

Hart Laura (Orcid ID: 0000-0001-5894-4520)

CBCC: 6 and 12-month outcomes

1

TITLE:

**Confident Body, Confident Child: Evaluation of a universal parenting resource promoting healthy body image and eating patterns in early childhood – 6 and 12 month outcomes from a randomized controlled trial**

Running Title: CBCC: 6 and 12-month outcomes

Authors: Laura M **Hart** (PhD)<sup>1, 2<sup>∞</sup></sup>, Stephanie R **Damiano** (PhD)<sup>1</sup>, Connie S. N. **Li-Wai-Suen** (PhD)<sup>3</sup>, Susan J **Paxton** (PhD)<sup>1</sup>

1 School of Psychology & Public Health, La Trobe University,

2 Melbourne School of Population Health, University of Melbourne

3 Department of Mathematics and Statistics, La Trobe University

<sup>∞</sup>Corresponding Author:

Confident Body, Confident Child Study

George Singer Building, Melbourne Campus

Kingsbury Drive, Bundoora, Vic 3086

Australia

[l.hart@latrobe.edu.au](mailto:l.hart@latrobe.edu.au)

This is the author manuscript accepted for publication and has undergone full peer review but has not been through the copyediting, typesetting, pagination and proofreading process, which may lead to differences between this version and the Version of Record. Please cite this article as doi: [10.1002/eat.22992](https://doi.org/10.1002/eat.22992)

Word count (abstract only): 200 words [Max 250]

Word count excluding abstract, references, tables and figures: 3,025 words [Max 4,500]

### **Acknowledgements**

The authors wish to thank Dr. Agus Salim for his guidance with the statistical analyses, Fiona Sutherland, Deirdre Ryan and Chelsea Cornell for their assistance with administration of the trial. Funding for this research was via a private prevention philanthropic donation awarded to S. Paxton, and via a Colin Dodds Postdoctoral Fellowship awarded to L. Hart.

### **Conflict of Interest**

The authors will not benefit financially or otherwise from the publication of this research and have no conflicts of interest to declare.

### Abstract

**Objective:** To evaluate *Confident Body, Confident Child* (CBCC), a universal parenting resource designed to promote positive body image and healthy eating patterns in children aged 2-6 years, at 6- and 12-months follow-up. **Method:** A four-arm randomised controlled trial with 345 parents was conducted. Group (A) received the CBCC resource pack + workshop, (B) received the CBCC resource pack only, (C) received a nutrition booklet and (D) received no interventions until all questionnaires were completed (i.e., waitlist control). Measures of parenting variables relevant to child body image and eating patterns, and parent-report of child weight, were administered at baseline, 6-weeks post-intervention (results reported previously), and 6-months and 12-months follow-up. **Results:** Mixed effects modelling comparing group averages over time revealed that significant group differences on measures of knowledge, parenting intentions and the parental feeding practice of weight restriction were still present at 12-months follow-up, though the remaining measures showed no significant differences between groups over time. The two CBCC groups reported more positive and less negative outcomes than the nutrition booklet active control. **Discussion:** The CBCC program achieved sustained improvements in some parenting variables at 12-months, suggesting its value as an effective parenting intervention. Changes to the intervention design, such as the addition of a follow-up parent workshop, however, would likely increase its efficacy.

**Key words:** body image, disordered eating, prevention, parents

Author Manuscript

## Introduction

Parents influence the development of child body and eating attitudes in many ways. For example, children are at increased risk of engaging in disordered eating when others around them encourage stereotypical appearance ideals (Helfert & Warschburger, 2011), engage in fat-talk (Lydecker, Riley, & Grilo, 2018), are eating (Goldschmidt et al., 2018), or tease them for their weight (Haines, Neumark-Sztainer, Eisenberg, & Hannan, 2006). Alternatively, parents can role model positive eating and exercise habits for their children, provide an environment that encourages healthful food choices and regular physical activity, encourage health behaviors instead of weight loss, and provide a supportive emotional environment that encourages reciprocal communication (Neumark-Sztainer, 2005). Helping parents to achieve these often very difficult goals is a priority for prevention (Golan & Crow, 2004; Hart, Damiano, Chittleborough, Paxton, & Jorm, 2014), as the burden of disordered eating and body dissatisfaction emerges in childhood and significantly increases risk for the onset of clinical eating disorders later in life (Stice, Marti, & Durant, 2011).

Of particular interest to prevention programs are changes in parental feeding practices; the ways in which parents manage their child's food intake and eating patterns (Damiano, Hart, & Paxton, 2016). Parental feeding practices include: *instrumental feeding* (rewarding or punishing a child's behavior through promise or denial of food), *emotional feeding* (giving food to calm or soothe, Wardle, Sanderson, Guthrie, Rapoport, & Plomin, 2002), *pushing to eat* (pressuring children to eat more or certain nutritious foods, Baughcum, Burklow, Deeks, Powers, & Whitaker, 1998), *fat restriction* (controlling or restricting intake on the basis of food fat content, Birch et al., 2001; Musher-Eizenman & Holub, 2007), *weight*

*restriction* (controlling children's access to food or portion sizes because of concerns about child weight, Rodgers, Paxton, Massey, et al., 2013), and *monitoring* (monitoring children's consumption of high fat or sugary foods, Birch et al., 2001). The first five practices have evidence to suggest that when parents engage in these, children are more likely to exhibit unhealthy eating patterns, such as overeating or emotional eating (Rodgers, Paxton, Massey, et al., 2013; Rodgers, Paxton, McLean, et al., 2013). The practice of monitoring has evidence to suggest that it may be protective of healthful eating patterns in children (Rodgers, Paxton, Massey, et al., 2013; Rodgers, Paxton, McLean, et al., 2013). Creating programs that assist parents in reducing negative feeding practices and increasing positive ones, are a likely avenue for effective preventive interventions (Hart, Damiano, Cornell, & Paxton, 2015).

A systematic review (Hart, Cornell, Damiano, & Paxton, 2015) of interventions for parents designed to prevent eating disorders or body dissatisfaction in children, found that very few programs had been evaluated using high-quality randomized controlled trials and even less with follow-up greater than three months. Measurements over the longer term are important in establishing the duration of any post-treatment effects and the emergence of any possible harm. In prevention trials, especially those targeting children before the peak risk of onset is reached, analysing any drop-off in effects and establishing the need for increased dosage is especially important. Furthermore, the review found that there were no interventions designed for parents of children younger than age 6, revealing an important gap in the prevention literature (Hart, Cornell, et al., 2015).

*Confident Body, Confident Child* (CBCC) is a universal prevention resource, providing parenting strategies to promote body satisfaction and healthy eating in 2- to 6-year-

old children (Hart, Damiano, & Paxton, 2016). CBCC includes parent booklets, a poster, children's book, website and single-session workshop, that were developed from research evidence (Hart, Cornell, et al., 2015; Hart et al., 2014), informed by consultation with parents (Hart, Damiano, et al., 2015), and designed to activate behavior change by using theory and evidence from health behavior research (Albarracin et al., 2005). CBCC encourages parents to take a weight-neutral approach in encouraging healthful eating patterns and regular physical activity, to avoid fat-talk and appearance-based teasing, to engage in activities that help children develop their self-esteem and sense of accomplishment, and to appreciate bodily functions and abilities not related to appearance (see [www.confidentbody.net](http://www.confidentbody.net)).

