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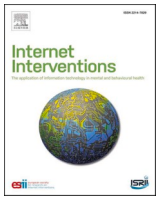

Parents' acceptability of blended psychological interventions for children with emotional disorders

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ABSTRACT

Objectives: This study aims to (1) describe parents' knowledge and use of online resources to address children's mental health issues and the family's general internet and technology usage patterns; (2) examine parents' acceptance of blended interventions for children with emotional disorders (ED); and (3) analyse the predictors of parents' intention to use a blended intervention if their children experienced an ED.
Method: The sample included 164 Portuguese parents (95.7 % mothers) of children between the ages of 6 and 13 years who completed an online survey. The study was disseminated through social networks, personal contacts of the researchers, and among parents participating in a randomized controlled trial investigating the efficacy of a psychological intervention for children with ED.
Results: Only 4.3 % of parents knew about online psychological interventions for children, and only 1.2 % had used them before. Most parents (73.2 %) reported that they would choose face-to-face individual therapy as their first option if their child had any ED, followed by blended therapy (14.8 %). Regression analyses showed that higher levels of parents' intention to use a blended intervention were predicted by their perceptions of the utility or efficacy of this type of delivery format.
Discussion/conclusion: These results suggest that although most parents show unfamiliarity with blended psychological interventions for children, they consider it a treatment modality to which they would resort if their children had emotional difficulties. Their intention to use such an intervention seems to be more likely if they perceive it as useful and effective.

1. Introduction

Childhood emotional disorders (EDs), such as anxiety and mood disorders, are currently considered an important public health concern (Barican et al., 2022) due to their increasing prevalence (WHO, 2020), impact on children's functioning in multiple domains (e.g., family, academic, social), and long-term consequences (Ghandour et al., 2019). It is estimated that 10–20 % of children/adolescents worldwide suffer from mental disorders (WHO, 2020) and that half of all mental health issues in adults begin during or before adolescence (Kessler et al., 2005). It is therefore critical to recognize and treat EDs as early as possible.

1.1. Internet-based interventions for children with emotional disorders

Although it is fundamental to provide adequate treatment to children with EDs, there is a significant gap between children's needs and their actual access to mental health care (Rocha et al., 2015). Several reasons can underlie this lack of accessibility to adequate mental healthcare for children. On the one hand, the demand for face-to-face therapy, which continues to be the patients' preferred intervention modality (March et al., 2018a; Renn et al., 2019) and frequently the only option in paediatric mental health public services, is significantly greater than the capacity of these services (Fonagy et al., 2017). On the other hand, many barriers may prevent parents from seeking this type of treatment (e.g., lack of time to attend regular sessions; costs associated with time off

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work and travel; lack of motivation to commit to a lengthy face-to-face treatment) (Reardon et al., 2017).

Internet-based interventions can overcome these barriers, providing an easily accessible option that may significantly increase access to mental health care (MacDonell and Prinz, 2017; Ebert et al., 2015). In addition, internet-based interventions may be particularly appealing to children, who are typically early adopters and regular users of new technologies (Graafland, 2018a). In Portugal, most households (88.2 %) have internet access (PORDATA, 2022), and 87 % of 9- to 17-year-olds use a smartphone, 41 % use a computer and 25 % use a tablet to access the internet every day (Ponte and Batista, 2019). In addition, there is evidence that internet-based interventions (e.g., BRAVE-online) (March et al., 2018b) are effective in reducing children's EDs (Ebert et al., 2015; Grist et al., 2019; Donovan and March, 2014; Sethi, 2013) and are acceptable to children, families and clinicians (Vigerland et al., 2014; Sweeney et al., 2015; Rooksby et al., 2015; Sobowale et al., 2016).

However, some limitations to purely online interventions have been identified, such as the lack of clinician contact, low efficacy in treating severe mental health problems, and high rates of attrition (Lal and Adair, 2014; Woods et al., 2017). A blended format (i.e., a combination of face-to-face and online therapy in one integrated treatment protocol) (Erbe et al., 2017) can overcome these limitations and make psychological therapy more accessible to families. In this format, the therapeutic relationship that is associated with in-person psychotherapy is maintained, and online therapy is employed improve treatment accessibility and affordability. Although blended therapy does not entirely overcome geographical barriers in the access to specialized mental health care, it certainly has the potential to increase access to them. By reducing the number of face-to-face sessions, participants can save time, reduce the number of travels to treatment, and reduce costs associated to regular appointments. Therefore, by using this treatment approach, it is possible to balance the benefits of in-person and online therapy while minimizing their drawbacks (Schuster et al., 2018; Wentzel et al., 2016).

