Child Psychiatry & Human Development (2023) 54:770–785
https://doi.org/10.1007/s10578-021-01284-6

ORIGINAL ARTICLE

Profiles of Parents' Preferences for Delivery Formats and Program Features of Parenting Interventions

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Accepted: 4 November 2021 / Published online: 22 November 2021

Abstract

Parents are the targeted consumers of parenting interventions but a small body of research has examined parental preferences for program characteristics to incorporate them in the adaptation and implementation of such programs. Furthermore, the relationship between parents' preferences for program characteristics and their cognitions and behaviours has not yet been explored. This study aimed to identify profiles of parental preferences for delivery formats and program features of parenting interventions. Data from 6949 participants from the International Parenting Survey was analysed. Two-step cluster analyses were conducted to determine clusters of delivery formats and program features of parenting interventions. Preferences for delivery formats showed two clusters, a face-to-face cluster and a media-based cluster. In terms of program features, two clusters were also obtained, a personalised cluster and logistic cluster. While these clusters differed in some demographics, parents' report of child emotional and behavioural problems and parent factors were the key differentiating variables.

Keywords Parents · Preferences · Parental characteristics · Parent training · Cluster analysis · International parenting survey

Parenting interventions provide information and support to help parents with their parenting skills and relationship with their children [1]. These interventions have shown to target child problems and improve parents and their children's life outcomes in the short- and long-term [2]. However, low participation rates and poor program reach have limited the public health impact of such interventions [3]. It has been difficult to determine how many parents who might benefit from a parenting program access services. Most research on engagement has reported findings based on parents who already have some interest in participating, so such studies may underestimate the problem's magnitude in real-world settings. The reality is, a number of parents drop out at each stage of parenting interventions, even before starting one. A systematic review conducted by Chacko, Jensen [4] reported that 25% of parents who met the inclusion criteria chose not to enrol, and pre-intervention dropout rates ranged from 2 to 91% across studies. Rates of attendance at interventions by eligible parents have varied from as low as 16.9% [5] to 84.31% [6]. Therefore, there is a need to explore how to enhance parents' engagement with parenting interventions to ensure better access to care.

One crucial approach has been the direct engagement with parents as consumers [3, 7]. Several studies have used parents' feedback as a relevant source to provide evidence on feasibility [8], acceptability [3], adaptation [9], evaluation [10], and suitability [11] of parenting interventions. However, these studies have contributed primarily to program development and refinement, whereas low engagement rates remain a concern.

Some evidence has suggested that providing parents with intervention options to choose from may enhance their involvement as active consumers of parenting programs. Parents actively involved in deciding and choosing their preferred intervention may feel empowered and able to overcome logistic barriers to accessing help, leading to better engagement and greater improvements [12, 13]. For example, when parents were able to select between two program options, they completed the program in less time and spent more time on program activities than parents who were not offered a choice [14]. Likewise, accommodating parents'

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preferences has led to higher attendance compared to parents who were not offered their preferred support [15]. On the other hand, a mismatch between preferred and received support has resulted in low attendance, high attrition, and less positive therapeutic relationships [16, 17]. These studies notwithstanding, there is a lack of systematic efforts to understand parents' intervention preferences and what informs their choices.

Research about parenting interventions has led to the development of a variety of different delivery formats and features to accommodate parents' needs and facilitate access [3]. These interventions can be implemented individually [18] or in groups [19], as a one-off seminar [20], in home visits [21], in the workplace [22], online [23], or through the media [3]. Although parents generally differ in their preferences for delivery formats [24], there is a lack of consensus on what formats are more appealing for the majority of parents [3, 12]. For example, parents in one study indicated their highest preferences for individually-tailored programs, parent seminars, and web-based programs [24]. In contrast, parents in another study reported higher preferences for a program combination of group, individual, and phone support [25]. Gender differences in parenting preferences have also been observed [26]. Parents across studies have shown differences in their most preferred delivery formats.

In addition to different delivery formats, many evidence-based programs have used a variety of features to ensure that parents can rely on the program offered, while being flexible to their needs (e.g., parent resources, trained facilitators, personalised program goals and content, evidence-based program, attendance to logistic factors, and cultural appropriateness) [24, 27]. Parents have expressed that individually tailored programs, flexible, and focusing on learning new skills were highly relevant for them [28, 29]. In general terms, parents who valued a wide range of program features have reported higher intentions to participate in a future parenting intervention [25]. Thus, parents' preferences for program features may influence their intention and later involvement with such sources of support.

Although there is growing interest in parents' preferences, most studies have been primarily descriptive, providing a ranking of the most to the least preferred formats and features, e.g. [24]. Some studies have examined correlates of preferences from a parent perspective by addressing parents' demographics [23, 26, 27], and their perception of their children' emotional and behavioural problems [3]. However, a consumer perspective also requires looking at parents and their preferences more comprehensively. Given that cognitions influence behaviour [30], parents' cognitions and perceptions of their behaviour influence their engagement with parenting interventions. For example, parents' perceived psychological distress, self-efficacy, use of coercive parenting, and relationship with their children have been shown to influence their engagement in a program [25, 31]. As the offer of parenting interventions varies, parents' self-reported cognitions and behaviours may also be related to their preferences for certain formats and features over others before even engaging in a particular intervention. However, identifying parents' cognitions and behaviours and how these are linked to their preferences for program formats and features has received less attention.

Although there is no clear definition of parental cognitions in the literature, they refer to parents' thoughts regarding their children and their parenting [32]. Due to this broad understanding, some cognitions addressed in the literature are parental beliefs, attributions, attitudes, efficacy, and knowledge [13, 33–36]. In terms of parental behaviours, they refer to parents' actions to raise their children and provide affection, including parenting practices and their relationship with their child [35, 37]. Given that some of these parental cognitions (e.g., parenting beliefs and self-efficacy) and behaviours (e.g., parenting practices and help-seeking behaviours) have been evaluated as primary outcomes of parenting interventions [33, 38], it is possible that they may also inform parents' decision making in choosing to attend a program [4, 12], and thus may also be potential targets for engagement efforts.

To our knowledge, few studies have looked at parents' preferences and their cognitions and behaviours and the results of these have so far been inconclusive. For example, parents who chose between individual and group formats of a parenting program did not differ in parenting behaviour (parenting style, communication, monitoring) at enrolment, [39], and likewise parents who chose a parenting program did not differ from those who chose child therapy (parental locus of control and observed parenting behaviours) [13]. Studies examining parental depression have shown that parents with greater depressive symptoms reported lower usefulness of written and audio-visual sources of information [40] and preferred seeking parenting information by themselves without the mediation of a therapist and skills training [41].

