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Understanding the role of parental attributions in parenting interventions

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Abstract

Parental attributions about child behaviour have been proposed as an important correlate of parental reactions, in particular to harsh parenting. The reduction of negative attributions, therefore, has the potential to reduce dysfunctional or hostile parenting practices and is important to examine. However, there is limited empirical research exploring the malleability of parenting attributions. This thesis aims to explore the impact of parenting attributions on parenting, and the extent to which negative attributions are reduced by parenting interventions. Complementary to the need to examine the impact of a parenting intervention in parental attributions, few evidence-based interventions have been evaluated in developing countries, therefore the second focus of the thesis is to evaluate the efficacy and cultural acceptability of the Group Triple P—Positive Parenting Program in Brazil.

This thesis consists of six chapters comprising four manuscripts as well as an introduction chapter and a discussion chapter which synthesize the contributions of the body of research as a whole. Chapter 1 provides a general introduction for the thesis by summarizing the key topics related to the body of work. It reviews the relevant literature about parental attribution theory and outlines extant literature regarding what is known about parental attributions and how they are related to child behaviour, parenting behaviour and parenting interventions.

Chapter 2 presents an empirical paper that used a cross-sectional sample of Brazilian parents to test a) a hypothesised model whereby parental attributions mediate the relationship between child behaviour and parenting behaviour and b) whether parental attributions predict harsh or hostile parenting. Both hypotheses were fully supported. Results indicated that parental attributions mediate the relationship between child behaviour and parenting behaviour and that parental attributions predict hostile patenting behaviour. Given that negative parental attributions predict parenting behaviour, there is a clear need to investigate if these can be changed.

Chapter 3 presents a manuscript of a systematic review aiming to identify if parenting interventions are able to change parental attributions. A small number of articles met specified inclusion criteria, revealing the scarcity of parenting intervention research in this area. Results from the review were inconsistent with some studies suggested that parenting programs have the potential to improve parental attributions, whereas other studies found they had no effect on parental attributions. This review highlights the need for further well-designed trials examining this topic.

Building on the research gap identified in the systematic review presented in Chapter 3, Chapter 4 presents the manuscript of a Randomised Controlled Trial (RCT) that aimed to a) identify

if a generalist parenting program (Group Triple P) is efficacious at reducing negative parenting attributions and b) evaluate the efficacy of Group Triple P in a Brazilian context. Results indicated that Group Triple P resulted in significant decreases in dysfunctional parental attributions, as well as in negative parenting styles, parental maladjustment and child behavioural problems. This study is one of the few case examples of a RCT of a parenting intervention Brazil.

Chapter 5 builds on the RCT of Group Triple P in Brazil by presenting a qualitative paper examining the cultural acceptability and relevance of Group Triple P in a Latin American context. Written data were collected from parents who completed Group Triple P regarding assessing their thoughts about the program, as well as any recommended improvement. A thematic analysis of parent responses revealed that overall parents viewed Group Triple P as culturally appropriate, however some recommendation from improvements were also made.

Finally, Chapter 6 integrates the research findings of all four studies and presents the contributions of the thesis as a whole to the broader literature. This chapter summarises the implications of findings for theory, research, and policy and practice. A summary of the strengths and limitations of the body of work are discussed, along with suggestions for future studies. Overall, these studies contribute to a better knowledge of parental attributions and their relevance in the context of parenting interventions.

This thesis offers new contributions to the literature in a number of ways. First, it builds on attribution theory confirming that parental attributions not only predict parenting behaviour but also that attributions mediate the relationship between child behaviour and parenting. Secondly, it adds to emerging evidence showing that parenting programs can reduce negative parenting attributions. These results highlight the importance of addressing negative parental attributions and provide evidence to support the use of parenting interventions to modify negative parental attributions, suggesting that tailored interventions that included extra components targeting attribution retraining may not be needed. Finally, the findings demonstrate that Group Triple P is efficacious in reducing negative parenting styles, parental maladjustment and child behavioural problems in Brazil. These findings have wider implications for prevention efforts among the Brazilian population, given the high rates of child behavioural problems and dysfunctional parenting across Latin America.

Declaration by author

This thesis is composed of my original work, and contains no material previously published or written by another person except where due reference has been made in the text. I have clearly stated the contribution by others to jointly-authored works that I have included in my thesis.

I have clearly stated the contribution of others to my thesis as a whole, including statistical assistance, survey design, data analysis, significant technical procedures, professional editorial advice, financial support and any other original research work used or reported in my thesis. The content of my thesis is the result of work I have carried out since the commencement of my higher degree by research candidature and does not include a substantial part of work that has been submitted to qualify for the award of any other degree or diploma in any university or other tertiary institution. I have clearly stated which parts of my thesis, if any, have been submitted to qualify for another award.

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Publications included in this thesis

No publications included.

Submitted manuscripts included in this thesis

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Other publications during candidature

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Contributions by others to the thesis

My supervisors, Dr Divna Haslam, and Associate Professor Alina Morawska both contributed to the conceptualisation and design of the thesis. They gave constructive feedback that was essential for drafting and writing the chapters of this thesis. Additionally, they provide guidance for statistical analysis and interpretation of research data.

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Statement of parts of the thesis submitted to qualify for the award of another degree

No works submitted towards another degree have been included in this thesis.

Research involving human or animal subjects

Ethical clearance was granted from two ethical committees. Firstly, from the University of Queensland Behavioural and Social Sciences Ethical Review Committee (Reference number: 2012000186) in June 2017. An amendment was obtained in October 2018 to extend the date of data collection. The ethical letters can be found in Appendix A at the end of this thesis. Secondly, ethical approval was also granted by the Brazilian National Committee for Ethics in Research in November 2017. The approval information can be found on the website: http://plataformabrasil.saude.gov.br using the approval number: 2.390.958.

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Keywords

Brazil, child behavioural problems, dysfunctional parenting, evidence-based parenting program, LMIC, parental attributions, parenting, randomised controlled trial, Triple P.

Australian and New Zealand Standard Research Classifications (ANZSRC)

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FoR code: 1117, Public Health and Health Services, 10%

Table of Contents

List of Figures

List of Tables

List of Abbreviations used in the thesis

ADHD	Attention Deficit–Hyperactivity Disorder
ANOVA	Analysis of variance
BPT	Behavioural Parent Training
CAPES	Child Adjustment and Parent Efficacy Scale
CAPSi	Children and Youth Psychosocial Care Centre
CONSORT	Consolidated Standards of Reporting Trials
CRAS	Reference Centre of Social Assistance
DASS-21	Depression Anxiety Stress Scale-21
DICCD	Disruptive, Impulse-Control, and Conduct Disorders
LMIC	Low and middle-income countries
MANOVA	Multivariate Analysis of Variance
PACBM	Parent's Attributions for Child's Behaviour Measure
PCS	Parent Cognition Scale
PRISMA	Preferred Reporting Items for Systematic Reviews and Meta-Analyses
PS	Parenting Scale
RCT	Randomised controlled trial
SDQ	Strengths and Difficulties Questionnaire
SPSS	Statistical Package for the Social Sciences
Triple P	Positive Parenting Program
UNODC	United Nations Office on Drugs and Crime
WHO	World Health Organization

Chapter 1: Introduction

This thesis is broadly interested in investigating the effect of parenting programs on parenting attributions, with a secondary focus on the evaluation of the efficacy and cultural acceptability of Group Triple P in Brazil. This chapter provides an overview of the relevant research and explains the rationale for conducting this project. It begins by outlining what parental attributions are and the importance of the investigation. The chapter then presents a description of the Brazilian context, and the challenges associated with the high levels of child behavioural problems and dysfunctional parenting within Brazilian families and makes a case about why parenting programs are needed in this setting. This is followed by a summary of the literature about the role of parenting programs, along with the current limitations of studies targeting parental attributions in this context. The chapter then presents an overview of parenting interventions in developing countries, with an emphasis on the lack of evidence-based parenting programs in Brazil and the need for more research. Then we present the research aims and questions. Finally, the chapter ends with an overview of the remaining chapters.

Why focus on parental attributions about child behaviour?

What are parental attributions?

Attribution theory focuses on how people explain the causes of behaviours or events. Heider (1983) was the first to propose this theory, but Weiner (1986) developed the theoretical framework. According to Heider (1958) when people are faced with a life event, they need to understand it, thus they make a spontaneous attribution in order to give meaning to their experiences, which, in turn, influences their subsequent behaviour. Weiner (1986) proposed that attributions occur along three dimensions: causal locus, controllability, and stability. Causal locus is used to determine the origin of the behaviour, and it can be perceived as internal (e.g., genetic) or external (e.g., chance). Controllability refers to the notion of how much people are in control of their own behaviour, as being under their control (e.g., effort) or it is uncontrollable (e.g., luck) (Bugental & Happaney, 2002). Ultimately, stability refers to whether the behaviour is able to change (unstable) or not (stable) (Miller, 1995).

In the context of parent-child interactions, this theory suggests that parents form attributions to interpret why their children behave the way they do, thereby giving meaning to the child's behaviour (Bornstein, Putnick, & Suwalsky, 2018). For example, a parent who attributes misbehaviour as a genetic trait within the child (internal), may get frustrated and less likely implement change strategies, thinking they will be ineffective. On the other hand, parents who see child misbehaviour as having an external cause (e.g. tiredness), may react calmly and be less likely to use harsh parenting (Coles, Pelham, & Gnagy, 2010; Miller, 1995). In terms of controllability, for

example, if a child got a bad grade, his parent may believe that the child did not put enough effort to study (controllable) and get frustrated. While, another parent may think that the child got a bad grade due to the fact that the test was too difficult, and therefore would be less likely to blame the child (Dix & Grusec, 1985). Following the same example, a parent who believes that "getting bad grades" is something unstable and transitory may explain it as "he is just having a rough time at school." On the other hand, parents who believe that it is something stable and will not change over time may say "he has always been like that, he is never going to change". Thus, it is very likely that the parent will not make an effort to help and engage with the child's studies. To sum, the type of attributions that parents have about their child's behaviour will guide their subsequent response towards the child (Bornstein et al., 2018).

Relationship between parental attributions and child and parent behaviour

The following is a brief description of the impact of parental attributions on child and parental behaviour. Examining parental attributions is essential because research has shown they have a direct impact on parent-child interactions, which, by extension, impact the life course outcomes of children (Johnston & Ohan, 2005; Nix et al., 1999).

Impact of parenting attributions on child behaviour. There is a well-established relationship between parental attributions and child behavioural problems (Colalillo, Miller, & Johnston, 2015; Johnston, Hommersen, & Seipp, 2009). Previous studies have shown that parents of typically developing children, tend to see child behavioural problems as external, variable and uncontrollable (Butcher & Niec, 2017) leading to calmer parenting responses and less perceived blame on the child. On the contrary, parents of children with high levels of conduct problems tend to have more negative parental attributions, seeing the misbehaviour as internal, stable and controllable (Coles et al., 2010; Sawrikar & Dadds, 2018) leading to higher use of dysfunctional parenting responses.

Colalillo et al. (2015) examined a community sample of mothers and fathers and found that children of mothers who attributed responsibility to the child's misbehaviour, presented high levels of child externalising problems. Also, both maternal and paternal attributions predicted child internalising problems. Additionally, negative parental attributions increase the chances for the development of child problems over time. Williamson and Johnston (2015) indicated that maternal and paternal attributions predicted child behaviour problems seven months later. Johnston et al. (2009), reported similar results indicating that negative maternal attributions predicted levels of child oppositional behaviour one year later, even after controlling for negative parenting. Some studies have suggested that relationships may occur in a reciprocal way. For example, Snyder, Cramer, Afrank, and Patterson (2005), collected longitudinal data during kindergarten and first grade. The results indicated that the conjoint occurrence of maternal attributions with ineffective maternal

discipline predicted growth in child behavioural problems in first grade. But child conduct problems were also found to predict negative parental attributions and ineffective discipline. That suggests that not only parental attributions interact with child behaviour, but also that parental behaviour is included in the relationship.

Impact of parenting attributions on dysfunctional parenting. A large body of literature has found that parental attributions are associated with parental behaviour (Park, Johnston, Colalillo, & Williamson, 2016; Sheeber et al., 2009). For example, path analyses have revealed that negative parental attributions (e.g. stable, global, and dispositional) were significantly correlated to parental laxness (Leung & Slep, 2006). For example, if a parent believes that child misbehaviour is caused by an internal factor (e.g. child temperament), and not an external factor (e.g., parenting skills) may prevent him from correcting the child's misbehaviour or monitoring the child, constituting lax parental behaviour (Park et al., 2016).

Research has also found that negative attributions predict harsh or coercive parenting (Bugental & Johnston, 2000; Johnston & Freeman, 1997; Miller, 1995). This, in turn, can increase problem behaviour in children creating a negative cycle that perpetuates negative attributions, unhelpful parenting and child problem behaviours. For example, if a parent sees that his child broke something (e.g. an ornament), the parent may attribute this behaviour as being intentional or dispositional (e.g., "he did it on purpose"), which can provoke feelings of anger and the parent may react aggressively. In turn, overreactive parenting increases the risk of child problem behaviour, as well as the likelihood that this sequence of events will be repeated in the future (Beckerman, van Berkel, Mesman, & Alink, 2017).

Sheeber et al. (2009), examined a problem-solving discussion between parents and adolescents and indicated that negative parental attributions of mothers and fathers were associated with more aggressive and less facilitative parenting behaviour. Burchinal, Skinner, and Reznick (2010), conducted in-depth interviews to investigate parenting beliefs that motivate the use of physical discipline. The results demonstrated that mothers who believed that children misbehaved intentionally, justified the need to use punishment as a way to stop and correct the misbehaviour. The participants also stated that those actions were necessary to teach the child to obey and to avoid that the child become spoiled in the future or develop long-term behaviour problems.

The beliefs that parents hold about raising their children can influence their behaviours, and some researchers have argued that they are learnt within the culture (Patias, Siqueira, & Dias, 2012). Beliefs and values about parenting can be passed on from one generation to the next and can also vary across cultures (Bugental & Happaney, 2002). Therefore, when investigating parental attributions, researchers should analyse them in the culture in which the parents are located. However, most of the research on parental attributions have been conducted in developed countries (Yuen, 2011). For

example, one of the few mediational models of parental attributions available was developed in the United States (Dix & Grusec, 1985). Dix and Grusec (1985) proposed a model where parental attributions are considered a mediator of the relationship between child behaviour and parental behaviour. Understanding the mechanism of these relationships is pertinent because emphasized that in order to change parental behaviour, there is a need to change parental attributions first, which in turn may impact child behaviour as well. However, previously mentioned, this model was conducted with an American sample, and there is a need for replication and to test if the model proposed is applicable to other contexts, such as LMIC.

This is crucial in context with a high prevalence of child behavioural problems and dysfunctional parenting, such as the low- and middle-income countries (LMIC). According to Ward, Sanders, Gardner, Mikton, and Dawes (2016), LMICs have higher levels of child behavioural problems and dysfunctional parenting in comparison to high- income countries (Pedersen et al., 2019). Considering the impact of negative parental attributions on parent-child interaction, there is a need for more research on LMIC, such as Brazil, one of the biggest countries of the world by size and population. Let us now understand why it is important to investigate parenting attributions in Brazil.

Why focus on Brazil?

Child behavioural problems in Brazil

In Brazil, child behavioural problems are a significant issue. Murray, Anselmi, Gallo, Fleitlich-Bilyk, and Bordin (2013), conducted a systematic review and meta-analysis about the prevalence of child behavioural problems in Brazil, the results revealed that the rates of conduct problems, as defined by clinical levels of Conduct Disorder and Oppositional Defiant Disorder, were higher than developed countries, such as England. The authors reported that the mean Brazilian average of Conduct disorder was 3.6%, whereas the mean British average was 1.6%, and for Oppositional Defiant Disorder, the prevalence in Brazil was 3.5%, and in the British sample was 2.3%. The higher rates of conduct problems in Brazil can be explained by the risk factors that Brazilian children are exposed such as poverty, but also, high levels of dysfunctional parenting practices (Vilhena & Paula, 2017). The relationship between child behavioural problems and dysfunctional parenting in Brazil will be explained in the next section.

The number of referrals to child mental services in Brazil has been increasing in recent years (Autuori & Granato, 2017), coming mainly from schools (Andrade, 2018). The main reasons for referral are for child behavioural problems (Sapienza & Bandeira, 2018). In Brazil, child and adolescent mental health are targeted by a public service called CAPSi - Psychosocial Care Centers for Children and Adolescents, available in almost all Brazilian states. A study reviewed 208 CAPSis in Brazil with the purpose of describing the patient profile. The results pointed out, that the major treatments included predominantly behavioural disorders (F90-F98) (29.7%), developmental

disorders (F80-F89) (23.6%), and mental retardation F70 - F79 (12.5%), according to the ICD-10 (Garcia, 2015).

Similar results were found in a systematic review of empirical studies on Disruptive, Impulse-Control, and Conduct Disorders (DICCD) in Brazilian children and adolescents, that aimed to systematise the data about the prevalence of child psychopathologies. Ten studies were included, and Conduct Disorder was the most prevalent type of DICCD (more than 70%), in both clinical and non-clinical samples, and both girls and boys (Welter Wendt & Koller, 2019). Several risk factors contribute to the high rates of child behavioural problems in Brazil, such as the impoverished of urban environments, violence, but most of the studies pointed out to the association with dysfunctional parenting (Murray et al., 2013).

Dysfunctional parenting in Brazil

The relationship between parenting behaviour and child behaviour has been well-documented by the international literature (Lachman, Kelly, et al., 2016), and indicated that dysfunctional parenting often contributed to the appearance and maintenance of child behavioural problems. Similar conclusions have been found in Brazilian literature (Moura, 2020; Rovaris & Bolsoni-Silva, 2020). Ribeiro (2019) conducted a systematic review to examine the protective and family risks factors that may increase the likelihood to develop child behaviour problems and social skills in pre-schoolers in Brazil. The results concluded that positive parenting practices were related to the development of social skills, and act as a protective factor, by preventing the appearance of child behavioural problems. On the contrary, dysfunctional parenting (such as authoritarian practices), increases the chances to develop child behavioural problems.

Moreover, high levels of harsh parenting have been found in Brazilian families in several studies (Altafim, Pedro, & Linhares, 2016; Rocha & Moraes, 2011). Nunes and Sales (2016), conducted a review that characterized the overview of child abuse in Brazil, they included twelve articles and found that in 75% of the studies the offender was a member of the family, 16.7% (two studies) did not report the aggressor, and 8.3% (one study) stated the offender was not part of the family group. The authors concluded that the major perpetrators of violence in children are their own parents. Similar results were found by Rates, Melo, Mascarenhas, and Malta (2015). They analysed 17.900 cases of aggression against children between the ages of 0-9 years old, registered by the Brazilian public health services, in the Violence and Accident Surveillance System database. They reported that 73.6% of the events of aggression occur inside the child's house. The main type of violence was neglect (47.5%), then physical violence (38.5%), followed by sexual abuse (37%) and lastly psychological violence (25.2%).

The Brazilian government has made several national and international commitments in order to protect children and adolescents [e.g., the 1990 Statute of the Rights of Children and Adolescents

(ECA – Estatuto da Criança e do Adolescente)]. Besides, Brazil takes part in the Global Initiative to End All Corporal Punishment of Children (2018), this movement has the goal to end the use of physical punishment against children in the world. Despite the increasing concern of protecting Brazilian children, Brazilian's opinion varies widely between social groups and families, where the majority is against the law. Since harsh parenting is considered serious public health and social problem (World Health Organization, WHO, 2014), there is a clear need for Brazilian parents to receive parental support (Knerr, Gardner, & Cluver, 2013; Ward, Sanders, Gardner, Mikton, & Dawes, 2016).

As was mentioned in the previous section, there is a clear relationship between parental attributions and child behavioural problems, as well as dysfunctional and harsh parenting. Given the elevated incidence of child behavioural problems and dysfunctional practices in Brazil, it is probable that parental attributions are related to these respective variables, making Brazil a useful context in which to examine attributional change. Understanding how these relationships work in a Brazilian population represents a window to understand how to change parenting attributions and potentially parenting behaviour and child behaviour.

In summary, changing negative parental attributions in Brazil is necessary for a number of reasons: (1) they are linked with increased conduct issues in children (Johnston et al., 2009); (2) they predict the use of poor parenting practices, such as laxness (Park et al., 2016); (3) parents with high levels of negative attributions are at increased risk for the use of harsh parenting (Sheeber et al., 2009). Therefore, reducing negative attributions has the potential to have multiple benefits for families. The section below describes how we can change parenting attributions.

Can parenting programs change parental attributions about child behaviour?

The strong association between negative parental attributions and parent-child relationships supports the relevance of targeting parental attributions in parenting programs (Butcher & Niec, 2017). Parenting programs are interventions designed to improve or modify parental behaviour through training, support or education, with the aim of improving the well-being of the children (Mejia, Haslam, Sanders, & Penman, 2017; Sanders & Pidgeon, 2011; Smith, Perou, & Lesesne, 2002; Vlahovicova, Melendez-Torres, Leijten, Knerr, & Gardner, 2017). Parenting programs are, therefore, useful tools to nurture relationships between parents and children, preventing the development of antisocial behaviour in children (Sanders & Pidgeon, 2011; Santini & Williams, 2016). If parenting programs are able to simultaneously reduce both negative attributions and levels of dysfunctional/harsh parenting, parents may gain additional benefit from participating in parenting programs. Parental attributions may help to understand why some parents benefit more from parenting programs than others or relapse less, and it is possible that the gains made in parenting programs could be compromised if parental attributions do not change. Therefore, investigating if

parenting interventions can change parental attributions is of great importance.

However, there is limited empirical research examining if parenting interventions can change parental attributions (Sawrikar & Dadds, 2018) and the evidence that does exist, yields inconsistent results (Butcher & Niec, 2017; Wilson, Gardner, Burton, & Leung, 2006). For instance, Esdaile and Greenwood (1995) did not find changes in attributions after the participation in a parenting intervention, whereas Wiggins, Sofronoff, and Sanders (2009), who included a specific attributional retraining component to the intervention, did find reductions in negative attributions after the intervention. However, enhanced interventions that include extra sessions are costly to implement, and there is limited evidence assessing if enhanced interventions targeting attributions are needed. One of the few studies available compared an enhanced intervention (Pathways Triple P) to a standard family intervention (Group Triple P) and found changes in parental attributions in both groups. Importantly even parents who completed the normal parenting intervention (Group Triple p) without attributional retraining reported reductions in negative attributions post-intervention, although enhanced intervention showed greater reductions in negative attributions (Sanders et al., 2004). This study is one of the rare studies that has assessed the impact of a standard parenting program on parental attributions. Although limited, this study supports the possibility to change negative parental attributions to more positive ones, without having been addressed directly in the intervention.

If research could demonstrate that generalist parenting programs are effective at improving attributions, even without additional modules on attributional retraining, existing parenting programs (which are less time and cost-intensive to implement), could be deployed for dual gain. This is particularly needed in developing countries where resources are scarce. However, the lack of systematised evidence about the effects of parenting programs on parental attributions prevents us from concluding whether parenting interventions are able to change parental attributions or not. In addition, the limited information available revealed mixed results, thus, we highlight the need for conducting a systematic review in order to verify if parenting programs can change parental attributions. Adding to this, most of the literature available on parental attributions have been conducted with non-community sample of parents, such as parents at risk of child maltreatment (Berlin, Dodge, & Reznick, 2013) or parents of children with Disruptive Behaviour Disorders such as Attention-deficit/ hyperactivity disorder (ADHD) (Katzmann et al., 2017) and comparatively less is known about the impact of interventions on community samples of parents without risk of abuse. Nevertheless, research has shown that parental attributions are also associated to child behavioural problems and dysfunctional parenting (such as laxness), therefore we argue that investigating the role of parental attributions in community samples of parents are equally important considering the effects on parent-child relationships.

Why evaluating evidence-based parenting programs in Brazil is needed?

Limitations of parenting interventions in developing countries

Like Brazil, most LMICs share similar social issues such as high levels of poverty and violence (Pedersen et al., 2019). Children are exposed to many risk factors, making parenting very challenging in this setting. Therefore, families living in LMIC are in a greater need for parental support (Ward et al., 2016). Some studies have shown that parenting programs are efficient in improving child and parental outcomes in LMICs (Knerr et al., 2013), and that the low cost of delivering parenting programs can be an effective alternative to be implemented in this context (Pedersen et al., 2019).

A number of well-established parenting programs are available. Examples include the Incredible Years program (Webster-Stratton, 1984), Parent-Child Interaction Therapy (Eyberg, 1988), or Triple P—Positive Parenting Program (Sanders, 2008). These interventions have been largely trialled around the world, however, studies in LMIC are less extensive compared to studies in high-income countries. Research has shown that most of the parenting programs available in developing countries are not based on evidence (Knerr et al., 2013), and also, the current literature has highlighted several limitations.

First, there are limited studies of parenting programs focusing on prevention or treatment of child behavioural outcomes. Mejia, Calam, and Sanders (2012) reviewed the literature of parenting programs in LMIC and found that most of the included studies were designed to prevent physical and neurocognitive difficulties. Second, there is a lack of methodological rigour. Numerous reviews have indicated that if on the one hand most of the included studies used RCT designs to increase the efficacy of the results, on the other hand, most of them have used poor methodology (Pedersen et al., 2019). Adding to that, most of the studies have not reported complete outcome data, such as details about the randomisation process or blinding (Knerr et al., 2013). The lack of documentation prevents the researchers from assessing the risk of bias, as well as the replication of the studies. Third, not all studies include child outcomes. This limits the interpretations of the results, once that the goal of parenting program is to affect child behaviour and improve the parent-child relationship (Mejia et al., 2012). And lastly, many studies used home visiting as a delivery method. The review of Jeong, Pitchik, and Yousafzai (2018) identified that most of the included studies used home visiting as program delivery. The main limitations of home visiting are the limited number of people that are able to be reached and the requirement of a high cost (both in economic and human resources), that can be unfeasible in low resource settings such as LMIC.

In the view of the limitations cited above, it is recommended that future studies should involve: focus on parenting programs designed to improve parent-child interactions; use rigorous methodologies (for example following standardised guidelines, such as the Consolidated Standards of Reporting Trials - CONSORT), and report full detailed information about the implementation; do

not restrict to the inclusion of parental measures but also include child measures; and lastly, use interventions that are cost-effective and are able to reach large populations (such as group delivery).

In terms of Brazilian literature, some researchers have highlighted the scarcity of evidence-based parenting interventions in Brazil (Moura, 2020). For example, two Brazilian studies conducted reviews with the purpose of analysing the international literature about parenting programs, as well as the national literature. Both reviews included many studies that were carried out in several countries, but no single study was found in Brazil (Guisso, Bolze, & Viera, 2019; Schmidt, Staudt, & Wagner, 2016). One hypothesis for the dearth of studies is the restricted inclusion criteria that excluded non-community samples of parents (such as parents of children with ADHD) and adolescents.

In fact, another Brazilian review that was not restricted to a community sample of parents did find two Brazilian studies (Bochi, Friedrich, & Pacheco, 2016). Both included articles used a quasi-experimental design and had a standard number of sessions (eight). In regard to the sample size, one study was conducted with three parents and the other with ninety-three, however, neither used a control group nor included follow-up data. In addition, the review presented some limitations, for example, the authors failed to report details about the methodology of the included studies, pre and post data, nor power. These Brazilian reviews indicated the need for more studies in Brazil, that use robust methods, such as RCT design.

Limitations of parenting programs in Brazil

As previously indicated, there is a lack of studies about parenting programs in Brazil. However, a recent Brazilian review was limited only to national studies revealed encouraging finding. Sousa (2018) examined the literature between 2007 and 2017, did not restrict to a community sample of parents and included keywords only in Portuguese in the databases. A total of eleven articles were included, and although this represents a growth in the Brazilian literature, the author highlighted several limitations in the included studies, that appear to be similar to those observed in the LMIC literature.

For example, about the absence of information about the method and results. First, in terms of methodological limitations, the author mentioned that some studies did not provide any information about the participants such as the child's age, and therefore, the age of the children was not reported in the review. Another limitation pointed out by the author was the lack of information about the intervention (information also omitted in the review), such as the name of the programs, or if they were evidence-based programs. No information was provided about the study design, such as the use of RCTs or control groups. Incomplete data was a limitation also found by reviews of LMIC (Knerr et al., 2013; Pedersen et al., 2019).

In terms of results, Sousa (2018) also mentioned that the included studies lacked on

information about the child and parent outcomes, and therefore it was difficult to draw a conclusion about the efficacy of these programs. The author presented a table called "efficacy of the interventions" that classified the included article between "good" or "small difference before and after the intervention", however, we could not find information such as pre and post data, effect sizes, or power. Lack of information about the results was also found by Bochi et al. (2016).