1.2. Parents' acceptability of blended therapy

Although there is some evidence that most parents have high levels of acceptability of internet-based interventions for children with mental health concerns (Vigerland et al., 2014; Sweeney et al., 2015), to the best of our knowledge, no study has examined parents' acceptability of blended interventions or the factors that might affect their intention to use this delivery format. Research on the acceptability of a given intervention, especially in regard to anticipated acceptability (i.e., when designing the intervention), is critical to developing patient-centred interventions that can increase adherence and ensure successful outcomes (Sidani et al., 2009). Recently, Sekhon, Cartwright (Sekhon et al., 2017) proposed a theoretical framework of acceptability (TFA) of healthcare interventions and defined acceptability, both prospective (i.e., anticipated) and retrospective (i.e., experienced), as a "multi-faceted construct that reflects the extent to which people delivering or receiving a healthcare intervention consider it to be appropriate, based on anticipated or experienced cognitive and emotional responses to the intervention" (p. 5). According to this model, acceptability includes several components, including affective attitudes (i.e., how an individual feels about the intervention), burden (i.e., the perceived amount of effort required to participate in a given intervention, for instance, in terms of time or costs), and perceived effectiveness (i.e., the degree to which the intervention is expected to be effective). The TFA further asserts that acceptability components can predict the individual's intention to participate in a given intervention and, consequently, its usage.

To better understand which factors may influence an individual's intention to use information technology (IT), Venkatesh, Morris (Venkatesh et al., 2003) developed the Unified Theory of Acceptance and Use of Technology (UTAUT). This model, which is based on several theories, including the Theory of Planned Behaviour (Azjen, 1985), argues that an individual's intention to use IT, such as for an internet-based psychological intervention, is influenced by the individual's perceived utility or performance expectancy of a given intervention (i.e., how much an individual believes the intervention will be effective and useful), effort expectancy (i.e., perceived ease of use or the extent to which an individual considers that using the intervention will require low effort), and social influence or social norms (i.e., the extent to which a person perceives that others important to them think that they should employ the intervention). Other factors, such as parental knowledge of online interventions, parents' perceived benefits and limitations of these interventions, and technology factors (e.g., access to, confidence and enjoyment in using technology), have also been identified as potential predictors of parents' intention to use internet-based therapies for children with mental health problems (Sweeney et al., 2015).

1.3. The present study

Based on the TFA and UTAUT models, the current study aims to address the significant gap in knowledge about parents' acceptability of blended therapy for children with EDs (assessed in terms of its benefits and limitations, performance expectancy, effort expectancy, and social norms) and the predictors of their intention to use this delivery format of psychotherapy. Specifically, the present study aims to (1) describe parents' knowledge and use of online resources to address children's mental health issues and the family's general internet and technology usage patterns; (2) examine parents' acceptability of blended interventions for children with ED; and (3) analyse whether parents' sociodemographic characteristics, children's emotional difficulties, parents' knowledge and use of online resources to address children's mental health issues, family's general internet and technology usage patterns, and parents' acceptability of blended therapy are significant predictors of parents' intention to use a blended intervention if their children experience an emotional difficulty or problem.

2. Method

2.1. Participants

The participants were 164 Portuguese parents (95.7 % mothers) who had at least one child between the ages of 6 and 13 years old. The complete sociodemographic information is presented in Table 1.

2.2. Procedure

The current study is part of a larger research project aimed at developing and testing the efficacy of a blended psychological intervention for children. This project was approved by the Ethical Committee of the BLIND FOR REVIEW. The only criteria to participate in the study were to be a parent of a child between the ages of 6 and 13 years old and to be fluent in Portuguese. Participants completed the questionnaires through a data collection website (LimeSurvey®) between June 2021 and March 2022. The study was disseminated on social networks as well as among parents participating in a randomized controlled trial of the psychological group intervention "Unified Protocol for Children" (Ehrenreich-May et al., 2017) conducted by the research team. Nonetheless, because the questionnaire was anonymous, it is not possible to determine how many parents participated in the study as a result of its dissemination through social networks and the clinical trial.

