

# Universidade da Maia

Departamento de Ciências Sociais e do Comportamento

Blended Therapy in the treatment of Depression:  
Analysis of client perspective in primary health care.

Terapia combinada no tratamento da depressão: Análise da  
perspetiva do cliente nos cuidados de saúde primários

Sara Daniela Costa e Silva

Programa Doctoral em Psicologia, Especialização em  
Psicologia Clínica

Orientação:

Professora Doutora Carla Alexandra de Castro Cunha  
Professor Doutor João Manuel Castro Faria Salgado

Outubro, 2023



UNIVERSIDADE  
DA MAIA

Sara Daniela Costa e Silva

**Blended Therapy in the Treatment of Depression: Analysis of client perspective in primary health care.**

**Terapia combinada no tratamento da depressão: Análise da perspetiva do cliente nos cuidados de saúde primários**

Doctoral Program in Psychology, Specialization in Clinical Psychology

Doctoral Thesis under the supervision of,

**Doctor Carla Alexandra de Castro Cunha**

**Doctor João Manuel Castro Faria Salgado**

Outubro 2023



## AGRADECIMENTOS /ACKNOWLEDGMENTS

Ao longo dos últimos anos abracei com empenho e dedicação o desafio da realização desta tese de doutoramento. Este percurso, muitas vezes solitário, não teria sido possível sem o apoio e confiança dos que me rodeiam, por isso não faz sentido terminar este percurso sem lhes prestar um agradecimento.

Em primeiro lugar agradecer à Fundação para a Ciência e Tecnologia pelo financiamento deste projeto, sem o qual não teria sido possível dedicar-me em exclusivo a sua concretização. À Universidade da Maia e ao Centro de Psicologia da Universidade do Porto, por terem-me acolhido como aluna e investigadora ao longo destes anos criando-me as condições necessárias para a execução desta dissertação.

Agradecer aos meus orientadores, à Professora Doutora Carla Cunha, por acompanhar-me e por todas as aprendizagens que me transmitiu. Agradecer-lhe também pela autonomia pelo encorajamento nos momentos de frustração e dúvida. Ao Professor Doutor João Salgado que desde o meu mestrado me continua a desafiar e a questionar impulsionando-me a ingressar neste desafio. Agradeço a ambos por me terem feito sair da minha zona de conforto, sem dúvida contribuíram para a profissional que sou hoje.

Não posso deixar de agradecer a disponibilidade de todos os clientes que participaram neste projeto. Espero que os resultados deste projeto contribuam para uma melhor prática clínica que vá de encontro às vossas necessidades.

Agradecer à professora Doutora Liliana Meira pelas horas de supervisão clínica em terapia cognitivo comportamental, por me transmitir o seu conhecimento e paixão pela psicoterapia.

Ao grupo de investigação da UNIDEP e a todos os colegas de doutoramento que se cruzaram comigo ao longo destes anos: Isabel, Pedro, Patrícia, Dra Anita Santos, Tiago, Liliana, Catarina, Daniela, Eunice, Marlene, Vera, Viviana, Ana Rodrigues

agradece-vos a partilha de angústias, conhecimentos e experiências. Agradecer à Beatriz e ao Ricardo, meus sobrinhos de coração, pelos momentos divertidos. Obrigada, Alexandra e Miguel pela lufada de ar fresco que trouxeram em 2022.

Quero agradecer à Isabel e à Patrícia, vocês merecem um agradecimento em dobro, pela amizade e companheirismo ao longo destes anos. Vocês são sem dúvida a família que escolhi. Obrigada por estarem sempre lá, mesmo quando sou a *Daniela*. Ao Pedro Lourenço, obrigada pela amizade que foi crescendo e fortalecendo ao longo dos anos.

Ao Carlos Borges, *my friend*, obrigada pelas conversas, pelas caminhadas pela cumplicidade amizade que criamos ao longo dos anos. Agradecer ao Carlos Filipe, pelos jantares divertidos, conversas fáceis e descomplicadas. É bom ter-te por perto. À Joana e à Sofia Rua, obrigada pela vossa amizade.