Current Study

Parents' perspective has been increasingly included when looking at engagement with parenting interventions. However, the role of parental cognitions and behaviours commonly measured in the literature and their relation to parents' preferences remains unclear. Given that program characteristics have shown to have an impact on the engagement of parents with parenting interventions [12, 25], parents' preferences for specific elements of such interventions may contribute relevant information to

enhance their engagement. Thinking about and deciding to participate in a parenting intervention is an active process of decision making, so parents' cognitions and behaviours and their preferences likely play a role.

Using cluster analyses, we aimed to identify whether parental preferences (delivery format and program features) could be reliably grouped. We also aimed to examine whether clusters were associated with a range of demographic, parent, and child variables. We used data from the International Parenting Survey for our study, a large multi-national sample with a range of parent and child variables sampled [42]. In terms of parent variables, parental cognitions included parenting as a private concern (i.e., parents' belief that raising a child is a private role), acceptability of corporal punishment, parental self-efficacy, and psychological distress. Parental behaviours were parenting practices (parental consistency, coercive parenting, positive encouragement, and parent–child relationship), and help-seeking behaviours. Child behavioural and emotional functioning (as reported by parents) were the child factors included in this study. Some studies have shown differences in preferences [13, 40] but these have not always been consistent. Thus, the large sample size from the IPS including a wide range of parents' demographic, cognitions and behaviours, and their perceptions of child problems can help to provide some direction in identifying clusters and group characteristics.

Methods

Participants

Participants ($n = 6949$) were a sample of the parents who completed the International Parenting Survey (IPS) between February 2012 and July 2017. Participants were mainly biological or adoptive mothers (90.4%), followed by biological or adoptive fathers (8.9%) and step-mothers (0.5%) and step-fathers (0.2%). Participants' (henceforth parents) mean age was 37.17 years ($SD = 5.18$). Parents had between one and eight children ($M = 1.39$, $SD = 0.73$) aged 2 to 12 years old ($M = 5.15$, $SD = 2.85$), with slightly more boys (53.2%) than girls (46.8%). The majority of the parents reported that the child lived with both parents (either biological or adoptive) (84.5%), followed by single parent family (9.4%) and step-family (4.9%). Parents were from Canada (34.6%), Germany (20%), the UK (10.1%), Hong Kong (8.8%), Australia (8.4%), Belgium (7.9%), Switzerland (4.7%), Spain (2.8%), and other countries (2.7%). Other demographic characteristics are shown in Table 1. Prior research with the IPS has shown similarities across countries suggesting a combined data set is appropriate [43].

Procedure

The IPS was part of an international collaboration to develop an epidemiological planning tool providing information about family and parenting at a population level. Morawska, Filus [42] reported the development process and psychometric properties of the measures that comprise this survey. Recruitment of parents involved advertisements through health and family services, parent training facilitators, national websites, and newspapers. A community sample of parents of children aged 2–12 from participating countries completed the survey electronically in one sitting, which took them between 20 and 25 min. Once they accessed the link, they read the information sheet, after what they consented to participate in the survey and complete it. Ethical approval to access and analyse the existing data from the IPS was obtained from the University of Queensland's School of Psychology Ethics Review Committee (17-PSYCH-PHD-30-AH).

Measures

The International Parenting Survey (IPS) is a web-based tool to collect information about parent's views about family and parenting at a population level and incorporates several validated measures. Below we describe only those measures relevant to this study. The internal consistencies were comparable for all measures across countries.

Demographics

The Family Background Questionnaire [44] collects information such as parent age, parent marital status, child gender and age, family composition, education, and financial stress.

Parent Factors

Parent cognitions (parenting beliefs, parental self-efficacy, and psychological distress), parent behaviours (parenting practices and help-seeking behaviours), and parental preferences were measured using the instruments below.

Parenting Beliefs

The *Parenting Belief Scale* [45] measures parents' beliefs about the role of raising children as a private matter (4 items) and attitudes towards corporal punishment (4 items). Items range from 'strongly disagree' (1) to 'strongly agree' (6). Total scores for each sub-scale range from 4 to 24. Higher scores indicate higher levels of perception of parenting as a private concern and higher acceptability of corporal punishment, respectively. The item 'It is not alright to smack/spank your child' showed low internal consistency in several

Table 1 Demographic characteristics of the sample

Variable	*n*	%
Marital status		
Married	5181	74.6
Cohabitating	967	13.9
Divorced/separated	421	6.1
Single	339	4.9
Widow/er	27	0.4
Other	14	0.2
Parent educational level		
Primary school or less	70	1
Some high school	480	7.1
Completed high school	1135	16.8
Trade/technical college qualification	1328	19.6
University degree	2438	36
Postgraduate degree	1145	16.9
College qualification	171	2.5
Employment		
Full-time	2901	42.9
Part-time	2029	30
Not working, but looking for a job	300	4.4
Home-based paid work	299	4.4
Not working	1222	18.1
Income replacement	11	0.2
Essential expenses not covered		
No	5580	82.4
Yes	1,105	16.3
Do not know	85	1.3
Left over finances		
Enough that I/we can comfortably purchase most of the things we really want	2759	40.8
Enough that I/we can purchase only some of the things we really want	2770	41
Not enough to purchase much of anything I/we really want	1227	18.2
Religious attendance		
Not in the past month	4644	69.2
A few times a month	1045	15.6
Once or twice a week	659	9.8
Nearly everyday	30	0.4
Every day	26	0.4
Not applicable	307	4.6

N vary due to missing data

countries, so it was removed, reducing the acceptability of corporal punishment subscale to three items. The measure had excellent internal consistency $\alpha = 0.82$ (Parenting as a private concern) and 0.89 (Acceptability of corporal punishment).

Parental Self-efficacy

The 19-item Self-efficacy sub-scale of the *Child Adjustment and Parent Efficacy Scale* [CAPES; 46] gathers information regarding parents' level of confidence in managing their child's emotional and behavioural problems. Items range from 'certain I can't do it' (1) to 'certain I can do it' (10), resulting in total scores ranging from 19 to /190. Higher scores indicate a greater level of Parental self-efficacy. For the current study, internal consistency was excellent ($\alpha = 0.97$).