The first page of the online protocol provided a brief description of the study objectives, the inclusion criteria, and the ethical issues of the study. The participants were assured that their participation in the study was anonymous and that no identifying information would be collected. Those who provided informed consent by clicking on the option "I understand and accept the conditions of the study" were given access to the assessment protocol. Before completing the survey, participants were invited to read a brief definition of different delivery formats of

Table 1
Sociodemographic and clinical characteristics.

	$N = 164$
Age (years) M(SD); range	41.64 (4.87); 28–57
Sex n (%)	
Male	7 (4.3 %)
Female	157 (95.7 %)
Marital status n(%)	
Living with a partner	143 (87.2 %)
Not living with a partner	21 (12.8 %)
Education n(%)	
≤ High school	44 (26.8 %)
≥ College or graduate degree	120 (73.2 %)
Household monthly income n(%)	
<999€	19 (11.6 %)
1000€-3000€	126 (76.8 %)
>3001€	19 (11.6 %)
Number of children n(%)	
One	58 (35.4 %)
Two or more	106 (64.6 %)
Children's current psychological/emotional problem n(%)	
Yes	95 (57.9 %)
No	69 (42.1 %)
Diagnosis of the current psychological/emotional problem n (%)	
Diagnosis by a psychologist, psychiatrist or paediatrician	55 (57.9 %)
Did not receive a formal diagnosis	40 (42.1 %)
Children's psychological treatment n(%)	
No	82 (50 %)
Yes, in the past	39 (23.8 %)
Yes, currently	26 (15.9 %)
Yes, in the past and currently	17 (10.4 %)
Reason for seeking psychological treatment n(%)	
Behavioral problems	7 (8.5 %)
Emotional problems	39 (47.6 %)
Both	24 (29.3 %)
Other	12 (14.6 %)
Format of intervention delivery[a] n(%)	
Face-to-face individual therapy	73 (89 %%)
Face-to-face group therapy	12 (14.6 %)
Online individual therapy through videoconference	11 (14.6 %)
Online self-guided therapy	0 (0.0 %)
Blended therapy	3 (3.7 %)

[a] These categories are not mutually exclusive.

psychological interventions. After reading this explanation, parents could begin the questionnaire.

2.3. Measures

A detailed explanation of each measure is presented in the supplementary material.

2.3.1. Sociodemographic and clinical information

Parents completed a form with several questions regarding their sociodemographic background (e.g., age, sex, education, marital status, number of children). They were also questioned about whether any of their children had a psychological problem and whether they had received in the past or were currently receiving psychological treatment. The reason for seeking psychological treatment and the format of intervention delivery were also collected.

2.3.2. Parents' knowledge and use of online resources to address children's mental health issues

Parents were questioned about the frequency with which they use the internet to research topics pertaining to children's mental health. They should answer on a five-point Likert-type scale ranging from 1 (“never”) to 5 (“many times”). Parents were also questioned about their knowledge about and use of online psychology interventions for youth mental health.

2.3.3. Family's general internet and technology usage patterns

Several single-item questions were developed to describe parents' and children's general internet and technology usage patterns (see Table 2).

2.3.4. Parents' intention to use blended psychological interventions for the treatment of children's emotional disorders

A single-item question, answered on a 5-point Likert-type scale (1 = *Completely disagree* to 5 = *Completely agree*), assessed parents' likelihood of using a blended intervention if their child experienced emotional problems.

2.3.5. Delivery format preferences

Parents were asked to rank several delivery formats of psychological intervention based on how likely they were to use each format if their child had any emotional difficulties or problems.

2.3.6. Acceptability of blended psychological interventions for children with emotional disorders

2.3.6.1. Perceived benefits and limitations of blended interventions for children with EDs. To assess parents' perceptions of the benefits and limitations of blended interventions, a questionnaire with 21 questions

Table 2
Family's general internet and technology usage patterns.