We conducted an evaluation of CBCC to examine effectiveness in improving parenting practices known to be associated with childhood risk of body dissatisfaction and disordered eating— such as parental feeding practices – and to examine different delivery approaches best suited to parents. This involved using a four-arm randomized controlled trial (RCT), including: A) the printed CBCC resource pack and a 2-hour face-to-face parent workshop (CBCC resource + workshop); B) the CBCC printed resource pack only (CBCC resource only); C) a widely available printed nutrition booklet *Happy Healthy Kids for Life* used as an active control (nutrition control) (Coster, Kusura, & Sullivan, 2013); and D) a wait-list control receiving all materials after completion of the final questionnaire (wait-list control).

We have previously reported on the program outcomes at 6-weeks post-intervention (Hart et al., 2016). CBCC resulted in significant reductions in parents' intentions to use behaviors that increase the risk of negative body attitudes or unhealthy eating patterns in their

children, use of feeding practices associated with unhealthy child eating patterns, and television watching during family meals. Significant increases in parents' intentions to use positive behaviors, and knowledge of child body image and healthy eating patterns, were also found. Superior outcomes were found for the CBCC resource + workshop condition, suggesting it is the preferred delivery method, over the CBCC printed resources only.

To identify whether intervention effects were maintained over the longer term, the present study examined outcomes at 6- and 12-months follow-up. Based on previous findings it was expected that: (1) parents receiving any type of resource would perform better on all outcome measures (groups A,B,C) than parents in the wait-list control (group D); (2) parents receiving any CBCC resources (groups A,B) would show greater improvements on outcome measures relating to child body image, than parents receiving the nutrition-control (group C); (3) parents receiving the CBCC resource + workshop (group A) would show greater improvements on all measures than parents receiving just the CBCC printed resource (group B).

## **Method**

### ***Participants***

A detailed description of the sample and trial design has been previously reported (Hart et al., 2016). Participants were recruited via advertisements and bulletins posted in local Early Childhood Services (i.e. kindergartens, day care centres, health services and playgroups), and were required to be at least 18 years old, a parent of at least one 2- to 6-year-old child, fluent in English and residing in Victoria, Australia. The baseline questionnaire was completed by

345 parents; 334 mothers (97%) and 11 fathers (3%). Eight were partners/spouses. At baseline, on average parents were aged 37.58 years ( $SD = 4.11$ ) and the child they reported on was aged 4.03 years ( $SD = 1.07$ , 58% female). Table 1 provides demographic data by intervention group at baseline. Parents were largely representative of the Australian population though were more than typically well-educated, of Caucasian-Australian background, likely to be married/defacto/partnered than single, and residing in the highest than lowest ranked socioeconomic areas (Australian Institute of Health and Welfare, 2018). Parents reported body weight across all categories and higher than average scores on measures of eating and body image concerns (Mond, Hay, Rodgers, & Owen, 2006).

The 6-month follow-up questionnaire was returned by 277 parents, with 270 providing complete data (78% of baseline). The 12-month questionnaire was returned by 257 parents, with 252 providing complete data (73% of baseline); indicating that retention throughout the trial was good.

### *Measures*

Parent risk and protective factors were assessed via online self-report questionnaires using measures that have been shown to have acceptable reliability and validity in similar samples (Damiano, Hart, & Paxton, 2015; Hart et al., 2016) (see Table 2). The measures were implemented during the active trial period from 2013-2016 and included: the Knowledge Test for Body Image and Eating Patterns in Childhood – Knowledge Test BEC (Damiano et al., 2015), the positive and negative subscales of the Parenting Intentions for Body Image and Eating Patterns in Childhood – Parenting Intentions BEC (Damiano et al., 2015), four measures of family meal times (atmosphere, schedules, television, and frequency, Fulkerson

et al., 2006), and six parental feeding practice scales (Rodgers, Paxton, Massey, et al., 2013). Five of the parental feeding practices have clear evidence of an association with increased child disordered eating (instrumental feeding, emotional feeding, pushing to eat, fat restriction, and weight restriction, Rodgers, Paxton, Massey, et al., 2013). The sixth scale, monitoring, was also included, as there is evidence to suggest that it is associated with positive child outcomes, such as reduced food approach behaviors (Rodgers, Paxton, Massey, et al., 2013).

Although parent-report data on child height and weight were collected at baseline, 6- and 12-months, child variables were not directly measured as part of the trial. Child BMI<sub>z</sub>, parent BMI, and weight status were calculated according to the criteria of the World Health Organization (World Health Organization, 2016) and Cole, Bellizzi, et al. (2000).

### ***Procedures***

This research was approved by the University Human Research Ethics Committee and State Government Department of Education and Training Review Committee and registered with the Australia New Zealand Clinical Trials Registry (ACTRN12615000354583). After randomization and baseline questionnaire completion, participants were scheduled to attend a parent workshop, sent their resource packs via mail, or received no intervention. The CBCC resource + workshop group received their follow-up questionnaires 183- (6-months) and 365 days (12-months) after attending the parent workshop. The remaining groups received their follow-up questionnaires 198- (6.5-months) and (12.5-months) 380 days after completing the baseline questionnaire. The difference in measurement occasions was used to try and standardise the time between resource receipt and questionnaire completion, given those in

the CBCC resource + workshop group often experienced a delay between completing their baseline questionnaire and enrolling in and completing the workshop session. Participants who completed their questionnaires were entered into a lottery draw (one first AU\$100, second AU\$50 and third AU\$20 prize per group, for both the 6- and 12-month rounds).

### ***Data Analysis***

We compared responses at baseline, 6- and 12-months follow-up across groups. Linear mixed-effects models were fitted to compare parenting outcomes over time (baseline, 6-months and 12-months follow-up) across group allocations (A, B, C, D). For each parenting outcome, a model with group, time, and group x time interaction was fitted. An intention-to-treat analysis was performed such that participants with incomplete data were included in the analyses. Planned orthogonal contrasts were conducted to compare the change between groups and time points and Bonferroni corrections for multiple comparisons were applied and p-values adjusted. Outcomes showing statistically significant differences after adjustments for multiple testing, were plotted to provide graphical representation of trends over time. Results were otherwise considered statistically significant at the 5% level. All statistical analyses were performed using STATA version 14 (StataCorp, 2015) and R (R Core Team, 2017). All data analyses were performed in 2017.

## **Results**

### ***Measures of parenting risk and protective factors***

Results of mixed-effects model analyses on measures of parenting at baseline, 6-months and 12-months follow-up (Table 3) revealed that there were statistically significant differences between groups at 6-months and 12-months on: the Knowledge Test BEC, the

positive and negative intentions subscale of the Parenting Intentions BEC, and the parental feeding practice of weight restriction. None of the family mealtime scales showed any significant differences. Outcomes of planned orthogonal contrasts indicating where these group differences occurred are shown in Table 4.