These findings emphasised several limitations of the current Brazilian literature about parenting programs, and future studies should attempt to address those limitations. In particular, the use of strong methodologies and include enough details about the participants, intervention, and results, that allow replication of the studies. According to Pedro, Altafim, and Linhares (2017) in Brazil, there is a lack of systematised parenting programs that include structured manual or training. With the except of the ACT Raising Safe Kids program. The ACT is an evidence-based parenting program designed to parents of children aged from birth to 8 years, that has been trialled in Brazil. Altafim et al. (2016) included 82 Brazilian mothers of children between the ages of 3-8 years old (median of child age of 4–5 years old). The results indicated statistically significant differences in improving parenting outcomes and reductions in child behavioural problems, compared pre to post-intervention. However, this study did not include a control group, and thus conclusions about intervention effects are substantially limited.

Recently, Altafim and Linhares (2019) conducted the first RCT of a universal prevention program in Brazil. The participants were 81 parents of children between the ages of 3-8 years old randomly allocated into an intervention and a control group. Results found a time x group interaction, indicating the program was efficacious in parental and child outcomes pre-and post-intervention and also between the groups. In addition, the changes were maintained four months after the intervention in the intervention group. However, one of the limitations reported by the authors was that the control group received the intervention right after the intervention was delivered to the intervention group, which prevented the researchers from comparing the results between groups at follow-up. This decision was made to reduce the chances of participants dropping out.

Altafim and Linhares (2019) are one of the pioneers conducting RCT of parenting programs in Brazil, and the results are promising, indicating emerging research in this area in Brazil. The results of Altafim and Linhares (2019) along with the finding of Altafim et al. (2016), have shown that evidence-based parenting interventions such as ACT can be efficacious in a LMIC. Yet, more comparative studies are needed.

Why investigating the cultural acceptability of parenting programs matters?

Complementary to the need to evaluate the efficacy of evidence-based parenting programs in LMIC and Brazil, is it equally important to examine the cultural acceptability of the imported intervention to the new context (Knerr et al., 2013). Research has revealed that when transporting

parenting programs from one country to another, program developers and researchers often disregard local cultural factors (Gustafsson, 2019). According to Lachman et al. (2018), when parenting programs do not fit into the local culture, it can undermine the implementation process, in particular parental engagement and outcomes. Extra caution must be taken when delivering programs from high-income countries to LMIC, given the variations in parenting values and beliefs (Mejia, Leijten, Lachman, & Parra-Cardona, 2017). Kotchick and Grover (2008) suggest that before program dissemination takes place, providers and researchers should conduct an evaluation to determine the cultural appropriateness of the intervention.

In order to increase the chances that an imported intervention should be considered "acceptable", culturally sensitive interventions are indicated (Mejia et al., 2017). One of the examples of culturally flexible evidence-based parenting programs is Triple P. Triple P is a parenting program that aims to improve the relationships between parents and children by promoting the development of parental skills and confidence, in order to reduce and prevent child behavioural problems (Sanders, 2012). Its "culturally flexible" approach, has shown that the program is efficient across several countries, such as culturally diverse families in Australia (Morawska et al., 2011), South Africa (Wessels & Ward, 2016), Singapore (Zhou et al., 2017), Hong Kong (Au et al., 2014), and the Netherlands (Gerards et al., 2015), including LMIC such as China (Guo, Morawska, & Sanders, 2016). In addition, Triple P has an extensive evidence-based, as shown by a meta-analysis that reviewed 101 studies, including 62 RCTs, and reported high levels of efficacy and effectiveness across several children and parental outcomes (Sanders, Kirby, Tellegen, & Day, 2014). Given the substantial evidence suggesting the transportability of Triple P, we hypothesised that Triple P would be considered culturally acceptable by Brazilian parents.

This chapter has outlined the lack of current knowledge on the topic of parental attribution in the context of parenting programs. The following section is a brief summary of the key gaps in the literature that this thesis aims to address.

Summary of gaps

Lack of knowledge about the relationships between parental attributions and child and parenting behaviour in Brazil. There is a well-documented relationship between parental attributions and harsh parenting, however, most of the research has been done in western countries. It is particularly important to expand the research into LMIC contexts given that a) little research has been conducted and it is unknown if these relationships hold in this context and b) because LMICs have elevated rates of child behavioural problems and dysfunctional practices, suggesting they are also likely to have high levels of negative parental attributions. In addition, research has demonstrated that parental attributions are related to child behavioural problems and dysfunctional parenting. There is some evidence stating that the three variables are connected (Dix & Grusec,1985). Understanding

how these relationships work can help us to understand how to improve parent-child interactions. For example, in order to modify parenting behaviour, it would be essential to change attributions, which in turn might affect child behaviour. But there is little research about how to change parental attributions.

Lack of knowledge about the extent to which parenting programs can change parental attributions. We know that parental attributions impact child and parental behaviour, in particular in increasing the likelihood of parents using harsh parenting. Therefore, there is a clear need for changes, but little is known about the malleability of parental attributions, in the context of parenting interventions. Several studies have demonstrated that parenting programs are able to change behavioural outcomes, but little is known about changing cognitions, and the limited evidence available is inconsistent. There is a clear need to assess systematically if parenting programs are able to change parenting attributions.

Lack of knowledge about whether standard parenting programs can change parental attributions in a community sample of parents. Most of the literature available about the effect of parenting programs on parental attributions have been conducted with high- risk populations, such as a parent with high levels of anger and at risk of child maltreatment. However, research has also shown that parenting attributions are not exclusively associated with harsh parenting, but also to child behavioural problems and dysfunctional parenting (such as laxness). Therefore, we argue that investigating community samples are equally important, given the effects on parent-child relationships. And changing parental attributions in LMIC is the greater importance in the view of the elevate rates of child behavioural problems and dysfunctional parenting.

No studies have examined the efficacy of Group Triple P in Brazil. Families in LMIC such as Brazil, are more vulnerable to social risks, (e.g. violence) in comparison to high-income countries. This makes parenting very challenging, therefore, parents living in these settings are in a greater need for parental support. Although there has been an emerging growth of parenting programs in LMIC, most of the studies about parenting programs suffer from several limitations, like lack of methodological rigour. The limitations in the Brazilian literature are even bigger, and some reviews have stated that the studies do not use strong designs such as RCT, or report complete details about the intervention or results, what make it very difficult to draw conclusions about the efficacy of those interventions.

In addition, to the best of our knowledge, no study has investigated the effect of parenting interventions on parental attributions in Brazil. Given the high prevalence of child behavioural problems and dysfunctional parenting in Brazil, plus the fact that parental attributions have been associated with those variables, it is crucial to assess parental attributions in Brazil. It is also necessary to provide evidence-based parenting programs to Brazilian families, thus, future studies should

examine the efficacy of evidence-based parenting programs in Brazil.

Need for assessing cultural acceptability. Examining the efficacy of an imported parenting program in a new context is only one of the steps required before starting to disseminate the program on a large scale. The second step that is it often ignored is to evaluate the cultural acceptability of the intervention. This step is as important as the evaluation of the efficacy because acceptability has been associated with parental engagement and outcomes of the intervention.

For example, research has shown that there are many universal beliefs about parenting that are common across multiple cultures. However, it is also true that some cultures differ about some strategies about raising children, and these differences may influence the parent's perception of the intervention. For example, if a parent that enrolled in an intervention perceived that the teachings are congruent with his own parenting values and beliefs, it is likely that the parent will remain in the program and will receive good benefits.

On the contrary, if the program teachings are incoherent to the parent values, it is very likely the parent will not compromise to the intervention or may drop out from the intervention. And therefore, before disseminating parenting programs that were imported from another country researchers should assess the cultural acceptability of the intervention.

Study aims and research questions

This thesis has two major aims, with its respective research questions:

Primary aim:

To explore the impact of parenting attributions on parenting and the extent to which negative attributions are reduced by parenting interventions.

Research questions:

1. Do parenting attributions mediate the relationship between child and parental behaviour?
2. Do parental attributions predict hostile parenting?
3. How do parenting programs impact parental attributions?
4. Can a non-tailored parenting program (Group Triple P) reduce negative parental attributions?

Secondary aim:

To evaluate the efficacy and cultural acceptability of Group Triple P in Brazil.

Research questions:

5. Is Group Triple P efficacious in terms of reductions on negative parenting styles, parental maladjustment and child behavioural problems in a Brazilian sample?
6. Is Group Triple P cultural acceptable with Brazilian parents?

Chapter overview

The following four thesis chapters consist of manuscripts being prepared for submission (Chapters 2, 3, 4 and 5), followed by a discussion chapter which synthesises the contributions of the

body of research as a whole. Chapters two to five follow conventions of typical review articles (Chapter 3) and empirical research articles (Chapters 2, 4 and 5) plus a brief introduction to each manuscript. These chapters each contain an original work that contributes to the overall narrative and aims of the thesis, and yet each can also stand alone as an individual research paper.

Chapter 2 presents an empirical paper that used a cross-sectional sample of Brazilian parents to test a) a hypothesised model which posits that parental attributions mediate the relationship between child behaviour and parenting behaviour and, b) whether parental attributions predict harsh or hostile parenting. These findings constituted the foundations for the next studies by highlighting the relationships between parental attributions and parenting and child outcomes.

Chapter 3 presents a manuscript of a systematic review aiming to identify if parenting interventions are able to change parental attributions. The chapter highlights inconsistencies and gaps in the literature, pointing out to the need for further well-designed trials empirical studies examining the extent to which parenting programs can change attributions.

Chapter 4 addressed that gap in the literature by presenting a manuscript of a RCT that aimed to identify if a generalist parenting program (Group Triple P) is efficacious at reducing negative parenting attributions. The results highlight that generalist parenting programs are able to change negative parental attributions. The RCT also served to evaluate the efficacy of Group Triple P in a Brazilian context. The findings of this study also underscore the need to evaluate whether the intervention is culturally acceptable.

Chapter 5 builds on the findings of the RCT of Group Triple P in Brazil by presenting a qualitative paper examining the cultural acceptability and relevance of Group Triple P in Brazil as a representative Latin American context. The use of qualitative methodology complements the quantitative approach taken in Chapter 4 by allowing more nuanced data and parental feedback about the acceptability of Triple P to be gathered. Written data were collected from parents who completed Group Triple P regarding assessing their thoughts about the program.

Finally, Chapter 6 presents an overall discussion, which integrates the findings of all four studies and presents the contributions of the thesis as a whole to the broader literature. This chapter summarises the implications of findings for theory, research, and policy and practice. A summary of the strengths and limitations of the body of work is discussed, along with suggestions for future studies. Overall, these studies contributed to a better understanding of parental attributions and their importance in the context of parenting interventions and added to a large body of work examining the cultural fit of Group Triple P across various cultures.

Chapter 2: The mediating role of parental attributions between child and parental behaviour among Brazilian parents

Transitioning from the previous section, this chapter presents the first of four manuscripts, including three empirical studies. Previous literature has known that there is limited information about the extent to which the Dix and Grusec's model holds in a Brazilian context or the extent to which negative parental attributions predict harsh parenting. Thus, this study presented a cross-sectional study to test the hypothesised models and aims to address two goals: a) to test a model where parental attribution is proposed as a mediator of the relationship between child behaviour and parental behaviour, and if this model holds in the Brazilian context; b) to investigate if harsh parenting is predicted by parental attributions.

The reference of the manuscript is provided below:

Schulz, M. L. C., Morawska, A., & Haslam, D. (2020). *The mediating role of parental attributions between child and parental behaviour among Brazilian parents*. Unpublished manuscript. University of Queensland. Brisbane, Australia.

Background

There is extensive evidence that supports the relationship between parental cognitions and parental functioning (Crouch et al., 2017; Johnston & Ohan, 2005). Parental cognitions refer to the thoughts that parents have about their children, that include cognitions related to anticipating, assessing, reflecting and problem-solving (Hawk & Holden, 2006). Parental cognitions contribute to parenting practices serving as "road maps" that help parents to determine how to respond to the child's behaviour (Bugental & Johnston, 2000).

Parental attributions are one type of parental cognition and are conceptualised as the reasons that parents give to explain their child's behaviour (Bugental & Happaney, 2002). Parental attributions are distinguished from the other types of cognitions because they are most likely to influence parenting practices and ultimately determine future child behaviours (Bornstein et al., 2018). The attributions that parents make about child behaviour acts as an interpretative filter to explain why children behave in a certain way, which in turn will influence his own responses (emotional and behavioural) towards the child (Bugental, Blue, & Cruzcosa, 1989; Johnston & Ohan, 2005).

According to Weiner (1986), parents make attributions about child behaviour along three dimensions: locus of the causal event (internal or external); stability of the cause (stable or unstable); and, its controllability (controllable or uncontrollable). Attributions of locus refer to the cause of the behaviour, it can be perceived as within the child (e.g., a child's innate ability or inability) or outside of the child in the external context (e.g., task difficulty, environmental factors). Attributions of control refer to the extent to which parents believe that the child's behaviour is under the child's control (controllable, e.g., due to effort) or not (uncontrollable, e.g., task difficulty). Finally, attributions of stability can be understood as whether the cause of the behaviour is likely to vary or be constant in time. Dix and Grusec (1985) adapted the work of Weiner (1986) and proposed a social cognitive model. According to this model, parental attributions play a role as mediator of the relationship between child and parental behaviour. In other words, child behaviour (and misbehaviour) activates particular parental attributions, which, in turn, lead to specific parenting behaviours to respond (both affectively and behaviourally) to their child.

Negative attributions can be understood as interpretations that parents make about the child behaviour that are internally motivated, unchangeable and caused by child deliberate and intentional intent (Wang & Wang, 2018). Studies have shown that negative parenting attributions predict harsh parenting, defined as high levels of control, coercion, physical punishment and verbal criticism toward the offspring (Beckerman et al., 2017; Leung & Slep, 2006). For instance, parents who have negative attributions may perceive a child's tantrum as related to the child being "naughty" (internal

locus of control), deliberate (intentional) and because they have the same temperament as their mother or father (constant).

Negative attributions about a child's transgression can trigger a feeling of anger, which in turn can lead to a harsh parental response, such as yelling, screaming, and/or hitting the child to stop child misbehaviour (Crouch et al., 2017). According to Wang and Wang (2018), the more negative parental attributional styles are, the higher the chance that the parents will use harsh parenting tactics. Conversely, parents who interpret the tantrum differently, for instance attributing the tantrum to the fact that the child is in an overstimulating environment (external locus of control), while tired (not intentional) and who do not see this as typical behaviour (variable in time) might lead to a less reactive parenting responses. It is possible that modifying negative parental attributions have the potential to reduce dysfunctional/harsh parenting and improve child outcomes, thus an empirical examination of the role of negative parental attributions in the development and maintenance of harsh parenting is crucial (Colalillo et al., 2015).

In some cultures, the use of harsh parenting is a routine and standard procedure, grounded in the belief that it guarantees a good education (Patias et al., 2012). For example, in Brazil, harsh parenting has been used for centuries as a way of raising children (Altafim, McCoy, & Linhares, 2018). One study with Brazilian children and adolescents showed 88.1% had suffered from harsh parenting, and of those children and adolescents exposed 63.4 % agreed with the practice, and 51.2% said they would repeat the same practice with their own children, indicating how harsh parenting is a normative cultural practice in Brazil (Weber, Prado, Viezzer, & Brandenburg, 2004).

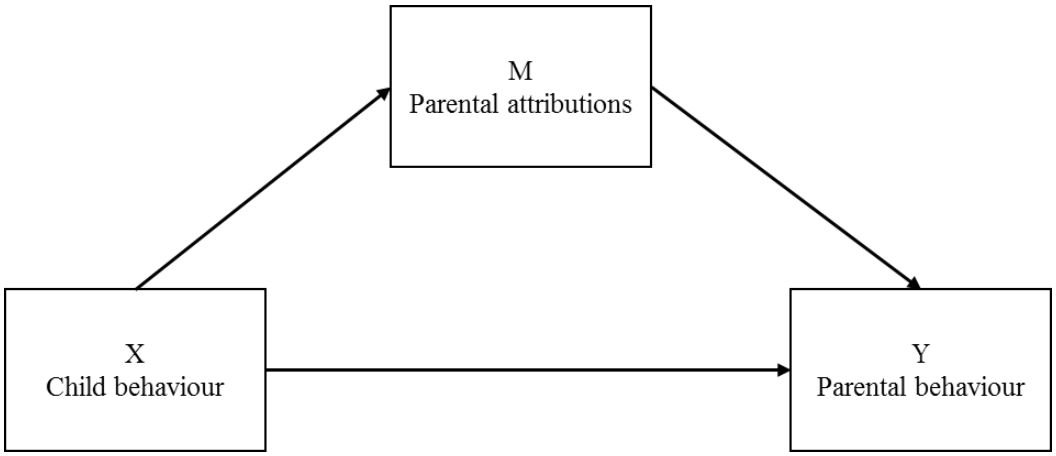
In the same way that parenting should be analysed within the parents' culture, parental attributions are also acquired, in part, from the cultural context in which the parents were raised. Parental values and beliefs are transferred over generations, they are leant in the daily interactions with relatives and friends, as well as the media (Bugental & Happaney, 2002). Thus, each culture has its own set of traditions and cognitions regarding parenting and child development, that can vary across cultures. For instance, parental cognitions and practices that in some cultures can be considered normative, in other cultures can be perceived as abnormal. Bornstein et al. (1998) gave an example of the perception of children with a physical or cognitive disability. In India, child disability is explained as caused by religious, biological and situational factors (John, Bailey, & Jones, 2017). Meanwhile, in Native American cultures, child disabilities are accepted as part of the set of individual characteristics (Bugental & Happaney, 2002).

Several researchers have highlighted the differences and variations in parental cognitions across cultures (Bornstein, Putnick, & Lansford, 2011; Yuen, 2011). Bornstein et al. (1998) examined cultural variation in parenting ideas across countries and found that Argentine mothers attributed the parenting failures to their lack of ability, while mothers from the United States did not

attribute parenting failures to their own abilities. In the light of these variations, parental attributions should be analysed within the culture in which parents are situated. However, most of the research on parental attributions has been carried out in western countries, particularly European-American samples (Yuen, 2011). For instance, the model tested by Dix and Grusec (1985), was developed in the United States, and there is a need for replication and to test if the model proposed is applicable to other contexts. In Brazil, research about parental cognitions is limited, and to our knowledge, no studies have examined parental attributions in Brazil. Considering the high prevalence of dysfunctional/harsh parenting within the Brazilian population, we argue that parents in this region may hold high levels of negative attributions making it a useful context in which to examine the impact of parental attributions.

Given the extensive literature supporting the impact of negative parental attribution on harsh parenting (Beckerman et al., 2017; Leung & Slep, 2006) the first aim of this study is to examine the impact of negative parental attributions on hostile parenting in Brazil. Findings have significant clinical implications by potentially helping mental health professionals to become aware of the relevance of parental attributions. Second, we aim to test the model of Dix and Grusec's (1985) about parenting attributions, with the purpose of assessing whether it is applicable in the Brazilian context. The current study builds upon attributional theory through the investigation of the mechanism underlying the relationship between child and parenting behaviour. Specifically, we hypothesise that negative parenting attributions will predict higher levels of hostile parenting (Hypothesis 1) and that negative parenting attributions will mediate the relationship between child behaviour and parental behaviour (see Figure 1) (Hypothesis 2).

Figure 1. *Hypothesised mediational model of relationships between Child behaviour (independent variable), Parental behaviour (dependent variable), and Parental attributions (mediator)*



Method

Participants

Participants were 77 Brazilian parents of children aged 2 to 12 years (M = 6.18, SD = 3.37). Participants were eligible for inclusion if they had at least one child between the ages of 2-12 years old and had Portuguese language proficiency. Parents were excluded if they or their child has a reported intellectual disability. Most parents were biological or adoptive (92.2%), married or cohabitating (89.6%), most children lived in an original family (83.1%). The number of children at home ranged from 1 to 4 (M = 1.68, SD= 0.71). Participants were mainly mothers (93.5%) and had a mean age of 36.05 years (SD=6.24). Target children were equally represented across both genders with 38 girls (49.4%) and 39 boys (50.6%).

In total, 23.4% of parents had completed high school or less, 26% were undertaking or were not able to finish technical college or a university degree, 20.8% had technical college or had a university diploma, and 29.9% had a post-graduate degree. Almost half of the participants worked full time (40.3%), followed by 36.4% who worked part-time or were self-employed. The minority (*n* = 8; 10.4%) of families received some type of financial help from the government (e.g., pension due to the death of a family member).

Fifteen parents (19.5%) reported difficulties in meeting essential household expenses during the past 12 months. After they had paid for the essential household expenses, 16.9% reported that they had enough money left over to purchase most of the things they really wanted, 50.6% to purchase some of the things they really wanted, and 29.9% said not enough to purchase much of anything they really wanted (two families did not answer this question). 24.7% indicated they sometimes worried about whether the food would run out before they could afford more, and 15.6% reported they often worry about it.

Procedure

Ethical clearance for this study was granted by the University of Queensland Behavioural and Social Sciences Ethical Review Committee, (2012000186) and by the Brazilian National Committee for Ethics in Research (2.390.958). Participants were recruited through schools, childcare centres, playgroups, and community health centres in two Brazilian cities (Balneario Camboriu and Itajai). We posted information about the study in social media (i.e., research webpage), and we also sent emails to prospective participants that included details about the project, and they were encouraged to participate.

Parents who contacted the researcher (by email or telephone call) and expressed their interest in participating in the study, took part in a telephone screening interview to ensure that they met eligibility requirements. Eligible participants were invited to participate in the study and were given an information sheet and a consent form, in person. Signed informed consent was gained from all parents. Participants then completed self-report measures in Portuguese, available in

printed format (parents were free to skip any questions they preferred not to answer). Completion of the questionnaires took approximately 30 minutes.

Measures

Demographics. The Family Background Questionnaire (Turner, Sanders, & Markie-Dadds, 2010) was used to gather key demographic information and indicators of socioeconomic status.

Parental Attributions. The Parent's Attributions for Child's Behaviour Measure (PACBM; Pidgeon & Sanders, 2004) was used to assess parental attributions of children's behaviour. This questionnaire consists of 24 items divided into three subscales: Blame/Intentional, Stable, and Internal. Parents were presented with six hypothetical situations and were asked to imagine their child in the same situation, for example "My child intended to behave this way on purpose." Then they were asked to describe how much they believed the situation would apply to their child, using a scale of strongly disagree (1) to strongly agree (6). Only the total score was used and was calculated by summing the ratings on all the 24 items, a minimum score of 24 and a maximum score of 144 were possible, where higher scores indicated more negative attributional beliefs. Internal consistency for the current sample was good ($\alpha = .82$).

Parental Behaviour. Parental behaviour was measured by the Parenting Scale (PS; Arnold, O'leary, Wolff, & Acker, 1993). This consists of 30 items, designed to examine three dysfunctional styles of parenting: Laxness, Over-reactivity and Hostility. Parents were asked to describe how they would typically deal with several child misbehaviours, using a 7-point Likert scale, with options ranging between more and less effective responses to the behaviour. We used the total score to assess parenting behaviour and the hostility subscale to assess hostile parenting. In this study, the internal consistency for the PS total scale and hostility subscales was adequate ($\alpha = .73$ and .64 respectively).

Child behaviour. The Child Adjustment and Parent Efficacy Scale (CAPES; Morawska, Sanders, Haslam, Filus, & Fletcher, 2014), is a 27-item parent-report questionnaire that measures child behavioural and emotional adjustment, and parental efficacy. The CAPES includes two scales, the Intensity scale that assesses children's emotional and behavioural problems, and the Confidence scale assesses parental efficacy in managing this problem behaviour. Only the Intensity scale was used in this study. The Intensity scale consists of 27 items measuring behaviour concerns (e.g., "My child yells, shouts or screams"), and emotional problems (e.g., "My child worries"). Each item was rated on a 4-point scale, ranging from 0 (not true of my child at all) to 3 (true of my child very much, or most of the time). Scores were summed to provide a total range of 0-81 where higher scores indicate greater levels of child behavioural problems. The CAPES Intensity was found to have good internal consistency ($\alpha = .88$).

Statistical analyses

Predictor analysis. Our first hypothesis was that negative parenting attributions (PACBM total score) would predict higher hostile parenting (hostility subscale of the Parenting Scale) was tested via simple linear regression.

Mediator analysis. To test the second hypothesis, that negative parenting attributions (PACBM total score) will mediate the relationship between child behaviour (CAPES total score) and parental behaviour (PS total score), was conducted through a series of four regression analyses using SPSS 25.0 following Baron and Kenny (1986). First, we confirmed that all the associations examined between the paths were significant (Figure 1). Then, we controlled the effect of parental attributions, and when we found out that child behaviour was no longer significant, we concluded that the finding supported full mediation. In case that child behaviour would have remained significant, the finding would have supported partial mediation. Finally, the statistical significance of the mediated path was assessed using the Sobel test (Baron & Kenny, 1986; Sobel, 1982), which evaluated whether the reduction in effect c' relative to effect c was a significant reduction.

Results

Predictor analysis

Simple linear regression tested whether parental attributions predicted hostile parenting behaviour. As shown in Table 1, parental attributions significantly predicted hostile parenting (β = .29, *p*= .009), indicating that parents with higher levels of negative parenting attributions were more likely to use harsh parenting.

Table 1. *Results of regression analysis for parental attributions predicting hostile parenting behaviour*

	B	SE	β	*t*	*p*	95% CI	
						Lower	Upper
Predictor: Parental attributions *	0.08	0.03	0.29	2.67	0.009	0.02	0.13

*As measured by the PACBM total score

Mediator analysis

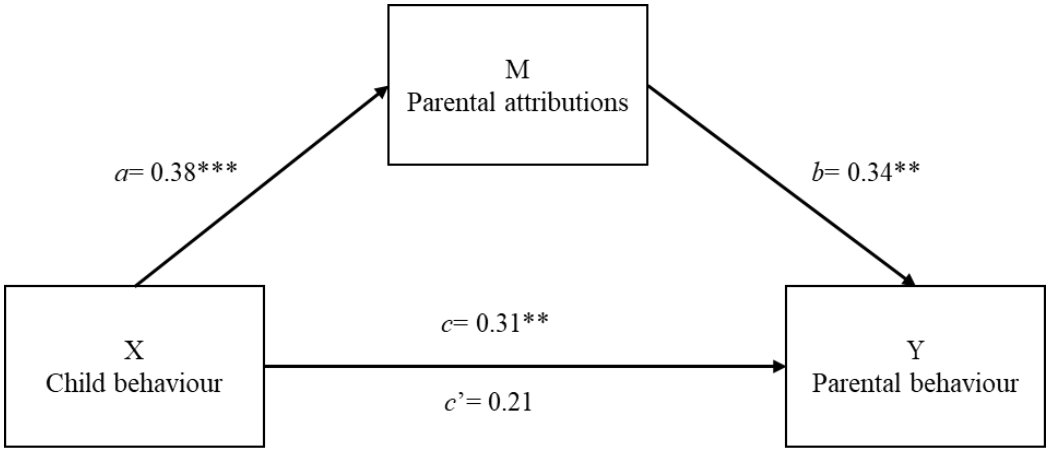
Table 2 and figure 2 present the mediating effect of parental attributions in the relationship between child behaviour and parental behaviour. Results show a significant linear relationship between child behaviour and parental behaviour (Path c, β = .31, *p* = .007). Child behaviour was also significantly related to parental attributions (Path a, β = .38, *p* = .001). There was a significant relationship between parental attributions and parental behaviour (Path b, β = .34, *p* = .003). As required for full mediation when both the predictor and mediator were entered into the model, the

relationship between parent attributions and parent behaviour (path b) remained significant, while the effect of child behaviour on parental behaviour was no longer significant (Path c', β = .21, *p* = .077) (Baron & Kenny, 1986). The Sobel test supported the mediation hypothesis. The correlation estimates for X and M, and M and Y and their standard errors demonstrated that parental attributions significantly mediated the effects of child behaviour on parental behaviour (z =2.33, SE =.08, *p* = .019).

Table 2. *Results of the Mediational model of parental attributions between child behaviour and parental behaviour*

Path	B	SE	β	*t*	*p*	95% CI	
						Lower	Upper
c	.46	.16	.31	2.78	.007	.13	.78
a	.49	.14	.38	3.59	.001	.22	.77
b	.39	.13	.34	3.08	.003	.14	.64
c'	.31	.17	.21	1.79	.077	-.03	.65

Figure 2. *A mediational model of parental attributions between child behaviour and parental behaviour*



***p* <.01; ****p* <.001.

Discussion

Consistent with hypothesis one, we found that negative parental attributions predicted harsh parenting in Brazilian parents. These results replicate and expand on earlier studies that have identified negative parental attributions as a predictor of harsh parenting (Bugental & Johnston, 2000; Johnston & Freeman, 1997; Miller, 1995), our finding theoretically strengthens previous results, by demonstrating this relationship also holds in a Latin American context. Similar findings were reported by Leung and Slep (2006) in a study that was carried out in the United States parents and investigated parents with depressive symptoms. The results showed that the presence of

negative attributions about child behaviour predicted the use of overreactive discipline. Studies have indicated that harsh parenting has negative consequences on children mental health, which can persist into adulthood (Gilbert et al., 2009). Taken together, these findings highlight the importance of targeting attributions as a way of reducing and preventing harsh parenting.