	$N = 164$
Internet access n(%)	
No	0 (0.0 %)
Yes	164 (100 %)
Family's technology resources n(%)	
Personal computer (yes)	157 (95.7 %)
Tablet (yes)	109 (66.%)
Smartphone with internet access (yes)	160 (97.6 %)
Parents' frequency of internet usage n(%)	
Daily	162 (98.8 %)
2–3 times a week	2 (1.2 %)
1–2 times a week	0 (0.0 %)
Never	0 (0.0 %)
Parents' enjoyment in using the internet M(SD); range	3.56 (0.69); 2–5
None	0 (0.0 %)
A little	4 (2.4 %)
Moderately	79 (48.2 %)
Very much	66 (40.2 %)
Extremely	15 (9.1 %)
Feeling competent in using the internet M(SD); range	3.48 (0.97); 1–5
None	0 (0.0 %)
A little	4 (2.4 %)
Moderately	89 (54.3 %)
Very much	59 (36 %)
Extremely	12 (7.3 %)
Frequency of children's internet usage n(%)	
Daily	96 (58.5 %)
2–3 times a week	35 (21.3 %)
1–2 times a week	31 (18.9 %)
Never	2 (1.2 %)
Frequency of children's technology usage n(%)	
Daily	101 (61.6 %)
2–3 times a week	36 (22.0 %)
1–2 times a week	25 (15.2 %)
Never	2 (1.2 %)
Children's enjoyment in using the internet M(SD)	3.98 (0.87); 1–6
None	1 (0.6 %)
A little	3 (1.8 %)
Moderately	35 (21.3 %)
Very much	85 (51.8 %)
Extremely	39 (23.8 %)
Children's enjoyment in using technology M(SD)	4.09 (0.72); 1–5
None	1 (0.6 %)
A little	1 (0.6 %)
Moderately	27 (16.5 %)
Very much	89 (54.3 %)
Extremely	56 (28 %)

was specifically developed for this study. Items are answered on a 5-point Likert scale that ranges from 1 *(Completely disagree*) to 5 (*Completely agree*). The total score of each subscale is the mean of the items, with higher scores suggesting higher levels of perceived benefits and limitations. A confirmatory factor analysis (CFA) supported the hypothesized two-factor structure ($\Delta\chi^2(186) = 236.49$, $p = .007$; CFI = 0.94; RMSEA = 0.04, $p = .84$, 90 % CI = [0.02, 0.06]; SRMR = 0.06). Cronbach's alphas were 0.83 (Benefits) and 0.76 (Limitations).

2.3.6.2. Performance expectancy, effort expectancy, and social influence. Based on the UTAUT model (Venkatesh et al., 2003), a questionnaire was developed to assess three determinants of parents' intention to use a blended psychological intervention. The initial version of the questionnaire included 13 items assessing each determinant. A CFA was performed to examine the fit of a three-factor correlated model. The scale did not present adequate model fit ($\Delta\chi^2(62) = 167.62$, $p < .001$; CFI = 0.90; RMSEA = 0.10, $p < .001$, 90 % CI = [0.08, 0.12]; SRMR = 0.07). In addition, Item 10 ("Participating in a blended intervention would require a lot of time and energy from me and my child", from the Effort Expectancy subscale) presented a loading of 0.32 and was eliminated. Given its high correlation, the residuals of Items 1 and 2 were allowed to correlate. The final three-factor model offered an adequate fit to the data ($\Delta\chi^2(50) = 109.12$, $p < .001$; CFI = 0.94; RMSEA = 0.08, $p = .005$, 90 % CI = [0.06, 0.11]; SRMR = 0.06). The final scale includes 12 items answered on a 5-point Likert scale that ranges from 1 (*Completely disagree*) to 5 (*Completely agree*). Cronbach's alphas were 0.87 (Performance Expectancy), 0.82 (Effort Expectancy) and 0.72 (Social Influence).

2.4. Data analyses

The first set of statistical analyses was conducted in AMOS© 22 and consisted of a CFA for the examination of the model fit of the questionnaires specifically developed for this study. The maximum likelihood estimation method was used. The cutoffs for adequate and good model fit were CFI values ≥0.90 and ≥0.95, RMSEA values ≤0.08 and ≤0.06, and SRMR values ≤0.10 and ≤0.08, respectively (Browne and Cudeck, 1993; Hu and Bentler, 1999). The remaining analyses were conducted in SPSS (version 26.0). Descriptive statistics were used to characterize participants' sociodemographic and clinical characteristics and to describe study variables. Point-biserial correlations and Pearson correlations were computed between parents' intention to use a blended intervention and the hypothesized predictors. A hierarchical linear regression was performed to identify the variables that most influence parents' intention to use a blended intervention. Multicollinearity was analysed through tolerance and variance inflation factor (VIF) statistics and was considered to be present when tolerance <0.10 and VIF > 10 (Meyers et al., 2006). R^2 values were used as an estimate of the effect size. Values of 0.02, 0.13 and 0.26 were considered small, medium and large effect sizes, respectively (Cohen, 1988).

