effect across all four analyses (relationship concerns, parenting efficacy, positive home environment, and negative home environment).

## Parenting anxiety

For parenting anxiety, there was a significant main effect across all four analyses, which showed that when pre- and post-course scores were averaged together, parents with greater parenting anxiety had more relationship concerns, lower parental efficacy, along with a less positive and more negative home environments. As hypothesized, these main effects were qualified by significant interactions in each of these analyses. Parents who had greater parenting anxiety at the start of the course showed greater change from pre- to post-course across all four outcomes compared to the parents who reported less parenting anxiety ( $M$  change for high parenting anxiety = .47 to 1.07;  $M$  change for low parenting anxiety = .13 to .45). This interaction effect was stronger for relationship concerns and negative home environment than it was for parental efficacy and positive home environment. A sample graph of the interaction effect for relationship concerns is provided below. Not only does it illustrate the interaction effect (i.e., greater change for those with high parental anxiety), but it also shows the main effect (i.e., on average those with high anxiety had greater relationship concerns overall).

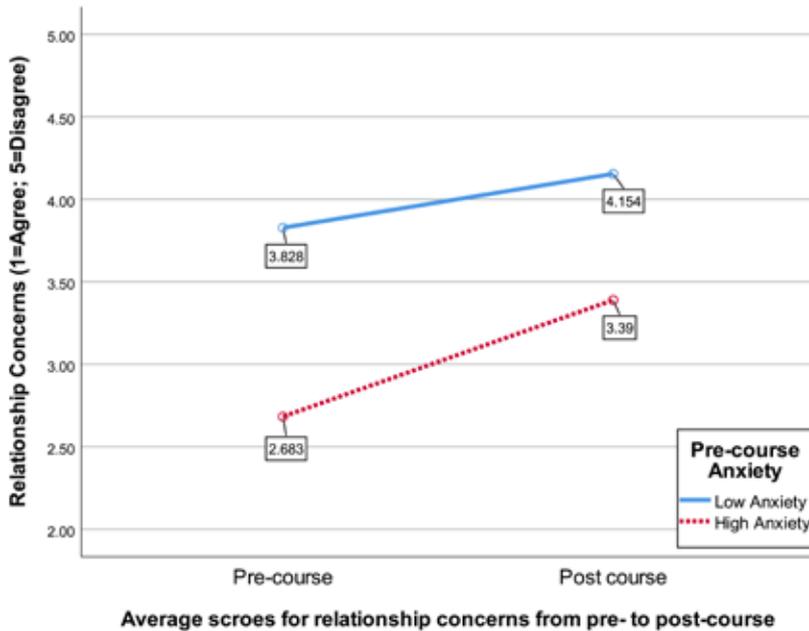


Figure 2. Changes in relationship concerns from pre- to post-course for parents who reported high versus low parenting anxiety at the start of the course (based on a median split).

### Course timing (Early versus Late 2019)

The analyses with course timing revealed only one main effect for negative home environment characteristics. When scores were averaged together across both pre- and post-course assessments, participants from the last half of 2019 reported significantly more negative home characteristics than those who participated in the first half of the year. There were also significant interaction effects with the analyses for relationship concerns and parental efficacy. In both cases, those who participated later in the year reported slightly more change from pre- to post-course compared to those who participated earlier in the year (early participation  $M$  change = .41 and .36; late participation  $M$  change = .62 and .64 for relationship concerns and parental efficacy respectively). Figure 3 below displays the interaction effect of course participation on change in parental efficacy from pre- to post-course. There was no evidence of any three-way interactions between the timing of the course, parenting anxiety, and the measured outcomes.