Psychological Distress

The Kessler-*10* [K-10; 47] was used to measure parents' perceived level of psychological distress in the last 30 days.

This 10-item measure is scored from 'none of the time' (1) to 'all of the time' (5). Higher scores indicate higher levels of perceived psychological distress. Internal consistency was excellent ($\alpha = 0.91$) in our study.

Parenting Behaviours

The 18-item Parenting sub-scale of the *Parent and Family Adjustment Scales* [PAFAS; 37] measures parenting practices and parent–child relationship. This sub-scale includes four factors: Parental inconsistency (5 items), Coercive parenting (5 items), Lack of positive encouragement (3 items), and Poor parent–child relationship (5 items). Item responses range from 'not true of me at all' (0) to 'true of me very much' (3). The total score for each factor is calculated by the sum of each item; higher scores indicate higher levels of dysfunction. When evaluating the internal consistency of these factors, some items showed poor internal consistency in some countries. Thus, the items 'I argue with my child about their behaviour or attitude' from Coercive parenting and 'I give my child a treat, reward or fun activity for behaving well' from Lack of positive encouragement were removed in all countries. We found an overall low to moderate internal consistency for the sub-scales: Parental consistency ($\alpha = 0.51$), Coercive parenting ($\alpha = 0.60$), Lack of positive encouragement ($\alpha = 0.68$), and Poor parent–child relationship ($\alpha = 0.78$).

Parental Help-Seeking Behaviours

Questions regarding Formal help-seeking behaviour and Past participation were included. To measure Formal help-seeking behaviour, parents were asked 'In the past 12 months, have you talked to a professional about your child's behaviour?' (Yes/No). In terms of Past participation, parents answered the question 'In the past 12 months, have you participated in a program on child development, child behaviour, or parenting?' (Yes/No/Not Sure).

Intention to Participate

One question regarding parents' Intention to participate in a future parenting intervention was considered as a measure of parental engagement. It was measured through a four-point Likert scale question involving 'not at all likely', 'somewhat likely', 'very likely', and 'extremely likely'.

Parental Preferences

Parents responded to the question, 'The following questions ask you to rate the extent to which you would find different ways of accessing a parenting program useful' displaying 12 *delivery formats* (e.g., television program, parent seminar, home visits). Each item ranged from 'not at all useful' (1) to 'extremely useful' (10). Parents also answered the question 'Please indicate below what features of a parenting program would influence your decision to participate', which presented ten *program features* (i.e., different delivery formats being available, program tailored to the needs of the individual parent, trained practitioners conduct the program, program has been demonstrated to be effective, resources are professionally produced and presented, participants are encouraged to set and achieve their own goals, program addresses personally relevant issues, program is free or very low cost, program is held in a convenient location, and program is offered in parents' own language). Items used a 5-point Likert scale, 'no influence' (1) to 'a lot of influence' (5). Higher scores indicate a higher parental preference for either program formats or features, respectively.

Child Factors

Child Adjustment

The 27-item Child adjustment scale of the *Child Adjustment and Parent Efficacy Scale* [CAPES; 46] was used to measure children's externalising, internalising and prosocial behaviours. Each item ranges from 'not true of my child at all' (0) to 'true of my child very much, or most of the time' (3). The CAPES has two sub-scales, 24 items measure Behavioural adjustment and three items measure Emotional adjustment. Whereas total score ranges from 0 to 81, each sub-scale score ranges from 0 to 72 and 0 to 9, respectively. Higher scores indicate a greater level of problems. In this study, the internal consistency was good ($\alpha = 0.70$) for the total scale and for the subscales Behavioural adjustment ($\alpha = 0.67$) and Emotional adjustment ($\alpha = 0.68$).

Statistical Analysis

Data were prepared and analysed using with IBM SPSS Version 25. Descriptive statistics were reported for all study variables. Cluster analysis was the multivariate technique used to group participants according to the proximity of their preferences for delivery formats and for program features. Two-step cluster analyses were conducted as it is useful for applications in large samples [48]. The distance measure used was Log-likelihood and the clustering criterion was Schwarz's Bayesian Criterion (BIC). Once clusters were obtained, validation procedures were applied to determine the stability of the clusters [49]. Split sample and comparing clusters against external variables were used to validate clusters for preferences for delivery formats and program features, separately. For the first validation procedure, the total

sample ($n = 6949$) was split randomly into two halves and the two-step cluster analyses were performed again. For the second validation procedure, clusters were compared using Chi-square and *t*-tests. Post hoc analyses for Chi-square involved the calculations of adjusted z values and adjusted *p*-values [50, 51].

Results

Missing Values and Data Screening

The sample of parents of children aged 2 to 12 ($n = 6949$) was examined for missing values. Little's (MCAR) test was significant, which indicates that data were not missing completely at random, $\chi 2\ (109{,}536) = 117{,}451.519$, $p < 0.001$. Across all study variables, the mean percentage of missing data was of 5.3%. The highest variable with missing values was parent age (34.3%). Further analyses of patterns of missingness involved t-test analyses. According to these analyses, missingness in participants' responses in PAFAS Parenting sub-scale, some CAPES items, and Parental Preferences were significantly related to other items from CAPES Self-efficacy, Preferences, and Parent age. As the missingness was associated with other variables within the participants' responses, data was missing at random, MAR. The expectation–maximization (EM) algorithm was used to impute continuous missing values given that it is suitable for MAR data [52]. Pairwise deletion was used for the categorical missing values.

Parental Preferences for Delivery Formats

Parents rated their preference for different delivery formats. The highest scored format was individually delivered program, followed by parent seminar, web-based program, and group program. Mean scores and standard deviations for the total sample and for each cluster are presented in Table 2.

Cluster Analysis

Two clusters emerged based on Schwarz's Bayesian information criterion (BIC = 49,765.98) and the highest Log-likelihood distance measures (ratio of distance measures = 3.31). This number of clusters was also consistent with the clusters obtained when running the analyses again in the two random split samples. Parental preferences for delivery formats for both clusters are displayed in Fig. 1. When comparing clusters against external variables, results showed that most demographic, parent, and child factors were significantly different in each cluster. However, the majority of the effect sizes were very small to small, and a few small to medium (see Table 3). We describe below the overall characteristics of each cluster named based on the most preferred format, focusing on those variables showing significant differences with small to medium effects.