3. Results

3.1. Children's emotional difficulties and psychological treatment

As presented in Table 1, 57.9 % of parents reported that at least one of their children had an emotional/psychological problem. Of these, the majority received a diagnosis of a psychological disorder by a psychologist, psychiatrist or paediatrician. Of the total number of children who received or were currently receiving psychological treatment (50 %), the majority (47.6 %) received treatment due to emotional problems. The most frequent type of intervention delivery was face-to-face individual therapy (73.2 %), followed by face-to-face group therapy (14.6 %).

3.2. Parents' knowledge and use of online resources to address children's mental health issues

Most parents reported using the internet to research topics pertaining to children's mental health "sometimes" ($n = 59$; 36 %) or "rarely" ($n = 46$; 28 %). Thirty-three (20.1 %) parents reported using it "frequently", 14 (8.4 %) "many times", and 12 (7.3 %) "never". Only 4.3 % of parents reported knowing about an online psychology intervention for children, and 1.2 % reported having used an online program for psychological intervention with their children.

3.3. Family's general internet and technology usage patterns

As presented in Table 2, all parents reported having internet access at home, and the majority reported having a personal computer, tablet and smartphone. Almost all parents use the internet every day, and 58.5 % reported that their children do too. Most parents reported enjoying "moderately" ($n = 79$; 48.2 %) or "very much" ($n = 66$; 40.2 %) using the internet, and feeling "moderately" ($n = 89$; 54.3 %) competent in using it. Approximately half of children reported enjoying "very much" using the internet ($n = 85$; 51.8 %) and technological devices ($n = 89$; 54.3 %).

3.4. Intention to use a blended psychological intervention for the treatment of children's emotional disorders

The majority of parents indicated that they agreed ($n = 88$; 53.5 %) or completely agreed ($n = 33$; 20.1 %) with the possibility of considering a blended intervention if their child experienced emotional difficulties. Twenty-nine (17.7 %) did not agree or disagree with this possibility, 12 (7.3 %) did not agree, and 2 (1.2 %) absolutely disagree with the possibility of resorting to a blended therapy for their children.

3.5. Delivery format preferences

When asked to rank different formats of intervention delivery, most parents (73.2 %) reported that they would choose face-to-face individual therapy as their first option if their child had any difficulties or emotional problems, followed by blended therapy (14.8 %), online individual therapy through videoconference and face-to-face group therapy (both with 4.9 %), and online self-guided therapy (2.1 %; see Fig. 1).

3.6. Perceived benefits and limitations of blended psychological interventions for the treatment of children's emotional disorders

As presented in Table 3, the mean values of the benefits were, in general, higher than the mean values of the perceived limitations. The benefit with the highest mean value was that blended therapy may reduce the number of family travels to therapy, while the limitation with the highest mean value was the possibility of the child establishing a less strong therapeutic relationship.

3.7. Predictors of parents' intention to use a blended intervention if their child had emotional difficulties

Before proceeding to hierarchical regression, the correlations between parents' intention to use a blended intervention and the hypothesized predictors were analysed. Parents' intention to use blended therapy was significantly correlated with the presence of children's psychological/emotional problems ($r = 0.16$, $p = .044$; 0 = no, 1 = yes), parents' perceived benefits ($r = 0.39$, $p < .001$), parents' perceived limitations ($r = -0.29$, $p < .001$), performance expectancy ($r = 0.77$, $p < .001$), social influence ($r = 0.49$, $p < .001$), and effort expectancy ($r = 0.57$, $p < .001$). Therefore, these variables were introduced into the regression model. None of the correlations between with parents' intention to use blended therapy and their main sociodemographic characteristics (age, sex, education, marital status, and number of