Quero agradecer aos meus pais, David e Joaquina, que mesmo sem perceberem muito bem o que isto significa, me apoiam com todo vosso amor. Obrigada por me terem transmitido os valores certos e a determinação necessária lidar com todos os obstáculos. À minha irmã Sofia obrigada por viveres as minhas conquistas como se fossem tuas. Obrigada por tudo. Ao meu cunhado Pedro és como um irmão para mim, agradeço-te toda a preocupação e carinho.

A ti Ricardo, obrigada por todo o amor, por embarcares nos meus sonhos e aventuras. É bom ter-te a meu lado no culminar desta jornada.

Por fim, não posso deixar de recordar os que neste momento apenas vivem na minha memória. Ao Avô Zé, Avô David, Avó Deolinda, a ti Madrinha e à Carina, obrigada por todas as memórias, sei que estariam felizes por mim.



The present Doctoral Thesis was supported by the Portuguese Foundation for Science and Technology (FCT) under Pluriannual Funding Programme for Research Units 2020-2023 UIDP/00050/2020 and through the Ph.D. grant SFRH/BD/139752/2018, awarded to Sara Daniela Costa e Silva. This research was conducted at the Psychotherapy Research Lab of the University of Maia – ISMAI, and at the Center for Psychology at the University of Porto (CPUP), with support from the Portuguese Foundation for Science and Technology (FCT), MCTES, FSE, and EU.

**FCT**  
Fundação para a Ciência e a Tecnologia  
MINISTÉRIO DA EDUCAÇÃO E CIÊNCIA



Cofinanciado por:



## ABSTRACT

Internet-based interventions have emerged as a possible solution to improve the accessibility of depression treatments while maintaining the effectiveness of face-to-face psychotherapy. The Covid-19 pandemic has further emphasized the importance of these interventions, leading to increased research in this area. However, despite their effectiveness, internet-based interventions have some disadvantages, such as high dropout and relapse rates. In this regard, blended therapy, which combines face-to-face sessions with online modules, has shown promising results as an alternative. However, the existing research focuses on efficacy studies and client acceptance of these interventions. The clients' perspective on the change process has not been explored, nor has the role of common factors such as treatment credibility, outcome expectation, and treatment satisfaction. Further investigation in these areas could provide valuable insights to optimize the effectiveness of blended therapy and internet-based interventions for depression.

This dissertation aims to explore the clients' viewpoint regarding the use of blended therapy for depression treatment in routine practice and primary health care using quantitative and qualitative methodologies. To achieve this goal, four distinct studies were conducted. The first two studies aim to validate the Treatment Credibility and Expectancy (CEQ) and the Client Satisfaction Questionnaire-18 for the Portuguese population. The results of the CEQ validation indicate that this version exhibits good psychometric properties. Two factors were identified, one related to treatment credibility and another to outcome expectation. As for the Client Satisfaction Questionnaire, only one factor was found, and after factorial analysis, four items were removed. Therefore, the Portuguese version consists of 14 items and shows good psychometric properties.

The objectives of the third study were: to explore variations in treatment credibility and outcome expectation based on pre-therapy patient characteristics in different treatment contexts (routine practice and open trial); and to investigate the influence of treatment context and pre-therapy patient characteristics on outcome expectations, along with examining the interaction between these variables. The results suggest that treatment credibility is significantly higher in the open-trial context, while outcome expectation is significantly higher in routine practice. The divergence in treatment credibility can be attributed to the consistent presentation of intervention rationales, as required by the open trial's research design. On the other hand, significantly higher outcome expectation scores were found in routine practice compared to the open-trial context, which may be attributed to the higher severity of depressive symptoms observed in open-trial clients.

The fourth study utilized the hermeneutic single case study method to analyze a specific case of a client undergoing blended therapy treatment for depression in the primary health care context. This case study not only provides valuable insights into the treatment's effectiveness for this specific client but also thoroughly examines the changes experienced by the client throughout the evolution of the blended therapy treatment. The results indicated a progressive reduction in symptoms throughout the therapeutic process, and this improvement persisted even after the intervention. The changes identified by the client appear to be directly related to the therapy and continued to be evident even after the completion of the blended therapy treatment.