#### *Knowledge test*

Figure 1a displays the mean scores for all groups over time. Mean scores for the knowledge test showed that the two CBCC groups (A & B) showed increased knowledge from baseline to 6-months, with only small declines at 12-months. Planned orthogonal contrasts revealed that the two CBCC groups were not statistically significant from each other at 12-months, though the CBCC resource + workshop group did report significantly higher knowledge scores than the CBCC resource only group at 6-months.

The mean knowledge scores for parents in the nutrition control group (C) showed that scores improved from baseline to 6-months, though not as strongly as the CBCC groups, and dropped off a little more sharply by 12-months. Planned contrasts showed that the difference between all three intervention groups was not significant at 6-months, but after the drop-off in scores at 12-months, the nutrition booklet group was significantly lower than the two CBCC groups.

The mean knowledge scores for the parents in the wait-list control group (D) showed that there were small increases in scores over time (likely due to re-testing). Planned contrasts revealed that the wait-list control group scores were significantly lower than all the intervention groups combined at 6-months, but likely due to the drop off in scores in group C, this difference was not upheld at 12-months.

*Parenting intentions*

Although the mixed-effects models revealed a significant group x time interaction for the parenting intentions positive and negative subscales, planned orthogonal contrasts did not reveal any significant differences across groups. This is likely due to the waitlist control group showing small improvements over testing occasions, and very small differences occurring between the two CBCC groups and the nutrition booklet group.

*Parental feeding practices*

The results of mixed-effects model analyses revealed that there was only a significant group by time interaction effect for instrumental feeding. The mean scores for all intervention groups on instrumental feeding over time, are shown in Figure 1b. The two CBCC groups appeared to decrease in their endorsement of instrumental feeding over time, which is a positive outcome. Although the nutrition control group also showed a decrease, this was very small in size at 6-months, and slightly smaller again at 12-months. Planned contrasts showed that there was a significant difference between the two CBCC groups and the nutrition control group but only at 12-months; with the CBCC groups showing the least engagement in the negative practice.

Although the remaining parental feeding practices did not show a significant group by time interaction effect, planned contrasts did reveal some significant group differences at individual time points. For example, contrasts comparing pushing to eat scores revealed significant differences between the two CBCC groups and the nutrition booklet group at 6-months but not 12, likely because of the small rebound seen in the CBCC resource only group at 12-months. Mean scores across intervention groups are shown in Figure 1c, which

shows that parents in the nutrition control group reported very small increases in pushing to eat while the CBCC resource + workshop group showed decreases over time, though the CBCC resource only group showed decreases at 6-months, with a slight rebound at 12-months. The planned contrasts revealed significant differences between the two CBCC groups and the nutrition booklet group at 6-months only, likely because of the small rebound seen in the CBCC resource only group at 12-months.

Weight restriction scores over time are shown in Figure 1d. Parents in the two control groups showed very small increases in weight restriction from baseline to 6-months, while the two CBCC groups showed stronger reductions. These changes were maintained at 12-months. Planned contrasts showed that there was a significant difference between the two CBCC groups and the nutrition control group but only at 12-months; with the CBCC groups showing the least engagement in the negative practice.

For emotional feeding, planned contrasts (see Table 4) revealed that there was one significant difference between intervention groups at 6-months, whereby all three active intervention conditions showed slight decreases from baseline, whereas the wait-list control showed minimal change. This effect however, was no longer significant once corrections for multiple comparisons had been undertaken. There were no other differences across groups over time on emotional feeding.

Planned contrasts also showed no significant differences across groups at any time point on the practices of fat restriction or monitoring.

## **Discussion**

We conducted a four-arm RCT to evaluate the parenting prevention program *Confident Body, Confident Child*. Analyses revealed that 6- and 12-months after receiving the resources, significant differences across the intervention groups were still apparent with small effect sizes, with parents who received the CBCC resources showing better outcomes than parents who received the nutrition control booklet.

In our previous paper (Hart et al., 2016), we reported on outcomes of this trial at 6-weeks post-intervention. At that time, planned orthogonal contrasts revealed significant differences between the two CBCC groups combined, and the nutrition control, on the Knowledge Test BEC, positive and negative intentions subscales of the Parenting Intentions BEC, family meals – television viewing, and weight-restriction parental feeding practice scale, with the CBCC groups showing better outcomes (Hart et al., 2016). The mixed-effects models analyses of the current study revealed that almost all of those differences were retained at 6- and 12-months; parents who had received the CBCC resources only, or CBCC resources + workshop, retained more knowledge, reported more positive intentions, less negative intentions and lower levels of instrumental feeding, than parents who received the nutrition control booklet. The data collected at 6- and 12-month follow-up did not show any significant differences between groups on any of the family meals measures, nor on the parental feeding practices of monitoring or fat restriction, though these were not necessarily expected, given the findings at 6-weeks post-intervention.

At 6-months, parents receiving CBCC reported significantly less engagement in instrumental feeding (before adjustments only), pushing to eat, and weight restriction. Given that a systematic review of parental feeding strategies found that restriction is strongly

associated with increased child overeating (i.e. eating in the absence of hunger, greater caloric intake, Faith et al., 2004), a longitudinal study found that restriction and pressure to eat practices account for at least part of the association between children's eating and child BMI (Jansen et al., 2012), and that a population-based study found that greater parental use of instrumental feeding when children were 6, predicted increased emotional overeating and food responsiveness 2 years later (Steinsbekk, Belsky, & Wichstrøm, 2016), it is likely that reducing negative parental feeding practices when children are in preschool years will have significant positive impacts on healthful child eating and weight patterns as children age. CBCC therefore appears to be an important tool in reducing parent feeding practices associated with unhealthful child eating patterns. Longer-term follow-up, including measures of eating habits among the children, will be important in revealing whether sustained refrainment from parental restrictive feeding does indeed lead to positive eating patterns in children. Indeed, future research tracking a range of child mental and physical health outcomes would further elucidate the potential benefits of parents receiving this universal intervention.

At 12-months, parents who had received the CBCC resources through the workshop or resources only, reported engaging in fewer negative feeding practices of their children than the nutrition control booklet. Before corrections for multiple comparisons were applied, the CBCC groups reported lower levels of pushing to eat, weight restriction and instrumental feeding, however after corrections were applied, only the instrumental feeding remained statistically significant. It is possible that a larger sample at 12-months may have demonstrated an ongoing significant difference in reduced levels of pushing to eat and

weight-restrictive feeding among the CBCC parents, however increasing the CBCC dose could also provide stronger and longer-term benefits for parents. Either way, it appears that the CBCC program is more effective over the longer term than the nutrition control booklet. This may be because the CBCC resources were more intensive than the nutrition booklet - with the CBCC Parent Book alone comprising 70 pages versus the 23 pages of the nutrition booklet – but it is also possible that the inclusion of information about developing child body image and self-esteem fosters parent ability to disengage negative feeding practices.