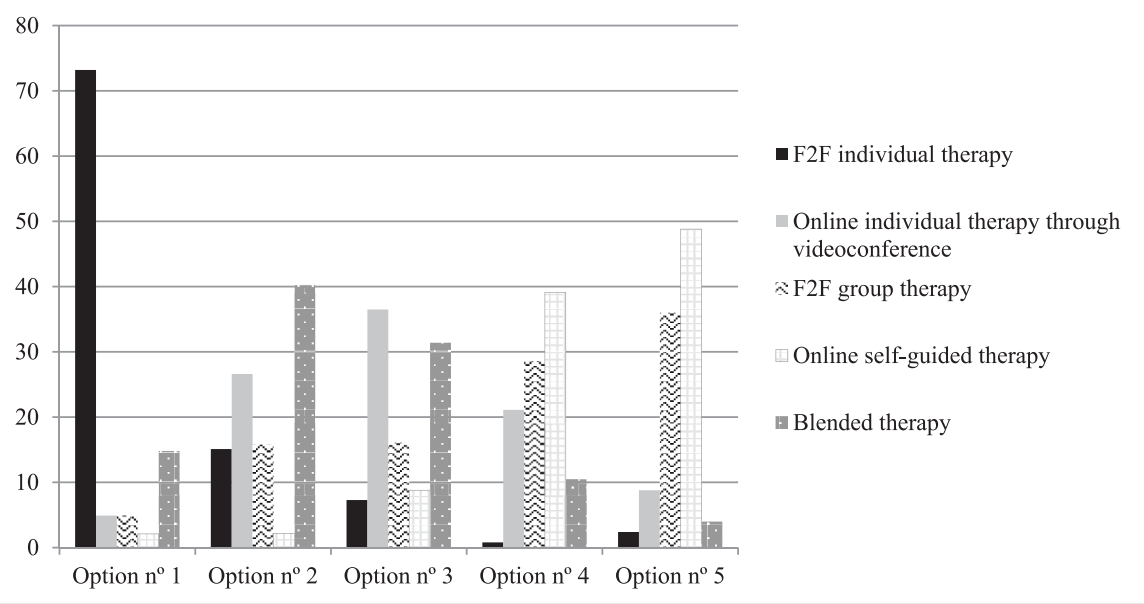

Fig. 1. Ranking several formats of intervention delivery.

children) were significant.

Tolerance values were higher than 0.10, and VIF values did not surpass 1.68. As presented in Table 4, the only significant predictor in the last step of the model was performance expectancy in a model explaining 59 % of parents' intention to use blended therapy, which represents a large effect size.

4. Discussion

The main goal of the present study was to examine parents' acceptability of blended psychological interventions for children's EDs and the predictors of parents' intentions to use this treatment modality.

First, it is important to note that more than half of the parents reported that their child had a psychological problem and that approximately 26 % of children ($n = 43$) were currently receiving psychological treatment, mostly due to an emotional problem (anxiety or depression disorders). The high prevalence of children's EDs in the current sample may reflect the increasing prevalence of children's mental health problems in recent years (Barican et al., 2022) as well as the fact that 14.6 % of the parents ($n = 12$) were participating in an intervention program for children's EDs. In addition, the sample was collected during the COVID-19 outbreak, which has had a substantial impact on children's mental health (Theberath et al., 2022). However, it is important to acknowledge that a significant proportion of children (42.1 %) did not receive a diagnosis from a health professional, and it was their parents who reported believing that their child had an emotional problem, which may not correspond to an accurate diagnosis.

Consistent with previous investigations (Sweeney et al., 2015), almost no parent reported knowing or having used an internet-based intervention for children's mental health. Nevertheless, 28.6 % said they usually or frequently use the internet, and 36 % said they occasionally use it to learn about child mental health issues. These results reflect the almost complete absence of internet-based programs for children's mental health in Portugal but also show that parents already resort to the internet to explore children's mental health issues, which can help an internet-based intervention become accepted and disseminated in the future. Furthermore, all parents reported having internet access at home, and the majority reported using the internet on a daily basis and enjoying and feeling confident in using it. They also reported that their children use internet and technological devices (e.g., computers, smartphones) quite frequently, and the majority believe that their children enjoy using them very much or extremely. These findings support earlier research indicating that children frequently use the internet and new technology (Graafland, 2018b) and suggest that an internet-based intervention may be appealing for children.