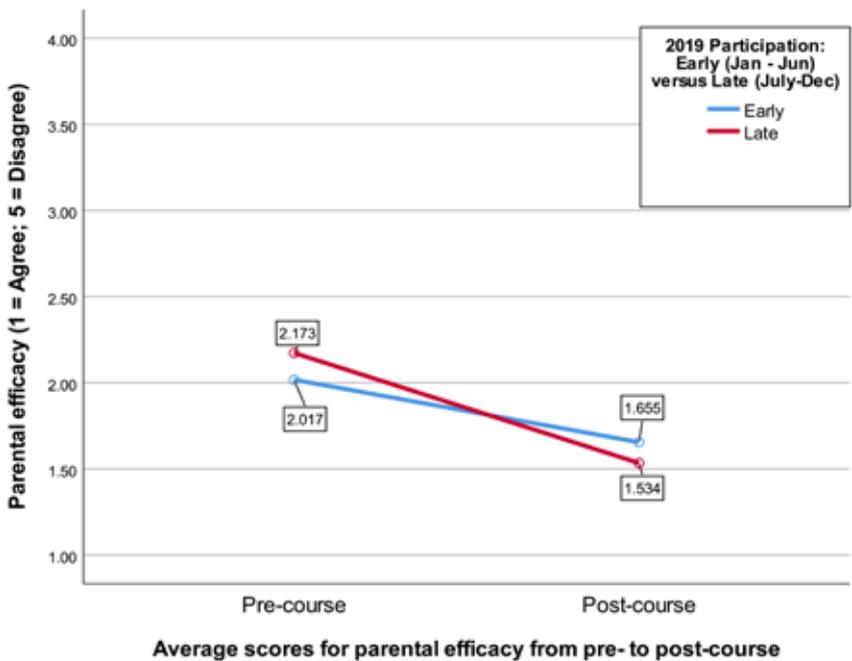


Figure 3. Changes in parental efficacy from pre- to post-course for parents who participated in a Toolbox course early (January to June) versus late (July to December) in 2019.

## Post-course Formative Evaluations & Qualitative Responses

### Formative evaluation questions (post-course only)

The descriptive statistics (shown in Table 4 above where lower numbers equal better evaluations) revealed that participants had very positive reflections on both the course information and facilitator competence, with two-thirds (66.6%) of participants agreeing to all three questions about the quality and relevance of course information, and almost nine out of ten participants (87.7%) agreeing to all the items for facilitator competency, inclusiveness, and overall course quality. Individually across all 7 questions over 90% of participants selected 'Agree' or 'Agree Somewhat' for each item. This is very positive (albeit limited in scope) feedback for the design team and facilitators. Importantly, there were no correlations between participants' scores on the post-course outcomes and their judgments of course content and facilitator competency (see Appendix B). In other words, the way participants felt about the course content and facilitator competency was not linked to the target outcomes.

### Qualitative responses: Key learning

The first of the open-response questions at the end of the post-course survey asked participants to describe "strategies, skills, or ideas" that they had learned in the course and found helpful in their parenting. Of the 355 participants, 261 (73.5%) provided responses that could be coded and related back to course content. Some participants provided one or more specific topics from the Toolbox curriculum that could be easily categorised, while others wrote more generically. Because of this, a combination of content analysis and thematic analysis was applied to the data. First the content analysis applied categories to responses where participants made specific references to course content (e.g., *Parent Vision*, *Parenting Styles*, *Personality Types*, *V of Love*, *Languages of Love*). The thematic analysis examined the latent content in participants' responses and coded this either as one of the course content categories or a new category. For example, many participants wrote about a new appreciation for, and greater attempts to carefully listen to their children, which initially was coded into its own category (*Listening*); but at a broader level is related to both themes of communication and *Parent Vision*.

Many of those who responded (85%) commented on more than one aspect of the Toolbox course that was very helpful for them, with a few participants listing up to six different course topics or ideas. These were coded into 38 different categories. Fourteen of these were mentioned by at least 15 or more participants (5% and up) and are listed in Table 5 below. Several of these categories along with additional minor

categories not listed in the Table 5 were further grouped into eight broad themes, including communication ( $n = 116$ ; 44%), perspective taking (including Parent Vision;  $n = 78$ ; 30%); behaviour management and boundaries ( $n = 65$ ; 25%); parenting styles and skills ( $n = 61$ ; 23%); time to connect ( $n = 40$ ; 15%); family atmosphere and values ( $n = 39$ ; 15%); individual differences ( $n = 35$ ; 13%); and parental regulation ( $n = 35$ ; 13%). Quotes from each of these themes are provided below:

### **“What strategies, skills, or ideas have you learned from the course and found helpful?”**

- *Communication*: “Communication is key - listening well, full attention, tone of voice.” “Creating space to communicate with listening and reaffirming what I have heard and calmly respond.”
- *Perspective taking*: “To see through their behaviour to their needs. To put yourself in their shoes, especially when thinking about discipline.” “Learning to see my children’s perspective of life and their feelings and emotions.”
- *Behaviour management and boundaries*: “I have a lack of skills in setting boundaries, but this course has given me tools to use and has helped me in this area.” Setting boundaries helps letting kids know what is expected and if it’s not followed there is a consequence.”
- *Parenting styles and skills*: “Teaching delayed gratification and practice learning our love languages (time) and the balance between being too strict and giving in.” “How to be a parent coach and cope with child’s emotions and dealing with different situations.”
- *Time to connect*: “Connection with my children is my highest priority - being fully present, paying attention to what goes on between us, seeing things from my children’s point of view.” “To stop being so busy, to slow down and spend time engaging with my children. I have also realised that I don’t have to be perfect and this has helped me to calm down which in turn has calmed the children down as well.”
- *Family atmosphere and values*: “Family culture/values/atmosphere at home - balance fun and boundaries for example.” “The course has provided me with many positive parenting tips and strategies. I am looking forward to promoting our home as a loving, caring, peaceful place.”
- *Individual differences*: “Looking into the love languages for my children – understanding the way they tick.” “Personality types, love languages”
- *Parental regulation*: “The importance of staying calm when children aren’t behaving well. The importance of tone when talking to children - keeping it warm and loving even when you are frustrated as anything!” “I have learned to be calmer in my approach to parenting my teen. To slow down and listen and to value his opinion.”

**TABLE 5:** Categories of qualitative responses to two open-response questions concerning helpful course characteristics and limitations of the course or opportunities for change and improvement.

Key Learning Topics (Categories)	Opportunities for Improvement (Categories)	Additional Comments (Themes) <sup>a</sup>
Listening ( <i>n</i> = 69; 26.4%) <sup>b</sup>	Group discussion ( <i>n</i> = 14; 21%)	General positive comments ( <i>n</i> = 43; 27%)
Parent vision ( <i>n</i> = 61; 23.4%)	Specific topic suggestions ( <i>n</i> = 8; 12%)	Positive facilitator comments ( <i>n</i> = 33; 21%)
Communication ( <i>n</i> = 47; 18.0%)	Balance of time & information ( <i>n</i> = 7; 10%)	Positive group atmosphere ( <i>n</i> = 25; 16%)
Parenting style ( <i>n</i> = 39; 14.9%)		Positive group interaction ( <i>n</i> = 23; 14%)
Family atmosphere ( <i>n</i> = 31; 11.9%)		Practical knowledge and skills ( <i>n</i> = 15; 9%)
Boundaries ( <i>n</i> = 30; 11.5%)		
Parent regulation ( <i>n</i> = 29; 11.1%)		
Connection ( <i>n</i> = 24; 9.2%)		
Love language ( <i>n</i> = 19; 7.3%)		
V of love ( <i>n</i> = 18; 6.9%)		
Behaviour management ( <i>n</i> = 17; 6.5%)		
Perspective taking ( <i>n</i> = 17; 6.5%)		
Personality ( <i>n</i> = 16; 6.1%)		
General positive comments <sup>c</sup> ( <i>n</i> = 15; 5.7%)		

**NOTES:** <sup>a</sup> Themes include multiple categories with a shared underlying (latent) dimension.

<sup>b</sup> Percentages refer to the frequency of responses for that question and exceed 100% as most participants' responses were coded into multiple categories.

<sup>c</sup> The next lowest categories for Key Learning Topics (*n* = 8; 3.5%) were omitted from the Table as they fell below a 5% threshold. Nevertheless, they were still included in the themes described in text.