Despite some significant group differences remaining at 6- and 12-months, there is room for improvement in the strength of the CBCC intervention. One approach could be to introduce a follow-up workshop session. This would allow parents to discuss what they have tried to do differently at home, where they need more support to change and how they can use the program into the future. Anecdotally, we believe parents would view this design positively, as we were often asked by parents in the workshop group whether they could attend a follow-up session. Multi-session intervention programs have also been found to be more effective than single sessions, in a meta-analysis of prevention programs (Stice, Shaw, & Marti, 2007). Including a second session would allow greater detail and discussion of parental feeding practices and the necessity of reducing those associated with negative outcomes. Alternatively, reminder emails with prompts to use and engage with the printed resources may also assist with better engagement, and this function has been trialled in other areas of prevention research (Morgan, Jorm, & Mackinnon, 2018).

A limitation of the current study is the homogeneity of the sample, which included predominantly white, well-educated mothers. In addition, the lack of child data and

observational measures is a weakness of the current design, as these data could triangulate parent self-report and reveal whether changes in parenting strategies result in meaningful improvements in child health. Strengths include a relatively low attrition rate and the intention-to-treat analyses. Even though child data are lacking and some intervention effects are no longer apparent at 6- and 12-months, it is still quite remarkable that such a simple intervention can have a positive and enduring impact on the parents in our sample.

## **Conclusion**

Results from our follow-up measures of parents who participated in a four-arm RCT of the universal parenting program *Confident Body, Confident Child* reveal that significant group differences found at 6-weeks were maintained at 6- and 12-months on measures of knowledge and parenting intentions to reduce risk for child body dissatisfaction and unhealthy eating patterns. Changes in parental feeding practices and family meal times were no longer stronger in the CBCC groups than the active control, though these intervention groups scored significantly better than parents in the wait-list control. Adding a second, booster session to the parent workshop could improve intervention effects in the future.

## References

- Albarracin, D., Gillette, J., Earl, A., Glasman, L., Durantini, M., & Ho, M. (2005). A test of major assumptions about behavior change: A comprehensive look at the effects of passive and active HIV-prevention interventions since the beginning of the epidemic. *Psychological Bulletin*, *131*(6), 856-897. doi:2005-15687-002
- Australian Institute of Health and Welfare. (2018). *Australia's Health 2018*. Canberra: Australian Government.
- Baughcum, A. E., Burklow, K. A., Deeks, C. M., Powers, S. W., & Whitaker, R. C. (1998). Maternal feeding practices and childhood obesity: A focus group study of low-income mothers. *Archives of Pediatrics & Adolescent Medicine*, *152*(10), 1010-1014. doi:10.1001/archpedi.152.10.1010
- Birch, L. L., Fisher, J. O., Grimm-Thomas, K., Markey, C. N., Sawyer, R., & Johnson, S. L. (2001). Confirmatory factor analysis of the Child Feeding Questionnaire: a measure of parental attitudes, beliefs and practices about child feeding and obesity proneness. *Appetite*, *36*(3), 201-210. doi:10.1006/appe.2001.0398
- Cole, T. J., Bellizzi, M. C., Flegal, K. M., & Dietz, W. H. (2000). Establishing a standard definition for child overweight and obesity worldwide: international survey. *British Medical Journal*, *320*(7244), 1240-1246. doi:10.1136/bmj.320.7244.1240
- Coster, S., Kusura, K., & Sullivan, V. (2013). *Happy Healthy Kids for Life*. Bentleigh, Vic: Kingston Bayside Primary Care Partnership.
- Damiano, S. R., Hart, L. M., & Paxton, S. J. (2015). Development and validation of parenting measures for body image and eating patterns in childhood. *Journal of Eating Disorders*, *3*(5), 1-17. doi:10.1186/s40337-015-0043-5
- Damiano, S. R., Hart, L. M., & Paxton, S. J. (2016). Correlates of parental feeding practices with pre-schoolers: parental body image and eating knowledge, attitudes, and behaviours. *Appetite*, *101*, 192-198. doi:10.1016/j.appet.2016.03.008
- Faith, M. S., Berkowitz, R. I., Stallings, V. A., Kerns, J., Storey, M., & Stunkard, A. J. (2004). Parental feeding attitudes and styles and child body mass index: prospective analysis of a gene-environment interaction. *Pediatrics*, *114*(4), e429-e436. doi:10.1542/peds.2003-1075-L
- Fulkerson, J. A., Story, M., Mellin, A., Leffert, N., Neumark-Sztainer, D., & French, S. A. (2006). Family dinner meal frequency and adolescent development: Relationships with developmental assets and high-risk behaviors. *Journal of Adolescent Health*, *39*(3), 337-345. doi:10.1016/j.jadohealth.2005.12.026
- Golan, M., & Crow, S. (2004). Parents are key players in the prevention and treatment of weight-related problems. *Nutrition Reviews*, *62*(1), 39-50. doi:10.1111/j.1753-4887.2004.tb00005.x
- Goldschmidt, A. B., Smith, K. E., Crosby, R. D., Boyd, H. K., Dougherty, E., Engel, S. G., & Haedt-Matt, A. (2018). Ecological momentary assessment of maladaptive eating in children and adolescents with overweight or obesity. *International Journal of Eating Disorders*, *51*(6), 549-557. doi:10.1002/eat.22864

- Haines, J., Neumark-Sztainer, D., Eisenberg, M. E., & Hannan, P. J. (2006). Weight teasing and disordered eating behaviors in adolescents: Longitudinal findings from project EAT (Eating Among Teens). *Pediatrics*, *117*, e209. doi:10.1542/peds.2005-1242
- Hart, L. M., Cornell, C., Damiano, S. R., & Paxton, S. J. (2015). Parents and prevention: A systematic review of interventions involving parents that aim to prevent body dissatisfaction or eating disorders. *International Journal of Eating Disorders*, *48*(2), 157-169. doi:10.1002/eat.22284
- Hart, L. M., Damiano, S. R., Chittleborough, P., Paxton, S. J., & Jorm, A. F. (2014). Parenting to prevent body dissatisfaction and unhealthy eating patterns in preschool children: A Delphi consensus study. *Body Image*, *11*(4), 418-425. doi:10.1016/j.bodyim.2014.06.010
- Hart, L. M., Damiano, S. R., Cornell, C., & Paxton, S. J. (2015). What parents know and want to learn about healthy eating and body image in preschool children: A triangulated qualitative study with parents and Early Childhood Professionals *BMC Public Health*, *15*, 596. doi:10.1186/s12889-015-1865-4
- Hart, L. M., Damiano, S. R., & Paxton, S. J. (2016). *Confident Body, Confident Child*: A randomised controlled trial evaluation of a parenting resource for promoting healthy body image and eating patterns in 2- to 6-year old children. *International Journal of Eating Disorders*, *49*(5), 458-472. doi:10.1002/eat.22494
- Helfert, S., & Warschburger, P. (2011). A prospective study on the impact of peer and parental pressure on body dissatisfaction in adolescent girls and boys. *Body Image*, *8*(2), 101-109. doi:10.1016/j.bodyim.2011.01.004
- Jansen, P. W., Roza, S. J., Jaddoe, V. W. V., Mackenbach, J. D., Raat, H., Hofman, A., . . . Tiemeier, H. (2012). Children's eating behavior, feeding practices of parents and weight problems in early childhood: results from the population-based Generation R Study. *International Journal of Behavioral Nutrition and Physical Activity*, *9*(1), 130. doi:10.1186/1479-5868-9-130
- Lydecker, J. A., Riley, K. E., & Grilo, C. M. (2018). Associations of parents' self, child, and other “fat talk” with child eating behaviors and weight. *International Journal of Eating Disorders*, *51*(6), 527-534. doi:10.1002/eat.22858
- Mond, J. M., Hay, P. J., Rodgers, B., & Owen, C. (2006). Eating Disorder Examination Questionnaire (EDE-Q): Norms for young adult women. *Behaviour Research and Therapy*, *44*(1), 53-62. doi:10.1016/j.brat.2004.12.003
- Morgan, A. J., Jorm, A. F., & Mackinnon, A. J. (2018). Email-based promotion of self-help for subthreshold depression: Mood Memos randomised controlled trial. *British Journal of Psychiatry*, *200*(5), 412-418. doi:10.1192/bjp.bp.111.101394
- Musher-Eizenman, D. R., & Holub, S. C. (2007). Comprehensive feeding practices questionnaire: Validation of a new measure of parental feeding practices. *Journal of Pediatric Psychology*, *32*, 960-972. doi:10.1093/jpepsy/jsm037
- Neumark-Sztainer, D. (2005). Preventing the broad spectrum of weight-related problems: working with parents to help teens achieve a healthy weight and a positive body image. *Journal of Nutrition Education and Behavior*, *37 Suppl 2*, S133-140. doi:10.1016/S1499-4046(06)60214-5