Cluster of Parents Preferring Face-to-Face Delivery Formats (Face-to-Face Cluster)

This cluster represented 59.6% of parents. These parents reported that the majority of the delivery formats were

Table 2 Parental preferences for different program delivery formats

Delivery format	Clusters		
	Total sample ($n = 6949$)	Face-to-face ($n = 4141$)	Media-based ($n = 2808$)
	M (SD)	*M (SD)*	*M (SD)*
Individually tailored programs	6.69 (2.86)	8.06 (1.75)	4.66 (2.98)
Parent seminar	6.03 (2.73)	7.29 (1.89)	4.16 (2.70)
Group program	5.70 (2.87)	7.15 (2.03)	3.55 (2.57)
Web-based program	5.70 (2.87)	6.49 (2.44)	4.55 (3.06)
Home visits	5.56 (3.09)	6.99 (2.41)	3.44 (2.76)
Television program	5.48 (3.01)	6.11 (2.73)	4.56 (3.16)
Workplace access	5.34 (3.06)	6.52 (2.60)	3.60 (2.85)
Newspaper article	5.28 (2.71)	5.99 (2.41)	4.24 (2.80)
Self-directed	5.06 (2.75)	6.02 (2.32)	3.64 (2.71)
Self-directed with telephone assistance	4.28 (2.75)	5.56 (2.46)	2.38 (1.93)
Radio segment	4.25 (2.74)	5.04 (2.62)	3.08 (2.47)
Religious organisation access	3.32 (2.80)	4.16 (2.92)	2.08 (2.05)

M = mean, *SD* = standard deviation. Scoring range = 1–10. Higher scores indicate higher parental preference

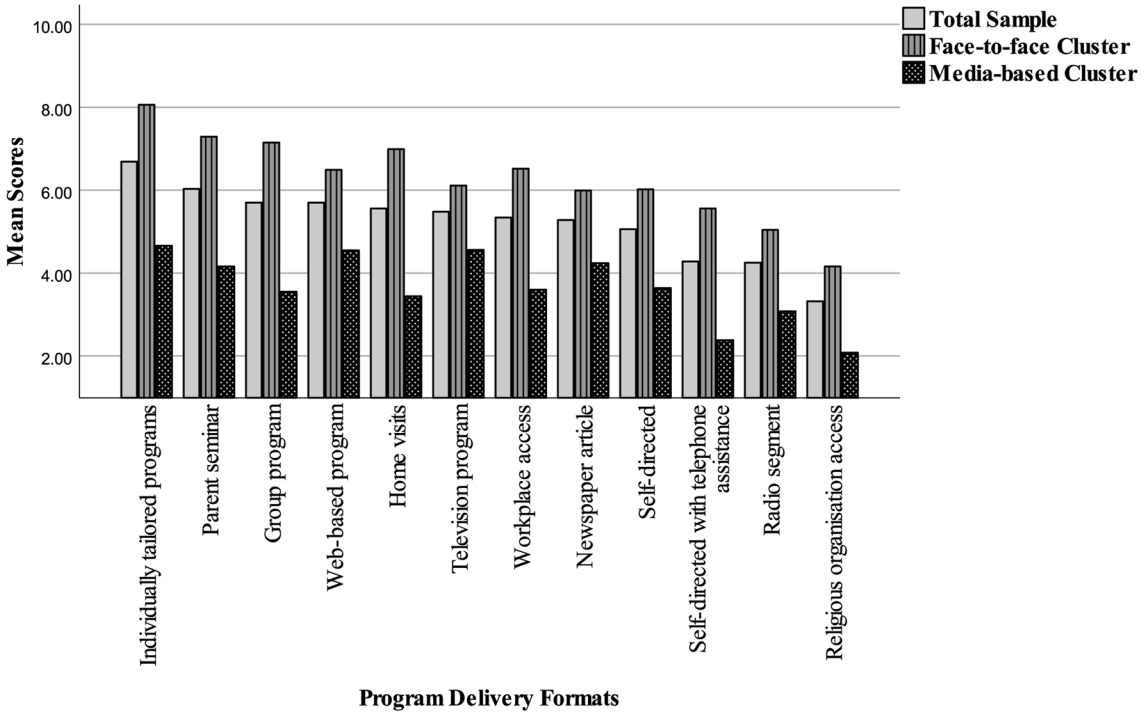

Fig. 1 Parental preferences for delivery formats

useful, with the exception of access through a religious organisation. The most preferred formats were individual programs, parent seminar, and group program. These parents had younger children, $t(5684.51) = -6.70$, $p < 0.001$, $d = 0.2$. Parents displayed higher psychological distress, $t(6122.47) = 9.21$, $p < 0.001$, $d = 0.2$, and parental inconsistency, $t(6947) = 5.85$, $p < 0.001$, $d = 0.2$. They also reported greater concerns regarding their children's emotions and behaviour, $t(6947) = 6.06$, $p < 0.001$, $d = 0.2$. Parents from this cluster were more likely to have sought professional help, χ^2 (1, $N = 6805$) = 138.97, $p < 0.001$, $w = 0.14$, have participated in a previous program, χ^2 (1, $N = 6949$) = 86.79, $p < 0.001$, $w = 0.11$, and intend to some extent to get involved in a future intervention, χ^2 (3, $N = 6736$) = 587.36, $p < 0.001$, $w = 0.30$.

Cluster of Parents Preferring Media-Based Delivery Formats (Media-Based Cluster)

This cluster representing 40.4% of parents reported that all delivery formats were less useful when accessing a parenting program when compared to the Face-to-face cluster. The most preferred formats for this cluster were individual program, television program, and web-based program. Parents had older children, $t(5684.51) = -6.70$, $p < 0.001$, $d = 0.2$. Parents reported fewer concerns about their psychological distress, $t(6122.47) = 9.21$, $p < 0.001$, $d = 0.2$, and parental inconsistency, $t(6947) = 5.85$, $p < 0.001$, $d = 0.2$. They were also less concerned about their child's emotional and behavioural characteristics, $t(6947) = 6.06$, $p < 0.001$, $d = 0.2$.

Parental Preferences for Program Features

Overall, parents rated 'program addressed personally relevant issues' and 'program is offered in my language' as the features with the highest scores, followed by 'trained practitioners conduct the program' and 'program is held in a convenient location'. Program features and corresponding mean scores and standard deviations for the overall sample and for each cluster are reported in Table 4. Parental preferences for program features in both clusters are also represented in Fig. 2.