## Qualitative responses: Limitations and areas for improvement

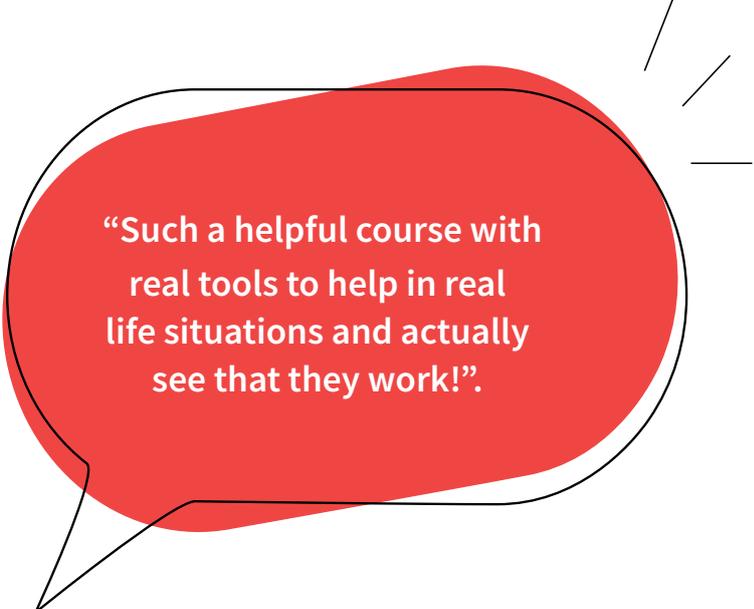
The second open-response question asked participants about the limitations of the course or how it could be improved. At first glance it appeared that 191 of the 355 (54%) participants provided some type of formative feedback; however, after coding the data, the results showed that 126 (35%) of those responses only contained further positive comments which will be addressed below. The small group of responses (n = 65) that actually mentioned limitations or suggestions for course improvement mostly contained idiosyncratic items (categories with three responses or less) that seemed to relate to one specific course or facilitator (e.g., managing talkative participants, commenting that a facilitator did not seem very familiar with new content), the facility (e.g., uncomfortable chairs, tech problems) or suggestions for improving the course experience (e.g., recognizing diverse families, creating groups based on similar issues). Only three themes featured across five or more participants, which are listed above in Table 5.

Comments around group discussion were the most common response with participants feeling that more time was needed to hear from participants about the practical problems they were facing, or goals they wanted to achieve, and explore possible solutions. This was occasionally included with a comment that facilitators should do less reading from the manual. One parent's response nicely summarized this group: *"Maybe more time for sharing scenarios in our own home e.g. what's challenged you as a parent this week? To share ideas of what works for you (strategies) or what to try because some people have been there and done that and we can learn from others experiences."* Another parent mentioned that discussion needed to be prioritized over the agenda in the course manual. *"Maybe some more time for discussion. Learnt a lot from people's experiences and ideas rather than just things in manual."*

The next most common suggestion concerned a variety of topics that parents felt should be added. This included a few requests for more information targeted towards single parents, blended families, and strategies to improve co-parenting. Additional suggestions included topics focusing on sibling conflict, sleep problems, and children with special behavioural or developmental needs. The final category was a group of parents who commented that there was not enough time to cover all the material, or not enough sessions.

## Qualitative responses: Additional comments

As mentioned above, 126 participants wrote a variety of additional positive comments to the question about course limitations and areas for improvement. These were coded into twenty categories, and from these, five themes were identified (see Table 4 above). First, over one quarter of these responses were general positive comments about how positive, excellent, or great the course was. Another fifteen of these were also identified in the question of key learning outcomes. Second, just over one in five of the responses were from participants who wrote very glowing comments about their course facilitator(s). Not only are the Toolbox facilitators skilled at presenting the course material and managing group dynamics, some are also apparently amazing bakers. Third, participants commented about how much they appreciated the *welcoming, inclusive, accepting, friendly, and supportive* group atmosphere. Closely related to this, the fourth category includes participants who commented about the positive group interaction, discussion, and sharing amongst parents about their challenges and triumphs in their parenting journey. Finally, just under ten percent of the responses were from parents who expressed their appreciation for how relevant the course was to their parenting and family life and easy it was to apply the skills. “[I] loved this. Have recommended [it] to others. Found the techniques really applicable and easy to use as the course went on.” “Such a helpful course with real tools to help in real life situations and actually see that they work!”