This dissertation contributes significantly with findings not only regarding the effectiveness and acceptance of blended therapy from the client's perspective but also for this treatments provided in primary health care. Analyzing this perspective is especially important as it allows for the identification of changes that clients recognize within

themselves throughout the treatment and provides insights into the specific impact of blended therapy. The results observed in this PhD thesis, however, should be interpreted considering the limitations associated to the studies that were conducted; henceforth, future studies should contribute to consolidate or dispute them.

## RESUMO

As intervenções baseadas na internet têm surgido como uma possível solução para melhorar a acessibilidade dos tratamentos para a depressão, mantendo a eficácia da psicoterapia presencial. A pandemia por Covid-19 enfatizou ainda mais a importância destas intervenções, existindo um aumento de investigação na área. No entanto, apesar da sua eficácia, as intervenções baseadas na internet apresentam algumas desvantagens, tais como altas taxas de desistência e recaídas. Nesse sentido, a terapia combinada que concilia sessões presenciais com módulos online tem mostrado resultados promissores, surgindo como alternativa. No entanto, as pesquisas existentes têm-se restringido a estudos de eficácia e aceitação do cliente destas intervenções. A perspectiva dos clientes sobre o processo de mudança ainda não foi explorada, assim como o papel de fatores comuns, como a credibilidade, expectativas de resultado e satisfação com o tratamento. Uma investigação mais aprofundada nessas áreas pode fornecer contributos para otimizar a eficácia da terapia combinada e das intervenções baseadas na internet para a depressão.

Esta dissertação tem como foco explorar o ponto de vista dos clientes em relação ao uso da terapia combinada para o tratamento da depressão na prática rotineira e nos cuidados de saúde primários recorrendo a metodologias quantitativas e qualitativas. Para tal, foram realizados quatro estudos distintos: os dois primeiros visam validar a Escala de Credibilidade e Expectativa do Tratamento (CEQ – *Credibility and Expectancy*) e o Questionário de Satisfação do Cliente-18 (*Client Satisfaction Questionnaire-18*) para a população portuguesa. Os resultados da validação da CEQ indicam que esta versão apresenta boas propriedades psicométricas. Foram identificados dois fatores: um relacionado com a credibilidade do tratamento e outro relativo às expectativas de resultados. Quanto ao Questionário de Satisfação do Cliente, foi encontrado apenas um

fator sendo que, após análise fatorial, procedeu-se à remoção de quatro itens. A versão final em português é composta por 14 itens e apresenta boas propriedades psicométricas.

Os objetivos do terceiro estudo foram: explorar as variações na credibilidade do tratamento e nas expectativas de resultado com base nas características pré-terapia dos pacientes em diferentes contextos de tratamento (prática de rotina e ensaio clínico “*open trial*”); e investigar a influência do contexto de tratamento e das características pré-terapia dos pacientes nas expectativas de resultado, além de examinar a interação entre essas variáveis. Os resultados sugerem que a credibilidade do tratamento é significativamente maior no contexto do *open trial*, enquanto que as expectativas de resultado são significativamente maiores na prática de rotina. A discrepância na credibilidade do tratamento pode ser atribuída à apresentação do racional da intervenção, algo previsto no design de investigação do *open trial*. Por outro lado, as expectativas de resultado são significativamente mais elevadas no contexto da prática de rotina em comparação com o *open trial*. Esse resultado pode ser atribuído à maior severidade dos sintomas depressivos observados nos clientes da *open trial*, relativamente aos que foram atendidos no contexto alternativo.

O quarto estudo utilizou o método de estudo de caso único hermenêutico (*hermeneutic single case study*) para analisar um caso específico de uma cliente em tratamento de terapia combinada para depressão no contexto de cuidados de saúde primários. Este estudo analisa a evolução sintomatológica e explora a perspectiva da cliente sobre as mudanças ocorridas na terapia combinada. Os resultados evidenciaram uma redução progressiva nos sintomas ao longo do processo terapêutico, e essa melhoria manteve-se após a intervenção. As mudanças identificadas pela cliente parecem estar diretamente relacionadas com a terapia e continuaram evidentes mesmo após o término do tratamento.