However, face-to-face individual treatment was the treatment modality that parents were more likely to choose as their initial treatment option if their child had an emotional difficulty or problem, which is consistent with previous studies (March et al., 2018a; Renn et al., 2019; Horgan and Sweeney, 2010; Berle et al., 2015). Face-to-face therapy is still the treatment modality with which more parents are familiar (Klein and Cook, 2010). As this study's findings support, digital psychotherapy is not yet widely disseminated in Portugal, and the majority of parents are unaware of any child-focused internet interventions and do not know how they work. Nevertheless, blended therapy was the second-most popular treatment option among parents, with 73.8 % of parents saying that they would use a blended intervention if their child experienced emotional difficulties. These findings appear to support the notion that parents value direct interaction with a psychologist (although not group treatment) and are comfortable with combining in-person therapy with an online component. They simply do not want a treatment that is exclusively online.

This study also indicates that parents appear to agree that blended therapy may offer several advantages when used to treat children's mental health issues. On a scale of 1 to 5, parents reported a mean perceived benefit score of 4.01. The three benefits that had greater average values were the reduced number of travels to access mental healthcare, the potential for anytime access to online content, and a better comprehension of the therapeutic content and process. These results suggest that blended therapy is an acceptable intervention for parents, particularly given its capacity to transcend geographic boundaries by reducing the number of family travels, its flexibility, and the potential for improved parental comprehension of therapeutic contents and procedures. A mean value of 2.98 was reported by parents for perceived limitations, suggesting that they see blended therapy as having far fewer drawbacks than advantages. The highest rated disadvantages included a weaker therapeutic alliance, the possibility that the child would not finish the exercises or watch all of the content of the online sessions, and the inability to fully address the child's questions during online sessions.

Finally, the predictors of parents' intention to use a blended intervention were analysed. In the first and second steps of the regression

Table 3
Perceived benefits and limitations of blended interventions for children with emotional disorders and UTAUT variables.

	M (*SD*)
Perceived benefits	
Reduction of the number of family travels	4.20 (0.62)
Possibility of accessing online contents whenever desired or necessary	4.16 (0.60)
Better understanding of the therapy content	4.13 (0.72)
Possibility of completing online sessions at any time	4.11 (0.64)
Increased child motivation due to interactive online sessions	3.99 (0.80)
Possibility of clarifying doubts in face-to-face sessions	3.97 (0.60)
Possibility of completing online sessions anywhere	3.92 (0.77)
Less waiting time for therapy	3.90 (0.71)
Greater autonomy	3.90 (0.73)
Reduction of treatment costs (e.g., travel)	3.84 (0.85)
Total score of perceived benefits	4.01 (0.44)
Perceived limitations	
Less solid therapeutic relationship	3.46 (0.97)
The child may not complete the exercises or view all the content in the online sessions	3.35 (0.84)
Parents may not be able to clarify doubts during online sessions	3.34 (0.86)
Lack of direct contact with the psychologist during online sessions	3.30 (0.96)
Online sessions may not fit child's specific needs	3.25 (0.82)
Possibility of not understanding online contents without the help of a psychologist	3.12 (0.97)
More screen time due to online sessions	2.94 (0.99)
Need to have internet access	2.74 (1.06)
Lack of proficiency to engage in online sessions	1.99 (1.04)
Total score of perceived limitations	2.98 (0.56)
UTAUT model determinants	
Performance expectancy	3.80 (0.70)
Social influence	3.71 (0.64)
Effort expectancy	3.95 (0.60)

Table 4
Predictors of parents' intention to use a blended intervention if their child had emotional difficulties.

Variable	b	β	*t*	R^2	ΔR^2
Step 1				0.03*	0.03*
Children's emotional difficulties	0.28	0.16	2.03*		
Step 2				0.20***	0.18***
Children's emotional difficulties	0.32	0.18	2.58*		
Perceived benefits	0.68	0.34	4.24***		
Perceived limitations	−0.20	−0.13	−1.62		
Step 3				0.59***	0.39***
Children's emotional difficulties	0.11	0.07	1.23		
Perceived benefits	0.04	0.02	0.32		
Perceived limitations	−0.04	−0.03	−0.43		
Performance expectancy	0.92	0.73	9.24***		
Social influence	0.08	0.06	0.87		
Effort expectancy	0.06	0.04	0.45		