Cluster Analysis

The analyses yielded two clusters based on Schwarz's Bayesian information criterion (BIC = 31,276.12) and the highest Log-likelihood distance measures (ratio of distance measures = 4.50). Cluster analyses conducted with the two randomly split samples also confirmed these two clusters labelled according to the most preferred features. Cluster validation using external variables showed that these clusters were also significantly different in the majority of the demographic, parent, and child variables examined (Table 5).

Table 3 Differences of delivery format clusters by demographic, child, and parent variables

Variables	Clusters		χ^2	*P*	Effect size
	Face-to-face	Media-based			
	n (%)	*n* (%)			
Demographic factors					
Mother/Father			51.19	0.001	0.09[a]
Mother	3848 (92.9)	2468 (87.9)			
Father	293 (7.1)	340 (12.1)			
Marital status			0.041	0.980	0.003[a]
With a partner	3.663 (88.5)	2485 (88.5)			
Single parent	470 (11.3)	317 (11.3)			
Other	8 (0.2)	6 (0.2)			
Educational level			2.13	0.345	0.003[a]
Some high school and less	315 (7.9)	235 (8.4)			
High school completed	650 (16.3)	485 (17.4)			
More than high school	3013 (75.7)	2069 (74.2)			
Working status			29.06	0.001	0.09[a]
Full-time	1622 (40.8)	1279 (45.8)			
Part-time	1222 (30.8)	807 (28.9)			
Not working, but looking for a job	207 (5.2)	93 (3.3)			
Home-based paid work	167 (4.2)	132 (4.7)			
Not working	746 (18.8)	476 (17.1)			
Income replacement	8 (0.2)	3 (0.1)			
Essential expenses not covered			3.72	0.156	0.03[a]
No	3253 (81.8)	2327 (83.3)			
Yes	669 (16.8)	436 (15.6)			
Do not know	56 (1.4)	29 (1)			
Left over finances			0.97	0.616	0.02[a]
Enough that I/we can comfortably purchase most of the things we really want	1601 (40.4)	1158 (41.5)			
Enough that I/we can purchase only some of the things we really want	1643 (41.4)	1127 (40.4)			
Not enough to purchase much of anything I/we really want	723 (18.2)	504 (18.1)			
Religious attendance			41.73	0.001	0.11[a]
Not in the past month	2624 (66.5)	2020 (73)			
A few times a month	676 (17.1)	369 (13.3)			
Once or twice a week	430 (10.9)	229 (8.3)			
Nearly everyday	14 (0.4)	16 (0.6)			
Every day	20 (0.5)	6 (0.2)			
Not applicable	180 (4.6)	127 (4.6)			
Child household			4.22	0.239	0.04[a]
Original family	3512 (84.9)	2356 (84)			
Step family	184 (4.4)	155 (5.5)			
Single parent family	391 (9.4)	261 (9.3)			
Other	51 (1.2)	33 (1.2)			
Child gender			8.43	0.004	0.04[a]
Male	2258 (54.6)	1433 (51.1)			
Female	1878 (45.4)	1374 (48.9)			
	M (*SD*)	*M* (*SD*)	*t*	*p*	Effect size
Parent age	37.08 (5.20)	37.30 (5.15)	1.74	0.082	0.04[b]
Child age	4.96 (2.74)	5.43 (2.98)	6.70	0.001	0.2[b]
Number of children	1.38 (0.70)	1.42 (0.76)	2.13	0.033	0.1[b]

Table 3 (continued)

	M (*SD*)	*M* (*SD*)	*t*	*p*	Effect size
Parent factors					
Parenting as private concern	14.16 (4.26)	14.53 (4.53)	3.39	0.001	0.1[b]
Acceptability of corporal punishment	6.35 (3.46)	6.41 (3.76)	0.65	0.513	0.02[b]
Parental self-efficacy	154.22 (27.07)	158.26 (30.39)	5.68	0.001	0.1[b]
Psychological distress	17.79 (6.26)	16.40 (6.11)	9.17	0.001	0.2[b]
Parental inconsistency	4.30 (2.20)	3.98 (2.20)	5.86	0.001	0.2[b]
Coercive parenting	2.97 (1.70)	2.83 (1.71)	3.37	0.001	0.1[b]
Lack of positive encouragement	0.96 (1.14)	1.09 (1.30)	4.46	0.001	0.1[b]
Poor parent–child relationship	1.32 (1.90)	1.08 (1.80)	5.25	0.001	0.1[b]
Child factors					
CAPES overall	33.23 (6.78)	32.22 (6.83)	6.06	0.001	0.2[b]
CAPES behavioural	31.45 (6.14)	30.68 (6.27)	5.03	0.001	0.1[b]
CAPES emotional	1.78 (1.61)	1.54 (1.53)	6.44	0.001	0.2[b]
	n (%)	*n* (%)	χ^2	*p*	Effect size
Formal help-seeking			138.97	0.001	0.14[a]
Yes	1,644 (59)	759 (27.1)			
No	2364 (41)	2038 (72.9)			
Past participation			86.79	0.001	0.11[a]
Yes	636 (15.4)	221 (7.9)			
No	3505 (84.6)	2587 (92.1)			
Intention to participate			587.36	0.001	0.30[a]
Not at all likely	1,037 (26.2)	1,479 (53.4)			
Somewhat likely	1,846 (46.6)	996 (35.9)			
Very likely	800 (19.3)	225 (8.1)			
Extremely likely	282 (7.1)	71 (2.6)			

N vary due to missing data

[a]Cohen's *w*. $w = .10$ (small); $w = .30$ (medium); and $w = .50$ (large effect) [56]

[b]Cohen's *d*. $d = .2$ (small); $d = .5$ (medium); and $d = .8$ (large effect) [57]

Cluster of Parents Preferring Personalised Features (Personalised Cluster)

Parents in this cluster represented 84.8% of the sample and ranked all program features higher than the mean of the total sample. The most preferred features were 'program addressed personally relevant issues' and 'program is offered in my language', followed by 'trained practitioners conduct the program' and 'program is held in a convenient location'. Parents reported higher psychological distress, $t(1498.70) = 9.14$, $p < 0.001$, $d = 0.3$ and greater use of coercive parenting, $t(1423.52) = 5.24$, $p < 0.001$, $d = 0.2$. They also indicated having more concerns regarding the level of emotional, $t(1538.36) = 6.03$, $p < 0.001$, $d = 0.2$, and behavioural problems, $t(1349.55) = 10.17$, $p < 0.001$, $d = 0.4$, displayed by their children. Parents in this cluster were more likely to intend to take part in a future program, χ^2 $(3, N = 6736) = 523.06$, $p < 0.001$, $w = 0.39$.