- R Core Team. (2017). *R: A language and environment for statistical computing*. Vienna, Austria: R Foundation for Statistical Computing.
- Rodgers, R. F., Paxton, S. J., Massey, R., Campbell, K. J., Wertheim, E. H., Skouteris, H., & Gibbons, K. (2013). Maternal feeding practices predict weight gain and obesogenic eating behaviors in young children: A prospective study. *International Journal of Behavioral Nutrition and Physical Activity, 10*, 24. doi:10.1186/1479-5868-10-24
- Rodgers, R. F., Paxton, S. J., McLean, S. A., Campbell, K. J., Wertheim, E. H., Skouteris, H., & Gibbons, K. (2013). Do maternal body dissatisfaction and dietary restraint predict weight gain in young pre-school children? A 1-year follow-up study. *Appetite, 67*, 30-36. doi:10.1016/j.appet.2013.03.009
- StataCorp. (2015). *Stat Statistical Software: Release 14*. College Station, TX: StataCorp LP.
- Steinsbekk, S., Belsky, J., & Wichstrøm, L. (2016). Parental feeding and child eating: an investigation of reciprocal effects. *Child Development, 87*(5), 1538-1549. doi:10.1111/cdev.12546
- Stice, E., Marti, C. N., & Durant, S. (2011). Risk factors for onset of eating disorders: Evidence of multiple risk pathways from an 8-year prospective study. *Behaviour Research and Therapy, 49*(10), 622-627. doi:10.1016/j.brat.2011.06.009
- Stice, E., Shaw, H., & Marti, C. N. (2007). A meta-analytic review of eating disorder prevention programs: Encouraging findings. *Annual Review of Clinical Psychology, 3*(1), 207-231. doi:10.1146/annurev.clinpsy.3.022806.091447
- Wardle, J., Sanderson, S., Guthrie, C. A., Rapoport, L., & Plomin, R. (2002). Parental feeding style and the inter-generational transmission of obesity risk. *Obesity, 10*, 453-462. doi:10.1038/oby.2002.63
- World Health Organization. (2016). Overweight and obesity. *Global Health Observatory (GHO) data*. Retrieved from [http://www.who.int/gho/ncd/risk\\_factors/overweight/en/](http://www.who.int/gho/ncd/risk_factors/overweight/en/)

## Tables

**Table 1 – Characteristics of Parent Participants by Intervention Group at baseline**

	CBCC Workshop + Resource <sup>a</sup>	CBCC Resource <sup>b</sup>	Nutrition Resource <sup>c</sup>	Waitlist control <sup>d</sup>	Total sample	p-value
Sample at baseline (n)	77	106	86	76	345	
Age (M, SD)	37.9 (3.8)	37.7 (4.4)	37.2 (4.1)	37.5 (4.0)	344	0.788
Gender (% female)	97.40	99.06	95.35	94.74	334	0.324
Social demographics						
Ethnicity (% other than Australian)	41.56	33.02	39.53	50.00	139	0.146
SEIFA lowest 10% (% yes)	0.00	1.89	0.00	1.32	3	0.411
SEIFA highest 10% (% yes)	18.18	16.04	12.79	19.74	57	0.657
Married/Defacto/Partnered (% yes)	98.70	95.28	95.35	97.37	333	0.554
Highest Education						
High school certificate (% yes)	7.79	6.60	4.65	6.58	22	0.757
Certificate/Diploma/Apprenticeship (% yes)	14.29	13.21	12.79	7.89	42	
Undergraduate University Degree (% yes)	45.45	44.34	47.67	38.16	152	
Postgraduate University Degree (% yes)	32.47	35.85	34.88	47.37	129	
Weight (n=338) <sup>e</sup>						
% BMI<18.5	1.37	4.76	1.18	2.67	9	0.415
% BMI 18.5-24.9	46.58	56.19	60.00	62.67	191	

% BMI 25-30	28.77	25.71	23.53	22.67	85	
% BMI>30	23.29	13.33	15.29	12.00	53	
Currently pregnant or given birth in last 6m	10.81	10.58	11.11	16.67	40	0.608
Eating and Body Image						
EDE-Q total score <sup>f</sup> (M,SD)	2.59 (1.58)	2.35 (1.48)	2.35 (1.49)	2.32 (1.38)	301	0.690
BAQ <sup>g</sup>	42.18 (11.98)	38.39 (12.32)	39.17 (12.02)	39.61 (11.15)	341	0.192
SATAQ Internalization <sup>h</sup>	20.96 (8.62)	21.29 (8.74)	20.30 (9.33)	21.17 (7.50)	341	0.875
Child reported on by parents						
Child Age (M,SD)	4.07 (1.0)	4.10 (1.08)	3.93 (1.18)	4.03 (1.02)	343	0.722
Child Gender (% female)	54.55	62.26	54.12	61.33	200	0.567
Child BMIz (M, SD) (n=325) <sup>i</sup>	0.42 (1.18)	0.42 (1.20)	0.44 (1.11)	0.49 (1.02)	325	0.978
Underweight (% BMIz WHO cat)	4.05	4.85	3.80	2.90	13	0.964
Normal weight (% BMIz WHO cat)	72.97	65.05	70.89	72.46	227	
Overweight (% BMIz WHO cat)	13.51	17.48	11.39	14.49	47	
Obese (% BMIz WHO cat)	9.46	12.62	13.92	10.14	38	

Note: P-values based on chi-square tests for categorical variables and analysis of variance for continuous variables. SEIFA: Socio-Economic Indexes for Areas. EDE-Q: Eating Disorder Examination Questionnaire, BMIz WHO Cat: World Health Organization Body Mass Index z-score Categorization.

*a* = All parents attended one two-hour face-to-face workshop and received the Confident Body, Confident Child Resource Pack (Parent Book, Extended Family Book, *Shapesville* children's storybook, Do/Don'ts poster, access to the confidentbody.net website).