model, the presence of an emotional difficulty in children significantly predicted a stronger intention to use blended psychotherapy. This is an expected result, as parents who consider their child to be suffering from emotional difficulties or whose child has received a clinical diagnosis of a mental disorder might feel more in need of help and, therefore, be more receptive to this type of treatment modality. Perceiving higher levels of benefits was an equally significant predictor of a stronger intention to use blended psychotherapy, which is also an expected result, as attitudes are known to be one of the strongest predictors of behavioral intentions (Sweeney et al., 2015; Venkatesh et al., 2003; Azjen, 1985; Fonseca et al., 2016). However, in the last step of the regression model, when performance expectancy, social influence, and effort expectancy were introduced in the model, only performance expectancy was found to significantly predict parents' intentions, over and above children's emotional difficulties and the perceived benefits and limitations of blended therapy. This finding implies that the factor that parents value the most and that most strongly predicts their intention to use blended therapy is its usefulness and effectiveness in resolving the child's problems. This result has significant implications for the dissemination of this type of intervention and is consistent with the UTAUT model and the findings of Venkatesh, Morris (Venkatesh et al., 2003), whose study found that performance expectancy was the strongest predictor of behavioral intentions.

4.1. Limitations

The current study presents some limitations that should be noted. First, as the sample was self-selected and approximately 15 % of parents were participating in a psychological group intervention for children's EDs, it is possible that the parents who participated in the study were those who were more interested in the study's subject and who may have more favourable opinions about internet-based/blended therapy. Additionally, the sample was predominantly composed of women, parents living with a partner and parents with a college degree. Therefore, caution is needed in generalizing the results to all Portuguese parents of children aged 6 to 13 years, particularly to those with lower educational levels who may not have access to the resources (e.g., internet, a computer or tablet) or the technological competency needed to effectively use a blended intervention. It is also important to note that a large proportion (57.9 %) of parents reported that their child had a psychological problem, and 26.3 % were currently undergoing psychological treatment. Although these high prevalence rates can reflect the Portuguese reality during the COVID-19 outbreak, they can also be the product of a self-selection bias (i.e., parents whose children were suffering from emotional or other difficulties might be more likely to participate in this study). Regardless of the reason, these sample characteristics can influence the results and prevent their generalization.

4.2. Conclusions

Considering the increasing prevalence rates of children's EDs and the massive gap between children's needs for care and their actual access to mental healthcare, it is urgent to develop and test the efficacy of alternative delivery formats of new or already existing face-to-face interventions that can be more easily accessible for families and equally effective in reducing children's mental health problems. Blended therapy can be an optimal delivery format for parents and children, as it combines the best features of both in-person (e.g., direct interaction with a psychologist) and online therapy (e.g., reduced costs, flexibility, and increased child engagement and motivation). Promoting parents' acceptability of this treatment modality is therefore critical for its dissemination.

Overall, the findings of this study support Portuguese parents' acceptability of blended therapy for children. This study offers

encouraging results for the dissemination and uptake of blended psychological interventions for children, showing that although parents favour in-person therapy, they view blended therapy as the second-best option for treatment and would use it if necessary to help their child solve their psychological issues. Parents appear to perceive several benefits from this treatment modality, and their intention to use it was found to be influenced primarily by their perceptions of its usefulness and efficacy. Based on these results and considering that an individual's intentions are a well-established predictor of behaviour (Azjen, 1985), it seems particularly important to devise strategies to educate parents about the main advantages of blended therapy and to provide accurate and scientific information on its efficacy and usefulness in addressing children's psychological problems (e.g. through information sessions about the benefits and efficacy of blended therapy for parents at schools or paediatric mental health care centers; through flyers or other types of written information containing accurate and scientific data about blended therapy for children). To increase the likelihood of referral, it is also crucial to provide scientific information regarding blended therapy to mental health professionals who work with children, as well as training opportunities in this type of therapy. Although these results can only be applied to the Portuguese population, they may provide some insights into how this treatment modality is accepted in other countries with comparable rates of children using new technology and similar rates of online intervention development.

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Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Appendix A. Supplementary data

Supplementary data to this article can be found online at https://doi.org/10.1016/j.invent.2023.100687.

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