“Such a helpful course with real tools to help in real life situations and actually see that they work!”



# Discussion

The aims of this study were to (a) assess parents' perceptions of change over the course of their participation in a Toolbox parenting course across four measures, including relationship concerns, parental efficacy, parenting anxiety, and family climate; (b) examine potential moderating factors that might help explain individual differences in change over time (e.g., parenting anxiety); (c) assess participants' post-course reflections on the quality of course information and facilitator preparedness and competence; and (d) assess participants' post-course reflections on their general satisfaction with the course, their key learnings and applications, and their recommendations for changes to the course. The following discussion will review the results of this study in light of these aims, identify the strengths, limitations, and qualifications of these findings, and discuss potential next steps in the ongoing evaluation of the Toolbox courses.

## Self-reported changes from pre- to post-course

Replicating and extending the findings from the mid-year assessment, the results from this study showed statistically significant change across all measured outcomes, with effect sizes that ranged from small to moderately strong. Although the follow-up analyses of the moderating effects for parenting anxiety identified how parents with higher levels of parenting anxiety showed a greater degree of change, this interaction effect did not reduce the overall finding that a substantial majority of the Toolbox participants in this study reported positive changes in their relationships, parental efficacy, and home life. Rather, in line with expectations, it seems like participants who have more parenting anxiety may be more open and responsive to the course information and quickly apply the skills learned. Thus, those who feel they may need the Toolbox course more, seem to get more out of it.

As with the mid-year report, the results from the analyses of the open-response questions further supported the findings of change over time, but also identified a number of additional areas where parents reported experiencing positive effects from Toolbox participation beyond those areas that were measured. Each of the eight themes identified in response to the question about key learning topics and four of the five themes from the positive additional outcomes directly relate to at least one of the short-term outcomes from the Toolbox Theory of Change. For example, in the Theory of Change, the second short-term outcome under the *Parenting Competency* category is, *Parents discover new ways to approach and identify practical strategies for addressing challenges and improving family life*. The qualitative themes that related to this outcome include *Communication, Behaviour Management and Boundaries,*

*and Practical Skills and Knowledge.* See Appendix C for all of the Toolbox Theory of Change short-term outcomes and the themes from participants' comments about their course experience and learnings. Because these results were spontaneously identified by the participants in response to a rather generic question, this provides preliminary evidence for the validity of several of the Theory of Change short-term outcomes. Future research should target other aspects of the Theory of Change to try and extend these initial findings.

### **Formative evaluation findings**

In general, there is very little to report from the questions in the post-course survey that would point to important areas for change. This is partly due to the limited range of questions that were asked, but also to participants' overwhelming satisfaction with the course content, materials (manual and video), inclusive and welcoming atmosphere of the groups, and effective facilitation. A finding that was observed in the mid-year report that was further confirmed in these analyses is that participants do not come to a Toolbox course to build community and find support from other parents. Rather, they attend Toolbox to address a felt need in their family life, or they are motivated to strengthen their general parental development.

This does not mean that the experience of social support and group cohesion is not an important aspect of the Toolbox experience. As illustrated in the findings from the question of how the course could be improved and the many additional positive comments that participants provided; many participants valued the sharing, dialogue, and discussion in the group environment, and some wanted their facilitators to make room for more of this interaction. The qualitative responses suggest that the group interaction helps participants to gain perspective on their family situation, feel a sense of camaraderie as they hear from other parents who are experiencing similar issues, and provides a platform from which they can share their experiences of trying to apply the strategies promoted in the course. Thus, parents may not recognize a need for community when they come to a Toolbox course, but as a sense of community develops it may help participants to understand and address the needs that brought them to the course in the first place.