In addition, some authors have suggested that parental attributions also affect their child's attribution (Miller, 1995), therefore, changing parental attributions may also have additional benefits by preventing the transmission of negative attributions to children. According to Miller (1995), parents are essential contributors to the construction of children's beliefs and values. Thus it is possible to believe that children's attributions may be similar to those of their parents. Pritchard-Boone (2007) found that attributional changes can be transmitted across three generations from grandparents down. In light of these findings, our current results are extra important as they suggest that by changing parenting attributions improvements may be seen across multiple generations.

There is a well-known direct association between child behaviour and parental behaviour (Schulz, Leijten, Shaw, & Overbeek, 2019), but less is known about the mediating mechanisms that may explain that relationship (Johnston & Ohan, 2005). For instance, the relationship between positive parenting and low levels externalizing problems was found to be mediated by children effortful control (an aspect of temperament) (Eisenberg et al., 2005). Some other types of cognitions such as parental beliefs about children, have been found to mediate the link between parental anxiety and children's internalizing problems (Laskey & Cartwright-Hatton, 2009). Although these studies highlight the potential mediator role of parental cognitions, there was still limited research about the role played by parental attributions.

Consistent with the second hypothesis, we found that parental attributions fully mediated the association between child behaviour and parental behaviour. These findings replicate and expand the U.S. work by Dix and Grusec (1985) one of the few studies that had previously considered parental attributions as a mediator. Further, we confirmed that this model holds in a Brazilian context. This finding suggests that the relationships are more complex than it appears, namely that child behaviour triggers parental attributions, and that these attributions in turn influence parenting behaviour.

It is also possible that the relationships between parental attributions, parental behaviour and child behaviour occur in a continuous or recursive way. For example, let's assume that a child does not want to go to sleep so yells out from her room. This yelling behaviour will generate a particular parental attribution (e.g., She is doing it on purpose. She never lets me get any rest). That particular attribution may trigger a parenting behaviour such as yelling, which ultimately makes the child less likely to go to sleep and confirms the original attribution and maintains the cycle of problem behaviour. Conversely, a parent may engage in problematic bedtime routines which decrease the

chances that the child will go to sleep, and the parents may develop negative attributions as a result of this. Together these findings suggest that parental attributions may be a useful target of change in interventions aiming to reduce dysfunctional/harsh parenting and improve child behaviour. By targeting the negative attributions that predict dysfunctional or harsh parenting interventions may have enhanced effects on parenting and child behaviour outcomes.

Implications

The present findings should be considered in the broader context of clinical implications. Parental thinking is surrounded by their own experiences, culture, and popular belief. Sayings such as "the apple doesn't fall far from the tree", suggest inheritance features that there are inside of the child (internal) and are not going to change (stable). What parents say about their children, in particular about their behaviour can reflect parental attributions. Where attributions are negative, they are likely to increase hostile or dysfunctional parental behaviour. Therefore, clinicians and professionals that work with parents should pay particular attention to what parents think and believe about the causes of child behaviour. For example, the simple act of asking the parents what they believe the reasons for children's behaviour are could help to identify negative attributions that may be playing a role in maintaining unhelpful parenting practices and it could be used to inform therapy.

By identifying the potential links between child behaviour, parental attributions and parental behaviour, this study contributes to the theoretical understanding of the role parental attributions play in the relationship between child and parenting behaviour. Considering the strong relationship between negative parental attributions and harsh parenting, changing attributions alongside parental behaviour would be beneficial. Future research could examine if generalist parenting programs change attributions or where additional modules are needed. Parents with very high levels of negative attributions may benefit from attribution retraining techniques (Crouch et al., 2017) but parents with low to moderate negative attributions may not need specific attributional retraining if sufficient improvements in attributions are made in normal parenting programs. For example, Sanders et al. (2004) added attribution retraining and anger management to an intervention designed for parents at risk of child maltreatment, and their results showed reductions in negative parental attributions for both the intervention group but also, smaller but still significant reductions in the control group who received a usual parenting program.

In the Brazilian context where the rates of harsh and dysfunctional parenting are elevated, there is a need to investigate if parenting programs are able to modify negative attributions especially given the long-lasting negative effects of harsh and dysfunctional parenting on child development (Gilbert et al., 2009; Malo, Moreau, Chamberland, Leveille, & Roy, 2004; Santini & Williams, 2016).

Limitations

This study has several limitations. First, we used self-report questionnaires which are open to multiple forms of error, including social desirability bias. Although self-report measures are the only way to assess parental attributions accurately, future research could involve multiple informant evaluations of harsh parenting and child behaviour to ensure parental attributions do not impact perceptions of child behaviour problems. Second, the cross-sectional nature of this study prevented us from examining causal relationships that are usually evaluated in longitudinal studies, therefore causality could not be inferred (child behaviour leads to parental attribution, leading to parenting behaviour). As outlined above the relationships may also be bidirectional or multidirectional (Bell-Dolan & Anderson, 1999), therefore, longitudinal studies are recommended in order to determine the directionality of the relationships between parental attributions and parent behaviour, accurately. Lastly, we had a small sample of convenience, consisting primarily of mothers which limits generality. These findings must be viewed as preliminary, and in need of replication, and must be interpreted with caution in terms of representativeness and generalization. Future studies should increase effort in order to include more participants using a more representative sample.

Strengths

Nonetheless, the study has a number of strengths including the use of well-established measures with good psychometric properties. To the best of our knowledge, examining parental attributions in Brazil has not been previously attempted and as such provides some preliminary evidence for why there are high levels of harsh parenting in that population. In addition, the current study contributes to the literature through the investigation of the mechanisms underlying the relationship between child and parenting behaviour.

Conclusions

In conclusion, this study confirms that negative parental attribution acts as a predictor of harsh parenting, it also confirms the mediating role of parental attributions in the relationship between child behaviour and parenting behaviour. Our results suggest that targeting parenting attributions might be one way to reduce harsh or unhelpful parenting practices and by extension, improve child outcomes. We highlight the importance of future research to study if standard parental interventions can modify parental attributions.

Chapter 3: The effect of parenting intervention in parental attributions about child behaviour: Systematic review

The manuscript presented in the previous chapter revealed two main findings: a) parental attributions mediate the relationship between child behaviour and parental behaviour; and b) negative parental attributions predicted harsh parenting. These findings highlight the importance of changing parental attributions as one way of reducing harsh parenting and improving parenting practices in general. This may be especially relevant in contexts with a high prevalence of child behavioural problems and dysfunctional parenting, such as Brazil.

Parenting programs may have the potential to modify parental attributions, however, only a few studies have investigated the effect of parenting programs on changing parental attributions. This knowledge is especially needed, given the results presented in chapter two, showing that attributions predict harsh parenting. This manuscript addresses this existing gap in the literature by presenting a systematic review examining the extent to which generalist parenting programs can reduce negative attributions and provides a foundation for the subsequent studies.

The reference of the manuscript is provided below:

Schulz, M. L. C., Haslam, D., & Morawska, A. (2020c). *The effect of parenting intervention in parental attributions about child behaviour: Systematic review*. Unpublished manuscript. University of Queensland. Brisbane, Australia.

Background

An increasing number of studies have indicated that parental attributions play a significant role in parental functioning (Bugental & Happaney, 2002). For example, Colalillo et al. (2015) found that mothers with high levels of negative attributions, had children with more externalizing problems, in comparison to mothers that did not have elevated rates of negative parental attributions. Behavioural parenting interventions are well-evaluated and effective approaches to changing parenting behaviour (Gavita & Joyce, 2008; Katzmann et al., 2017) however very little is known if participation in parenting interventions leads to changes in parental attributions.

Numerous meta-analyses have documented the effectiveness of parenting programs in improving parental and child outcomes (Barlow & Coren, 2017; Barlow, Smailagic, Huband, Roloff, & Bennett, 2012; Kaminski, Valle, Filene, & Boyle, 2008). However, considering that the underlying theory of most of the parenting programs lies in the behavioural approach (Mah & Johnston, 2008), there is a trend to measure behavioural outcomes. Even though several researchers recognize the relevance of parental cognitions (Sanders et al., 2004), most of the parenting programs has been largely focused on changing parenting behaviour. According to Hawk and Holden (2006), parental cognitions can be understood as the thoughts that parents have about their children, including cognitive process such as anticipation, reflection and problem-solving.

Regarding parenting interventions, parental cognitions may influence the perception that parents have about participating in parental interventions, as well as the decision to enrol and engage in the program (Mah & Johnston, 2008). For instance, at the beginning of an intervention if a parent believe that their actions will not impact their child's behaviour, it is unlikely that the parent will make a large effort to participate in the intervention (Gardner, Hutchings, Bywater, & Whitaker, 2010). In that case, it can be useful to assist them to become aware of their own responsibility and to identify ways that they could change their behaviour in order to affect their child's behaviour. This in turn could potentially facilitate the acceptance and motivation to engage in parenting programs. Deković and Stoltz (2015) suggested that the process of changing parenting behaviours starts with a change in parental thinking. This means that before parents change their behaviour, they must first believe they are capable of change.

We believe that there is one type of parenting cognition that is crucial to understand the effect of parenting interventions on parenting and child behaviour, and this key variable is parental attributions. Parental attributions can be simply defined as reasons that parents give to explain the causes of their child's behaviour (Colalillo et al., 2015). Over the years, various models have been proposed to describe parental attributions, but the dimensions most consistently used are locus of control and stability, as originally proposed by Weiner (1985). Weiner proposed that when parents see a particular child behaviour, they try to explain and give meaning to that behaviour, along those

three dimensions. Causal attributions can be understood as the perception that parents have about the origin of the child behaviour, and it can be considered internal (e.g., ability, genetic) or external to the child (e.g., task difficulty). Controllability refers to the perception of whether the child can control his own behaviour, or not. For example, a parent may attribute "effort" as an activity that is under the child's control (controllable), while "illness" is something that cannot be controlled by the child (uncontrollable). And finally, attributions of stability can be understood as whether the cause of the behaviour is likely variate (unstable) or be permanent (stable). The type of attributions that parents make can impact both parent behaviour (action or inaction) and child behaviour.

The effect of parental attributions on parenting and child behaviour

Parental attributions have been associated with parental involvement and child achievement (Georgiou, 1999). Georgiou and Tourva (2007) demonstrated that parents who believe that they can influence the child behaviour (such as child's achievement), also believe that getting involved in the child's education is worthwhile, which in turn influence the actual behaviour of getting involved (e.g., helping with homework). On the other hand, parents who believe that the child's achievement relies exclusively on the child (or other factors, such as teachers), do not have the belief of getting involved, and consequently they are less likely to get involved in the child's education. These findings highlight the relevance of parental attribution in influencing parent-child relationship. Thus, it is possible that parenting interventions could potentially contribute to the process of changing attributions, and as result help to improve family interactions. However, little research has empirically examined this.

According to social cognitive theories, parent's responses are influenced by their attributions about child behaviour (Park et al., 2016). For example, Slep and O'Leary (1998) demonstrated that manipulating explanations given to mothers about child misbehaviour, influenced mothers' subsequent behaviour and emotional reaction during an activity with their own children. For instance, when mothers were told that the child misbehaved on purpose, they reported feeling angrier during the interaction and reacted in a more overreactive way, than compared to mothers that were told that the child misbehaviour was not the child's fault. Thus, it appears that the reactions of parents may vary according to the type of attribution or expectations they hold of their children.

Beckerman et al. (2017) showed that parents who have dysfunctional attributions tend to attribute more responsibility and to see the behaviour as more blameworthy compared to parents with fewer dysfunctional attributions. Given that negative attributions are related to harsh or coercive parenting, it is unsurprisingly that at extreme levels dysfunctional parental attributions also act as a key risk factor for child maltreatment (Pidgeon & Sanders, 2009; Sanders et al., 2004). According to the attribution theory parents with high levels of negative attributions have a biased

view about child behaviour. For example, when they see child misbehaviour (e.g., spilling milk), they tend to think that it was intentional "he did it on purpose", which in turn may trigger feelings of anger and the parent may react in a more aggressive way. While other parents that attribute the misbehaviour as caused by external and uncontrollable causes such as "it was an accident", are less likely to react harshly (Dix, Ruble, Grusec, & Nixon, 1986). It has been demonstrated that harsh discipline functions as a mediator in the relationship between attributions that blamed the child for negative behaviour and child behaviour problems (Colalillo et al., 2015; Park et al., 2016). Recently, Beckerman et al. (2017) found that negative parental attributions mediate the relation between parenting stress and harsh and abusive discipline. The authors suggested that in order to decrease child maltreatment, interventions should target negative parental attributions.

Parenting Attributions in the context of parenting interventions

Over the last few decades, researchers have noted parenting attributions as an important target in parenting interventions. They emphasised that parental cognitions about child behaviour have the power to affect the intervention process and treatment response (Sawrikar & Dadds, 2018). Research have shown that parents' cognitions predict children's treatment outcomes. Hoza et al. (2000) measured maternal and paternal cognitions before and intervention, and found that they predicted children's treatment outcome 14 months later. Given the link between parental attributions and the parent decision-making behaviour, Mah and Johnston (2008) suggested that it is essential to consider parental attributions in the context of parenting programs. Parental attributions may influence the parental behaviour of getting involved and participating in the intervention.

Hoza, Johnston, Pillow, and Ascough (2006) suggested that changes in parental cognitions caused by behaviour treatment may predict improvements in child outcomes. Furthermore, they suggested that changes in parental cognitions may play a role as mediator of the relationship between treatment intentions/behaviours and child and parent improvement. However, recent research has yielded contradictory results. Johnston, Mah, and Regambal (2010) investigated mothers of children with ADHD, and tested a model where parental cognitions (parenting efficacy and parenting attributions) were considered as a predictor of experiences in Behavioural Parent Training (BPT). However, none of the parental cognitions (efficacy or attributions) predicted parental experiences with BPT.

These mixed and contradictory results support the need for further investigation. There is only one existing review that provided emerging evidence about the role of parental attributions in BPT. Sawrikar and Dadds (2018) suggested that adding parental attributions modules to parenting interventions, does not necessarily mean having better outcomes than standard interventions. Interestingly and inconsistent with previous research (Hoza et al., 2006; Mah & Johnston, 2008) they found parental attributions did not predict treatment engagement behaviours (such as

attendance, dropout, and adherence). However, caution is needed when interpreting these results since the study is not a systematic review, and the authors did not report details about the included studies.

The current study

Little is known about the effects of parenting intervention on parental attributions (Sawrikar & Dadds, 2018), in addition, most studies have focused mainly on the influence of parental attributions on parenting interventions rather than the effect of parenting interventions on parenting attributions. Researchers have proposed that parental attributions are able to exert great influence on parenting (Bugental & Johnston, 2000). Thus, it seems reasonable to expect that parenting interventions are able to change parenting attributions, and if negative attributions are changed, this could lead to improvements in the effects of the parenting intervention. However, the extent to which parenting interventions can change parental attributions about child behaviour has not been systematically examined, plus, the limited evidence available has yield inconsistent results.

On the one hand, studies have found evidence of change. For example, Katzmann et al. (2017) examined mediating variables of two interventions (behavioural oriented guided self-help program and nondirective intervention). The results showed that parents in the behavioural oriented guided self-help program indicated larger decreased in dysfunctional attributions than parents in the nondirective program. Which, in turn, resulted in greater reductions of child behavioural problems after the intervention (Katzmann et al., 2017). In contrast to these positive findings, other studies like Esdaile and Greenwood (1995) did not find any evidence of changes in parenting attributions after the participation in the intervention.

Given these inconsistencies in the existing literature and the fact that these findings have not been extensively or systematically assessed, it is not currently possible to conclude whether parenting interventions can change parental attributions or not. This study attempts to address this issue by providing a systematic review that will strengthen the evidence about the effect of parenting interventions on parental attributions. It is designed to explore what is known about parental attributions as outcomes of parenting interventions and how they are related, in parents of children from birth to 10 years old. This study represents an initial step toward understanding the broader range of effects that parental interventions can have on parenting attributions, for a better outcome subsequent to the participation in parenting programs.

Methods

Protocol and registration

A protocol for this study has been published on PROSPERO (CRD42016047168) following PRISMA guidelines (Preferred Reporting Items for Systematic Reviews and Meta-Analyses).

Criteria for selecting studies

Participants. We included studies that met three criteria regarding participants' characteristics. First, studies that targeted parents of children from birth to 10 years old. We selected this age range because it is the target age for most parenting interventions, due to the fact that early intervention focuses on promoting healthy relationships between children and parents and therefore prevent the development of behavioural problems (Barlow & Coren, 2017; Sanders et al., 2014). In addition, from the age of 10 onwards, it is known as a period of transition to the adolescence, and literature suggests parent's attributions of adolescent behaviour may change (Miller, 1995). Second, parents had to complete a parenting program aimed at helping them to address some aspect of parental functioning (e.g., behaviour, self-efficacy, attitudes and behaviour). There were no restrictions on the gender of parent or child and the geographical location of the study participants. And third, we focused on a community sample of parents, representing typically developing children and thus included only healthy parents and children without mental health disorders, or physical or developmental disabilities.

We excluded participants that did not represent typically developing children: a) parents of children with chronic health conditions (e.g., diabetes, asthma, brain injury), developmental disabilities (e.g., Down syndrome, Autism) or a mental health condition (e.g., Anxiety, ADHD, Oppositional Defiant Disorder); b) parents with mental health disorders (e.g., Schizophrenia, Depression, Bipolar disorder). The primary reason we excluded clinical samples is due to the fact parental attributions tend to differ according to children's characteristics or physical or mental health conditions. For example, Johnston and Freeman (1997) compared parental attributions of children without behaviour disorders and children with ADHD, the results indicated parents of children with ADHD generally saw behaviours characteristic of ADHD as caused inside the child and less controllable by the child, and also saw themselves as less responsible for these child behaviours. We also excluded those parents in highly disadvantaged circumstances, for example, parents who were in prison, exposed to domestic violence or parents who abused substances, etc. because although it is reasonable to believe that parental attributions can change after the participation in parenting programs, literature has found high-risk parents tend to have high levels of negative attributions, therefore we believe for those parents it may be more difficult to change attributions than compared to the general population (Sawrikar & Dadds, 2018).

Intervention. We included any parenting programs that aimed to help parents to manage children's behaviour and improve family functioning and relationships, and those specifically targeted at changing parental attribution. We included any theoretical framework (behavioural, cognitive, cognitive behavioural, etc.) and any mode of parent training delivery. We only considered studies which had a parent intervention only, and we excluded those studies when another member of the family received another kind of intervention simultaneously with the parent

intervention (e.g., child therapy, medication, school training, etc.). We also excluded those studies combining two or more types of interventions (e.g., parental intervention with child intervention) because we wanted to know if only parenting interventions are able to change parental attributions if we considered a combination of interventions (as medication, for example) we would not be able to see if the change was a result of the parenting intervention or the combination of both.

Study designs. This review included studies reporting outcomes of a parenting intervention on parental attributions about child behaviour. In order to include as many studies as possible, we included any study designs where pre and post data were available, including RCTs, quasi-randomised and pre-post designs. To ensure representative studies were included regardless of treatment intensity or duration, mode of treatment delivery (e.g., individual, group), or medium of treatment (e.g., in-person, online). We included studies that reported pre-test and post-test means, standard deviations and the effect size. We included only peer-reviewed journals and article available in English, Spanish or Portuguese. Articles were excluded if: a) the full text was not available; b) participants were not exposed to a parenting intervention; c) studies that assessed only attributions about child behaviour from a person other than the parent (e.g., child, health professional or another member of the family); d) cross-sectional studies and; e) dissertations, study protocols, conference abstracts or posters.

Outcomes. Our primary outcome was to examine the effect of parenting intervention on parental attributions, therefore, we included studies that reported parental attributions outcomes about child behaviour (e.g., Parent Attribution Scale, Parental Attribution Questionnaire, Written Analogue Questionnaire, etc.).

Data collection and Analyses

Multiple database searches were conducted in Cochrane Central Register of Controlled Trials, PsycINFO, PsycARTICLES, ProQuest Social, CINAHL and PubMed. For all searches, the time period was set from the earliest published records until August 2017. We searched studies in English, Spanish or Portuguese, however, the search terms used were in English only.

We used the following terms to search all databases:

Keywords: 'famil*' OR 'parent*' OR 'maternal' OR 'mother*' OR 'father*' OR 'paternal' AND 'interven*' OR 'training' OR 'program*' OR 'course' OR 'session' OR 'group' OR 'treatment*' OR 'trial' AND 'attribution*' OR 'cognition*'.

Data extraction process

All studies resulting from the literature searches of each database were transferred to a central Endnote database, including title and abstract. Duplicated were removed by the first author, we combined the auto-search method through Endnote and hand-search. Then the articles were screened by title, and abstract and irrelevant records were discarded. Abstracts and the full text of

the remaining potentially eligible studies (75) were retrieved and independently assessed for inclusion criteria outlined above, by the first author and a second reviewer, using a data extraction form. Any disparities between the reviewers' selection of a study for inclusion or exclusion were resolved through discussion (with a third reviewer when necessary).

The following information was extracted from each of the studies included: (1) Participants characteristics (sample size, parents' gender, parents' age, child's age, source of recruitment); (2) Study characteristics (country and study design); (3) Intervention characteristics (the aim of the intervention, duration of intervention, compared group(s)); (4) Measure and outcomes (measures, time of the measures and outcomes).

Risk of Bias assessment

One author independently completed the Cochrane Collaboration's tool for assessing the risk of bias (Higgins & Green, 2008). The accuracy of the assessment of each study was assessed against the original document by a second reviewer. In case of disagreements, the reviewers discussed it and consulted third and impartial reviewer when necessary. We assessed the extent to which the study met the following conditions: (a) Randomisation sequence generation: referrers to the generation of the allocation sequence. This method recommends the inclusion of sufficient detail information in order to produced comparable groups; (b) Treatment allocation concealment: is used to conceal the allocation sequence in order to assess whether intervention schedules could have been anticipated in advance of, or during, recruitment; (c) Blinding: strategy used to blind the participants, research members or outcome examiners; (d) Completeness of outcome data: the extent to which attrition and exclusions, as well as the numbers involved (compared with total randomised or otherwise allocated), reasons for attrition/exclusion (were reported or secured from study investigators) and any re-inclusions were reported; (e) Selective outcome reporting; and (f) Other sources of bias: e.g., early stopping of the trial or baseline imbalances (in nonrandomised studies). Each domain was allocated using the categories for each of the included studies: low risk of bias, high risk of bias, or unclear risk (i.e., when the risk of bias was uncertain or unknown).

Results

Due to the limited number of studies included and variation of study designs, we could not conduct a meta-analysis, and therefore the findings from the review are presented in a qualitative synthesis.

Study selection

The flowchart of the entire article selection process is presented in Figure 3. Of the 75 full-text articles independently assessed by the first author and a second reviewer, 71 were excluded due to the following reasons: did not assess parental attributions about child behaviour (n= 23); did not include pre and post data (n= 16); child age criteria not being met (n= 5); combination of

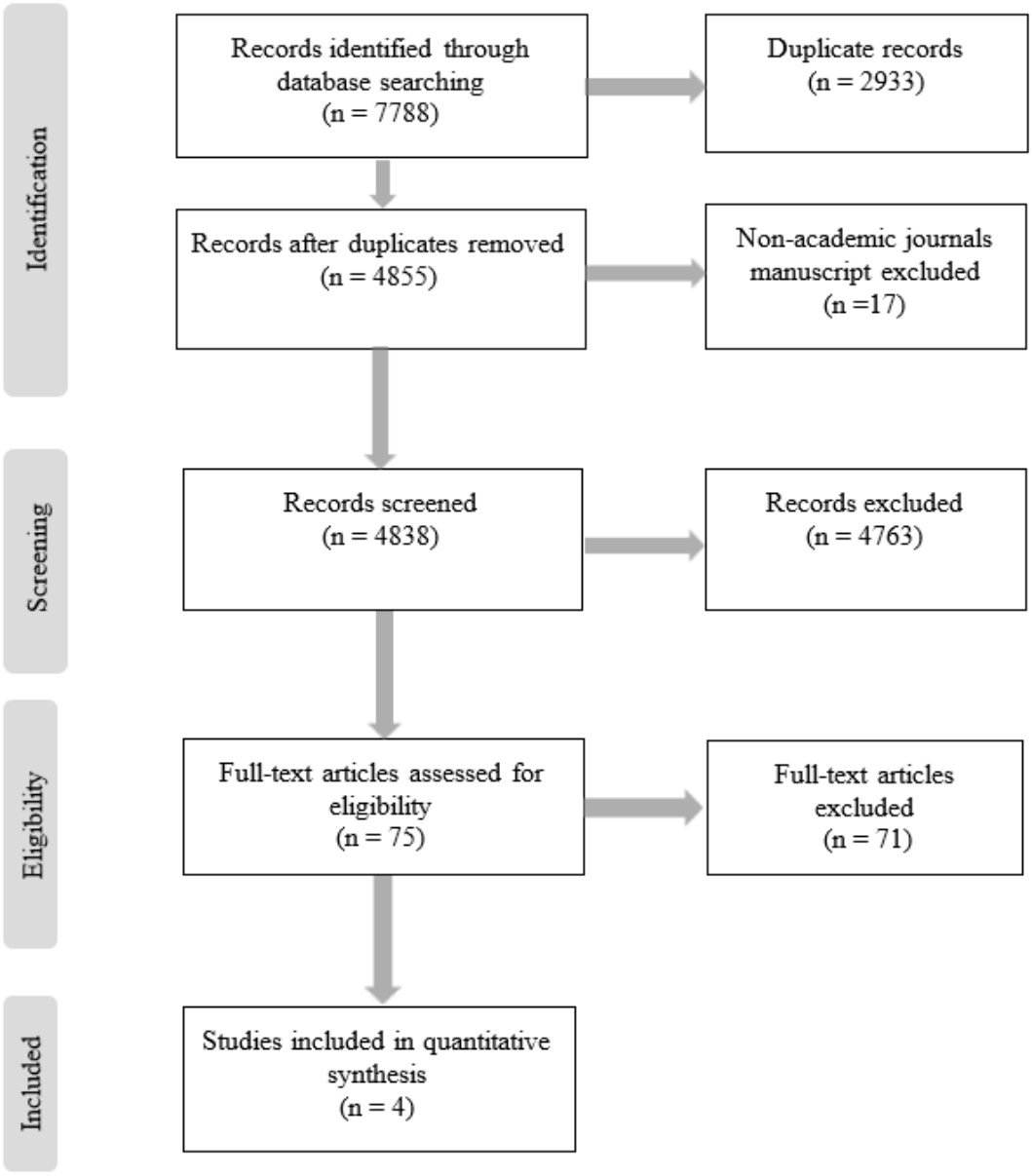
interventions (e.g., the child was using medication for behavioural problems) (n= 12); no parenting intervention (n= 5); parents did not represent community sample (n= 5); article was not available (n= 4). One article was excluded later when we came across with two papers that had similarities in the method and results (Esdaile, 1995; Esdaile & Greenwood, 1995). We contacted the author, and it was confirmed that both articles were derived from the same data set, considering this we decided to report the results from only one study (Esdaile & Greenwood, 1995). No papers were excluded due to language criteria. A total of four studies were therefore included in this systematic review (Esdaile, 1995; Esdaile & Greenwood, 1995; Sanders et al., 2004; Wiggins et al., 2009; Wilson & White, 2006).

Participant's characteristics

The sample size varied considerably between studies that ranged from 5 to 101 families. Most of the studies focused on mothers, although only one study exclusively recruited mothers (Esdaile & Greenwood, 1995). Three studies recruited either the mother or the father, but not both parents (Sanders et al., 2004; Wiggins et al., 2009; Wilson & White, 2006). No study focused exclusively on fathers.

Average parental age ranged from 28.4 to 38.55 years old (Esdaile & Greenwood, 1995; Sanders et al., 2004; Wiggins et al., 2009). Wilson and White (2006) did not present the mean parental age, but they stated that ranged between 22 years and 38 years. Children's ages ranged from 2 to 10 years. The participants were recruited in different places, including community centres, referral of clients from family doctors, psychological services, community child health services, and from self-referrals following media outreach about the project (newspaper advertisement, pamphlets, university emails, and school newsletters).

Figure 3. *PRISMA Flow diagram of the number of records identified, included and excluded*



Study characteristics

The majority of studies included were conducted in Australia (Esdaile & Greenwood, 1995; Sanders et al., 2004; Wiggins et al., 2009). Only one study was conducted in the United Kingdom (Wilson & White, 2006). Two studies used RCT design (Sanders et al., 2004; Wiggins et al., 2009), one study used pre-post data (Esdaile & Greenwood, 1995), and one study used a short case series, including pre-and post-data (Wilson & White, 2006).