*b* = All parents received the Confident Body, Confident Child Resource Pack via post.

*c* = All parents received the Happy Healthy Kids for Life nutrition booklet via post.

*d* = All parents had delayed receipt of both the Confident Body, Confident Child Resource Pack and the Happy Healthy Kids for Life nutrition booklet via post, until after all four evaluation questionnaires were completed.

*e* = height and weight were self-reported by parents and used to calculate Body Mass Index. Data was missing for 7 participants.

*f* = Excluding all women who indicated they were currently pregnant or had given birth in the last 6 months.

*g* = Body Attitudes Questionnaire, a measure of body dissatisfaction

*h* = Sociocultural Attitudes Towards Appearance Questionnaire, Internalization subscale

*i* = Height/weight data was missing for 20 children. Parents were asked to report whether measures were an estimate or exact measure, with 68% reporting an exact measure.

**Table 2 - Measures used at baseline, 6m and 12m post-training to assess parental outcomes**

Instrument Name	Description	Response scale	Item example
<i>Knowledge Test</i>	11 true/false statements relating to parenting variables that are known to be risk or protective factors for the development of body dissatisfaction and unhealthy eating patterns.	4-pt (false to true)	<i>If your child is overweight, you should encourage them to feel good about the body they have.</i>
<i>Parenting Intentions</i>	Designed to measure parents' behavioral intentions relevant to body image and eating issues in young children. Presents 6 scenarios describing a parent-child interaction, developed from risk factor research and informed by real-life situations reported by parents of young children in a focus group study. 2 subscales are calculated – Positive Intentions and Negative Intentions.	For each scenario, four parenting responses are given. Participants rank these from 1 (most likely to use) to 4 (least likely to use).	<i>In the supermarket, your child points to an overweight person and asks "why are they so big"?</i> (1). You explain to your child that everyone is different and that is ok. (2). You ignore the comment because you're not really sure how best to tackle it. (3). You think this is a good opportunity to tell your child about the importance of keeping trim and watching what they eat to avoid getting big. (4). You comment on the size of the person and explain to your child that it's not healthy.
<i>Family meal times</i>			
Atmosphere	6 items about meal time environment such as rules and conversation.	4-pt Likert (Disagree to Agree)	<i>Eating family meals brings people together in an enjoyable way.</i>
Schedules	2 items about how difficult it is to get together for a meal.	4-pt Likert (Disagree to Agree)	<i>It's difficult to find time for a family meal.</i>
Television	1 item about whether television is on at meal times.	4-pt Likert (Disagree to Agree)	<i>We watch TV while eating dinner.</i>

Instrument Name	Description	Response scale	Item example
Frequency	3 items about how often meals other than breakfast are eaten together as a family, and how often breakfast in particular is consumed.	Number of times occurred in the last 7 days	<i>The number of times I ate breakfast with my child in the past week.</i>
<i>Parental Feeding Practices</i>			
Instrumental feeding	Occurs when parents use food to change their child's behavior. Has been associated with child weight gain and tendency to overeat.	5-pt Likert (Disagree to Agree)	<i>I reward my child with something to eat when s/he is well behaved.</i>
Emotional feeding	Occurs when parents use food to calm or soothe their child's negative emotions. Is thought to teach a child to pair food with emotions, and to increase the risk of binge eating in adulthood. It has also been associated with weight gain and higher child BMI.	5-pt Likert (Never to Always)	<i>When your child gets fussy, is giving your child something to eat or drink the first thing you do?</i>
Pushing to eat	Often when parents are concerned about their child's underweight, lack of appetite or nutritional intake, they will push their child to eat more or certain nutritious foods. Linked to child overweight and is thought to teach children to override hunger and satiety cues.	5-pt Likert (Never to Always)	<i>Do you ever punish or remove privileges to get your child to eat more?</i>
Fat Restriction	When parents are very concerned about healthy eating, they try to restrict what their child eats by giving less access to high-calorie foods, or smaller portions of them. Linked to child overweight because it does not allow self-regulation to develop and encourages focus on relationship between food and weight.	5-pt Likert (Disagree to Agree)	<i>I have to be sure that my child does not eat too many high-fat foods.</i>

Instrument Name	Description	Response scale	Item example
Weight Restriction	If parents are concerned about their child's weight, often they try to limit what their child is eating to encourage weight loss or weight maintenance. Associated with child overweight. Does not allow a child to develop self-regulation and can increase negative attitudes to food.	5-pt Likert (Disagree to Agree)	<i>I encourage my child to eat less so s/he won't get fat.</i>
Monitoring	Is the practice of keeping track of the child's eating (e.g., number and size of meals and snacks). Has been associated with healthier eating patterns in children.	5-pt Likert (Never to Always)	<i>How much do you keep track of the snack foods (potato chips, Doritos, cheese puffs) that your child eats?</i>

**Table 3 - Results of mixed-effects model analyses on measures of parenting at baseline, 6-months and 12-months follow-up**