Cluster of Parents Preferring Features Addressing Logistic Factors (Logistic Cluster)

In this cluster representing 15.2% of the sample, parents described all program features to be less useful. These parents showed the highest preferences linked to 'program is held in a convenient location', 'program is offered in my language', 'program addressed personally relevant issues', and 'program is free or very low cost'. Parents indicated higher perception of parenting as a private concern, $t(1411.77) = -6.03$, $p < 0.001$, $d = 0.2$, and higher perceived self-efficacy, $t(6947) = -7.63$, $p < 0.001$, $d = 0.3$. This group of parents reported fewer concerns regarding their children's emotional and behavioural characteristics $t(1374.96) = 10.75$, $p < 0.001$, $d = 0.4$.

Table 4 Parental preferences for different program features of parenting interventions

Program features	Clusters		
	Total sample ($n=6949$)	Personalised ($n=5896$)	Logistic ($n=1053$)
	M (SD)	*M (SD)*	*M (SD)*
Program is offered in my language	3.84 (1.38)	4.21 (1.05)	1.80 (1.23)
Program addressed personally relevant issues	3.84 (1.17)	4.21 (.74)	1.77 (1.00)
Trained practitioners conduct the program	3.78 (1.23)	4.16 (.80)	1.60 (.90)
Program is held in a convenient location	3.72 (1.20)	4.07 (.86)	1.81 (1.05)
Program has been demonstrated to be effective	3.66 (1.22)	4.02 (.87)	1.64 (.90)
Program can be tailored to the needs of the individual parent	3.56 (1.21)	3.91 (.88)	1.59 (.89)
Program is free or very low cost	3.47 (1.29)	3.78 (1.07)	1.73 (.99)
Resources are professionally produced and presented	3.44 (1.22)	3.79 (.In92)	1.50 (.76)
Participants are encouraged to set and achieve their own goals	3.32 (1.20)	3.65 (.94)	1.49 (.75)
Different delivery formats	2.91 (1.24)	3.20 (1.10)	1.29 (.59)

M = mean, *SD* = standard deviation. Scoring range = 1–5. Higher scores indicate higher parental preference

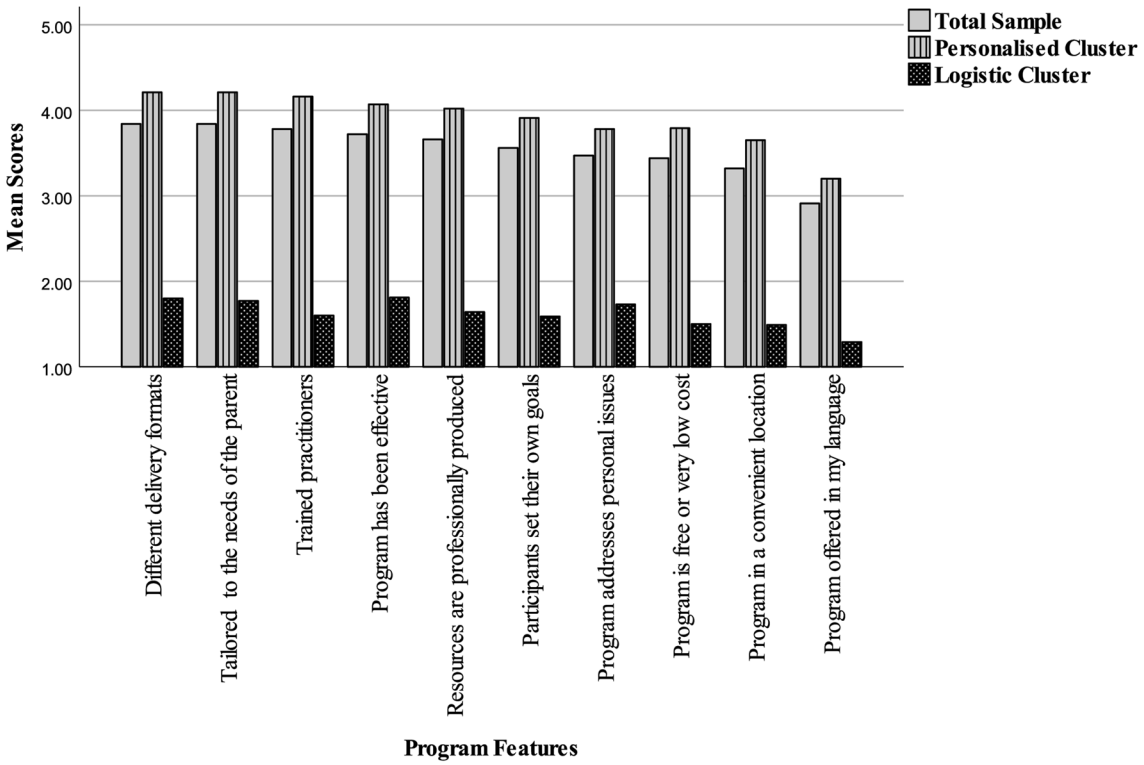

Fig. 2 Parental preferences for program features

Discussion

The aim of this study was to identify profiles of parent preferences for program characteristics, particularly delivery format and program features, and to examine the potential differences between clusters regarding parent demographics, cognitions and behaviours, and their children's emotional and behavioural problems. Two clusters were identified for preferences for program delivery formats (Face-to-face cluster and Media-based cluster) and for program features

Table 5 Differences of program feature clusters by demographic, child, and parent variables