Intervention characteristics

All interventions aimed to improve parenting skills such as managing child misbehaviour and all stated that additional components were included: attribution retraining and anger management developed for parents at risk of child maltreatment (Sanders et al., 2004; Wiggins et al., 2009); stress management and relaxation activities (Esdaile & Greenwood, 1995) and; a

cognitive component in which a thoughts-feelings-behaviour cycle was introduced into a standard behavioural intervention program (Wilson & White, 2006). Three studies were based on behavioural or cognitive-behavioural models (Sanders et al., 2004; Wiggins et al., 2009; Wilson & White, 2006), one study was based on occupational therapy theory and the program used toy-making and toy demonstration as a strategy to guide the discussion and deliver information about on play development and behaviour of toddlers (Esdaile & Greenwood, 1995).

All interventions had a standard duration, the number of sessions ranged from 9 to 12 (Esdaile & Greenwood, 1995; Sanders et al., 2004; Wiggins et al., 2009), with the exception of Wilson and White (2006), who used a short case series design and did not report details about the number of sessions, the only information provided was that the included parents completed at least six individual, couple or group sessions.

Most of the studies used a comparison condition: enhanced group-administered behavioural family intervention program that incorporated attributional retraining and anger management compared to a standard behavioural family intervention program (Sanders et al., 2004); one study compared three groups (two experimental groups and one non-intervention control group; Esdaile & Greenwood, 1995); one study compared intervention group to a waitlist control (Wiggins et al., 2009). Wilson and White (2006) did not use any kind of comparison.

Measure and outcomes: Intervention impact on attributions

All studies used well-standardised measures of parental attributions. Two studies used the Parent's Attributions for Child's Behavior Measure (Pidgeon & Sanders, 2004), Esdaile and Greenwood (1995) used The Revised Parent Attribution Test (Bugental & Shennum, 1984) and Wilson and White (2006) coded attributions from transcripts of interviews with parents before to after the intervention, using the Leeds Attributional Coding System (Munton, Silvester, & Stratton, 1999). Three studies measured parental attributions at three-time points: pre, post and follow up (Esdaile & Greenwood, 1995; Sanders et al., 2004; Wiggins et al., 2009). The follow-up period ranged from 3 to 18 months. One study reported only pre and post data (Wilson & White, 2006).

The main findings of the studies were organised according to outcomes that assessed parental attributions. Two studies detected changes in attributions between pre- and post-intervention, Sanders et al. (2004) compared two interventions (standard parenting intervention vs enhanced), and both conditions showed significant improvements from pre-intervention to post-intervention, in reductions in dysfunctional attributions. The results were maintained from post-intervention to follow-up. Moreover, parents in the enhanced group showed significant additional improvements compared to families in the standard intervention, on intentional attributions for child aversive behaviour. Wiggins et al. (2009) compared an enhanced intervention to a waitlist control group. After the participation in the enhanced intervention, the parents in the intervention group

showed a significant reduction of blame and intentional attributions and the results were maintained from post-intervention to 3-month follow-up.

On the contrary, Esdaile and Greenwood (1995) did not find evidence for changes in parental attributions between pre, post or follow-up in either the experimental groups compared with the control group or for differences in response between the two experimental groups (Esdaile & Greenwood, 1995). The authors also collected qualitative data after the follow-up, and the participants supported the inclusion of stress management in the intervention program, although it was argued that one of the possible explanation for the results it is the period of time spent on these activities was not enough to produce lasting effects.

In the remaining study, which was the short case series with 5 participants, they found changes, yet in different directions, for example, some of these parents after participating in the intervention reported more negative attributions about their children than before, whereas others had decreased negative attributions (Wilson & White, 2006).

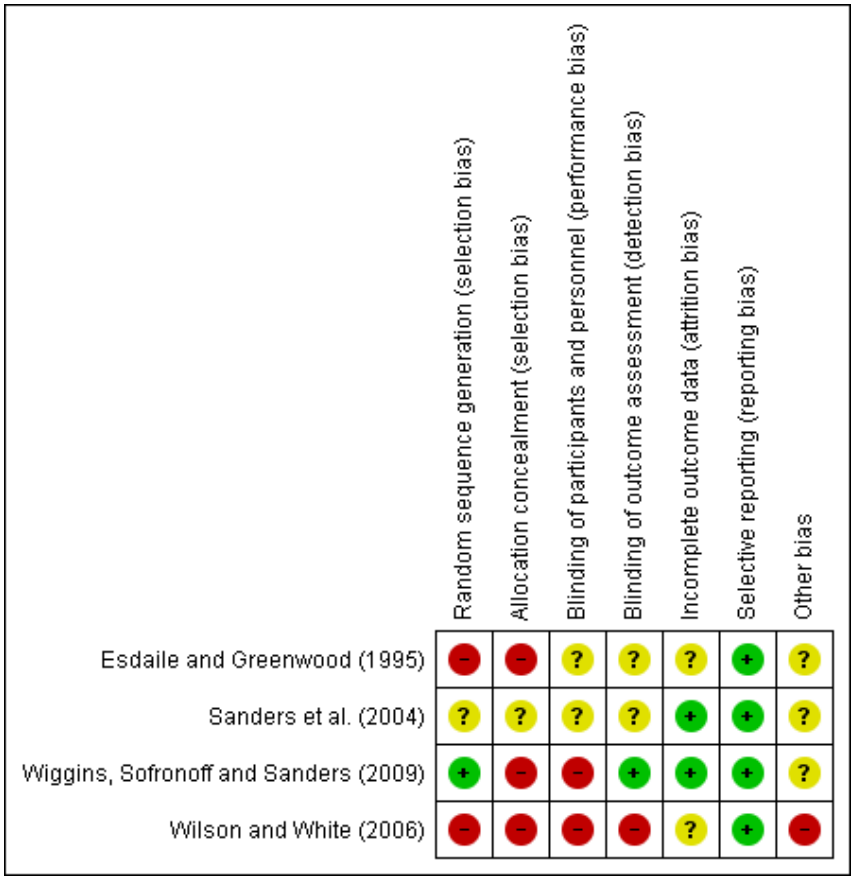
Results of the Assessment of Risk of Bias

The risk of bias was assessed for the five included studies, nonetheless, only two were RCT, and we decided to evaluate all with the same criteria previously established. Results of this evaluation can be seen in Figure 4 and Figure 5.

Random sequence generation. Only one study described the method of sequence generation (Wiggins et al., 2009) through the drawing of participant identification numbers at random and allocating alternatively to the treatment and waiting list group. One study did not report the process of random sequence generation (Sanders et al., 2004). Two studies did not report any information to judge this criteria (Esdaile & Greenwood, 1995; Wilson & White, 2006).

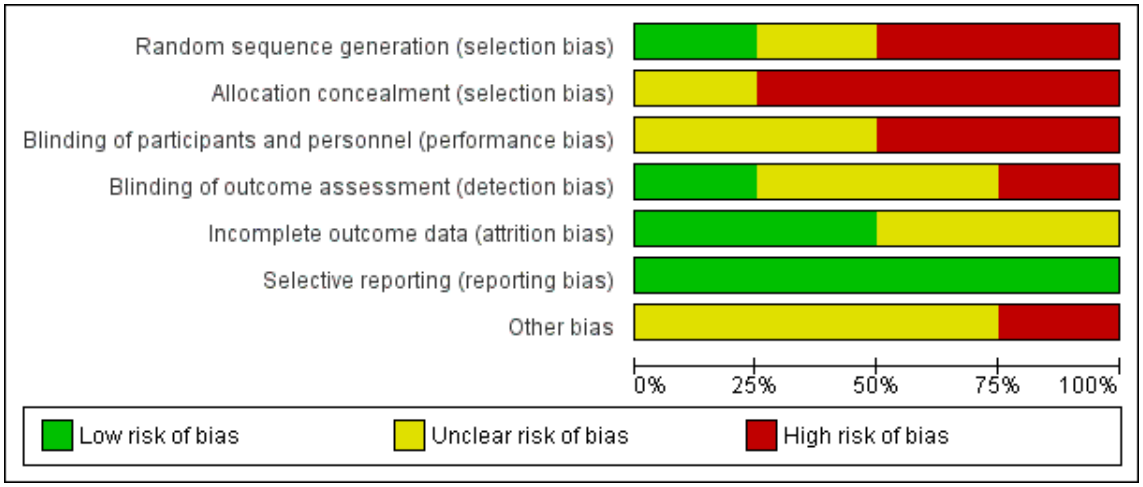
Allocation concealment. Sanders et al. (2004) did not describe the method of concealment with sufficient detail to allow a definite judgement. Three studies were evaluated as high risk of bias: Esdaile and Greenwood (1995) allocated the participants into two groups based on the subject's choice of the geographical location of the group and convenience of the time the group met; Wiggins et al. (2009) randomised the participants by the principal investigator drawing participant identification numbers at random and allocating alternatively to the treatment group and waitlist group; Wilson and White (2006) was a case series study, and it was not described random allocation or whether the allocation to the intervention was concealed.

Figure 4. *Risk of bias summary: review author's judgements about each risk of bias for each included study*



Blinding. No study reported fully blinded participants, personnel or outcome assessors (Esdaile & Greenwood, 1995; Sanders et al., 2004; Wiggins et al., 2009). Also, in most parenting interventions, especially where the measures are self-reported, it is not possible to fully blind the participants or those delivering interventions (Gavita & Joyce, 2008; Kahan et al., 2014; Page & Persch, 2013).

Figure 5. *Risk of bias graph: review author's judgements about each risk of bias presented as percentages across all included study*



Completeness of outcome data. Two studies provided information concerning the reason for attrition (Sanders et al., 2004; Wiggins et al., 2009). Two studies did not provide enough information to make a judgement (Esdaile & Greenwood, 1995; Wilson & White, 2006).

Selective outcome reporting. We focused only on parental attributions (as the key variable), for this reason, we were not able to analyse all the outcomes for each study and judge the bias of selecting reporting. However, the Method section of all studies described a measure assessing parenting attributions and the results of the measures were reported. The overall judgment of included studies remains a low risk of bias.

Other sources of bias. Only one study (Wilson & White, 2006) was evaluated as high risk of bias because it did not inform the pre-specified sample size, or rules for attained that number, and also small size (5 participants). The remained three articles were classified as Unclear due to the lack of information to permit the judgement (Esdaile & Greenwood, 1995; Sanders et al., 2004; Wiggins et al., 2009).

Discussion

Summary of evidence

An extensive search of the published literature yielded 7,427 articles, of which only five articles describing four studies met inclusion criteria. Despite the large body of evidence indicating the importance of parenting attributions in affecting the child and parental behaviour, the small number of articles retrieved reveal a scarcity of parenting intervention research in this area. The aim of this systematic review was to explore what is known about parental attributions as outcomes of parenting interventions, our findings reveal inconsistent results in the extant literature. Two studies suggest that parenting programs have the potential to improve parental attributions (Sanders et al., 2004; Wiggins et al., 2009), these results are consistent with the findings obtained for Sawrikar and Dadds (2018) whereas other studies did not find significant effects for improving parental attributions (Esdaile & Greenwood, 1995; Wilson & White, 2006).

One possible explanation for the differing results may be specific characteristic within the interventions. Sanders et al. (2004) and Wiggins et al. (2009) used an enhanced version of the Triple P – Positive Parenting Program called Pathways. Triple P is one of the programs with the strongest evidence for effecting family change, that incorporates strategies for dealing with misbehaviour, through the improvement of parenting skills and confidence in order to promote good relationships and support the wellbeing of families (Turner et al., 2010). Pathways Triple P was designed for parents at risk of child maltreatment and target crucial key risk factors through attribution retraining and anger management (Sanders et al., 2004; Wiggins et al., 2009). Given that this program specifically teaches attributional retraining, the effects make sense.

The intervention used by Esdaile and Greenwood (1995) was based on occupational therapy theory and was designed to examine and enhance mothers' interactions with their preschool children. The program used toy-making and toy demonstration as a focus for discussion, the authors concluded that the program may not have been appropriate in effecting change and that other strategies and aspects need to be developed and incorporated. Wilson and White (2006) found changes, but in a different direction, the authors stated that some parents after the intervention reported having more negative attributions about their children than before. They interpreted these outcomes by giving an example, before the intervention one parent was not motivated to participate and avoided dealing with their child's behaviour, but after participation, negative attributions may have increased due the awareness and motivation to deal with the problems behaviours. However, we argue these results need to be interpreted with caution due to methodological issues with the study (did not report details about the number of sessions, pre-specified sample size or rules for attained that number and did not use a comparison group). Overall, the results were mixed for the primary aim of this review and have highlighted the differences found in the literature, however, no clear conclusions can be drawn regarding the indication whether parental attributions can change after the participation in parenting interventions indicating a need for more empirical research in the area.

In regard to the type of intervention, all included studies were based on modified adaptations and combinations of parenting interventions and additional components. According to Johnston and Ohan (2005), focus on parenting attributions may improve the effectiveness of parenting programs. For example, Gavita and Joyce (2008) reviewed studies that evaluated the effectiveness of cognitively enhanced behavioural parenting program. Five studies met all the inclusion criteria, from those only two studies assessed cognitive outcomes (no attributional measure). Results indicated that cognitively enhanced parenting programs can improve child and parental outcomes, nevertheless, they only add a small effect when compared to the standard parent programs on all the variables analysed.

Similar results were observed by Mah and Johnston (2008) that investigated the effects of enhanced BPT that have targeted parental cognitions. The evidence was mixed across studies, of the seven studies, only two indicated that cognitively enhanced BPT reported greater short-term improvements than compared to standard BPT. And four studies did not find significant between standard and enhanced BPT programs. In a review, Colalillo and Johnston (2016) proposed the benefits from one type of intervention or another may vary according to parent's characteristics. They suggested that parents with high levels of stress, for example, but functioning relatively well, may produce benefits on a standard parenting intervention. Having said that, a standard intervention

may not be sufficient for parents with high levels of depression, for example, and they recommended additional components to the intervention.

Interestingly, the review od Sawrikar and Dadds (2018) examined the question of whether parental attributions should be incorporated as a regular part of interventions. They found that incorporating modules in order to change cognitions does not guarantee better outcomes than a standard program. One of the includes articles reported changes in parental attribution after the participation in the standard intervention, which represents initial evidence that it is possible to shift dysfunctional attributions without using cognitively enhanced interventions. It is worth mentioning that authors stated for parents with serious negative attributions the standard program may not be enough and probably targeting parental attributions may be more appropriate.

In our review, all included studies used enhanced parenting interventions, and we found only one study that compared a standard intervention vs an enhanced one, significant improvements on parental attributions occurred in both conditions (Sanders et al., 2004). As explained by the authors, the enhanced intervention focused on training the parents to change negative attributions, it is possible that the standard intervention incorporated components that helped the parents to modify attributions in some degree too. For example, the group experience may have played a role reshaping attributions by the reinforce of alternative explanations for the causes for child behaviour, instead of blaming the child for misbehaving on purpose. In addition, in this program (Group Triple P) parents are taught a variety of reasons for why children behave the way they do, this may have contributed to the changing of attributions.

Although such findings provide initial evidence paving the way for a new research field, it may not be sufficient to prove that parental attribution can be changed through standard interventions and that such changes are associated with improved child behaviour. This suggests a clear need to develop more studies testing changes in parental attributions in standard interventions to provide strong evidence to endorse the results of this one single study and Sawrikar and Dadds (2018).

In addition, research into the mechanism of change is also needed in order to investigate the role of parenting attributions of the relationship between parenting interventions and outcomes. The future of enhancing treatment effects and building strong cognitive behavioural programs relies on identifying the mechanisms that lead to change (Gavita & Joyce, 2008; Gavita, Joyce, & David, 2011).

We employed a broad search and scope, and we also included parenting interventions with various approaches and lengths in this review. For example, we decided not to restrict to RCT designs as long as the study included pre and post data. We also included in the searches the keyword “cognition”, because we expected that some articles could not have mentioned the term

"attribution" on the title or abstract but they could have described on methods, and that is one of the reasons of the large number of articles found. We made those decisions to reach as many articles as possible.

On the other hand, we limited the inclusion criteria of participant's characteristics to non-clinical samples, this focus was established due to the fact that most high-risk populations or clinical samples tend to have more negative or entrenched attributions (Johnston & Freeman, 1997) compared to regular population and it would be more difficult to see change than compared with the regular population which may impact results. Our goal was to evaluate if attributions can be changes with Behavioural family interventions in normative samples with the view that if effects could be found with normative samples, it would make sense to extend the research questions to examine the impact on more clinical samples.

From the 71 excluded articles, 10 included non-community sample of parents, from those three were excluded due to the fact the participants were high-risk families: maternal substance abuse (Horton & Murray, 2015), families in poverty (Mattek, Harris, & Fox, 2016) and parents in highly disadvantaged circumstances (Love et al., 2016). The remaining seven articles recruited parent of children with Disruptive Behaviour Disorders such as ADHD or Oppositional defiant disorder and Conduct disorder, however, five of those were excluded because their participants used medication in combination with the parenting interventions (Beaulieu, Normandeau, & Robaey, 2014; Chronis, Gamble, Roberts, & Pelham, 2006; Hoza et al., 2000; Johnston et al., 2010; Peters, Calam, & Harrington, 2005). Only two articles were excluded purely because they were parents of children with ADHD (Katzmann et al., 2017; Roselló, García Castellar, Tárraga Mínguez, & Mulas, 2003).

All studies were carried out in Australia or the UK, so little is known about low-income countries, and caution should there, therefore, be considered before generalising the finding to other contexts. Taken together, these findings suggest the limited number of articles included shows that although the number of publications about parental attribution has increased over the years, there are still relatively few studies in the context of parental interventions.

Limitations of included studies

Several limitations of reviewed literature are important to consider. The methodological quality of some included studies was poor. The level of description of the intervention's content varied between papers and for some articles, we found that it was difficult to determine basic information. For example, Wilson and White (2006) mentioned that parents participated in group or individual sessions, but is not clear how many sessions, how many parents were involved in each format or how was the criteria considered to distribute the participant between the interventions.

The quality of the studies varied, and some studies did not report important information, such as allocation concealment, sequence generation, or blinding.

It was difficult to examine whether the outcomes could have been affected by the lack of methodological quality. Turner, Shamseer, Altman, Schulz, and Moher (2012) highlights that when researchers do not report complete information, it makes difficult for the reviewers to make definitive conclusions, hence the interpretation of results from the studies must be interpreted with caution. Future studies should use methodologic rigour following the guidelines for the reporting of clinical trials, such as CONSORT guidelines.

Strengths and Limitations of the current research

This review used a broad search strategy designed to include as much relevant information as possible, including different kind of study designs and languages (English, Spanish and Portuguese), for example. We used a structured approach to extract and assess data, and each study was assessed by at least two review authors. We used a rigorous and transparent process to describe methods, including previous Protocol registration and PRISMA reporting guidelines.

The main limitation of this study was the impossibility to perform a meta-analysis due to several reasons: the small number of studies included; only two studies were RCTs; the case study evaluated parenting attributions based on relatively subjective ratings by a therapist (which increase the risk of bias). The heterogeneity between the articles prevents us from performing a meta-analysis.

Conclusion

To our knowledge, this is the first systematic review attempting to evaluate the effect of parenting interventions on parental attributions about child behaviour, it builds on the work of the other non-systematic reviews. The limited evidence available suggests that parenting programs have the potential to improve parental attributions, however, the conclusions that can be reached at the current time cannot be generalised due to the lack of consistency between the results found.

The surprisingly small number of articles included revealed that is a topic that needs more research and should aim to: use sophisticated empirical methodologies, such as RCT designs; use control or comparison groups, as well as follow-up in order to assess the maintenance of the intervention effects; use strong methodologies as recommended by the CONSORT guidelines, for example. Further research is also needed to evaluate parental attributions in the context of standard interventions to investigate whether less intensive interventions can be as effective as complex parenting interventions to improve parental attributions.

Chapter 4: Can a parenting program change parental attributions? A randomised controlled trial of Group Triple P in Brazil

This chapter outlines the second of three empirical studies conducted. This chapter ties together the findings from Chapter 2 and Chapter 3. The results of Chapter 2 highlighted the need for research examining the extent to which attributions can be modified. And Chapter 3 revealed the limitations of the current literature about the effects of parenting programs on parental attributions where mixed results have been obtained. These gaps informed the development of this study. This study has two major goals: a) to investigate if a generalist parenting programs (Group Triple P) is able to change parental attributions; b) to investigate the efficacy of an evidence-based parenting (Group Triple P) program in Brazil, using a RCT.

Group Triple P is a useful tool to examine this research question for a number of reasons. First, although it does not include a specific focus on attributional re-training, it does teach parents a number of reasons why children behave as they do. This may serve to change parental attributions even though this is not a specific intervention target. Second, Group Triple P has an extensive evidence base which allows the research question to be addressed without concern about if the program is effective, reducing a potential confound should non-significant results be obtained. Finally, it allows a secondary research question, namely the efficacy of Group Triple P in Brazil, to be simultaneously examined. Group Triple P was originally created in a developed country (Australia), and previous studies have shown that it is efficacious across several countries. However, research has highlighted that when transporting a parenting program, in particular from a high-income country to an LMIC, there is a greater need to investigate the efficacy in the new country. This is due to the fact that families living in LMIC experience several transformations such as economic and political that may affect the family relationship. And that is why assessing the efficacy of Group Triple P is important.

The reference of the manuscript is provided below:

Schulz, M. L. C., Haslam, D., & Morawska, A. (2020a). *Can a parenting program change parental attributions? A randomised controlled trial of Group Triple P in Brazil*. Unpublished manuscript. University of Queensland. Brisbane, Australia.

Background

Attribution theory posits that people develop explanations to describe the causes of certain events or behaviours (Malle, 2011). Parental attributions are the reasons that parents give to explain the causes of their child's behaviour (Johnston & Freeman, 1997). When parents see a child behaviour (e.g., throwing food on the floor), they mentally attribute a reason to explain why their child behaved in that way. For example, they may think the child was doing it deliberately or alternatively that the child is signalling they have had enough to eat. In turn, these attributions influence parents' emotional and behavioural responses. Parental attributions for child behaviour, therefore, act as an interpretative filter that gives meaning to the child's behaviour and guides the parent's affective and behavioural reactions to the child (Bornstein et al., 2018).

Research has shown associations between child behaviour, parental attributions, and parenting behaviour (Enlund, Aunola, Tolvanen, & Nurmi, 2015). For example, Leung and Slep (2006) found that negative parental attributions (e.g. interpreting the child behaviour as intentional), were associated with parental laxness. For instance, parents who believe that the causes of child misbehaviour are internal (e.g., an inherited trait), they may believe that his own behaviour does not have an impact on the child's behaviour. Which, in turn, may prevent them from getting involved in the child discipline (e.g., correcting misbehaviour), which are characteristics of laxness (Park et al., 2016). Attribution theory predicts that parents who have high levels of negative attributions, tend to interpret the child misbehaviour as intentional, for example blaming the child for misbehaving and believing that the child wanted to provoke him on purpose (Beckerman et al., 2017; Wang & Wang, 2018). The more the parent perceives the child misbehaviour as negative and blameworthy, the greater the likelihood to elicit feelings of anger and react more aggressively towards the child (Crouch et al., 2017; Graham, Weiner, Cobb, & Henderson, 2001).

Research in non-clinical samples has also shown that negative parenting attributions predict harsh parenting and that negative attributions mediate the relationship between parenting behaviour and child outcomes (Schulz, Morawska, & Haslam, 2020).These findings highlight the potential benefit of reducing negative parenting attributions both in terms of parent and child-related outcomes. Parenting programs are effective at improving parenting competence and reducing child emotional and behavioural problems (Barlow et al., 2012; Chen & Chan, 2016; Kaminski et al., 2008; Smith et al., 2002). Deković and Stoltz (2015) suggested that the process of changing parenting behaviours starts with a change in parental thinking. This means, before parents change their behaviour, they must first believe

they are capable of change. Given that attributions are associated with behaviours it is possible that parenting programs work, in part, by also changing parental attributions or that parents who also report improvements in attributions report greater maintenance effects of intervention gains, however, little research has examined this.

A systematic review by Schulz, Haslam, and Morawska (2020c) investigated whether participation in a parenting intervention leads to changes in parental attributions about child behaviour. Only four studies that examined parental attributions were found, and all of these were based on programs with modified adaptations and incorporation of additional components, like attributional retraining and anger management. The authors concluded that there is limited empirical evidence to demonstrate if parenting interventions that do not include attributional retraining impact parental attributions about child behaviour. In addition, the results of the review were inconsistent. Two studies suggested that parenting programs have the potential to improve parental attributions (Sanders et al., 2004; Wiggins, Sofronoff, & Sanders, 2009), whereas other studies did not find significant effects for improving parental attributions (Esdaile & Greenwood, 1995; Wilson & White, 2006).

Enhanced interventions usually include more sessions, resulting in greater costs for the providers (e.g. facilitator's time, space, etc.) and also for parents in terms of parental investment and time commitment. If existing parenting interventions were able to reach the same results as the enhanced interventions, providers could save greater cost associated with the extra number of sessions. Therefore, there is a clear need to examine if parenting programs that do not specifically target parental attributions reduce parental attributions (Schulz et al., 2020c) .

Complementing the need to examine the impact of a parenting program on attributions, research on evidence-based parenting programs in LMIC are limited,(Haslam & Mejia, 2017; Mejia et al., 2012) including Brazil, one of the largest countries in the world. Increasingly systematic reviews have shown that parenting programs are efficacious in low resource settings (Chen & Chan, 2016; Pedersen et al., 2019). However, comparatively few studies been done in Brazil, and the limited evidence suffer several limitations, including small sample sizes, lack of evaluation of consumers' perspective or RCT design (Bochi et al., 2016). Sousa (2018) examined the literature of parenting programs in Brazil, and they found that most of the studies included did not provide sufficient information to assess the effect of the intervention, as well as they failed to provide details about the intervention. It is, therefore, important to use strong methodological designs and well-validated outcome

measures to evaluate the efficacy of evidence-based programs in developing countries, including Brazil.

Why is it important to make available parenting programs in developing countries? Because families in developing countries are exposed to several social and economic problems such as crime and extreme poverty (Knerr et al., 2013), making them more vulnerable to social risks than families in developed countries. For example, in Brazil, researchers have found high rates of harsh parenting in Brazilian families. Thus families living in these conditions, such as LMIC are in greater need of parenting programs than anywhere else (Ward et al., 2016).

Harsh parenting has been used in Brazil for a long time as a way of raising children, and until the mid-twentieth century, the practice was socially accepted and recommended. Harsh parenting was used as an instrument of moral discipline, respect and obedience, especially to the father figure (Oliveira & Caldana, 2009). This pattern has reduced over time, but it is still embedded in the Brazilian culture (Patias et al., 2012) and commonly used and widely accepted by Brazilian parents (Altafim et al., 2018). In the view of the strong relationship between parental attributions and dysfunctional parenting, it is possible that parents in this region, where the use of harsh parenting is a common practice, would have high levels of negative attributions, which makes Brazil an ideal context to examine parental attributions.

In addition, child behavioural problems are a major issue in Brazil (Vilhena & Paula, 2017). According to Murray et al. (2013), the national prevalence of child behavioural problems is 3.6%, which is higher than other developing countries such as England (1.6%). The elevated rates of behavioural problems in childhood represent a challenge for mental health professionals and public health services in Brazil. For example, many studies have reported that one of the most common referrals to child mental health services in Brazil are related to behavioural problems (Wielewicki, 2011; Garcia, 2015). The elevated costs related to treating child behavioural problems generate concern in the public health sector, in particular, because research have shown that they can be prevented if parents use positive parenting practices (Bolsoni-Silva, Paiva, & Barbosa, 2009; Gomide, Salvo, Pinheiro, & Sabbag, 2005).

This study has two broad aims. First, it seeks to determine whether parental participation in an evidence-based parenting program (Group Triple P) will change parental attributions about child behaviour. Second, it aims to evaluate the efficacy of Group Triple P in a Brazilian Context. Conducting this study is significatively importance, given the high

levels of child behavioural problems and harsh parenting in Brazil. Triple P is a program with extensive evidence and has been evaluated and implemented across a range of different countries and cultures including across Asia and Europe (Haslam & Mejia, 2017; Turner et al., 2010). The extensive evidence base of Triple P makes it a good program with which to examine the potential role of a parenting program on attributions while simultaneously evaluating the efficacy in a new context. We hypothesise that, in comparison to a waitlist control group, parents who participate in Group Triple P will report: (a) reductions in parents' negative attributions for children's behaviour; (b) reductions in negative parenting styles (overreacting, laxness and hostility); reduction in parental maladjustment (depression, anxiety and stress); and (d) reductions in child behavioural problems.

Method

Design

This study is a RCT with a 2 (Group Triple P vs. Waitlist control) x three (time: baseline, post-intervention, and six-month follow-up) design.

Participants

Participants were 77 parents of children aged 2 to 12 years (M= 6.18, SD= 3.37). The majority of parents were biological or adoptive (92.2%), married or cohabitating (89.6%), most children lived in an original family (83.1%), and the number of children at home ranged from 1 to 4 (M = 1.68, SD= 0.71). Participants were mainly mothers (93.5%) with only five fathers, with a mean age of 36.05 years (SD=6.24). Target children were equally represented across both genders with 38 girls (49.4%) and 39 boys (50.6%). Table 3 displays the demographic characteristics of the participants for the intervention and control groups.