	Group A: CBCC resources + info session			Group B: CBCC resource			Group C: Nutrition Booklet			Group D: Waitlist			$\chi^2$	<i>p</i> value	Cohen's <i>f</i> <sup>2</sup>
	<i>Baseline</i> M (SD)	<i>6m</i> M (SD)	<i>12m</i> M (SD)	<i>Baseline</i> M (SD)	<i>6m</i> M (SD)	<i>12m</i> M (SD)	<i>Baseline</i> M (SD)	<i>6m</i> M (SD)	<i>12m</i> M (SD)	<i>Baseline</i> M (SD)	<i>6m</i> M (SD)	<i>12m</i> M (SD)			
<i>Knowledge Test</i>	<b>36.48</b> <b>(4.10)</b>	<b>39.29</b> <b>(3.93)</b>	<b>38.97</b> <b>(4.00)</b>	<b>37.09</b> <b>(3.67)</b>	<b>38.29</b> <b>(3.63)</b>	<b>38.61</b> <b>(3.44)</b>	<b>36.31</b> <b>(3.83)</b>	<b>37.59</b> <b>(3.74)</b>	<b>36.85</b> <b>(4.10)</b>	<b>36.31</b> <b>(4.79)</b>	<b>36.44</b> <b>(3.65)</b>	<b>37.70</b> <b>(4.04)</b>	<b>4.02</b>	<b>0.007</b>	<b>0.069</b>
<i>Parenting Intentions</i>															
Positive scale	<b>7.77</b> <b>(1.86)</b>	<b>8.37</b> <b>(1.74)</b>	<b>8.62</b> <b>(1.68)</b>	<b>7.98</b> <b>(1.61)</b>	<b>8.67</b> <b>(1.50)</b>	<b>8.39</b> <b>(1.73)</b>	<b>7.63</b> <b>(2.00)</b>	<b>7.91</b> <b>(1.91)</b>	<b>7.89</b> <b>(1.87)</b>	<b>7.69</b> <b>(2.12)</b>	<b>8.08</b> <b>(1.86)</b>	<b>8.21</b> <b>(1.88)</b>	<b>2.63</b>	<b>0.048</b>	<b>0.011</b>
Negative scale	<b>1.47</b> <b>(1.33)</b>	<b>1.03</b> <b>(1.27)</b>	<b>1.07</b> <b>(1.24)</b>	<b>1.37</b> <b>(1.37)</b>	<b>1.31</b> <b>(1.30)</b>	<b>1.43</b> <b>(1.32)</b>	<b>1.68</b> <b>(1.66)</b>	<b>1.91</b> <b>(1.59)</b>	<b>1.90</b> <b>(1.60)</b>	<b>1.56</b> <b>(1.75)</b>	<b>1.46</b> <b>(1.52)</b>	<b>1.59</b> <b>(1.60)</b>	<b>3.73</b>	<b>0.011</b>	<b>0.013</b>
<i>Family Meal Times</i>															
Atmosphere	21.81 (2.59)	22 (2.14)	21.59 (2.56)	22.13 (2.04)	22.18 (2.30)	22.19 (1.84)	21.99 (2.59)	22.22 (2.20)	22.37 (2.28)	21.91 (2.14)	22.31 (2.06)	22.21 (1.79)	0.37	0.775	0.004
Schedules	4.90 (1.62)	4.89 (1.72)	4.78 (1.74)	5.14 (1.64)	4.98 (1.72)	4.96 (1.81)	5.00 (1.54)	4.89 (1.74)	4.94 (1.74)	5.17 (1.83)	5.11 (1.67)	5.09 (1.71)	0.43	0.734	0.002
Television	3.31 (0.85)	3.55 (0.72)	3.53 (0.73)	3.35 (0.91)	3.43 (0.84)	3.55 (0.74)	3.31 (0.86)	3.48 (0.78)	3.35 (0.87)	3.31 (0.93)	3.58 (0.64)	3.61 (0.68)	0.35	0.786	0.014
Frequency	17.92 (4.08)	18.71 (3.87)	18.60 (3.51)	18.98 (4.60)	19.34 (4.44)	18.99 (4.24)	18.45 (4.10)	19.39 (4.03)	18.92 (4.05)	18.12 (3.90)	19.05 (4.15)	19.05 (4.07)	0.61	0.611	0.009
<i>Parental Feeding Practices</i>															
Inst' feeding	2.35 (0.80)	1.98 (0.81)	1.93 (0.79)	2.18 (0.88)	1.89 (0.71)	1.95 (0.77)	2.15 (0.82)	2.06 (0.82)	2.07 (0.80)	2.15 (0.86)	2.06 (0.71)	2.13 (0.70)	0.27	0.847	0.037
Emot' feeding	1.63	1.5	1.46	1.61	1.45	1.47	1.65	1.51	1.47	1.69	1.67	1.53	1.10	0.346	0.016

	(0.55)	(0.60)	(0.61)	(0.54)	(0.43)	(0.50)	(0.52)	(0.46)	(0.46)	(0.65)	(0.58)	(0.56)			
	2.40	2.14	2.2	2.27	2.10	2.15	2.26	2.27	2.29	2.39	2.37	2.34			
Pushing to eat	(0.74)	(0.71)	(0.72)	(0.72)	(0.67)	(0.73)	(0.80)	(0.72)	(0.67)	(0.72)	(0.67)	(0.69)	0.94	0.423	0.024
	3.77	3.48	3.50	3.42	3.24	3.32	3.47	3.45	3.39	3.46	3.53	3.45			
Fat Restriction	(0.66)	(0.86)	(0.90)	(1.03)	(1.00)	(1.04)	(0.80)	(0.93)	(1.01)	(0.89)	(0.97)	(1.13)	1.30	0.271	0.013
Wgt	<b>1.70</b>	<b>1.45</b>	<b>1.40</b>	<b>1.68</b>	<b>1.52</b>	<b>1.47</b>	<b>1.67</b>	<b>1.68</b>	<b>1.60</b>	<b>1.77</b>	<b>1.79</b>	<b>1.75</b>			
Restriction	<b>(0.54)</b>	<b>(0.53)</b>	<b>(0.45)</b>	<b>(0.58)</b>	<b>(0.54)</b>	<b>(0.45)</b>	<b>(0.53)</b>	<b>(0.50)</b>	<b>(0.63)</b>	<b>(0.75)</b>	<b>(0.83)</b>	<b>(0.83)</b>	<b>3.15</b>	<b>0.024</b>	<b>0.027</b>
	3.88	3.73	3.51	3.97	3.75	3.66	3.96	3.74	3.71	4.04	4.03	3.88			
Monitoring	(0.82)	(0.74)	(0.87)	(0.84)	(0.78)	(0.86)	(0.94)	(0.96)	(0.95)	(0.73)	(0.75)	(0.81)	1.847	0.137	0.009

Note: Boldface indicates statistical significance at  $p\text{-value} < 0.05$ . According to Cohen's (1988) guidelines,  $f_2 \geq 0.02$  represents small,  $f_2 \geq 0.15$  represents medium, and  $f_2 \geq 0.35$  represents large effect sizes, respectively.

**Table 4. Orthogonal contrasts using mixed-effects model analyses on measures of parenting at baseline, 6-months and 12-months follow-up**

Contrasts <sup>A</sup>		Measurement Occasion <sup>B</sup>	Difference (Estimate – Hypothesised)	SE	<i>p</i>	<i>p-adj</i> <sup>C</sup>
<i>Knowledge test</i>						
<b>Group D</b>	<b>Groups C, B &amp; A</b>	<b>T3 vs T1</b>	<b>-1.93</b>	<b>0.44</b>	<b>&lt;0.001</b>	<b>&lt;0.001</b>
Group D	Groups C, B & A	T4 vs T1	-0.51	0.46	0.26	1
Group C	Groups B & A	T3 vs T1	-0.71	0.46	0.117	0.702
<b>Group C</b>	<b>Groups B &amp; A</b>	<b>T4 vs T1</b>	<b>-1.39</b>	<b>0.46</b>	<b>0.003</b>	<b>0.018</b>
<b>Group B</b>	<b>Group A</b>	<b>T3 vs T1</b>	<b>-1.48</b>	<b>0.51</b>	<b>0.004</b>	<b>0.024</b>
Group B	Group A	T4 vs T1	-0.88	0.52	0.091	0.546
<i>Parenting strategies - positive intentions</i>						
Group D	Groups C, B & A	T3 vs T1	-0.07	0.26	0.802	1
Group D	Groups C, B & A	T4 vs T1	0.05	0.27	0.866	1
Group C	Groups B & A	T3 vs T1	-0.43	0.27	0.115	0.69
Group C	Groups B & A	T4 vs T1	-0.42	0.28	0.129	0.774
Group B	Group A	T3 vs T1	0.15	0.30	0.617	1
Group B	Group A	T4 vs T1	-0.31	0.31	0.317	1
<i>Parenting strategies - negative intentions</i>						
Group D	Groups C, B & A	T3 vs T1	-0.04	0.20	0.856	1
Group D	Groups C, B & A	T4 vs T1	0.13	0.21	0.538	1
Group C	Groups B & A	T3 vs T1	0.48	0.21	<b>0.021</b>	0.126
Group C	Groups B & A	T4 vs T1	0.41	0.21	<b>0.053</b>	0.318
Group B	Group A	T3 vs T1	0.27	0.23	0.244	1
Group B	Group A	T4 vs T1	0.29	0.24	0.222	1
<i>Family meals - atmosphere</i>						
Group D	Groups C, B & A	T3 vs T1	0.05	0.30	0.861	1
Group D	Groups C, B & A	T4 vs T1	0.00	0.31	0.999	1
Group C	Groups B & A	T3 vs T1	0.05	0.31	0.871	1
Group C	Groups B & A	T4 vs T1	0.36	0.32	0.248	1
Group B	Group A	T3 vs T1	-0.29	0.35	0.409	1
Group B	Group A	T4 vs T1	0.06	0.36	0.869	1
<i>Family meals - schedules</i>						
Group D	Groups C, B & A	T3 vs T1	0.02	0.19	0.933	1
Group D	Groups C, B & A	T4 vs T1	0.06	0.20	0.774	1