Variables	Clusters		χ^2	*p*	Effect size
	Personalised	Logistic			
	n (%)	*n* (%)			
Demographic factors					
Mother/Father			28.71	0.001	0.06[a]
Mother	5405 (91.7)	911 (86.5)			
Father	491 (8.3)	142 (13.5)			
Marital status			4.59	0.101	0.04[a]
With a partner	5196 (88.1)	952 (90.4)			
Single parent	688 (11.7)	99 (9.4)			
Other	12 (0.2)	2 (0.2)			
Educational level			90.18	0.001	0.16[a]
Some high school and less	411 (7.2)	139 (13.3)			
High school completed	894 (15.6)	241 (23)			
More than high school	4414 (77.2)	668 (63.7)			
Working status			7.06	0.216	0.05[a]
Full-time	2425 (42.4)	476 (45.4)			
Part-time	1,746 (30.6)	283 (27)			
Not working, but Looking for a job	258 (4.5)	42 (4)			
Home-based paid work	251 (4.4)	48 (4.6)			
Not working	1,023 (17.9)	199 (19)			
Income replacement	10 (0.2)	1 (0.1)			
Essential expenses not covered			8.88	0.012	0.05[a]
No	4719 (82.5)	861 (82)			
Yes	939 (16.4)	166 (15.8)			
Do not know	62 (1.1)	23 (2.2)			
Left over finances			28.04	0.001	0.09[a]
Enough that I/we can comfortably purchase most of the things we really want	2255 (39.5)	504 (48.2)			
Enough that I/we can purchase only some of the things we really want	2401 (42)	369 (35.3)			
Not enough to purchase much of anything I/we really want	1,054 (18.5)	173 (16.5)			
Religious attendance			19.84	0.001	0.08[a]
Not in the past month	3921 (69.1)	723 (69.9)			
A few times a month	910 (16)	135 (13.1)			
Once or twice a week	563 (9.9)	96 (9.3)			
Nearly everyday	26 (0.5)	4 (0.4)			
Every day	21 (0.4)	5 (0.5)			
Not applicable	236 (4.2)	71 (6.9)			
Child household			8.32	0.040	0.05[a]
Original family	4949 (84)	919 (87.4)			
Step family	293 (5)	46 (4.4)			
Single parent family	576 (9.8)	76 (7.2)			
Other	73 (1.2)	11 (1)			
Child gender			0.52	0.469	0.01[a]
Male	3142 (53.3)	549 (52.1)			
Female	2748 (46.7)	504 (47.9)			
	M (*SD*)	*M* (*SD*)	*t*	*p*	Effect size
Parent age	37.11 (5.19)	37.46 (5.08)	1.99	0.047	0.1[b]
Child age	5.10 (2.84)	5.44 (2.91)	3.59	0.001	0.1[b]
Number of children	1.39 (0.72)	1.39 (0.76)	0.16	0.875	0.000[b]

Table 5 (continued)

	M (*SD*)	*M* (*SD*)	*t*	*p*	Effect size
Parent factors					
Parenting as private concern	14.17 (4.33)	15.08 (4.56)	6.03	0.001	0.2[b]
Acceptability of corporal punishment	6.32 (3.53)	6.66 (3.87)	2.65	0.008	0.1[b]
Parental self-efficacy	154.75 (28.27)	162 (29.18)	7.63	0.001	0.3[b]
Psychological distress	17.51 (6.25)	15.67 (5.94)	9.14	0.001	0.3[b]
Parental inconsistency	4.18 (2.19)	4.10 (2.27)	1.09	0.277	0.04[b]
Coercive parenting	2.96 (1.69)	2.66 (1.75)	5.242	0.001	0.2[b]
Lack of Positive encouragement	0.99 (1.18)	1.11 (1.35)	2.68	0.007	0.1[b]
Poor parent–child relationship	1.22 (1.80)	1.24 (2.17)	0.37	0.715	0.01[b]
Child factors					
CAPES overall	33.22 (6.64)	30.61 (7.36)	10.75	0.001	0.4[b]
CAPES behavioural	31.49 (6)	29.18 (6.92)	10.17	0.001	0.4[b]
CAPES emotional	1.73 (1.60)	1.43 (1.46)	6.03	0.001	0.2[b]
	n (%)	*n* (%)	χ^2	*p*	Effect size
Formal help-seeking			53.10	0.001	0.09[a]
Yes	2136 (37.1)	267 (25.4)			
No	3610 (62.9)	783 (74.6)			
Past participation			40.91	0.001	0.08[a]
Yes	790 (13.4)	67 (6.4)			
No	5106 (86.6)	986 (93.6)			
Intention to participate			523.06	0.001	0.39[a]
Not at all likely	1,804 (31.7)	712 (68.7)			
Somewhat likely	2593 (45.5)	249 (24)			
Very likely	977 (17.1)	48 (4.6)			
Extremely likely	325 (5.7)	28 (2.7)			

[a]Cohen's *w*. $w = .10$ (small); $w = .30$ (medium); and $w = .50$ (large effect) [56]

[b]Cohen's *d*. $d = .2$ (small); $d = .5$ (medium); and $d = .8$ (large effect) [57]

(Personalised cluster and Logistic cluster). Although most of the cluster differences were significant, it is worth mentioning that the effect sizes were mainly very small to small, and a few small to medium. Nevertheless, the clusters showed some distinct characteristics informing factors related to parental preferences for delivery formats and program features.

The Face-to-face cluster preferred all formats more than the Media-based cluster. Parents in the Face-to-face cluster also expressed greater concern regarding their child's emotional and behavioural problems and their own emotional adjustment and consistency in discipline. These results are in line with previous studies showing that parents experiencing concerns about their child's emotions and behaviours were willing to access more intensive face-to-face support [9, 10]. However, Metzler, Sanders [3] found that parents reporting high levels of child problems showed stronger preferences for media-based formats. In this study, parents provided feedback after viewing one episode of a media-based intervention. Previous studies have shown that parents who access program content are more likely to stay and benefit from the program [4, 53]. Thus, it may be possible that accessing the content of that intervention led to higher preference, particularly if they are experiencing some concerns about their children. Overall, parents' concerns regarding their children influence their preference for accessing help in person or through media.

However, it was not only parents' concerns regarding their children's problems but also their own parenting that differentiated this cluster. Parents who perceived higher psychological distress and perceived that they were inconsistent in setting rules preferred face-to-face formats. In line with He, Gewirtz [13], it seems that parents who preferred a face-to-face parenting program may also display higher

levels of concerns regarding their parenting. Thus, parents who are more aware of their parenting, feel in more need and responsible for improving it, may more actively commit to access support [13, 54].

In terms of preferences for program features, parents in the Personalised cluster attributed higher relevance to all features than those in the Logistic cluster. These differences included some child emotional and behavioural issues and parents' cognitions and behaviours. Parents who had greater concerns about their child's emotions and behaviours tended to prefer program features adapted to their own needs rather than features addressing potential logistic barriers. Parents who perceived higher psychological distress and used more coercive parenting preferred personalised program features. In contrast, those parents who believed that parenting is a private concern and were more confident with their parenting, prioritised features addressing logistic barriers.