Parents were eligible for participation if they: (a) had a child 2-12 years of age (b) they were concerned about their child's behaviour (c) their child did not have a developmental disorders (e.g., autism) and/or chronic illness, including language and speech impairment (as reported by the parent); (d) their child was not currently having regular contact with another professional or agency or taking medication for behavioural problems; (e) they were able to read/write Portuguese without assistance; (f) they were not currently receiving psychological/psychiatric help or counselling; and (g) they were not intellectually disabled and/or hearing impaired. Parents were considered ineligible if they failed to meet any single inclusion criteria.

Recruitment. Participants were recruited between February and May 2018 across two cities (Balneario Camboriu and Itajai) of the state of Santa Catarina, Brazil. Three main strategies were used to recruit participants. First, online advertising (creation of advertising

video, Facebook page, etc.). Second, approximately 100 institutions were visited to distribute flyers (childcare centres, schools, NGO, hospitals, etc.) and ten parent meetings in schools were attended. In total, around 6000 pieces of advertising material were distributed across both cities, including flyers, brochures and posters (displayed in every institution visited). Interested families were informed to visit a website or contact the project coordinator for more information. Finally, a media campaign (4 radio interviews and 2 TV interviews) was used to gain as wide a participant pool as possible.

Table 3. *Demographic characteristics of participants by group*

Variable	Intervention Group (n = 38)		Control Group (n = 39)	
	M	*SD*	*M*	*SD*
Parent's age (years)	36.58	5.44	35.54	6.97
Child's age (years)	5.53	3.38	6.82	3.26
Number of children	1.66	0.78	1.69	0.65
	n	*%*	*n*	*%*
Child's gender				
Male	25	65.8	14	35.9
Female	13	34.2	25	64.1
Relationship to child				
Mother (biological or adoptive)	33	86.8	38	97.4
Father (biological or adoptive)	5	13.2	1	2.6
Family type				
Original	33	86.8	31	79.5
Stepfamily	2	5.3	4	10.3
Sole parent	3	7.9	4	10.3
Marital status				
Married	26	68.4	26	68.4
Cohabiting	8	21.1	9	23.1
Divorced/Separated	2	5.3	3	7.7
Widow/er	1	2.6	0	0
Single	1	2.6	1	2.6
Parent's employment				
Full/part-time	30	78.95	29	74.36
Not working/job seeking	8	21.05	10	25.64
Able to meet essential expenses*				
Yes	29	76.3	32	82.05
No	9	23.7	7	17.95
After expenses can afford				
Not much	12	31.6	11	28.2
Some things	21	55.3	20	51.28
Most things	5	13.2	8	20.52

* Able to meet essential household expenses during the past 12 months.

Measures

Demographics. The Family Background Questionnaire (Turner et al., 2010) collected demographic information such as socioeconomic status, education, parent's age, etc.

Parental Attributions. The primary outcome measure to assess parental attributions of children's behaviour was the Parent's Attributions for Child's Behaviour Measure (PACBM; Pidgeon & Sanders, 2004). The PACBM is a 24 items questionnaire that assessed parents' negative attributional style for their children's actions along with three subscales: blame/intentional, stable, and internal. Parents were asked to imagine their own child in six hypothetical situations and to respond to four statements examining their attributional beliefs. For example: "The reason my child behaved this way is unlikely to change". Parents ranked each statement using a 6-point Likert-type about how strongly they believed in each statement ranking from 1 (strongly disagree) to 6 (strongly agree), higher scores reflected more negative attributions. Reliability in the current sample for the total scale was good (α = .82).

Parent Cognition Scale (PCS; Snarr, Slep, & Grande, 2009), is a 30-item self-report measure answered on a 6-point Likert scale that ranges from 1 (always true) to 6 (never true), where higher scores indicated more dysfunctional attributions. It consists of two subscales, the dysfunctional child-responsible attributions subscale with 9 items (e.g., "My child thinks that s/he is the boss") and parent-causal attributions for child misbehaviour with 7 items (e.g., "I'm not structured enough with my child"). The remaining items were distractors and not used in scoring. Due to the lack of guidelines about how to assess the total score, we summed the total score of each subscale. Both subscales had high internal consistency, $\alpha = 0.90$ for dysfunctional child-responsible, and $\alpha = 0.83$ for parent-causal.

Child behaviour. The Child Adjustment and Parent Efficacy Scale (CAPES; Morawska et al., 2014), was used to assessing child behavioural and emotional problems. The questionnaire assessed children's emotional and behavioural problems (Intensity scale) and parental efficacy in managing this problem behaviour (Confidence scale). For the purpose of this study, we only used the Intensity scale. Parents rated 27 items about child's behaviour concerns (e.g. "My child argues or fights with other children, brothers or sisters"), and emotional problems (e.g., "My child Rudely answers back to me"). Parents rated each item, about how true their child's behaviour was over the past 4 weeks, on a 4-point scale, ranging from 0 (not true of my child at all) to 3 (true of my child very much, or most of the time). Items scores were summed to generate a total Intensity score (range of 0–81) where higher scores indicated greater levels of child emotional or behavioural problems. The internal consistency of the Intensity subscale was high (α = .88).

The Strengths and Difficulties Questionnaire (SDQ; Goodman, 2001), was used to assess emotional and behavioural problems in children. The SDQ is a 25-item measure made up of five subscales: emotional symptoms; conduct problems; hyperactivity/inattention; peer relationship problems; and prosocial behaviour. Each subscale consisted of five items that were rated on a 3-point Likert scale to indicate how much each behaviour related to the child, example item includes: "Often has temper tantrums or hot tempers". Only the total score was used, and internal consistency was adequate for the present sample (α = .65).

Parental Behaviour. The Parenting Scale (PS; Arnold et al., 1993), is a 30-items questionnaire, that assesses dysfunctional parenting styles across three subscales: Laxness, Over-reactivity and Hostility. Parents were presented with 30 scenarios, and they had to indicate how they would normally deal with different misbehaviours, for example: "When my child misbehaves… I do something right away OR I do something about it later". They used a 7-point Likert scale with options ranging between more and less effective responses to the behaviour. In this study, only the total score was used, and the reliability for the PS Total was good (α = .73).

Parental Adjustment. Parental adjustment was assessed using a total score of Depression Anxiety Stress Scale-21 (DASS-21; Lovibond & Lovibond, 1995) . DASS-21 is a short form of the original 42-item questionnaire that evaluated symptoms of depression, anxiety, and stress in adults, example item includes: "I couldn't seem to experience any positive feeling at all". Participants responded to items by indicating on a 4-point rating scale how much each item had applied to them over the past week. Final scores were calculated by summing the responses, where higher scores indicated higher symptomatology. Only the total score was used, and the internal consistency of the scale was high (α = .95).

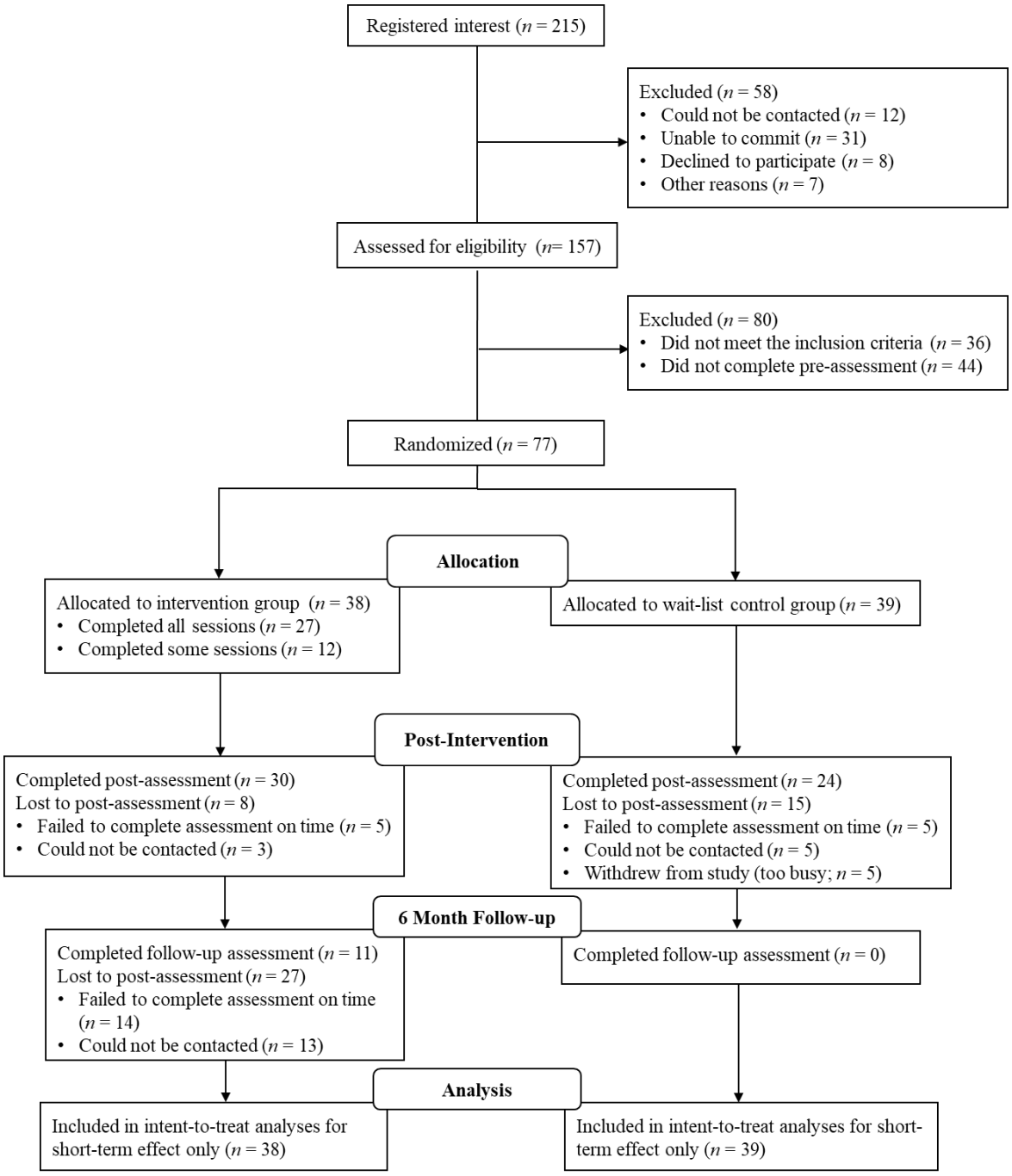
Procedure

Ethical clearance for this study was granted by The University of Queensland Behavioural and Social Sciences Ethical Review Committee, (2012000186) and by the Brazilian National Committee for Ethics in Research (2.390.958). The trial was prospectively registered with the Australian New Zealand Clinical Trials Registry (ACTRN12617000998347).

Parents who expressed an interest in the study (either by emailing the researcher or calling) participated in a telephone screening interview in order to assess the inclusion criteria. In total, 157 families were screened for participation, Figure 6 shows the CONSORT flow diagram of participants through each stage of the trial. Thirty-six did not meet the inclusion criteria (e.g., child outside the age range), and another 44 families were unable to

participate for a range of reasons such as family circumstances and other commitments. All eligible parents were invited to participate in the study and were sent the information sheet and consent to participate in the research. Parents that did not meet the inclusion criteria were referred to other services in the community. Eligible participants were required to complete pre-test measures, consisting of self-report questionnaires in Portuguese, which were available in printed format. All parents who completed the Time 1 questionnaire were randomised.

Figure 6. *CONSORT flow diagram of participants*



Randomisation was implemented using a list of computer-generated random numbers, and families were assigned sequentially to condition according to the list using a series of pre-labelled, sealed opaque envelopes, in order to ensure allocation concealment. However, blinding facilitators and parents to the intervention condition was not possible.

Seventy-seven participants were randomly assigned to either the intervention (39 parents) or control group (38 parents). Parents in the intervention group were assessed at three times: baseline, post-intervention and six months after the intervention for follow-up. Parents in the waitlist control group were assessed only at pre- and post-intervention, and for ethical reasons, received the Triple P intervention after they completed the post-intervention assessment. At Time 2 and Time 3 parents chose to receive the questionnaires either paper-based or online (Qualtrics platform), to facilitate the completion of the questionnaires.

Intervention

The Triple P is a system of parenting and family support that teaches a range of strategies and parental skills with the purpose of increasing confidence to deal with child behaviour, reducing the risk of developing long term behavioural, emotional problems. Level 4 Group Triple P was chosen as the intervention to be used in this study because it has been previously evaluated, is a moderately intensive program, and it has shown good effect sizes in prior research (Sanders et al., 2014) and was also available in Portuguese. It involves active skills training to teach parents these key parenting strategies, including videotaped modelling of skills, role-play, rehearsal, feedback and homework tasks. Before the first group session, each family received a workbook summarising the content of every session, as well as homework to be completed between sessions. The program does not explicitly address parental attributions however it does include a section named “Why Children Behave as they Do” which outlines three broad reasons for child behaviour including internal factors (e.g., child temperament), family factors (e.g., how parents respond to behaviour that may inadvertently maintain problem behaviours such as reinforcing problematic behaviour with attention) and external factors such as peer influences.

Group Triple P consists of four group sessions of 2 hours each and focus on the following subjects: positive parenting, helping children develop, managing misbehaviour and planning ahead for high-risk situations. For the purpose of this study, the four sessions were delivered over two weeks. During week one sessions 1 and 2 were delivered (on a single day), and in week two sessions, 3 and 4 were delivered. After completing the group sessions, parents participated in three individual telephone consultations in order to help them to implement the strategies they learnt in the program, which lasted 30 minutes on average for

two consecutive weeks, with one consultation every five days. After the telephone consultations, parents returned for a final 2-hour group session to summarise program content and discuss program maintenance.

For the purpose of increasing the chances that participants would attend the program, text confirmation was made prior to the training day to ensure parents attendance. Also, the program was offered free of charge, all materials included, and, at each session, participants and their children received a free meal and free childcare. All group sessions and telephone consultations were delivered in Portuguese by the first author, who is a trained psychologist (registered in Brazil) and an accredited Triple P practitioner. Portuguese versions of the workbook were used. The video was presented in English with Portuguese subtitles. Consistent with recommended principles of flexible delivery (Sanders & Mazzucchelli, 2013), while maintaining program fidelity the practitioner used culturally relevant examples consisting of common situations in Brazilian families, but the content of the intervention was followed in accordance to the original protocol.

Protocol adherence

The intervention was delivered according to the standard Facilitator's Manual for Group Triple P (Turner et al., 2010). To ensure fidelity and adhere to the content of the program, MS received clinical supervision from the second author who is a clinical psychologist and experienced Triple P trainer as a part of the self-regulatory framework which underlies the Triple P system. A protocol adherence checklist was completed at the end of each session by the facilitator, 95% of the program content was covered, indicating high levels of adherence to compliance.

Statistical analyses

We used an intent-to-treat approach to deal with missing values (for missing questionnaire items response and participant) and multiple imputation was carried out using SPSS v.25 (Fichman & Cummings, 2003). The imputation process was repeated five times, the means and standard deviation scores were averaged across the multiple imputation datasets, as outlined by Schafer and Graham (2002). *F* and *p* and ηp2 value ranges are reported in the results.

After that, statistical analyses were conducted for each data set separately. The short-term intervention effects were tested using a series of 2 (intervention vs. control) × 2 (time: pre vs. post) repeated measures MANOVAs for conceptually related measures: parental attributions (PACBM and PCS); and child behaviour (CAPES and SDQ). Repeated measures ANOVAs were used for Parental behaviour (PS) and parental adjustment (DASS-21).

Initially, we planned to evaluate follow-up intervention effects, however, as only 11 parents completed the questionnaires at 6-month follow-up, this was not possible given low power.

Results

Preliminary analyses

The sample was fully randomised, following CONSORT guidelines (Moher et al., 2010) we did not test baseline group differences and conducted analyses in line with the pre-registration. Testing baseline differences is no longer recommended for RCTs and was not conducted (Austin, Manca, Zwarenstein, Juurlink, & Stanbrook, 2010; de Boer, Waterlander, Kuijper, Steenhuis, & Twisk, 2015). The data was cleaned, and all assumptions were met.

In regard to attrition, although the retention of the participant in the intervention group was high as 32 of 38 participants completed 90% of the program, many participants failed to complete post-intervention and follow-up assessments. Our initial plan was to include 6-month follow-up data, however, we faced several challenges collecting post-intervention questionnaires, which included contacting the participants several times to recover the questionnaires (approximately 7 times), through diverse ways such as telephone call, email, text messages and WhatsApp messages, picking up the hard-copy questionnaires in their residence, etc. In view of this, we realised that collecting future follow-up data would be even more difficult, and we decided to restrict collecting follow-up only from the intervention group because most of the difficulties were found within the control group. However, when we were collecting follow-up data, we faced similar challenges again and we were able to collect only 11 questionnaires from the intervention group (Figure 6). As the number of follow-up questionnaires gathered was insufficient in terms of power, it was not possible to perform any additional analyses to assess the long-term effect. As a result, only post-intervention effects are reported.

Intervention effects

Table 4 displays total scores and descriptive statistics of all outcome variables for both conditions at pre- and post-intervention.

Parental Attributions. A repeated measure between groups MANOVA was conducted to test the intervention effect on parental attributions. There was a significant difference between intervention and control group on parental attributions over time, $F(1, 73) = 5.41\text{-}6.43$, $p = .001\text{-} .002$, $\eta p2 = .182\text{-}.209$ (large effect size) such that parents in the Triple P group reported lower levels of negative attributions than those in the control group at post intervention. Univariate tests were examined and revealed intervention effects on Parental attributions for PACBM $F(1, 75) = 6.85\text{-}8.13$, $p = .006\text{-} .011$, $\eta p2 = .08\text{-}.10$, Parent Cognition

Scale-Child-Responsible $F(1, 75) = 10.85\text{-}14.97$, $p = .001\text{-} .002$, $\eta p2 = .13\text{-}.17$ and Parent Cognition Scale- Parent-Causal $F(1, 75) = 4.35\text{-}6.86$, $p = .011\text{-} .040$, $\eta p2 = .05\text{-}.08$.

Table 4. *Descriptive statistics of all outcome variables for intervention and control group at pre- and post-intervention*

Measure	Intervention Group (n = 38)				Control Group (n = 39)			
	Pre		Post		Pre		Post	
	M	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*
PACBM Total	70.78	13.10	67.13	15.63	64.41	15.18	70.13	11.22
Parent Cognition Scale								
Child – Responsible	32.63	10.46	26.43	8.81	25.47	10.89	28.64	8.83
Parent– Casual	20.45	6.37	18.25	6.30	17.95	7.50	20.06	6.29
CAPES Total	35.11	9.93	30.83	11.36	26.67	10.97	29.23	9.54
SDQ Total	13.60	5.43	12.36	6.26	10.92	6.83	11.71	4.81
PS Total	109.34	12.94	91.72	15.26	102.48	19.34	104.39	16.23
DASS Total	38.16	25.65	30.78	12.74	28.18	27.60	43.44	17.02

Child emotional and behavioural problems. Regarding child-measure outcomes, repeated measure MANOVA showed a significant multivariate group by time interaction effect on child behaviour, $F(1, 74) = 4.32\text{-}4.69$, $p = .012\text{-} .017$, $\eta p2 = .105\text{-}.113$. Univariate analyses indicated an intervention effect for the CAPES, $F(1, 75) = 8.70\text{-}9.47$, $p = .003\text{-} .004$, $\eta p2 = .10\text{-}.11$, showing that parents in the intervention group reported significantly lower levels of child behavioural problems at post-intervention than parents in the waitlist control group. There no significant interaction effect for SDQ at post-intervention ($p > .05$).

Parental behaviour. The repeated measure ANOVA exploring dysfunctional parenting style revealed a Time × Group interaction $F(1,75) = 22.07\text{-}25.70$, $p< .001$, with a large effect size ($\eta p2 = .23\text{-}.26$). The interaction showed that parents who attended the intervention indicated significant improvement in parenting practices.

Note. Pre- and Post-intervention assessment consisting of pooled *M* and *SE* values range across the multiply imputed datasets. PS= Parenting Scale, PACBM= Parent's Attributions for Child's Behaviour Measure, DASS = Depression Anxiety Stress Scales-21, CAPES= Child Adjustment and Parent Efficacy Scale, SDQ= Strengths and Difficulties Questionnaire.

Parental adjustment. In terms of parenting adjustment, the repeated measure ANOVA revealed a Time × Group interaction measured by the DASS-21 $F(1, 75) = 10\text{-}14.30$

$p = .000- .002$, $\eta p2 = .12-.16$, suggesting that parents in the intervention group showed significant pre-post improvements.

Discussion

The first aim of this study was to evaluate if participation in a general parenting intervention, without a specific attributional re-training focus, led to changes in parental attribution about child behaviour with a community sample of parents. As predicted, compared to parents in the waitlist control, parents who completed (Group Triple P) reported decreased levels of dysfunctional parental attributions suggesting that an unadapted version of Group Triple P did reduce negative parental attributions of child behaviour even when not specifically targeted in the intervention. These results are consistent with the outcomes of two previous studies (Sanders et al., 2004; Wiggins et al., 2009). Sanders et al. (2004) compared an enhanced group behavioural family intervention that included specific attributional re-training to a standard-care group parent training intervention. Results showed significant improvements in parental attributions that occurred in both conditions, although larger effects were found in the enhanced attributional re-training. However, this was with a sample of parents considered at risk for maltreatment. The current findings extend this early work showing that even in a community sample parenting programs can reduce negative attributions. Together these findings suggest that tailored interventions that included extra components targeting attribution retraining may not always be needed.

Although it is impossible to confirm which aspect of the program drove the changes in parental attributions, it is plausible to suggest that these may stem from session one where different causes of child behaviour are reviewed. In this section, parents learn about multiple factors that can impact child behaviour, including that the family environment sometimes promotes misbehaviour through inconsistent discipline, poor positive interaction, and lack of monitoring and limits. Parents are asked to consider which aspects of their family environment might be related to any behaviour problems. Anecdotally, parents often reported this section is instrumental in changing their thinking about the reasons for child misbehaviour. Alternatively, it may simply be that implementing effective parenting strategies results in improvements in child behaviour, and subsequently, the parent is no longer able to attribute behaviour to stable personal factors related to the child. Future research could investigate which part of the interventions drive the changes in attributions and if these precede parenting changes.

Overall, our initial hypothesis was supported, as we demonstrated that the participation in a parenting intervention led to reductions in negative parenting attributions

about child behaviour. Considering the adverse and long-lasting consequences of parental negative attributions, the present findings add to the growing evidence that one efficient way to modify negative parental attribution is through a parenting intervention such as Group Triple P. Although the study contributes in terms of providing more evidence of the malleability of attributions in response to interventions, it does not shed light on the directionality of change. It is unclear if both parenting behaviour and attributions change simultaneously or if parents change their attributions (perhaps early in the intervention) and this leads to changes in parenting behaviour as skills are acquired. Some researchers have also suggested that the relationships between parental attributions, parental behaviour and child behaviour can occur in a bidirectional or multidirectional way (de Boer et al., 2015; Schulz et al., 2020). Empirical studies are needed to evaluate the mechanisms of change and to inform theory. This could be address by more fine-grained tracking of attributions and behaviour throughout the delivery of the intervention, such as after each session, but this was beyond the scope of the current study.

The findings highlight the importance of early prevention, particularly in a place like Brazil and other Latin American countries, where the use of harsh discipline is still a normative practice. There are numerous factors that contribute to harsh or dysfunctional parenting; sociodemographic (e.g., poverty, Drake & Jonson-Reid, 2014); family and parenting related (e.g., family conflict, Stith et al., 2009); and community factors (e.g., cultural norms, Elliott & Urquiza, 2006). In general, parental cognitions and practices are more easily changeable than sociodemographic factors. The results of this study shed light on the fact that parenting interventions could change both negative attributions and improve parenting practices and child behaviour.

The second aim of this study was to examine the efficacy of Group Triple P for Brazilian parents. As hypothesised, compared to parents in the waitlist control group, parents in the intervention group reported significantly greater reductions in negative parenting styles and parental maladjustment, and lower child behavioural problems, from pre to post-intervention. The findings of the current study are consistent with the results of previous research that have been carried out in different parts of the world like Sweden (Wells, Sarkadi, & Salari, 2016), Japan (Matsumoto, Sofronoff, & Sanders, 2012), New Zealand (Keown, Sanders, Franke, & Shepherd, 2018), and that showed that Triple P decreases child behavioural problems and dysfunctional parenting. It is important to note that we found significant differences in only one of our two measures of child behaviour, CAPES, but not in SDQ. We speculate that this might be because SDQ assesses other aspects apart from

externalising child behaviour problems such as: emotional symptoms, hyperactivity, peer relationship problems, and prosocial behaviour. Some of these variables, such as peer problems and prosocial behaviour are not specific targets of the program although improvements are often seen (Altafim et al., 2016; Pedro et al., 2017). Although the differences in SDQ were not significant, changes were observed (see Table 4) where parents in the intervention group showed non-significant reductions in child behavioural problems, whereas parents in the control group increased. This suggests that there may have been an issue with power, given the relatively low sample size and intervention effects may be being masked.

This study is the first, to our knowledge, to evaluate Triple P in Brazil. This is one of only a few RCT of an evidence-based parenting program carried out in LMIC. Consistent with other research evaluating Triple P such as Guo et al. (2016) in China and Sumargi, Sofronoff, and Morawska (2014) with Indonesian parents, it adds to a small but growing evidence base of the efficacy of Triple P in LMIC contexts.

Given that child behavioural problem and dysfunctional parenting are a major issue in Brazil, having an evidence-based parenting program available could help to address several issues. First, one of the most common referrals to child mental health services in Brazil are child behavioural problems (Wielewicki, 2011), what increases the elevated costs associated with the treatment of child behavioural problems (Pickering & Sanders, 2015), what could have been prevented if a parent used more effective parenting skills (Bolsoni-Silva et al., 2009; Gomide et al., 2005). Second, although child mental health services are public and available to all Brazilian population, there is a high demand for the services and long waitlists, and only a small number of families benefit. This research suggests a relatively low cost intervention is efficacious and can be an alternative option, in order to prevent and reduce child behavioural problems and therefore, could potentially help to reduce the waiting lists (Mejia, Haslam, et al., 2017). Third, most of the help available in public or private sector focuses mainly on a therapists-directed approach, therefore, a group-based intervention could potentially be broadly disseminated in comparison to the one-to-one therapy approach. This is particularly important in low resources settings such as Brazil. Future research should examine the effectiveness of Group Triple delivered by Brazilian health or community providers.

Implications

Our findings add new insights to attribution theory, specifically, that standard parenting programs are able to reduce negative attributions, a variable that had been linked to parenting

practices and harsh or dysfunctional parenting (Berlin et al., 2013; Schulz, Morawska, et al., 2020). Therefore, if parenting programs are able to decrease negative parental attributions, they may be able to reduce harsh parenting as well. This is particularly important for cultures where the use of harsh parenting is a common practice in order to prevent and reduce harsh parenting.

In addition, mental health in Brazil is free and available to all population, however, the most common approach used is therapist-directed interventions, which limits the capacity to address the extensive demand and waitlist. As an alternative, Group Triple P that is intensive can reach larger population at once due to the group delivery setting, in comparison to the one-to-one approach, in a limited period of time (8-session program). Triple P follows the principle of minimal sufficiency, which means aiming to get the best results in the most cost-effective (in cost and time) (Sanders & Kirby, 2014). Group Triple P is an example of how it is possible to obtain significatively changes in parent in child outcomes, in a cost-effective way.

Considering the elevated rates of child behavioural problems and dysfunctional parenting in Brazil, there is a need to incorporate parenting programs in the public health system. Thus, Brazilian politicians and policy-makers should consider programs that have the strength of the evidence supporting it, and ensure programs implemented have established efficacy both globally and in the local context.

Limitations

The study has a number of limitations. First, we only used self-reported measures, which can present a potential bias. When completing the questionnaires, participants are more likely to answer responses that they believe the researchers are expecting. For instance, in this study as we were offering a parental intervention, there is a possibility that they felt more motivated to respond in a more “socially desirable” way in the interest of receiving the intervention. Second, the recruitment of families into this study was very challenging, and the final sample is, therefore, one of convenience and may not be representative of the average parent. The response rate to the recruitment was slower than expected, considering all the attempts to reach parents. However, we could not estimate the recruitment rate, because the number of eligible families that we reached through advertisement was unknown. This might have introduced a sample bias due to the fact the parents were interested enough to participate. Nonetheless, the finding of significant differences between conditions suggests the intervention is effective at changing attributions and improving parenting and child behaviour outcomes in an interested sample.

There are a few possible reasons for the low levels of recruitment. First, in regard to the length of the program, Group Triple P is one of the most intensive interventions and what

prevented many parents from attending. This suggests briefer interventions such as a single short discussion group evaluated in Panama (Mejia, Calam, & Sanders, 2015) may be more suitable in this context and it can be implemented with relatively low time costs.