These findings point to the importance of facilitator competency. As recognised in the Toolbox Theory of Change, the effectiveness of the Toolbox course is likely mediated by facilitator competency in delivering the course. This includes a thorough understanding of the content, how the content practically applies to families, and a need to carefully balance the goals of working through course content to achieve learning outcomes alongside the organic nature of developing group cohesion, and allowing the group dynamic to be prioritized when appropriate. Thankfully, it seems that the majority of the course facilitators for these participants had high levels of competency, but given the poor response rate and no information on which facilitators are enabling these surveys to be completed and returned, we have no idea if this is generalizable.

## Strengths, limitations, and future directions

The results of this study certainly extend the findings from the 2018 retrospective study and provide the best evidence to date of the positive effect that the Toolbox courses are having in the lives of participants. The primary strengths of this study include the short-term longitudinal design and the mixed-methods approach. If we had relied solely on quantitative scales we would have never discovered the range of additional positive effects that Toolbox has for participants that are also in keeping with the Theory of Change model.

Nevertheless, these positive results are qualified by a number of substantial limitations to this study which point to a need for further research. The most significant limitation, identified above, is the poor response rate and the lack of participant demographic and course participation data. As was described in the report from the mid-year analyses, the poor response rate is a likely indicator that those who did complete the surveys represent a very biased sample that particularly enjoyed the course. This does not detract from the current findings, but could suggest that the results were indicative of the upward limit of course effectiveness and results may be attenuated with a more representative sample across all courses. This possibility can only be confirmed or rejected by getting fully completed surveys from a large majority of participants. The second major limitation concerns the surveys themselves. The quantitative measures do not adequately assess the targeted Theory of Change outcomes (limited content validity), so the surveys will need to be continually refined each year to identify those items that are the best indicators of the targeted outcomes. If we could attain full participation in the surveys, this could be done semi-annually. Then, once evidence builds that the Toolbox courses are effective in addressing some short-term outcomes, these will need to be replaced with new outcomes to further test the full theory of change. Given the substantive changes that are being made to PP courses, the reduced emphasis on updating and developing Toolbox and the new development of a suite of online courses, it would be remiss for the lessons learned from this study to not be adequately considered in the new courses.

# Appendices

## APPENDIX A – Summary of findings and recommendations from the mid-year analyses

### Assessment

While the results were generally encouraging and suggested that the measures were capturing a degree of change perceived by parents over the six weeks of the course, there were a variety of modifications that were necessary to try and improve the psychometric properties. These included:

- Almost half of the participants misunderstood that the goals in the pre-course survey needed to be ranked. As course goals seemed pretty well defined to those that we had identified, to create space for other items in a revised survey for 2020, participants' were asked a simple open-response question about their goals.
- Although the assessment of the home environment provided participants' with a very simple way to respond to the questions, there were issues with missing data along with challenges in assessing internal reliability. In light of this, we recommended in the first report that the home environment questionnaire be changed to a rating exercise. This is being trailed in 2020 with a bipolar scale forcing participants to rate their home life against two opposing antonyms (e.g., hostile vs. peaceful).
- The items measuring relationship quality and parental efficacy had rather poor psychometric properties, particularly at the post-course assessment. Therefore, these were modified for 2020.
- Parenting anxiety items were retained.
- The response rate for completing these pre-/post-course mini-evaluations needed to dramatically improve, both in quantity and quality. To that end, and to share with the facilitators the positive outcomes, the RED team produced a short video summary of the results and encouraged the facilitators to improve their efforts with getting the surveys completed ([see the video here](#)).

### Participant outcomes

- The results from the analysis extended the findings from the 2018 retrospective survey by documenting significant changes in participants' perceptions of family relationship quality, parenting efficacy, and positive shifts in the home environment.
- The initial results of the open response (qualitative) questions at the post-course survey reinforced the quantitative findings and pointed to additional outcomes in line with the theory of change that were not explicitly measured.
- The poor response rate was also a likely indicator that those who did complete the surveys represented a very biased sample that particularly enjoyed the course. This does not detract from the current findings, but could suggest that the results were indicative of the upward limit of course effectiveness and results may be attenuated with a fuller sample. This possibility can only be confirmed or disqualified by getting fully completed surveys from a large majority of participants.