Help-seeking behaviours emerged as a relevant factor of distinction when comparing clusters for parental preferences for delivery formats and program features. Parents who preferred face-to-face formats through personalised program features were significantly more likely to seek professional help, have participated in a program, and intend to participate in a future program in comparison to those parents who preferred media-based formats and programs addressing logistic barriers. Face-to-face programs are more likely to be flexible and tailored to the individual, and these aspects are highly valued by parents [28, 29]. It seems that those parents who preferred programs delivered in person and tailored to their needs displayed a higher likelihood of help-seeking behaviours. However, parents who preferred media-based formats may be less willing to get involved in preventive programs due to lower perceived or actual need for support and lack of prior exposure to parenting interventions. This would particularly be the case when parents also fall into the logistic cluster, which can serve as an additional barrier [28, 29]. However, this may be based on parents' perceptions of traditional clinic-based interventions. This group of parents may be more likely to engage in media or online interventions able to reduce barriers and fit consumer preferences. Previous research has found that media based or online interventions can be efficient and affordable [3] and increase engagement [55].

To our knowledge, the current study was the first to explore patterns in parents' program preferences and their demographics, perceived child problems, and their own cognitions and behaviours. Thus, this study has expanded our understanding of the links between preferences and demographics [23, 27], perception of their child's emotions and behaviours [3], and their own parenting [13, 39]. Given that the IPS represented a community sample of parents [42], it reflects a wide spectrum of parents who have participated in parenting interventions and those who have not. Thus, these findings may provide a better understanding from a public health perspective, given that previous studies have mainly focused on parents who had children with behavioural problems [13, 23] or were seeking support [40, 41]. A public health perspective is particularly important because parenting interventions are looking at the adoption of a population approach to reach a wider range of parents [7], and seeking parents' feedback from the general population is also important for service delivery and planning [42]. This perspective would also facilitate early prevention and intervention as well as a community network for parenting support [27, 43].

This study has some limitations. Parents' understanding of the characteristics of each format and feature was not evaluated. For example, He, Gewirtz [13] provided a brief description for each program format offered, which may have ensured parents had an understanding of the formats offered. Miller, Aalborg [39] described two programs offered including evidence that both were effective and their differences, information previously approved by program developers. Although the international data of the IPS has shown considerable similarities across countries [43], there may be subtle cultural differences that we did not capture.

There are several implications of the findings from the current study. If parents prefer different formats and features based on their perceptions of child problems and their own parenting, it would be relevant to tap into those aspects when researchers and practitioners engage parents in parenting programs. This can contribute to more efficient efforts to engage parents as consumers. For example, when engaging parents experiencing greater concerns with their children' behaviour and their own parenting, they may be more attracted to program offers including personalised and face-to-face formats. On the other hand, for parents who have had no previous exposure to parenting programs, the offer of media-based formats overcoming logistic barriers may increase their willingness to give them a try. Offering a variety of formats and features benefit parents and program implementation. Parenting interventions would be more likely to increase their intervention reach and public health benefit [3].

Preference information can also be used when designing engagement strategies to capture parents' attention and addressing their potential preferences. It may be the case that current engagement strategies focusing on certain child and parenting problems are already directed to parents who are currently experiencing parenting concerns and have preferences for individualised and face-to-face programs. This may be one reason behind low parental participation rates [4] due to being targeted at those parents with particular needs. Therefore, it seems that engagement efforts aiming to reach parents who have fewer concerns may need to highlight information about media-based programs addressing the logistic barriers reported typically by parents, such as

transportation, childcare, time constraints, and cost [28, 29]. Thus, using media-based formats of communicating with parents may potentially inform and incentivise their interest for further support.

Furthermore, a more sophisticated approach based on these findings may imply providing specific information to parents when offering a program, which may contribute to a more informed engagement process. For example, Gonzalez, Morawska [43] identified that parents' parenting practices were differentially related to their intention to participate in programs. If the offer includes this detailed information about the particular components to be covered in a program, it may align better with their own preferences and enhance their engagement. This is consistent with prior research linking parents' choice with participation and engagement [12, 14, 15]. Understanding parental preferences can help in offering different referral options, which may lead to better engagement.

Given that the IPS questions about parents' preferences were not linked to program offers, future studies can test how these preferences may influence parents' later engagement with programs. Although some studies link preferences and later engagement [12], future research should also include the parents' beliefs, self-efficacy, emotional adjustment, and parenting practices, playing a role in their decision-making process regarding delivery formats and program features. It would be important to expand the preferences covered within this study by including other program factors previously mentioned in the literature, such as the inclusion of the child and other family members [9, 27], peer support [10, 28], and availability in the community [9].

Summary

Parental preferences for delivery formats and program features displayed patterns based on parents' perception of child problems and their beliefs, self-efficacy, emotional adjustment, and parenting practices. These aspects need to be considered to accommodate parents' preferences and their engagement in line with their concerns and priorities. The current practice of enhancing parental engagement should take these parental characteristics into account to integrate a consumer perspective when offering and providing support for parents.

Acknowledgements We would like to acknowledge the contributions of all parents who completed the International Parenting Survey (IPS) in the different participating countries. We would like to extent the thanks to all the researchers and practitioners involved in the research teams in each country for their valuable work. Lastly but no less important, we would like to thank to Dr Matthew R. Sanders and Dr Nina Heinrichs, developers of the IPS in conjunction with Dr Alina Morawska.

Funding CG was supported by a scholarship granted by Agencia Nacional de Investigación y Desarrollo (ANID) Becas Chile 72160251. This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

Data Availability Restrictions apply to the availability of these data, which were used under license for this study. The data that support the findings of this study are available from the International Parenting Survey Project Committee, upon reasonable request.

Declarations

Conflict of interest The Parenting and Family Support Centre is partly funded by royalties stemming from published resources of the Triple P—Positive Parenting Program, which is developed and owned by The University of Queensland (UQ). Royalties are also distributed to the Faculty of Health and Behavioural Sciences at UQ and contributory authors of published Triple P resources. Triple P International (TPI) Pty Ltd is a private company licensed by Uniquest Pty Ltd on behalf of UQ, to publish and disseminate Triple P worldwide. The authors of this report have no share or ownership of TPI. Alina Morawska and Divna M. Haslam receive royalties from TPI. TPI had no involvement in the study design, collection, analysis or interpretation of data, or writing of this report. Alina Morawska is an employee at UQ. Carolina Gonzalez was a student at UQ. Divna M. Haslam holds an honorary position at UQ.

Research Involving Animal and Human Rights All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards. Informed consent was obtained from all individual participants included in the study.

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