Another possible explanation is that parents were reluctant to engage due to the fact the program was new, unknown and transported from another country or because there was a stigma associated with seeking parental support. And lastly, parental attributions may have played a role in low recruitment. For instance, parents that do not believe they have control over their child's behaviour probably did not engage because they felt that the program would not be helpful (Gardner et al., 2010). Future studies should investigate the role played by parental attributions in parental seeking help behaviours.

Another limitation was the high levels of attrition completing post-intervention and follow-up assessment. When we asked the participants to complete the questionnaire again, one of the biggest complaints was that the questionnaire was very long, and they did not have time to complete it. We controlled for this as much as possible by using an intent to treat analysis and multiple imputation for missing data, nonetheless, results may be influenced. It is recommended that future studies limit the number of measures in longitudinal studies and give preference to the short ones in order to increase the chances that participants will feel motivated to complete the assessment. As a result, due to the challenges collecting post-intervention data, we decided to restrict the follow-up only to the intervention group, and yet we ended up with a small number of questionnaires at follow-up, which prevents us from drawing conclusions about the sustainability effects. Future studies should assess the maintenance of intervention effects in Brazil.

Finally, video material was not translated and only subtitled in Portuguese. Parents reported that was a little confusing to follow, and they said that it could have been better if the videos were translated to Portuguese, future implementation of Triple P in Brazil should address this issue and create videos that are ecologically valid for a Brazilian population (Schulz, Haslam, & Morawska, 2020b).

Strengths

Despite these limitations, this study has a number of strengths. First, this study has theoretically strengthened the answer to the question of whether a standard parenting intervention can improve parental attributions, providing evidence to endorse the use of these interventions to modify negative parental attributions. Second, we focused on parental attributions, which is an important type of parental cognitions, using a sound and well-validated measure. Parental cognitions have been neglected in research about parenting

programs over the years, due to the focus on behaviour instead of cognitions, however, we emphasise the need and the importance of investigating cognitive variables as well, further research is warranted. Third, we used a longitudinal, high quality randomised controlled research design to reduce the risk of selection and allocation bias. And the use of a well-established evidence-based parenting program. We also included several well-established measures with good psychometric properties.

Conclusion

Standard parenting programs, specifically Group Triple P, have the potential to change parental attributions even when not specifically targeted. These findings have an important implication in terms of economic investments showing that the cost associated with the increased number of sessions added to the enhanced interventions (e.g. for attributional retraining) could be saved and allocated to other services. In this study, Triple P appeared to be efficacious at reducing negative parenting styles, parental maladjustment and child behavioural problems in Brazil. Therefore, this intervention could be broadly disseminated in Brazil at a populational level, having wider implications for prevention efforts among the Brazilian population, given the high rates of child behavioural problems and dysfunctional parenting.

Chapter 5: Cultural acceptability of Group Triple P with Brazilian parents

Chapter 4 presented the findings of an RCT examining the impact of Group Triple P on parenting attributions and established the efficacy of Group Triple P in a Brazilian context for the first time. This chapter builds on these findings by addressing and extending the gaps in the RCT with a mixed-method empirical study examining cultural fit. Although the RCT found support for the efficacy of Group Triple P at improving parent and child behaviour in a Brazilian context, it was, by design limited to quantitative measures and did not assess cultural fit or acceptability. This chapter extends the work of the manuscript presented in Chapter 4 by examining both quantitively and qualitatively Brazilian parents' thoughts about Group Triple P and their perceptions regarding the suitability of the program and strategies for Brazilian parents. This manuscript also contributes to emerging literature about the suitability of transporting evidence-based programs across cultures and contexts

The reference of the manuscript is provided below:

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Background

Parenting programs aim to improve parenting practices and contribute to the well-being of their children (Smith et al., 2002), by modifying aspects of parenting that usually contribute to the development and maintenance of child behavioural problems (Hiscock et al., 2008). Research has shown that evidence-based parenting programs are effective at improving parenting practices and reducing child behavioural problems (Mejia, Haslam, et al., 2017). Parenting programs have also shown positive effects in other family aspects such as couple interaction quality (Cowan, Cowan, & Barry, 2011), and reduce anxiety (Matsumoto, Sofronoff, & Sanders, 2010), stress (Larsson et al., 2009), depression (Sanders et al., 2008) and harsh or abusive parenting (Vlahovicova et al., 2017).

There are many efficacious parenting programs such as the Incredible Years program (Webster-Stratton, 1984), Strengthening Families Program 10–14 (Kumpfer, Molgaard, & Spoth, 2014), Parent-Child Interaction Therapy (Eyberg, 1988) and Triple P (Sanders, 2008). Triple P was developed in Australia and has an extensive evidence base, with multiple RCTs and meta-analyses showing it is associated with a range of improvements including reductions in child emotional and behaviour problems, dysfunctional parenting practices, as well as increasing parental self-efficacy, parental adjustment, and parental relationships (Sanders et al., 2014). It has been endorsed by the United Nations Office on Drugs and Crime (UNODC, 2010). Triple P is unique in that it offers a whole of population approach and a range of interventions varying in intensity, which makes it a cost-effective approach to parenting support.

While the evidence-base for Triple P is extensive, the vast majority of this research has been carried out in developed countries such as Hong Kong (Au et al., 2014), Germany (Cina et al., 2011), Netherlands (Gerards et al., 2015), Singapore (Zhou et al., 2017). Although there is evidence of its efficacy in different cultural contexts (Haslam & Mejia, 2017), only a small amount of this has been conducted in the developing world where most of the children live. Families in LMIC experience high levels of poverty (Pedersen et al., 2019), and violence (Knerr et al., 2013), therefore children are at greater risk of developing health issues (UNICEF, 2014). In addition, the high levels of harsh and coercive parenting (Forehand & Kotchick, 2016) point to the need to make evidenced-based parenting available to diverse families around the world including in the developing world (WHO, 2010). Parenting programs improve the relationships between parents and children, therefore, dissemination of parenting programs can contribute to the prevention of child behavioural problems and harsh parenting.

Brazil is the largest country in Latin America, and it is one of the biggest countries in the world by size and population (Hofstede, Garibaldi de Hilal, Malvezzi, Tanure, & Vinken, 2010). Brazil share the same social and economic problems as the rest of the Latin American countries, however, distinguished from the rest due to his unique colonial Portuguese heritage (Newcomb, 2012). In Brazil, 13.5 million people live in extreme poverty (IBGE - Instituto Brasileiro de Geografia e Estatística, 2018), according to the World bank (Wagstaff, Eozenou, Neelsen, & Smitz, 2019), extreme poor are those with a daily income of less than US$1.90. High levels of illiteracy are also an issue, data from IBGE (2019) revealed that 7.0% of the population above 15 years remained illiterate, which is equivalent to 11.5 million people. Also, Brazil faces extremely high rates of crime and violence, ranking the second place among the ten countries with the largest numbers of homicide victims (UNICEF, 2014), with an estimated 60,000 homicide victims in 2017, including more than 10,000 adolescents (UNICEF, 2017a). The provision of stable nurturing parents has a role to play in long term violence prevention (WHO, 2010).

Given Brazil's continental dimension, and the high levels of social and economic problems, Brazil cannot be ignored, and parenting programs in this country are needed. However, there has been a debate on whether interventions should be transported from one country to another or developed a new within each country (Elliott & Mihalic, 2004). Some researchers suggest that parenting programs should be developed within the country in order to include local cultural values (Lachman, Sherr, et al., 2016). However, from a cost-effective point of view, the UNODC (2009) has suggested that it would be better to adapt an evidence-based parenting program rather than creating a new program for a particular community or culture given the extensive costs and time associated with the development and testing of new interventions.

However, parenting programs have been criticised for disregarding or excluding cultural factors and the needs of particular populations such as low-income parents (Gustafsson, 2019). If parenting programs do not address these factors, it may affect the implementation process, engagement, and consequently reduce program feasibility and effectiveness (Lachman et al., 2018). Particularly, when transporting a program from a high-income country into a LMIC, providers must assess if the intervention is considered acceptable by that population, in particular about parenting values and beliefs (Kumpfer, Alvarado, Smith, & Bellamy, 2002). In LMIC, where the political and economic context is often changing, culturally sensitive interventions are crucial (Mejia et al., 2017).

Researchers, therefore, argue that flexible tailoring is needed to ensure cultural fit (Haslam & Mejia, 2017) and that when delivering parenting programs, program developers and practitioners must do it in a culturally acceptable way (Kotchick & Grover, 2008). According to Kazdin (2000), acceptability can be understood as the way that non-professional people perceive the intervention (e.g. providers and people who will be benefitted) as culturally and contextually relevant, appropriate and fair. Therefore, when transporting an intervention developed in one country to another, cultural values and beliefs have to be taken into consideration, and a cultural evaluation is required (Matsumoto, Sofronoff, & Sanders, 2009), in order to ensure cultural acceptability of the parenting program. Assessing parents' perceptions is also important to guide any further adaptation to the local culture that may be required (Lau, 2006).

Research has shown that parenting programs are, in fact, transportable (Ogden, Forgatch, Askeland, Patterson, & Bullock, 2005) and that it can retrain similar effect sizes. Gardner, Montgomery, and Knerr (2016) conducted a systematic review to investigate if parenting programs are effective when transported to a new country, and the results revealed the transported interventions appeared to be effective across cultures, and that major adaptations may not be needed. For example, the Triple P program uses a "culturally flexible" approach, and there is good evidence showing that the program is efficient in low resource settings such as the Middle East (e.g., Iran; Tehrani-Doost, Shahrivar, Mahmoudi Gharaie, & Alaghband-Rad, 2009) , and in Latin America (e.g., Panama; Mejia et al., 2015, Brazil; Schulz, Haslam, & Morawska, 2020a).

One of the possible reasons why parenting interventions are succeeding across countries might be the basic principles (e.g., positive attention) that are common and universal across cultures (Gardner et al., 2016). In addition, most well-established interventions include manuals, training and certification, that have been shown to enhance adherence to treatment protocols and engagement (Elliott & Mihalic, 2004). These strict requirements help to ensure that the implementation of the intervention will happen following the same quality and fidelity from the original country, which potentially will increase the chances to produce the same effects. When this is done in a culturally informed way with minor tailoring as required, the implementation is likely to be both acceptable and efficacious.

This study aims to evaluate the cultural acceptability of the Group Triple P using a mixed-method approach. This evaluation is necessary to ensure the cultural fit of the program received by Brazilian parents, and it is a crucial step that should be considered before

dissemination. This is the first study that sought to examine the cultural acceptability of Group Triple P with Brazilian parents, and only two cultural acceptability studies of Triple P have been carried out in the Latin American region, in Panama (Mejia, Ulph, & Calam, 2016), and in Chile (Errázuriz, Cerfogli, Moreno, & Soto, 2016), and more research is needed to replicate the findings in other countries. Based on previous research that has found Triple P strategies are acceptable across a range of cultures including indigenous populations in Canada (Houlding, Schmidt, Stern, Jamieson, & Borg, 2012) and Japan (Fujiwara, Kato, & Sanders, 2011), we hypothesise that the program will be considered acceptable by Brazilian parents.

Method

Participants

Participants (n = 38) were parents who were enrolled in a RCT of Group Triple P (see Schulz et al., 2020a, for more details). Parents were eligible for inclusion if they had Portuguese language proficiency and had at least one child between the ages of 2-12 years and had participated in Group Triple P as a part of the RCT. The participants were mainly mothers (n = 33, 86.8%) and had a mean age of 36.58 years (SD=5.44). Table 5 presents the socio-demographic characteristics of the intervention group.

Procedure

This study received ethical clearance in accordance with the University of Queensland Behavioural and Social Sciences Ethical Review Committee, (2012000186) and by the Brazilian National Committee for Ethics in Research (2.390.958). Participants were recruited for the broader study in 2018 from two Brazilian cities (Balneario Camboriu and Itajai), through schools, childcare centres, playgroups and community health centres for a RCT of Group Triple P. We posted information about the study social media (such as the Facebook page of the principal researcher), we sent e-mails to potential participants, introducing the research and inviting the parents to participate.

All parents completed Group Triple P in Portuguese by a trained practitioner. Group Triple P consists of four group sessions of 2 hours each, and for the purposes of this study, the four sessions were delivered over two weeks. Table 6 summarises the strategies covered in the four group sessions. Upon completion of the group sessions, parents participated in three individual telephone consultations to assist in implementing the skills learnt in the program, which lasted 30 minutes on average for two consecutive weeks, with one consultation every five days.

Table 5. *Demographic characteristics of participants*

Variable	*n* = 38	
	M	*SD*
Parent's age (years)	36.58	5.44
Child's age (years)	5.53	3.38
Number of children	1.66	0.78
	n	*%*
Parent's gender		
Male	5	13.2
Female	33	86.8
Child's gender		
Male	25	65.8
Female	13	34.2
Relationship to child		
Mother (biological or adoptive)	33	86.8
Father (biological or adoptive)	5	13.2
Family type		
Original	33	86.8
Stepfamily	2	5.3
Sole parent	3	7.9
Marital status		
Married	26	68.4
Cohabiting	8	21.1
Divorced/Separated	2	5.3
Widow/er	1	2.6
Single	1	2.6
Parent's employment		
Full/part-time	30	78.95
Not working/job seeking	8	21.05
Able to meet essential expenses*		
Yes	29	76.3
No	9	23.7
After expenses can afford		
Not much	12	31.6
Some things	21	55.3
Most things	5	13.2

* Able to meet essential household expenses during the past 12 months.

After the telephone consultations, 20 parents returned for a final 2-hour group session to summarise program content and discuss program maintenance, while 18 parents had the last session over the phone. The content of Group Triple P was delivered using guided discussion, DVDs, workbooks and role-plays. The sessions were conducted in Portuguese. Written program materials were in Portuguese. The DVD was presented in English with Portuguese subtitles.

Table 6. *Parenting strategies used by Triple P*

Goal	Strategy	Description
Developing positive relationships	Spending quality time	Spending short amounts of time focussed on the child as often as possible involved in activities enjoyed by the child.
	Talking to children	Holding regular fun conversations with children about things in which they are interested.
	Showing affection	Showing various forms of physical affection and touch (e.g., hug, tickles, high fives).
Encouraging desirable behaviour	Descriptive praise	Encouraging good behaviour by describing exactly what the child has done.
	Giving attention	Using non-verbal signs of positive attention when children behave in desirable ways.
	Engaging activities	Giving children plenty of fun, interesting, and age-appropriate activities.
Teaching new skills	Setting a good example	Modelling positive behaviour to teach children how to behave.
	Incidental teaching	When children approach parents to extend conversation use questions and prompts to promote learning opportunities.
	Ask, say, do	Breaks complex tasks into small components and then uses verbal and manual prompts to teach children complex skills.
	Behavioural charts	Using a set of rewards and a chart to encourage children to develop specific skills.
Managing misbehaviour	Ground rules	Having clear, positively stated rules that tell the child how to behave.
	Directed discussion	Identifying rule-breaking and prompting children to practice the appropriate behaviour via rehearsal.
	Planned ignoring	Intentionally ignoring minor problem behaviours that are maintained by parental attention.
	Clear, calm instructions	Providing clear start instructions (what the child should be doing) and stop instructions (what they should stop doing and how they should behave instead).
	Logical consequences	Removing an activity or privilege for a short period of time before returning it and encouraging the child to behave appropriately.
	Quiet time	Moving the child to the edge of an activity (in the same room) and the removal of all parental attention for a set period of time.
	Time-Out	Moving the child to another uninteresting but safe room and the removal of all parental attention until the child is quiet for a set period of time.

Parents completed the measures on acceptability and potential barriers at the end of the intervention session in which they were presented. Parents completed questionnaires about their overall satisfaction with the program and other qualitative feedback at the end of the intervention.

Measures

All measures were translated into Portuguese.

Demographics. The Family Background Questionnaire (Turner et al., 2010) was used at baseline to gather key demographic information and indicators of socioeconomic status.

Strategy acceptability. To assess the cultural acceptability of Group Triple in Brazil we used an adapted version of the Parent Opinion Questionnaire (Morawska et al., 2011) to assess the acceptability and usefulness of each of the 17 parenting strategies used in Triple P (see Table 6). Parents were asked to rate how helpful each strategy was and whether they found the strategy acceptable. They were asked to rate their responses from 1 (not at all acceptable) to 10 (extremely acceptable) or 1 (not at all useful) to 10 (extremely useful). Following this, parents indicated whether or not they would consider each strategy inappropriate for Brazilian parents, and if yes, why. For this study, parents completed the measure after the intervention session during which the strategy was introduced, thus parents had both viewed the relevant DVD footage and completed the relevant intervention exercises prior to completing the questionnaire. Parents completed the questions about strategies to promote children's competence and development (10 strategies) immediately after session 2 and the questions related to strategies for managing misbehaviour (7 strategies) immediately after session 3.

Program Satisfaction. The Client Satisfaction Questionnaire (CSQ; Turner et al., 2010) is a 13-item measure of satisfaction with the service the participants received. Parents in the intervention condition rated the quality of the service, the extent to which the program met their own and their child's needs, and how much the program helped the parents develop skills and improve their child's behaviour. Items were rated on a 7-point Likert scale (7 being very satisfied), with scores ranging from 13 to 91, and higher scores indicating greater program satisfaction. A total satisfaction score was obtained by summing all Likert-type items. Although no items are reverse scored the display of the items does reverse the order of items 1, 3, 4, 6, 7, 9, and 13 such that the scores representing higher satisfaction are on the opposite side of the page to the rest of the measure. In the current sample, the CSQ had high internal consistency ($\alpha = .86$). This questionnaire was used only at Time 2 (immediately after completing the intervention).

Cultural acceptability of the full program (Qualitative). To assess perceived cultural acceptability of the full program, nine open-ended questions were added to the CSQ with the intention of qualitatively analysing these comments. The added questions were: "Is there anything that made it difficult to put the strategies in practice?"; "What factors might reduce the likelihood of you using Triple P?"; "Should anything be added to this program? If yes, please describe"; "Should anything be removed from this program? If yes, please

describe"; "How could the program be improved to help parents more?"; "Overall, do you think this program is culturally acceptable to you? Why or why not?"; What do you feel would most help you to continue to use the strategies presented in the program?; "Do you have any comments about the cultural acceptability of the Triple P Group and resources?"; "Do you have any other comments about this program, in general?"

Barriers to participation. To assess potential barriers to program access, participants were given a list of common potential barriers to participation, including logistic, emotional and cultural barriers. Parents ticked the appropriate box to indicate if each barrier would be a barrier for them personally. There was also an opportunity for parents to add other barriers that were not listed. This approach has been used in other studies (Morawska et al., 2011).

Analysis

Initially, the quantitative data from the Client Satisfaction Questionnaire and the Parent Opinion Questionnaire was cleaned, including the identification of outliers and missing values. There was less than 5% missing data, therefore mean substitution was used to replace the values, then the data were analysed using basic descriptive statistics (SPSS version 25). Qualitative data from the open questions were analysed using Braun and Clarke (2006). To reduce introducing translation-related interpretation errors, parents' responses were analysed and coded in Portuguese. A second independent coder also coded in Portuguese. Final codes and themes and subthemes were translated into English, as well as relevant quotes. Local expressions and meanings were maintained where possible.

Results

Quantitative outcomes

Parent Opinion Questionnaire. Table 7 provides the participant's ratings of the acceptability and helpfulness of the 17 individual strategies used in Triple P for Brazilian parents. Parents rated all the Triple P strategies highly useful with 8.5 out of 10 being the lowest rating for perceived usefulness of planned ignoring. Scores for acceptability were also generally high with the lowest acceptability rating 7.42 for planned ignoring. Acceptability scores, in general, were slightly lower than the usefulness scores, indicating that although the strategies are useful, they may be not that acceptable for Brazilian parents in general, particularly strategies for managing misbehaviour. Quality time, affection, praise, and giving attention were considered the most acceptable and useful strategies, while planned ignoring, quiet time and time out were seen as the least useful. More details will be presented in the qualitative analyses.

Table 7. *Acceptability and usefulness of the 17 strategies in Group Triple P*

Type of strategy	Strategy	Acceptability		Usefulness	
		M	SD	*M*	SD
Developing positive relationships	Quality time	9.53	0.97	9.44	0.91
	Talking	8.82	1.53	8.88	1.31
	Affection	9.26	1.82	9.56	0.94
Encouraging desirable behaviour	Praise	9.41	1.32	9.56	0.78
	Attention	9.28	1.33	9.57	0.75
	Engaging activities	8.90	1.63	9.22	0.84
Teaching new skills	Set a good example	8.92	1.31	9.18	1.03
	Incidental teaching	8.70	1.60	9.20	1.00
	Ask, say, do	8.31	2.00	8.95	1.31
	Behavioural charts	8.08	1.98	8.52	1.54
Managing misbehaviour	Ground rules	8.23	1.80	9.03	0.97
	Directed discussion	7.93	1.71	8.53	1.20
	Planned ignoring	7.77	1.73	8.50	1.01
	Instructions	8.25	1.91	8.92	1.15
	Logical consequences	8.16	2.00	9.18	0.87
	Quiet time	7.42	2.22	8.89	1.18
	Time-Out	7.57	2.05	8.89	1.28

Client satisfaction. Satisfaction with the program is reported for the 38 parents in the Intervention group that completed the Client Satisfaction Questionnaire. Results indicate that parents in the intervention group reported moderate satisfaction with the program they had attended (M = 62.49, SD = 13.82).

Barriers to access Triple P. Parents rated many factors that might reduce the likelihood of them using Triple P, "no access to childcare" and "stigma for parents" were the most significant perceived barriers to accessing Triple P, followed by competing for work commitments and location of services (Table 8). Of note, "cultural barriers" was 7th on the list of potential barriers with only 13% (n = 5) parents endorsing this item. No parents endorsed the item "culturally inappropriate strategies."

Table 8. *Percent and frequency of perceived barriers to accessing Group Triple P (n = 38)*

Barriers	*n*	(%)
Access to childcare	12	31.6%
Stigma for parents (shame)	12	31.6%
Competing for work commitments	11	28.9%
Location of services	11	28.9%
Not able to get to the program due to transport difficulties	9	23.7%
Family not supportive	7	18.4%
Cultural barriers	5	13.16%
Not able to get to the program due to lack of family support	4	10.52%
No access to internet	2	5.3%
No access to telephone	1	2.63%
Timing of services	1	2.63%
No access to TV	0	0.0%
Culturally inappropriate strategies	0	0.0%
Parents feeling uncomfortable to assist in a parenting program	0	0.0%
Barriers suggested by parents		
Advertising	2	5.3%
More timing available for the sessions	1	2.63%
Lack of knowledge about Triple P	1	2.63%

Qualitative outcomes

The data from the open-ended questions from the Client Satisfaction Questionnaire and Parent Opinion Questionnaire were coded by the first author. All the data were analysed using thematic analysis, according to the six steps of Braun and Clarke (2006): (1) familiarize yourself with the data; (2) generate initial codes; (3) search for themes; (4) review your themes against each other and against the data; (5) defining and naming themes; (6) produce the final report. This process revealed 10 subthemes that afterwards were categorised in four major themes, then inter-rater reliability was examined using Cohen's kappa (κ, Cohen, 1960). To obtain inter-rater reliability, a second independent rater coded 25% of the sample, this produced a Kappa score of 0.81, indicating a strong agreement between the two raters (McHugh, 2012). The four themes identified were: Recommendations for program

implementation, Cultural appropriateness, Barriers to implementing Triple P and Changes in parenting, an overview of how themes align with the subthemes is displayed in Table 9.

Table 9. *Themes and Sub-Themes*

Major Themes	Sub-Themes
Recommendations for program implementation	Less content per session More sessions Ongoing support Material changes
Cultural appropriateness	Appropriateness of the program in the Brazilian context Acceptability of the strategies
Barriers to implementing Triple P	Competing commitments Family members not supportive
Changes in parenting	Changes in parental cognitions Changes in parenting behaviour

Theme One: Recommendations for program improvement. Overall, most of the parents were satisfied with the program and enjoyed learning new parenting skills. Parents also provided some suggestions in terms of improving the program, and these fell into four possible areas for improvement: less content per session, more sessions, ongoing support and material changes.

Less content per session. Some parents described that they had difficulties in trying to follow the information discussed in the group sessions, attributing this to the large amount of content per session (2h each session). This was particularly relevant for session three (managing misbehaviour): “from my point of view, the content was a bit overwhelming. Also, I had difficulties to follow and make connections with the videos.” A parent expressed his desire to have had more time within the sessions to review the content of the previous session, and another parent said he would like to have had more time in session 3 (managing misbehaviour).

More sessions. Many parents also mentioned a desire for more sessions saying the program was too short, they wanted longer group sessions and more sessions particularly regarding the phone sessions: “I think the individual telephone sessions should be extended. I think they are vital for the implementation and maintenance of the program and the desired

behaviours." Also, some parents mentioned that they were worried about the end of the program, and how they will continue without having the support: "I think that the discontinuity of the contact [connection], causes to lose the pace of implementation of the strategies in everyday life, fading out the practice."

Ongoing support. When we asked the parents what would help them to keep using the strategies learned, most of them suggested having ongoing parenting support in order to maintain the learnings from the program: "I felt the need for further guidance, as a way to motivate me and reinforce the behaviours and strategies previously applied, and to receive feedback if I'm doing the right thing or not."

Many parents stated the need for ongoing help and gave some suggestions: "having meetings every 3-months," for example, or having follow-up sessions for self-evaluation to assess if they were using strategies in the correct way. A parent also wanted "the help could never end."

The need for peer guidance and networking were also mentioned, and it was suggested to continue with the group meetings and also to have a forum online where they could exchange information about their children. Parents also would like to receive more information about Triple P teaching to maintain the strategies learnt in the form of "emails with videos and tips," "remote student access to review the contents," it was also mentioned to have access again to the videos was used during the group sessions. One parent mentioned she would like to have Online Triple P. In addition, they gave suggestions about topics they would like to know more about it: emotional intelligence, relationships between siblings, the stages of childhood and how to deal with teenagers.

***Material changes*.** In regard to the materials, parents were generally favourable about the relevance of the materials (manual and videos) used in the group sessions, "the approach was excellent, and the material was very complete." Not all parents, however, viewed the materials favourably. A few parents commented about the amount of reading (referring to the manual): "There was too much reading, and that was a bit unnecessary. The videos are more pleasant." Another parent suggested that maybe more practical training would be better, meaning to have more role-play and opportunities to practice what they leant.

Related to the program videos, many parents complained about the fact that the videos were subtitled into Portuguese and not dubbed. Some parents found it difficult to understand and follow the content while reading subtitles. "My only complaint is that the videos should be dubbed to our language, that would facilitate the understanding of the content."

Theme Two: Cultural appropriateness. The majority of the parents found that Triple P is culturally appropriate in Brazil, and parents also gave their opinion about how specific strategies would be received by Brazilian parents.

Appropriateness of the program in the Brazilian context. Many parents said that one of the reasons was because it helps them to deal with daily family problems and improves the quality of family life. For example, one parent said "It's acceptable for sure. Because it deals with behaviours that we want or not in our children; gives strategies to improve their behaviour and also to improve family life ...this is something any culture wants. Once we have more structured families, surely the whole society wins living in a better world."

Other parents explained why they thought it was acceptable. For instance, one parent commented, "It's certainly cultural acceptable because it encourages us to be better people." Many parents said the program was easy to understand and helpful: "everything that was presented was feasible." They also mentioned one of the reasons they liked, and they considered that Triple P it is culturally acceptable in Brazil is because it is an evidence-based parenting program, as demonstrated by one parent: "Is very effective and scientifically-based. I really liked the techniques and the whole program."

Parents also mentioned that the program had helped them and that all parents could benefit from the intervention to improve their family relationship: "I believe that all parents should have access to this information to improve their family quality." Participants mentioned that the program should be available to other members of the community at a national level: "This method should have already been implemented in Brazil!" Parents manifested their desire to recommend the program and to encourage more parents to participate: "I recommend it easily." Parents also mentioned their desire to participate in Triple P in the future: "If the program would be offered in the future, I'd do it again for sure."

Acceptability of the strategies. Regarding the acceptability of the strategies, we found some difference of opinion. First, some participants stated the strategies were important and appropriate: "all the strategies are appropriate for all parents" another parent stated: "the strategies are interesting and positive in our daily life." In addition, a few parents acknowledged that using the strategies is not a question of being appropriate or not, instead is a matter of willingness to do it: "I think all the strategies are appropriate for Brazilian parents, they just have to want it and have to be willing to apply them."

On the other hand, other parents said that some strategies wouldn't be acceptable for all Brazilian parents. For example, some parents commented on their belief that some

Brazilian parents do not accept that their children or themselves have problems and would not make an effort to change and improve as a parent:

> "I fear because of Brazilian culture, some ignorant people (who think they don't need to dedicate time and invest in their children) spoil their children because they believe that everything is normal."

Some parents believed that some strategies were not a good fit for their children, like the "Behaviour Charts" for example:

> "In general, I did like the program, however, the only issue was the rewards that I didn't think to be useful. I am very afraid to offer rewards, even if they are very little, especially in the activities that I consider to be basic."