APPENDIX B – Test-retest reliability estimates and convergent validity correlations across quantitative measures.

TABLE B1. Bivariate correlations between pre-course measures and post-course measures

	Post-RC	Post-PE	Post-PA	Post+HE	Post+HE	Post+HE
Pre-Relationship Concerns	.660	-.227	.311	.377	-.348	-.015
Pre-Parental Efficacy	-.266	.484	-.253	-.311	.158	.054
Pre-Parenting Anxiety	.405	-.283	.550	.266	-.140	-.054
Pre-Postive Home Environment	.414	-.208	.257	.567	-.190	.049
Pre-Negative Home Environment	-.421	.093	-.212	-.287	.460	.087
Pre-Neutral Home Environment	.173	.085	.117	.112	-.156	.368

NOTE: All correlations greater than .15 (absolute value) are significant with  $p \leq .01$ . Correlations in yellow highlighting indicate test-retest reliability associations.

TABLE B2. Bivariate correlations within pre-course measures and post-course measures

		1	2	3	4	5	6	7	8
1	Relationship Concerns	1	-.292	.469	.465	-.399	.012	.041	-.090
2	Parental Efficacy	-.404	1	-.397	-.283	.164	.091	-.051	.103
3	Parenting Anxiety	.530	-.444	1	.251	-.245	-.040	-.014	-.053
4	Postive Home Environment	.496	-.310	.322	1	-.268	.116	.027	-.063
5	Negative Home Environment	-.556	.284	-.347	-.255	1	-.070	-.025	.042
6	Neutral Home Environment	.172	-.024	.091	.228	-.155	1	-.060	.066
7	Quality of Course Information							1	.331
8	Facilitator Competency & Overall Course Satisfaction								

NOTE: Pre-course measures are below the diagonal and post-course measures are above the diagonal. Quality of course information and facilitator competency and overall course satisfaction only measured at the post-course assessment. All correlations greater than .15 (absolute value) are significant with  $p \leq .01$ .

APPENDIX C – Toolbox Theory of Change short-term outcomes as related to the themes from participants’ key learning outcomes and additional positive course reflections.

	Toolbox Theory of Change Short-term Outcomes	Themes from Parent-reported Outcomes
	<b>A. Greater understanding of and connection with their children</b>	
A1	Parents develop a stronger relationship/connection with their children.	
A2	Parents understand the need to prioritize relationships over behaviour management.	Time to connect
A3	Parents have greater empathy for and use more perspective taking with their child.	Perspective taking
A4	Parents develop a greater awareness of their child’s developmental stage.	
A5	Parents develop a better understanding of their child's unique individuality.	Individual differences
	<b>B. Parenting competency</b>	
B1	Parents develop a better understanding of their parenting role.	Parenting styles and skills
B2	Parents discover new ways to approach and identify practical strategies for addressing challenges and improving family life.	Communication Behaviour management and boundaries
B3	Parents gain increased parenting confidence and efficacy.	Practical knowledge and skills
B4	Parents learn about the importance of self-care.	
B5	Parents (individually) and couples (dyadically) reflect on their parenting practices and family processes.	
B6	Parents improve the self-regulation of their parenting.	Parental regulation
B7	Parents gain a perspective of children’s behaviour as related to their needs and situational determinants.	Perspective taking
	<b>C. Positive family atmosphere, identity, and culture</b>	
C1	Parents identify strategies for creating a warm family environment, including play, having fun, and creating positive memories.	Family atmosphere and values
C2	Parents identify strategies for creating a more well-defined sense of family identity and culture.	
C3	By interacting with other parents, participants develop a wider perspective of being a parent, running a family.	
	<b>D. Sense of support and community from the group context</b>	
D1	Parents develop short-term connections with other parents and feel supported by the group and the facilitator in their parenting journey.	Positive group atmosphere
D2	Parents become aware of additional resources to support their parenting.	Positive group interaction