Group C	Groups B & A	T3 vs T1	-0.03	0.20	0.894	1
Group C	Groups B & A	T4 vs T1	0.08	0.20	0.687	1
Group B	Group A	T3 vs T1	-0.16	0.23	0.486	1
Group B	Group A	T4 vs T1	-0.09	0.23	0.699	1
<i>Family meals - television</i>						
Group D	Groups C, B & A	T3 vs T1	0.05	0.10	0.637	1
Group D	Groups C, B & A	T4 vs T1	0.12	0.10	0.221	1
Group C	Groups B & A	T3 vs T1	-0.03	0.10	0.745	1
Group C	Groups B & A	T4 vs T1	-0.16	0.10	0.113	0.678
Group B	Group A	T3 vs T1	-0.19	0.11	0.08	0.48
Group B	Group A	T4 vs T1	-0.08	0.11	0.483	1
<i>Family meals - frequency</i>						
Group D	Groups C, B & A	T3 vs T1	0.15	0.52	0.776	1
Group D	Groups C, B & A	T4 vs T1	0.65	0.54	0.227	1
Group C	Groups B & A	T3 vs T1	0.38	0.54	0.48	1
Group C	Groups B & A	T4 vs T1	0.38	0.55	0.49	1
Group B	Group A	T3 vs T1	-0.32	0.60	0.593	1
Group B	Group A	T4 vs T1	-0.76	0.62	0.221	1
<i>Parental feeding practices - instrumental feeding</i>						
Group D	Groups C, B & A	T3 vs T1	0.17	0.08	<b>0.039</b>	0.234
Group D	Groups C, B & A	T4 vs T1	0.20	0.09	<b>0.021</b>	0.126
Group C	Groups B & A	T3 vs T1	0.22	0.09	<b>0.012</b>	0.072
<b>Group C</b>	<b>Groups B &amp; A</b>	<b>T4 vs T1</b>	<b>0.25</b>	<b>0.09</b>	<b>0.004</b>	<b>0.024</b>
Group B	Group A	T3 vs T1	0.08	0.10	0.405	1
Group B	Group A	T4 vs T1	0.21	0.10	<b>0.032</b>	0.192
<i>Parental feeding practices - emotional feeding</i>						
Group D	Groups C, B & A	T3 vs T1	0.13	0.06	<b>0.016</b>	0.096
Group D	Groups C, B & A	T4 vs T1	0.01	0.06	0.904	1
Group C	Groups B & A	T3 vs T1	0.03	0.06	0.565	1
Group C	Groups B & A	T4 vs T1	0.03	0.06	0.672	1
Group B	Group A	T3 vs T1	0.00	0.06	0.94	1
Group B	Group A	T4 vs T1	0.02	0.07	0.727	1
<i>Parental feeding practices - pushing to eat</i>						
Group D	Groups C, B & A	T3 vs T1	0.10	0.07	0.14	0.84
Group D	Groups C, B & A	T4 vs T1	0.03	0.07	0.724	1
<b>Group C</b>	<b>Groups B &amp; A</b>	<b>T3 vs T1</b>	<b>0.20</b>	<b>0.07</b>	<b>0.005</b>	<b>0.03</b>
Group C	Groups B & A	T4 vs T1	0.18	0.07	<b>0.016</b>	0.096
Group B	Group A	T3 vs T1	0.09	0.08	0.274	1
Group B	Group A	T4 vs T1	0.13	0.08	0.131	0.786

*Parental feeding practices - fat restriction*

Group D	Groups C, B & A	T3 vs T1	0.21	0.11	0.053	0.318
Group D	Groups C, B & A	T4 vs T1	0.14	0.11	0.205	1
Group C	Groups B & A	T3 vs T1	0.16	0.11	0.153	0.918
Group C	Groups B & A	T4 vs T1	0.07	0.12	0.518	1
Group B	Group A	T3 vs T1	0.14	0.13	0.283	1
Group B	Group A	T4 vs T1	0.17	0.13	0.194	1

*Parental feeding practices - weight restriction*

Group D	Groups C, B & A	T3 vs T1	0.15	0.07	<b>0.036</b>	0.216
Group D	Groups C, B & A	T4 vs T1	0.18	0.07	0.013	0.078
<b>Group C</b>	<b>Groups B &amp; A</b>	<b>T3 vs T1</b>	<b>0.19</b>	<b>0.07</b>	<b>0.007</b>	<b>0.042</b>
Group C	Groups B & A	T4 vs T1	0.15	0.07	<b>0.035</b>	0.21
Group B	Group A	T3 vs T1	0.08	0.08	0.306	1
Group B	Group A	T4 vs T1	0.08	0.08	0.345	1

*Parental feeding practices - monitoring*

Group D	Groups C, B & A	T3 vs T1	0.18	0.11	0.114	0.684
Group D	Groups C, B & A	T4 vs T1	0.13	0.12	0.262	1
Group C	Groups B & A	T3 vs T1	-0.05	0.12	0.684	1
Group C	Groups B & A	T4 vs T1	0.09	0.12	0.457	1
Group B	Group A	T3 vs T1	-0.09	0.13	0.493	1
Group B	Group A	T4 vs T1	0.05	0.13	0.685	1

Note: Boldface indicates statistical significance; P-values based on chi-square multilevel mixed-effects models.

A = *Group A* parents attended one two-hour face-to-face workshop and received the Confident Body, Confident Child Resource Pack (Parent Book, Extended Family Book, *Shapesville* children's storybook, Do/Don'ts poster, access to the confidentbody.net website). *Group B* parents received the Confident Body, Confident Child Resource Pack via post. *Group C* parents received the Happy Healthy Kids for Life nutrition booklet via post.

*Group D* parents had delayed receipt of Confident Body, Confident and Happy Healthy Kids for Life, until after all four evaluation questionnaires were completed.

B = T1: baseline, T2: 6-weeks post-intervention (not reported here), T3: 6-months follow-up, T4: 12-months follow-up

C= Adjusted p-values. All p-values were adjusted for multiple comparisons using the Bonferroni correction.

## Figure Legends/Captions

### Figure 1

Planned orthogonal contrasts revealed significant group differences on measures of parent [a] Knowledge, [b] Instrumental feeding, [c] Pushing to eat and [d] Weight restriction.

\* Denotes where significant group differences after Bonferroni corrections for multiple comparisons