Along the same lines, some parents expressed concerns about Behaviour charts and their fit with the Brazilian culture. For example, one parent said this particular strategy might not be acceptable for most Brazilians due the fact is not part of the culture to reinforce good behaviour: "we believe that Brazilians are not very used to charts or rewards, I mean, being rewarded for doing good things." This reflects a common belief in Brazilian culture that children's good behaviour is a given, as in a popular saying in Brazil "being a good child and having good grades is nothing else than their obligation and responsibility."

The strategy "Ask, Say, Do" is recommended to help children learning new skills and behaviours and is a form of chaining, however, some parents mentioned the strategy looks too formal to put in practice with their children. And they also commented that some strategies take a lot of effort to plan and organise a time to put in action, as "Quiet Time," this strategy is used to deal with child's misbehaviour, and it is very effective, however, requires some effort to prepare in advance, like preparing the environment, for example.

Parents expressed some apprehension and have questions about how to use the strategies: "I believe all the strategies are very valid, but I still have doubts and difficulties in how to put some of them into practice." This is due to the fact that we asked the parents immediately after the session, and before they had an opportunity to practice it and gain feedback during subsequent sessions.

Theme Three: Barriers to implementing Triple P. We asked participants what would make it difficult to implement the strategies they had learnt, and two major subthemes appeared: competing commitments and family members not supportive.

Competing commitments. Parents described that one of the biggest barriers to implementing the strategies would be time management, for instance "when I have to go far away for work, and I could not be close to follow my child's daily behaviour." And they also

said they would have to make an effort in order to balance work and family and put the program into practice. For example, to have "self-discipline to read the material and do the homework," as well as have more patience.

Family members not supportive. Some parents appeared to have difficulties implementing the strategies due to the fact that other members of the family would not be willing to accept the new strategies or to "put the strategies into practice as a team," and they wanted to keep using the old ones:

> "I was putting in practice ignoring bad behaviour, but unfortunately the people around my daughter doesn't do the same (father, grandfather) and she keeps trying to get attention."

Theme Four: Changes in parenting. Most of the parents expressed their gratitude about the intervention and described ways in which participating in the program changed their thoughts and beliefs about parenting. They also realised how the program changed their behaviours, improving their relationship with their children.

Changes in parental cognitions. Parents reported that program participation had changed the way they think about themselves and their children. For instance, a parent discovered having unrealistic expectations about their children: "It helped me see how much I demanded of my children and how unrealistic my requirements were."

Parents appreciated the program changed their perception of their children, and that helped them to realise they do not have to get angry in order to be firm and put boundaries, that they can do just that by being calm: "Today I can have a different perception of their temperament, I see more naturally and clearly their misbehaviour, and I can act firmly, but more serene at the same time. Thank you." A parent added: "when I'm calm, my children respond better."

Some parents emphasised that they found out they were contributing to their child's misbehaviour: "I realised how many wrong things I was doing as a mother, most of the time I was the one causing my son's bad behaviour." Many parents mentioned changes in their belief system, after participation in the program they gain a feeling of agency and autonomy that they can do things differently and that what they do has an impact on their children:

> "I learned to do things differently, that if I want my children to behave "better" depends 80% on my being calm, patient, giving attention, and wisdom towards them. That without a doubt, they are our reflection."

Changes in parenting behaviour. Many parents mentioned that the program had helped them to make positive changes in their own behaviour, feeling "self-confident" to deal with their children's problematic behaviour, and they also learned the importance of

boundaries: “I learned how to deal with my daughters, knowing what to do with tantrums. I discovered that we all have to have rules, including our children.”

Parents recognised that the program had given them alternatives to deal with their children, building a more positive relationship: “In my case, the most important thing I learnt was to stop and pay attention to my son and listen to what he has to say to me.”

Discussion

The current study aimed to assess the cultural acceptability of Group Triple P in an LMIC, Brazil. Consistent with hypotheses, the results indicated that the majority of the parents saw the Triple P strategies as highly acceptable and highly useful, particularly strategies for promoting positive relationships with children. These findings support previous studies that showed the acceptability of Triple P across a number of countries, including Panama (Mejia et al., 2016) and South Africa (Wessels & Ward, 2016). Together with results demonstrating that Group Triple P is efficacious at improving child and parenting behaviour in Brazil (Schulz et al., 2020a) these findings provide preliminary support for further research and implementation of Triple P in Brazil.

Parents showed moderate levels of satisfaction which was slightly lower than in similar studies of Group Triple P which found high levels of satisfaction in China (Guo et al., 2016) and Japan (Matsumoto, Sofronoff, & Sanders, 2007). However, we believe there may have been some measurement error by parents who did not notice that some of the satisfaction items were displayed in reverse order. Post hoc analyses found inconsistencies in patterns of results between the reverse displayed items. For example, the reverse item “How would you rate the quality of the service you and your child received?” only 39% said the program was good to excellent. However, other non-reversed items like: “How satisfied were you with the amount of help you and your child received?” 89% of participants stated being satisfied to very satisfied. In addition, in the qualitative responses, most of the participants commented they were highly satisfied with the intervention.

In regard to the barriers identified by parents, the most cited barriers to access the program were no access to childcare, shame for parents and competing for work commitments. No parent endorsed the item “culturally inappropriate strategies,” suggesting the cultural values of the program would not be a barrier for Brazilian parents accessing Triple P. The main barriers found in our study are similar to those reported by other studies, for example, in regards to access to childcare, a systematic review that sought to investigate the factors that prevent access and engagement of parents to parenting interventions reported that about half of the studies included reported difficulties with childcare (Koerting et al.,

2013). Access to childcare is one of the barriers that practitioners may be able to anticipate, facilitating access to the intervention.

The barrier about the stigma associated with seeking help was also found by numerous studies in different countries and did not appear unique to Brazil (Dempster, Davis, Faye Jones, Keating, & Wildman, 2015; Lau & Takeuchi, 2001; Turner, Jensen-Doss, & Heffer, 2015). Parents have reported having concerns about seeking help, such as blaming their parenting skills due to the difficulties in managing their child's behaviour (Reardon, Harvey, Young, O'Brien, & Creswell, 2018). This fear of being judged and stigmatised may prevent parents in need accessing support (Turner et al., 2015). Future research could examine the messaging of engagement strategies to more specifically target and overcome stigma and shame and normalise the seeking of support.

Work commitments were also considered a key barrier, which is consistent with previous research that has time constraints as one of the most frequently cited barriers to access and participation in parenting programs (Lewis, Feely, Seay, Fedoravicis, & Kohl, 2016; Mendez, Carpenter, LaForett, & Cohen, 2009; Spoth & Redmond, 1994). To address this, practitioners should be flexible and offer the program at different times and days with the purpose of increasing the chances that parents would engage and participate. Despite these numerous competing demands, work commitment was not a barrier to program completion for most parents, and 32 of 38 participants concluded 90% of the program, and they stated they wanted more sessions. Overall, the fact that the primary barriers identified in this sample are common across cultures and not specific to brazil or culturally related suggests the program may be able to be easily transported with relatively high satisfaction. Nonetheless understanding the obstacles and barriers of parental help-seeking behaviour, and more importantly planning ahead to overcome these, is critically important in improving access to parental support both in Brazil and elsewhere in the world.

The results that emerged from the qualitative data corroborate our quantitative results and lend further support to the assertion that Group Triple P is acceptable and appropriate in a Brazilian context. The program was positively evaluated by parents, they believed that the content of the program met their needs, and they were able to put the strategies into practise in order to help them to deal with their children's misbehaviour. However, they identified elements that could be improved, like translating the videos into Brazilian Portuguese, for instance, and hence enhance their understanding of the content.

Parents also mentioned their desire to continue with the group after the end of the program (gathering the group every 3-months, for example), and they also wanted to have

access to an online parenting forum, all suggesting the need for relationships with other parents. Social connections in Brazil and in most Latin countries, are vital. Brazilians are very communicative, they love to mingle and chat, and the participants manifested many times that enjoyed the group format. And perhaps that characteristic could be explored with the intention of building those connections and strengthen social support. This suggests that the benefits of using a group way of delivery could be extended to other Latin American countries.

Interesting results were found with respect to the length of the intervention. When parents were asked what would make it difficult to put the strategies in practices, the majority answered time commitment. The same answer was given by the parents that declined to engage in the intervention, during recruitment (i.e., parents said an 8 session intervention was too long, and they did not have time to commit, but they would if a short intervention would be offered). However, when the intervention was finished, we asked the parents what we could do in order to improve the program, the majority suggested to increase the number of sessions and have ongoing support. It seems like even when parents acknowledge their physical challenges (like time commitment), they also recognise the importance of receiving support and are willing to invest time if they view it as having a positive impact.

This is consistent with a phenomenon known as the mere-exposure effect, which states that people tend to prefer things in which they have been exposed. And once the experience becomes “familiar” they tend to engage in the activity more frequently (Tom, Nelson, Srzentic, & King, 2007). This effect would also explain why participants started to invite their friends and colleagues, and some of them ended up enrolling in the intervention as well (word of mouth). Another reason could be that once the parents saw the benefits of the program, they felt the need to invest more time in it. According to Morawska and Sanders (2006), the perceived degree of cost and benefit obtained from the intervention can influence directly the likelihood to complete the intervention. This can be used as a strategy to engage parents that do not have time to commit in longer interventions, by offering them a short intervention and if they feel the program is useful, they might be willing to engage in a longer one if more support is needed. This is particularly important in low resources settings such as Brazil, both in serving as standalone interventions but also as a first step engagement strategy for families who require more support. Previous research in Panama using briefer versions of Triple P revealed that short intervention can be effective and produce equivalent outcomes to the more intensive interventions (Sumargi, Sofronoff, & Morawska, 2015).

A few questions arise from these findings, first in terms of engagement, how can we help Brazilian families to become more "familiar" with the intervention? And second, could it be that the scepticism of "not knowing" or not being familiar with the program responsible for preventing families from engaging? One of the biggest challenges of our study was recruitment, and despite intensive efforts (including radio and TV interviews), the uptake was very low. Our initial hypothesis of the low recruitment was due to the long length of the intervention, but it appears that other factors were also contributing like stigma, as mentioned before, and also not being familiar with the intervention. Future studies should assess this directly in order to evaluate barriers and facilitators to program participation. Furthermore, it is important to be aware that different parents require different things and they should have options to choose which type of intervention (intensive or brief) best suits their needs. Future studies should evaluate parenting support preferences in Brazil.

Following the intervention, parents reported positive changes in their cognitions and behaviour. One of the greatest changes mentioned by participants, was the changes in their belief system. They stated that as soon as they started the program, their began to change their thoughts about parenting and about themselves and they regained their power as parents, feeling confident to deal with their children. Parents mentioned that before the intervention, they felt they had tried everything to improve their child's behaviour, however, nothing had worked. But in the program, they learnt several strategies that helped them to manage their child's behaviour. Similar results were found in a study evaluating the cultural acceptability of Triple P in Chile (Errázuriz et al., 2016), participants that once felt very passive in dealing with their children, became active and in control for promoting change. Changes in parents' perception may improve the likelihood that parents will maintain the changes over time.

Implications

This study adds to the limited amount of research about the cultural evaluation of parenting programs in LMIC, such as Brazil in particular. The results of this study pointed out that Triple P is viewed as culturally acceptable by Brazilian parents. Acceptability is an important aspect it can cause poor treatment integrity if the parents do not believe the intervention is appropriate and acceptable. For example, if the intervention uses strategies that the parents find unacceptable or unappealing, they may stop participating in the program or simply fail to implement the strategies required to effect positive family changes (Lachman et al., 2018).

In our study, participants not only viewed the program as culturally acceptable, and acknowledged the importance of the strategies, but also encouraged friends and family

members to attend, which indicates a high level of program support and endorsement. According to Mejia et al. (2017), culturally sensitive interventions can increase engagement of interventions. This adds to an increasing amount of evidence suggesting Triple P is acceptable across several cultures (Sanders, 2008). Therefore, results provide evidence to inform government decisions about investment in Triple P in Brazil, and future services might consider providing an alternative option to the usual care services in Brazil.

These findings also have theoretical implications for the debate about adapting or not parenting interventions. Although we did not attempt to focus on whether the program should be adapted or not, it appears that despite Triple P being an Australian program, based on the current findings cultural adaptation of Triple P in Brazil may not be necessary, with the exception of the translation of the videos. Nevertheless, it is highly recommended future studies test the need for adaptation in Brazil.

The information gained from this study about the barriers to accessing parenting programs can help to inform practitioners working with Brazilian parents and may be able to anticipate and to address such barriers, as well as to assist parents in overcoming them. For example, in regard to "shame to access parenting programs" health professionals could promote public awareness and destigmatise the process of seeking parenting support in Brazil. However, more research is needed to examine strategies that increase the facilitators and reduce the barriers to access and participate in parenting programs. Overall, the main barriers (access to childcare, shame and work commitments) are not related in particular to cultural barriers in Brazil, but it seems they are similar to the ones experienced by parents around the world, suggesting the transportability of the program.

Strengths

We used a mix-method approach, where quantitative and qualitative was used to gather the most comprehensive information about the cultural acceptability of Triple P in Brazil. The use of qualitative research provided an in-depth understanding of the parent's experiences in their own words about the acceptability of the program. In addition, cultural acceptability research provides an initial and important step before large-scale dissemination of parenting programs, in order to ensure that the program fits with the cultural values and norms of Brazilian families.

Limitations

This study should also be interpreted in light of several limitations. The majority of the included participants were mothers. Research has found fathers are often ignored in parenting research (Pleck, 2012), and that is something that future studies should address

because they may have a different view about the acceptability of Triple P in Brazil and a greater understanding can be gained from the opinion of fathers. Further studies should increase their efforts to engage more fathers in parenting interventions and continue to investigate this population. Nonetheless as mothers are typically the primary consumers of parenting interventions, we argue that our results are important.

By design, the sample only consisted of participants who had completed the Group Triple P program. These participants were motivated enough to engage and participate in the intervention and may not be representative of the perspective of parents who would not agree to participate in a parenting program. Future research could examine a non-self-selected intervention sample to provide more representative samples. In addition, it is possible that our results were influenced by social desirability response bias, which would explain the high scores in the questionnaires, although we did not find evidences indicating that. The program was conducted in two cities from in the south of Brazil, limiting the generalizability of our findings to all Brazilian parents. Further studies should examine whether the acceptability of Triple P in other Brazilian cities and states. This study nonetheless provides a relevant contribution to the existing literature about the cultural acceptability of Triple P in Brazil.

Conclusions

Researchers have argued that evidence-based parenting programs are needed in Brazil due to the high levels of harsh parenting and behavioural problems in children (Altafim et al., 2018). This study suggests that Group Triple P, and the strategies taught within the program, are culturally acceptable by Brazilian parents and may be a good cultural fit with the Brazilian context. Minor improvements to enhance understanding for the program context was also reported specifically in dubbing the intervention video into Portuguese.

Examination of the cultural fit of the transported program is crucial before the dissemination takes place, because it may increase parent engagement as well as influence the program outcomes (Lachman et al., 2018). Findings from this study may also be useful to inform Brazilian policymakers, and agencies about the importance of parenting interventions such as Triple P. A parenting program that is efficient and culturally congruent, in order to promote the wellbeing of children and preparation for parenthood.

Chapter 6: General discussion and conclusions

The aim of this final chapter is to briefly summarise the main findings of the entire body of work. It provides implications for theory, clinical practice, and for governments and policymakers. Strengths and limitations of this research are also discussed, including limitations of recruitment, attrition and methodological. It concludes with recommendations along with suggestions of possible directions for future research.

Key findings

1. Parental attributions mediate the relationship between child behaviour and parental behaviour

Parents with high levels of negative attributions tend to interpret child misbehaviours as something stable that do not change (Johnston & Ohan, 2005), and often perceived the behaviour as deliberated and blameworthy when compared to other parents (Beckerman et al., 2017). This can result in feelings of anger and result in more aggressive reactions towards their child (Crouch et al., 2017).

In Chapter 2, we had two interesting findings, first, negative parental attributions predicted harsh parenting. This strengthens and extends previous results theoretically by replicating the findings in a new cultural context. Both Beckerman et al. (2017) and Leung and Slep (2006) that have found that negative parental attributions predict harsh parenting. Harsh parenting has been linked to negative consequences on children's development, which can persevere into adulthood (Gilbert et al., 2009), also, on several problems including socio-emotional, cognitive, psychological, behavioural and interpersonal (Santini & Williams, 2016).

Secondly, we found that parental attributions mediated the association between child behaviour and parental behaviour. The findings suggest that child behaviour may trigger certain parental attributions, consequently resulting in parenting behaviour as a response to that behaviour. The identification of potential connections between the study variables contributed to the understanding of the role played by parental attributions in the relationship between child and parenting behaviour. The results have clinical implications, by advising Psychologists and professionals who work with parents to become aware of the existing link between parental attributions and harsh parenting, and the risk of parents who have high levels of negative parenting attributions can lead to the use of harsh parenting. We suggest that these professionals could be trained to identify parental attributions by asking parents what the reasons for children's behaviour are, with the purpose of guiding therapy. According to Butcher and Niec (2017) psychotherapists may be able to shape parents' perception of child behaviour by modelling more positive attributions.

Given the long-lasting adverse effects of harsh parenting on child development (Gilbert et al., 2009; Malo et al., 2004), changing attributions is necessary if it will lead to decreased harsh parenting.

This is particularly relevant in a country like Brazil that has high levels of child behavioural problems (Murray et al., 2013) and harsh parenting (Rates et al., 2015). Therefore, we emphasised that future studies should examine whether parental interventions are one way to modify parental attributions.

2. A systematic review of parental attributions assessed in the context of parenting interventions

Chapter three built on findings of chapter 2 and the need to identify ways to reduce negative attributions as a means of changing parenting practices particularly harsh parenting. Chapter three was a systematic review that aimed to identify the empirical literature on the extent to which parenting interventions are able to change parental attributions. Despite the vast body of evidence indicating the importance of parenting attributions in affecting the child and parental behaviour, only four articles met the inclusion criteria out of 7,427 articles screened. The surprisingly small number of articles identified revealed that, despite the number of publications about parental attribution has increased over the years, parenting intervention research is scarce in this area, and indicates that is a topic that requires more research.

The results of the limited studies that met inclusion criteria were inconsistent, and we were not able to conclude whether parenting programs have the potential to modify parental attributions. From the four included studies, the two studies that used enhanced parenting interventions showed significant reductions in negative parenting attributions (Sanders et al., 2004; Wiggins et al., 2009), on the other hand, the remaining two other papers, which used only general parenting programs, did not find significant reductions (Esdaile & Greenwood, 1995; Wilson & White, 2006). This discrepancy could be attributed to differences in the methodology used in the studies or characteristic of the intervention, for example, the intervention used by Esdaile and Greenwood (1995) was grounded in occupational therapy theory, and they used toy-making and toy demonstration to guide the discussions. Wilson and White (2006) found changes in the opposite direction, in other words, some parents revealed an increase of negative parental attributions after participation in the intervention. The authors believed the increase was due to the recognition of child behavioural problems that perhaps they did not acknowledge before.

These findings provided preliminary evidence about the possible effects of parenting programs on parental attributions, however, due to the paucity and contradictive results we cannot confirm that parenting interventions reduce negative attributions, therefore, future studies should address this gap of the existent literature. Also, all studies were carried out in high income countries (UK or Australia), thus the results cannot be generalised to other social and cultural context, and more research in the field is needed in LMIC.

3. Can parenting programs change parental attributions about child behaviour? RCT- study

Chapter 4 presented a RCT, the first aim of this study was to evaluate if participating in a standard parenting intervention, without specific attributional focus, led to changes in parental

attributions about child behaviour in a community sample of parents. As predicted, compared to parents in the waitlist control, parents who completed the intervention (Group Triple P) showed reductions in the levels of dysfunctional parental attributions.

Considering the negative impacts of negative parental attributions on parenting practices, our results contributed to Attribution theory, specifically by demonstrating that that one efficient way to reduce negative parental attribution is through a parenting intervention such as Group Triple P. In cultures where the use of harsh or dysfunctional parenting is a normative practice to raising their children, changing attributions is essential as one way to improve parenting and child outcomes. In particularly changing attributions may be more readily modifiable than other factors such as poverty and stress, that also predict harsh or also parenting.

Our results contribute to the extant literature, by showing that standard interventions (such as Group Triple P) can change parental attributions even when not targeted, suggesting that tailored interventions that added extra components to change attributions may not be needed. Indeed, a review about the role of parental attributions in parenting programs concluded that adding more sessions to a parenting intervention does not necessarily means obtaining better outcomes than compared to a standard intervention. They considered the possibility that standard interventions may be able to change parenting attributions without addressing it in enhanced interventions (Sawrikar & Dadds, 2018).

This is consistent with results from a previous study that compared a standard intervention versus an enhanced intervention, that added modules such as partner support and coping skills Training (Bor, Sanders, & Markie-Dadds, 2002). The results revealed that contrary to the initial hypothesis, the enhanced intervention did not present superior outcomes compared to the standard intervention. The assumed intuition that more would be better was not confirmed, and they argued that standard intervention could be as effective as the enhanced interventions.

Considering the minimal sufficiency principle and the need to optimise limited recourses to ensure intervention effects (Prinz et al., 2009), it appears that using standard interventions may be more cost-effective in comparison to enhanced intervention. Enhanced interventions normally contain extra sessions that implied higher costs and more time commitment from parents, thus if standard interventions are able to produce similar outcomes, economic efforts can be reduced as well parental efforts to attend the additional sessions (Dittman, Farruggia, Keown, & Sanders, 2016).

4. Triple P is efficacious in Brazil

The second aim of the RCT presented in chapter 4 to test if the Group Triple P intervention was efficacious in a Brazilian context. This is needed for two main reasons, to establish local efficacy and to add to the broader literature in reference to the suitability of implementing western

interventions in LMIC such as Brazil (Gardner et al., 2016). The evaluation of the program with Brazilian parents indicated it was efficacious in reducing negative parenting styles and parental maladjustment, and lowering child behavioural problems, from pre to post-intervention. Due to difficulties with data collection no follow up data could be analysed to examine maintenance effects.

These findings are consistent with preliminary research that has shown that Group Triple P is able to decrease child behavioural problems and improves parenting and have been developed in diverse countries around the world like New Zealand (Keown et al., 2018), Germany (Cina et al., 2011), and Sweden (Wells et al., 2016). The World Health Organisation (WHO, 2009) has recommended evidence-based parenting programs in order to prevent and reduce child emotional and behavioural problems. The findings are significant, considering the high levels of harsh parenting and child behavioural problems in Brazil and suggest that dissemination of evidence-based parenting programs like Group Triple P in Brazil may be beneficial in order to improve parenting, and it should be included in the public system health, as part of the mental health policies.

From a scientific point of view, the knowledge acquired in this study can be translated to other countries with similar social issues as Brazil, for example, to South America or other developing countries. It is worth pointing out that this study is one of a number of emerging studies conducting RCTs of an evidence-based parenting program carried out in LMIC. There is some evidence pointing out that parenting programs can be transported, Gardner et al. (2016), conducted a systematic review and meta-analysis about transporting evidence-based parenting programs across countries. The results provided significant effects in fourteen out of 17 randomised trials in the transported countries, indicating that transported interventions can be as effective as the originals, at least for some study design (randomised trials) although there are some exceptions. Besides, all included studies were carried out in upper-middle-income countries or high-income countries (mainly in Europe) Indicating the lack of research on lower middle- or low-income countries

Our finding combined with other studies such as Guo et al. (2016), in China and Moharreri, Shahrivar, Tehranidoost, and Gharaei (2008) in Iran add to a small but growing evidence-base literature of the efficacy of Triple P in LMIC contexts. Nonetheless, when transporting a parenting program to another country, it is imperative to take into consideration cultural norms and values of that country because these are interrelated to parental beliefs, therefore further studies are needed it in order to examine whether the intervention is culturally acceptable.

5. Triple P is culturally acceptable in Brazil

Chapter 4 demonstrated that Group Triple P was efficacious at improving both negative attributions and parenting and child behaviour suggesting it may be beneficial to implement in

Brazil given the high levels of coercive parenting in the country. However, for parents to fully engage with parenting programs and for dissemination to be effective programs must also be seen as cultural relevant and applicable to local parents. Chapter 5 presented a mixed-method empirical study examining the cultural acceptability and relevance of Group Triple P in Brazil as perceived by parents as the end consumers. The quantitative results indicated the program was generally perceived to be consistent with the cultural values of Brazilian parents and most parents found the strategies to be useful and relevant. These findings are consistent with other studies that have demonstrated that Triple P is acceptable in vastly different countries in Latin America (e.g., Panama, Mejia et al., 2016), and within Australian families from different cultural backgrounds (Morawska et al., 2011). This study contributes to the small number of evidence about the cultural evaluation of parenting programs in LMIC. Our findings also add to the growing amount of evidence suggesting that Triple P is acceptable across several cultures (Sanders, 2008).

Regarding the barriers to access the program participants rated: no access to childcare, shame for parents and competing for work commitments as the most cited ones. Considering previous studies (Koerting et al., 2013; Lau & Takeuchi, 2001; Lewis et al., 2016) these barriers are not unique to Brazil, but appear to be similar to those experienced in diverse countries around the world, indicating the transportability of the program and the commonality of challenges faced by parents across the world. These findings can guide practitioners working with Brazilian families by anticipating, preventing and addressing the barriers, and assisting participants to overcome them. However, more research is needed to investigate engagement strategies in order to reduce and eliminate these barriers and examine potential facilitators of parental engagement, for example, future studies could compare different types of engagement strategies (e.g., such as pamphlets, media, TV, word of mouth, among others) in order to identify which ones are more effective in recruiting parents.

Parenting programs have shown to be highly efficient around the world, but when transporting a program from one context to another, some programs have been criticised for ignoring cultural aspects of the transported place (Gustafsson, 2019). Therefore, researchers, have debated about whether parenting programs should be developed for each cultural context or transported from one country to another, and if the transported program should be culturally adapted or not (Elliott & Mihalic, 2004). Our findings contribute to this theoretical debate by pointing out that Triple P was indeed successfully transported to Brazil. Both the results that emerged from the qualitative and quantitative data confirmed that parents were generally very positive about Triple P and viewed the program as culturally acceptable. Even though it was not a focus of this thesis to test if Triple P should be or should be not be adapted to Brazil, our results indicated that tailoring Triple P to Brazil may not be necessary (other than translating the videos),

resulting in time and economic savings associated with the process of adaptation. These findings are consistent with a systematic review that found out that transported interventions can be effective across counties, and that major adaptations may not be necessary (Gardner et al., 2016).

Investigating the cultural appropriateness of the transported program was essential to ensure the cultural fit in Brazil, and it is an important step before starting disseminating the intervention because research has shown that may affect parental engagement and program outcomes (Sanders, 2008). Findings from this study may also be beneficial in helping Brazilian policymakers, and agencies in adopting an alternative option to the usual care services in Brazil, a parenting program in Brazil that is efficient and culturally congruent.

Implications from the overall findings

Implications for theory

Collectively, these findings contribute to theory by emphasising the relevance of parental attributions. In Chapter 2 we found that parental attributions predicted harsh parenting, these results are consistent with previous research (Beckerman et al., 2017; Bugental & Johnston, 2000; Crouch et al., 2017; Johnston, Chen, & Ohan , 2006; Slep & O'Leary, 1998). However, those studies have been developed mainly in western countries. To date, studies on parental cognitions within a Brazilian population are limited, and to our knowledge, no studies have been done about parental attributions in Brazil, therefore by demonstrating the prediction also holds in Brazil, a Latin American country, we expanded the knowledge of parental attributions in other contexts apart from the western countries.

In addition, in Chapter 2, we also provided support that parental attributions mediate the relationship between child behaviour and parental behaviour. This replicates and expands the theoretical model of Dix and Grusec (1985) about parental attributions, and help us to identify potential links among the analysed variables contributes to our understanding of the role that parental attributions play in the relationship between child and parenting behaviour. Knowing the nature of parental attributions highlights the relevance of changing negative attributions in order to improve relationships between parents and children (Crouch et al., 2017).

However, little is known about changing attributions (Moreland, Felton, Hanson, Jackson, & Dumas, 2016). Butcher and Niec (2017) used experimental and cross-sectional study design in order to investigate the malleability of parental attributions. They found that by manipulating attributions they were able to change parental attributions, although they only assessed one of the dimensions of parental attributions (locus of control), their findings provide support for the malleability of parent attributions. Parenting programs could also potentially change parental attributions. Parenting programs are well-evaluated and effective approaches to changing parenting behaviour (Gavita, Joyce, & David, 2011; Katzmann et al., 2017), however, there is limited

evidence about changing parental cognitions, such as parental attributions. Some of the empirical studies available have focused on high-risk populations, such as maternal substance abuse (Horton & Murray, 2015) and parents in highly disadvantage circumstances (Love et al., 2016), with fewer studies examining community samples of parents that represents the majority of the population.

Therefore, we developed a systematic review in Chapter 3 to address the previously mentioned gaps in the literature: the limited information about the effects of parenting programs on parental attributions and the lack of knowledge about community sample of parents. Our results found that only four studies met the inclusion criteria, revealing the scarcity of parenting intervention research in the area of parental attributions, as well a lack of consistency between the results. These results were a surprise, although a review about the role of parental attributions in parenting program has found findings similar to ours, mentioning that they also found mixed and inconsistent results (Sawrikar & Dadds, 2018). Our findings, along with Sawrikar and Dadds (2018) do not contribute theoretically to answer the question whether parenting programs can change or not parental attributions, thus, further research is warranted.

To bridge that gap we developed a RCT presented in Chapter 4 aiming to investigate whether parenting interventions can improve parenting attributions. We found that after the participation in a standard intervention (Group Triple P) the participants revealed reductions of negative parental attributions. In support of this finding, Moreland et al. (2016) found changes on the locus of control (one of the dimensions of parental attributions) after the participation in an intervention. Previous studies that included enhanced interventions, have also demonstrated changes in parental attributions (Goddard & Miller, 1993; Sanders et al., 2004; Wiggins et al., 2009).

Regarding enhanced interventions, Mah and Johnson (2008) explored the literature for studies that compared the effects of enhanced parenting programs versus standard parenting programs, that have targeted parental cognitions. The evidence was mixed across studies: in one hand, some studies reported differences between the groups (where changes where found only in the enhanced intervention or the enhanced intervention had better results); but on the other hand, some studies did not report differences between the groups. According to the authors, even though the results provide a window into the benefits of targeting parental cognitions, the evidence remains mixed and limited. Our results help to fill that gap, by adding new insights to attribution theory, that a standard parenting program, Group Triple P, is able to reduce negative attributions and suggesting that tailored interventions that included extra components targeting attribution retraining may not needed to modify negative parental attributions.

Chapter 4 also contributed to parenting intervention literature. Most of the parenting programs were founded in the behavioural approach (Mah & Johnson, 2008), therefore the focus is mainly about changing behaviour outcomes (Barlow & Coren, 2017; Barlow et al., 2012; Kaminski

et al., 2008). Therefore, this research it is relevant because beyond the examination of parental and child behaviour we also examined parental attributions that are a type of cognition, that has been under-examined (Mah & Johnson, 2008).

Together these findings provide a greater understanding of parenting attributions in the context of parenting interventions, however, the specific mechanisms about how parental attributions change over the course of the intervention are still unknown. Mediational studies are suggested with the purpose of having a greater understanding of these mechanisms.

Clinical implications

The results of this body of research have clinical implications for health professionals and parenting interventions. The findings in Chapter 2 highlighted that parental attributions predict parenting behaviour, in particular harsh parenting, and also mediate the relationship between parental behaviour, and child outcome. Thus, there is a need of awareness and to equip professionals who work with families about the importance of parental attributions, this could happen through training on parental attributions (in particular about the relationships with parental and child behaviour) to guide their practices. This way, the professionals would be able to expand their knowledge on the topic and feel empowered to recognise negative parental attributions and to refer to specific services (e.g., parenting programs) in order to change them.

The present findings should also be considered in the broader context implication for parenting interventions. The findings in Chapter 4 indicated that the intervention successfully changed parental attribution, a critical variable that has been associated with dysfunctional parenting and predicts harsh parenting (Chapter 2). And why this is important? Because dysfunctional parenting and harsh parenting has severe effects on children and families (Skeen & Tomlinson, 2013), and it has been considered a burden on society (Gilbert et al., 2009). It is also highly prevalent, not only in Brazil but in most of LMIC (UNICEF, 2017b). Thus, if parenting programs are able to reduce negative parental attributions (as revealed in this research), they could potentially reduce harsh parenting, as a consequence. Further, research had pointed out that harsh parenting is preventable (Skeen & Tomlinson, 2013), in that way, parenting programs could be the answer for settings where the levels of harsh parenting are high.

For the purpose of preventing harsh and dysfunctional parenting, parenting programs are recommended because promote healthy interactions between parents and children (Nowak & Heinrichs, 2008) that can impact them throughout their lives (Skeen & Tomlinson, 2013). Early child parenting programs benefit children's development (Jeong et al., 2018; Sanders & Mazzucchelli, 2013) have positive effects on child and youth mental health (Pedersen et al., 2019; Sanders & Mazzucchelli, 2013); promote the wellbeing of children, improving protective factors and creating a nurturing and safe environment for children (Jeong et al., 2018).

And lastly, the results of Chapter 5 have important broader clinical implications by highlighting potential barriers to participating in parenting programs (no access to childcare, shame for parents and competing for work commitments). Clinicians can make use of this knowledge by becoming aware of the existing barriers and can increase efforts to decrease them in order to facilitate parental engagement. Considering that stigma is one of the most significant contributors to prevent parents of seeking parental support (Turner et al., 2015), this will be further discussed in the section "Limitations and future directions."

Implications for governments and policymakers

Research has shown an increase in the demand for child mental services, indicating the main reason for seeking help is caused by child behavioural problems, that has also implied an increase in the cost of government child mental health in Brazil (Gonçalves, Vieira, & Delgado, 2012). Although mental health services are government-funded in Brazil, most of the services offered consist of therapist-directed interventions and that are not able to meet the vast demand. The long waitlist can be a barrier to parents who seek assistance for their children, thus, one way to overcome those challenges is to offer brief parenting programs at a population level rather than only intensive services. One of the biggest advantages of Triple P is the use of the minimal sufficiency principle, aiming to achieve the best results in the most cost-effective and time-efficient way (Sanders & Kirby, 2014), that is why our results are so relevant (Chapter 4) because they have shown that an intensive 8-session program such as Group Triple P can decrease child behavioural problems, dysfunctional parenting practices, parental attributions and parental maladjustment. Future studies could examine even shorter versions of interventions in Brazil, such as Seminar Triple P, considering that it has shown high levels of efficacy in other low resource settings (e.g., Indonesia, Sumargi et al., 2014).

In order to improve parenting in Brazil, parenting programs are needed and should be incorporated in the public system health, as part of their social welfare and mental health policies. In 2016, Brazil created a new law called the "Marco Legal da Primeira Infância" (Legal Framework for Early Childhood), that contains guidelines that promote the development and implementation of public policies, with the purpose of improving parent-child relationships, in particular in highly vulnerable contexts (Law number: 13.257, 2016). This initiative demonstrated a new movement that prioritises the importance of investing resources on child well-being and could be a pathway to introduce parenting programs in the public health system (Altafim et al., 2018; Altafim & Linhares, 2019), thus, Triple P would be a good fit in this new movement, considering that has been demonstrated that it can be implemented in a population-level and have the potential to be adapted to the different needs of each country (Prinz, Sanders, Shapiro, Whitaker, & Lutzker, 2009; Zubrick et al., 2005). According to Prinz (2016) through the adoption of a public health approach several

services and community sectors can be benefited such as education, social services, NGOs, among others.

With the purpose of optimizing economic resources, policy, and decision-makers should consider a program that it is efficacious (Chapter 4) and culturally acceptable (Chapter 5). As Group Triple P can reach a bigger population by delivering the intervention to a group of parents at the same time, it could be considered more convenient in terms of time-consuming and economical cost, in comparison to the one-to-one therapy approach. Furthermore, it could be delivered in the community as a complement to the existing infrastructure in mental and social health services, in spaces like CRAS (Reference Centre of Social Assistance), CAPSi (Children and Youth Psychosocial Care Centre) and other programs in the community. In Brazil, parenting programs are still something new, and people can be resistant to engage in the interventions, therefore there is a need to inform local health professional that work with families, agencies, NGO, clinicians, about the results of this body of research, because they are the one in contact with families that can recommend and refer families to parenting interventions, as they play an essential role in program dissemination, in order to reach ensure that Brazilian families have access to intervention.

Strengths

This body of work has several strengths:

Balance of theoretical and empirical approach

The first strength of this research is the use of a diverse methodologies to investigate parental attributions in the context of parenting interventions. In Chapter 2 we tested the theory of parental attributions and the relationships with parenting and child behaviour, then we conducted a systematic review to examine whether parental attributions can change after participation in a parenting intervention (Chapter 3), and finally in terms of application we included the use of a longitudinal research design to test the changes of parental attributions in a real world setting using a RCT of an existing evidence-based program, Group Triple P (Chapter 4). These studies build upon each other and contribute to the literature by showing that an efficient way to change negative attributions is through parenting interventions.

Methodological strengths

The other strength of the thesis is the methodology we chose to achieve our aims, first we used a mix-method approach. While the quantitative components focussed on the examination of the child and parental variables, efforts were made to collect qualitative data from the parents that participated in Group Triple P. The open-ended questions allowed a deeper understanding of the experience of the parents in the program and complemented the results of the cultural acceptability of the intervention in Brazil. Second, the use of a strongly evidenced program allowed the research questions to be addressed. In addition, we used a RCT design, that is considered gold standard

because it uses a rigorous methodology to establish a causal relationship between the interventions and the outcome, to evaluate the efficacy or effectiveness of interventions. And lastly, we used several well-established measures with good psychometric properties.

Focus in a Brazilian context

The focus of this thesis is both on expanding the literature and the application of the findings in a Brazilian context. Parenting research is comparatively limited in developing countries in comparison to western countries where most of the research is conducted. For instance, this thesis is the first, to our knowledge, to evaluate Triple P in Brazil and only the third in Latin America (see Schulz et al., 2020a). It also appears to be the first of its kind that had investigated parental attributions in Brazilian parents. Therefore, we contributed to the literature by exploring a population that has not been previously focused on.

Limitations and future directions

While some limitations of each study have been discussed in their respective chapters already, this section will provide a detailed explanation of three major limitations of this thesis: recruitment, attrition and methodological. To overcome the limitations, we offered suggestions for future research.

Recruitment

One of the most significant limitations of this body of work was the small sample size particularly for the RCT and mixed method cultural acceptability study. Concerning to the studies in Chapter 4 and 5, initially we expected that a large number of people would enrol in the intervention, considering the lack of services to promote positive parental practices in Brazil, and mainly because it was offered free of cost. However, after multiple attempts to engage parents, including visitation of childcare centres, schools, NGO, hospitals (100 institutions in total), distribution of approximately 6000 pieces of advertising material, four radio interviews and two TV interviews, only 205 people manifested their interest to participate, and only 77 enrolled. Research has shown that participation rates in parenting programs are low and that there is limited empirical evidence investigating the factors related to parental engagement (Morawska & Sanders, 2006). We explored a few potential reasons below.

Program structure. The low rates of engagement may be due to the demands of participation in the group intervention, which was eight sessions in duration. Most of those who declined said that they did not enrol in the program because the program was too long, and they could not commit, however, if a short version would be offered, they would. The group version of the program was deliberately selected with the intention of maximising the chances to obtain changes in parental attributions. If a shorter program were selected, we would not be able to conclude if the program was simply too short to change attributions or if the intervention did not, in

fact, impact attributions. Now that this has been established it would be useful to examine if briefer interventions are also effective at improving negative parenting attributions.

The length of parenting interventions can be a significant barrier for participation (Tully & Hunt, 2015), therefore, brief or low-intensity interventions can motivate more parents to enrol (Sanders & Kirby, 2010). According to Tully and Hunt (2016), brief interventions include key components of parenting programs into a shorter program length requiring less time commitment from parents, and the authors have suggested that short parenting programs may be enough to change dysfunctional parenting and child behavioural problems, at least for a community sample of parents. For example, the Triple P Discussion Group format is beneficial in terms of time- and cost-efficiency because it can be offered to a large number of parents (up to 15 parents). Even though it is brief, studies have shown high levels of efficacy in parental and child outcomes (Dittman et al., 2016; Mejia, Calam, & Sanders, 2014). Triple P Seminars is another option and can reach even bigger groups of parents (20 to 200) and have shown high levels of efficacy across different countries, including in LMIC (e.g., Indonesia, Sumargi et al., 2015).

Given the long waiting-list for child mental health services in Brazil, future research should look into the possibility of examining brief interventions within a Brazilian population. Also, cost-effectiveness analyses should be carried out. LMIC have limited resources in comparison to developed countries, it is, therefore, crucial to making cost-effective interventions available to Brazilian parents (Mejia et al., 2012). Future research should also investigate the preference of Brazilian parents for delivery format according to key factors, such as the ones suggested by Chacko et al. (2016): family demographics and setting of the intervention, for example. According to the authors, the evaluation of these factors can allow a more systematic analysis and match parenting interventions to different families.

Lack of advertising. Although we tried a diverse and extensive recruitment strategy, we cannot discard that lack of advertising could have been a reason. This issue is not unique to our research, according to Stahlschmidt, Threlfall, Seay, Lewis, and Kohl (2013) one of the most significant reasons that parents do not seek help for their child behaviour is due the fact parents are unaware of available services. A review of the factors that prevent access of parents to programs showed that several included studies reported that they did not know about the existing services. Also, most of the studies cited that the strategies of advertising used were ineffective (Koerting et al., 2013). Similar results were found in a study about the cultural acceptability of Triple P in Chile, participants suggested that providers should improve the dissemination and information about Triple P, and suggested advertising Triple P in health centres with the intention of encouraging more parents to participate (Errázuriz et al., 2016).

There is a need for raising awareness about the existence of parenting programs in the communities, by using strategies such as social marketing (Sanders & Kirby, 2014). In addition, efforts should include forming and cultivating relationships with agencies in order to develop an advertising strategy that targets the networks and services that parents use to frequent (e.g., childcare and health centres) and circulate information about the parenting programs available (Stahlschmidt et al., 2013). Additional extra efforts are needed to engage underrepresented participants such as fathers, by advertising in locations that are often attended by the targeted population (such as barbershop and sports clubs for recruiting fathers), this way participants that previously would not be able to get the message through general advertising, may be able to find out about the programs (Koerting et al., 2013; Stahlschmidt et al., 2013).

Program resistance. Along with advertising campaigns, it is also necessary to consider that one of the possible reasons of parents not engaging in the interventions is because they had hesitations due to resistance to the program due to the fact the program was new, unknown and transported from another country (Australia). Although the focus of this thesis was not to assess recruitment strategies, we have information about how the participants found out about our research, the majority of our participants (60%), said the program was recommended by a friend or relative, surprisingly, that strategy was more effective than media engagement (14%) that included strategies such as radio and TV interviews.

It is possible that once parents participated in the intervention, they experienced their benefits, and they felt confident to recommend it. These results show the importance of the word-of-mouth and snowball effect. Word-of-mouth has been proven to be an effective strategy in prior research (Rodríguez, Rodríguez, & Davis, 2006; Stahlschmidt et al., 2013) and it is particularly useful to use with hard-to-reach populations (Koerting et al., 2013). In a study with fathers, Stahlschmidt et al. (2013) revealed that the best strategy for recruiting father was word-of-mouth, fathers feel more comfortable hearing about the program from someone who is familiar and similar to themselves. The findings demonstrated that being a “father” mediated the relationship between the provider and the participants were recruited, helping to develop trust and to reduce the reluctance to engage. Service providers of parenting programs in Brazil should make efforts to involve the participants who had participated in their programs in the recruitment process, could be beneficial to facilitate the recruitment and reach more families.

Nevertheless, it can also be a double-edged sword if the participant had a negative experience in the program (Rodríguez et al., 2006). Given the power of the word-of-mouth, facilitators of parenting programs should make efforts to provide an enjoyable experience and to adopt an empathetic approach in order to develop good relationships (Koerting et al., 2013). Rodríguez et al. (2006) find out that the more facilitators invested time to establish rapport with the

participants, the more successful the recruitment was. Distrust can be a big obstacle, thus program providers should make an effort to build a good and trusting relationship with the participants, with the intention of increasing the chances that they will engage in the intervention (Koerting et al., 2013).

In terms of other strategies to improve recruitment and engagement in parenting interventions, little information has been published about it (Chacko et al., 2016), in particular in low-income settings, such as Brazil. Khavjou, Turner, and Jones (2018), investigated the cost-effectiveness of some strategies in order to recruit low-income families and found out that some strategies are more effective than others to reach large samples of people, but they were less effective in reaching eligible participants, suggesting that the efforts of recruitment must focus on eligible populations instead of wider populations. The authors said that the most effective method to recruit low-income participants is to use a mix of low-cost strategies. Future studies should examine the efficacy of different strategies to recruit and engage Brazilian parents. In addition, according to Koerting et al. (2013) guidelines, such as the National Institute for Health and Clinical Excellence (NICE), research should not restrict to the evaluation of the efficacy of the intervention, but also to examine the facilitators and barrier of accessing and engaging in parenting interventions.

Stigma. In Chapter 5, the cultural acceptability paper, we examined potential barriers to access Triple P, and one of the most cited was shame and stigma. Stigma can be understood as the perception that there is something (a physical or a personal or feature) that it is wrong and perceived as unacceptable (Dempster et al., 2015). Concerning seeking parental support, the belief that the parents or their child will be stigmatised can interfere in the parental decision of seeking treatment for the child or not. There is also big fear associated to being judged or labelled by others as a bad parent, as well as fear to the possible negative consequences, as a result of stigma, such as being treated differently after discovering they have been seeking treatment. Also, some parents who need parental support believe that they should be able to solve their child behavioural problem by themselves, and when they cannot do it, trigger a feeling of guilt because they are not capable of dealing with their child behaviour when they supposed to (Dempster et al., 2015). To avoid stigma, parents may avoid seeking help, even if they need it (Reardon et al., 2018; Turner et al., 2015).

Therefore, parental services providers should be aware of this when planning to advertise their services and should be very careful about which kind of focus the advertising material will include. For example, if the advertising focuses on the negative (through the use of images with children crying or having a tantrum, for example), or using messages that emphasise child behavioural problems or lack of parental skills, parents who already suffer self-stigma and shame, when seeing those images could trigger feelings of guilt and blame about their own lack of parenting skills. Besides, parents could associate their own fear of being seen as a bad parent

(public stigma), which could create resistance and prevent them from engaging and enrolling in the intervention. On the other hand, if the advertising material focuses on the positive (e.g., using pictures of happy families or using messages such as improve your parental skills) parent may feel more empathetic and daring to engage in the intervention.

It is also vital that when referring parent to interventions or therapy, this invitation is communicated in non-threatening and non-stigmatizing ways and being careful to avoid triggering feelings of guilt and blame and therefore increasing the chances parents will attend to the interventions. Further research should address this issue by developing and testing new methods of dissemination and intervention delivery in order to avoid the development of stigma.

As in Brazil, parenting programs are still something new, there is no research about shame and stigma associated with seeking parental support, however, there are some studies about mental health. A Brazilian study found out that fear of stigmatisation was considered the major obstacle by young people seeking mental health services (Fukuda, Penso, Amparo, Almeida, & Morais, 2016). The historical context of mental health in Brazil, (e.g., asylums, social exclusion and insanity) and the lack of knowledge about mental disorders maintain common beliefs and stereotypes that people with mental disorders are dangerous and unpredictable (Paula, Ribeiro, Fombonne, & Mercadante, 2011; Santos, Barros, & Santos, 2016). These propagate and reinforce the maintenance of discrimination and stigma against mental health users (Fukuda et al., 2016).

A Brazilian study with mental health professionals found that workers lacked theoretical knowledge and support on stigma, the participants stated they felt uncomfortable due to the lack of knowledge about stigma and lack of strategies about how to deal with (Santos et al., 2016). To change stigma at a population level, it is necessary to start first providing in-depth theoretical training and practical support to those professionals in community services. Training professional who work with mental health about how to deal with stigma, could potentially improve the quality of the services provided to mental health users.

Stigma should be addressed by specific actions to overcome the stigma of seeking parental support, in all areas of the society and not restricted to the context of education and health as often it is approached (Dempster et al., 2015). Therefore, there is a need to disseminate the knowledge and promote public awareness about stigma, in different areas, this could be reached through media campaigns (e.g., radio announcements, television features), newspaper columns, social gatherings to promote discussions aiming to change the cultural perception seeking parental support and destigmatise preparation for parenthood, and parents feel comfortable and positive about seeking parental support (Fukuda et al., 2016; Sanders, 2012; Santos et al., 2016). More research is needed to investigate how interventions can be used to promote acceptance and decrease the fear of seeking parental support.

Attributions. And lastly, parental attributions may have played a role in low recruitment. Morrissey -Kane and Prinz (1999) created a conceptual framework to understand the relationship between parental attributions and parental engagement. The framework suggests that parents can make two types of parental attributions about their child behaviour: child-referent (characterised by high internality, high controllability, and high stability) and parent-referent attributions (describing low internality, low controllability, and high stability). Both attributions can produce the same results, that is a belief that their child's behaviour is unchangeable or that they do not have control over their parental behaviour and they do not have an impact on their child's behaviour, therefore the parent will have little motivation to engage and participate in the intervention. Although this framework has not yet tested empirically, it contributes as an emerging conceptual model to understand the possible association between parental attributions and parental engagement.

In line with this view, Miller and Prinz (2003) showed that parental engagement was predicted by the match between parents' initial expectation, and a random assignment to a treatment condition (treatment only for the parent or only for the child). They found out that when parents were assigned to a parent-focused intervention, and they attributed their child's problem behaviour external to themselves, they were more likely to abandon the intervention. These findings suggest that matching a parent's incoming motivation can increase the motivation and likelihood to participate and complete an intervention.

However, existing studies are preliminary, and continued research is needed about how parental attributions play a role in parental engagement and retention in parenting interventions. For example, research may compare parents that enrolled in a parenting intervention versus parents who failed to enrol and identify specific attributional dimensions for child behaviour (internal, intentional, and stability) to the condition of enrolled or not. Also, it would be interesting to identify other parental cognitions that may be related to engagement and can be targeted in these interventions.

Attrition

The second major limitation was attrition. Although the retention of the participant in the intervention group was high, 32 of 38 participants concluded 90% of the program, many participants failed to complete the assessments at Time 2 and Time 3. For instance, given the difficulties and challenges collecting questionnaires at Time 2 within the control group, we decided to collect data only from the intervention group, however we encountered the same difficulties, and we ended up with very little data, and we were not able to perform any additional analyses to assess the long-term effect. It is worth noting that most of the studies evaluating parental intervention are able to collect follow- up data, for example at 6-month (Morawska, Mitchell, Burgess, & Fraser, 2017), at two-years (Hahlweg, Heinrichs, Kuschel, Bertram, & Naumann, 2010) and even at four-

year (Heinrichs, Kliem, & Hahlweg, 2014), therefore we assumed that the difficulties we faced trying to collect follow-up questionnaires were unique to this research.

We utilised a number of strategies in order to minimise attrition at Time 2: parents had the option to receive the questionnaires either paper-based or online, as the response from participants was low, assessment packages were mailed to all participants, with an accompanying letter that provided information about the relevance of completing the questionnaires. The participants were again contacted to collect the questionnaires and were given the option to pick up the questionnaires in their residences for best convenience or even to assist them in filling the questionnaire to facilitate completion. However, some participants were difficult to reach and after several failed attempts contacting them, including telephone calls, text messages, WhatsApp messages, emails, etc (average of 7 times), we stopped, and we ended up with 30 Intervention Group and 24 Control Group at Time 2.

We hypothesised a few reasons for the reluctance of completing questionnaires, being that the most plausible one was related to the large number of questionnaires applied. That was one of the most common complaints that participants gave when they were asked to complete the questionnaires. A baseline assessment is recommended by Triple P guidelines in order to help the participant to set goals for change, however, for the purpose of this research, we added extra measures which increased the length of the questionnaire, totalising seven questionnaires, requiring more than 30 minutes to complete. According to Rossi, Wright, and Anderson (1983), long questionnaires may have disadvantages, suggesting that brief questionnaires, may increase the chances of participants completing the questionnaire. It is worth to consider the high levels of attrition, and even the low recruitment can be associated with the research settings (e.g., addition of extra measures), this could have been a barrier to engage in the program, however it is expected that parents in “real-world” conditions that include a restricted small number of questionnaires would increase the motivation to complete the assessment.

Future studies should compare recruitment, engagement and retention rates between research and non-research settings. Nonetheless, it is highly recommended that future studies should assess the maintenance of intervention effects in Brazil. It is also recommended the use of limited measures and preferably short ones to increase the chances that participants will feel motivated to complete the assessment. And lastly, future studies should explore the reasons for attrition in Brazil.

Methodology

The third limitation of this body of work was related to methodological limitations. First, we used a convenience sample of parents who volunteered to participate in all studies. Our results may lack in generalizability due to the selection bias. It is crucial to obtain a representative sample size, however that is not always possible. Preferably, samples should be selected using random sampling,

from a list of all eligible participants. Future studies should incorporate cluster or stratified random sampling to reduce selection biases.

Second, we used self-reported measures, however, it may be beneficial to involve the other parents or other caregivers in the process of assessment, or even use different types of measures, such as observation (Becker et al., 2002). And lastly, most of the participants were mothers, with few fathers participating in the studies. The under-representation of fathers may prevent generalisations to fathers. Therefore, it is suggested that future studies should increase effort to include more fathers.

Conclusions

The collection of studies added to a greater understanding of parental attributions in the context of parenting interventions. Parenting intervention research has tended to focus mainly on behaviour rather than cognitions, particularly parental attributions. There is a need to increase the effort to incorporate parental attribution in the field due to their relevance and impact on parenting behaviour. Parental attributions have a strong relationship with child and parental behaviours. As we found in our studies, not only negative parental attributions predicted harsh parenting, but also mediated the relationship between child and parental behaviour, therefore we highlight the need for change. In Brazil, there are high levels of harsh parenting, and parenting interventions such as Triple P have the power to reduce not only negative attributions but also dysfunctional parenting practices, parental maladjustment, and child behavioural problems. Triple P can help address some of the current limitations of mental health services offered in Brazil, such as long waitlists. It is hoped that this thesis contributes to inform government and policymakers about the importance of parenting interventions such as Triple P in order to promote the wellbeing of children and preparation for parenthood.

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Appendices

Appendix A

Behavioural and Social Sciences Ethical Review Committee Approval, June 2017

THE UNIVERSITY OF QUEENSLAND
AUSTRALIA

School of Psychology
ASSOCIATE PROFESSOR JOHN MCLEAN

The University of Queensland
Brisbane Qld 4072 Australia
Telephone 07 3365 6394
Email: john@psy.uq.edu.au

15 August 2017

To whom it may concern:

With regards to the PhD research project being conducted by Mariajose Schulz under the titles:

Public title: **The efficacy and cultural acceptability of Triple P - Positive Parenting Program with Brazilian parents**

Scientific title: **Understanding the role of parental attributions about child behaviour in the context of parenting interventions**

This study has been cleared in accordance with the ethical review processes of The University of Queensland and within the guidelines of the Australian National Statement on Ethical Conduct in Human Research.

The Ethics Clearance number granted to this research was:
17-PSYCH-PHD-31-JMC (granted 7 June 2017)

For further information regarding the project, please contact the researcher, Mariajose Schulz (m.schulz@uq.net.au).

If you would like to speak to an officer of the University not involved in the study, you may contact one of the School of Psychology Ethics Review Officers: John McLean (john@psy.uq.edu.au, Phone: 3365 6394), Jeanie Sheffield (jeanie@psy.uq.edu.au, Phone: 3365 6690), or Alex Haslam (uqshasla@uq.edu.au, Phone: 3346 7345) or Julie Henry(julie.henry@uq.edu.au, Phone: 3365 6737). Alternatively, you may leave a message with the School of Psychology Ethics Coordinator, Danico Jones at 3365 6448 for an ethics officer to contact you, or you may contact the University of Queensland Ethics Officer on 3365 3924, e-mail: humanethics@research.uq.edu.au

Associate Professor John McLean
Chair, Ethical Clearance Committee
School of Psychology

Behavioural and Social Sciences Ethical Review Committee Amendment, October 2018

THE UNIVERSITY OF QUEENSLAND

Institutional Human Research Ethics Approval

Project Title:	Understanding the role of parental attributions about child behaviour in the context of parenting interventions – 15/11/2018 AMENDMENT
Chief Investigator:	Mariajose Caro Schulz
Supervisor:	Divna Haslam
Co-Investigator(s):	None
School(s):	School of Psychology, The University of Queensland
Approval Number:	2018002056
Granting Agency/Degree:	None
Duration:	31 December 2019

Comments/Conditions:

Amendment 15/11/2018:

- Change to Amended Approval Form 4/10/2018.
- Original project completion date is 31 December 2019.

Original project approved by School of Psychology #17-PSYCH-PHD-31-JMC.

Note: if this approval is for amendments to an already approved protocol for which a UQ Clinical Trials Protection/Insurance Form was originally submitted, then the researchers must directly notify the UQ Insurance Office of any changes to that Form and Participant Information Sheets & Consent Forms as a result of the amendments, before action.

Name of responsible Sub-Committee:
University of Queensland Health and Behavioural Sciences, Low & Negligible Risk Ethics Sub-Committee

This project complies with the provisions contained in the *National Statement on Ethical Conduct in Human Research* and complies with the regulations governing experimentation on humans.

Name of Ethics Sub-Committee representative:
Professor Jolanda Jetten
Chairperson
University of Queensland Health and Behavioural Sciences, Low & Negligible Risk Ethics Sub-Committee

Signature _____ Date **15/11/2018**