A presente dissertação contribui com resultados significativos não apenas em relação à eficácia e aceitação da terapia combinada sob a perspectiva do cliente, mas também nos cuidados de saúde primária. A análise dessa perspectiva é especialmente importante, pois permite identificar as mudanças que os clientes reconhecem em si mesmos ao longo do tratamento e fornece insights sobre o impacto específico da terapia combinada. Os resultados observados nesta tese de doutoramento, contudo, devem ser interpretados considerando-se as limitações associadas aos estudos realizados. Assim, devem conduzir-se estudos futuros para os consolidar ou refutar.

## TABLE OF CONTENTS

<b>AGRADECIMENTOS</b>	iii
<b>ABSTRACT</b>	vii
<b>RESUMO</b>	x
<b>TABLES</b>	xvii
<b>FIGURES</b>	xix
<b>INTRODUCTION</b>	1
Effectiveness: Face-to-face psychotherapy versus blended interventions	3
Common factors in psychotherapy – A contextual model	13
Outcome Expectation and Treatment Credibility:	16
Definition and measures development	
Empirical research on outcome Expectation and Treatment Credibility	20
Client Perspectives on Change	23
<b>CHAPTER I - PORTUGUESE VALIDATION OF THE CREDIBILITY/EXPECTANCY QUESTIONNAIRE IN ROUTINE PRACTICE</b>	31
Abstract	32
Credibility and Expectation – A Brief Construct Review	33
Psychometric properties of CEQ	34
Aims	37
Method	38
Participants	38
<i>Routine practice</i>	38
Measures	39
Procedures	42
Statistical Analysis	42
Results	44
Factor Structure	44
Reliability	45
Confirmatory analyses	45
Convergent validity	47
Discriminant validity	47
Predictive validity	48

Discussion	48
References	53
<b>CHAPTER II- VALIDATION OF THE CLIENT SATISFACTION QUESTIONNAIRE: A PILOT PSYCHOMETRIC ANALYSES IN PORTUGUESE ROUTINE PRACTICE</b>	<b>59</b>
Abstract	60
Introduction	61
Research into satisfaction with psychological treatments	61
Measures of treatment satisfaction	63
The Present Study	64
Method	64
Participants	64
Measures	65
Procedures	67
Statistical Analysis	68
Results	70
Factor Structure	70
Reliability	73
The associations that treatment satisfaction has with general symptoms, therapeutic alliance, and expectations at an early stage of psychotherapy	73
Discussion	73
References	77
<b>CHAPTER III - EFFECTS OF TREATMENT SETTINGS ON OUTCOME EXPECTATION, TREATMENT CREDIBILITY, AND PRE- THERAPY PATIENT CHARACTERISTICS</b>	<b>84</b>
Abstract	85
Introduction	86
The Present Study	91
Method	92
Participants	92
Therapists	94
Treatment Settings	95
<i>Open trial</i>	95

<i>Routine Practice</i>	96
Measures	96
Procedures	98
Statistical Analysis	99
Results	99
Differences in pre-therapy patient characteristics, treatment credibility, and outcome expectation per treatment setting (goal 1)	99
Effects of treatment setting on baseline outcome expectations and pre- therapy patient characteristics (goal 2 and goal 3)	100
<i>Primary Analysis</i>	100
<i>Multi-predictor models on the outcome expectations at the pre-         therapy</i>	102
<i>Interaction of model of the pre-therapy patient characteristics         variable and the treatment setting variable</i>	103
Discussion	103
References	108
<b>CHAPTER IV- WHAT WORKS IN BLENDED THERAPY? A CLIENT CHANGE PERSPECTIVE IN BLENDED THERAPY INTERVENTION FOR DEPRESSION IN PRIMARY CARE</b>	115
Abstract	116
Introduction	117
Client perspective of the change process	119
Present Study	121
Method	122
Clients	123
Therapist	124
Research	124
Judges	125
Treatment	128
Measures	130
Procedures	131
Coding Procedures	131
Results	134

Client symptoms in the course of therapy	135
Outcome	136
Client Change Process	136
<i>Summary of the Arguments</i>	137
Discussion	138
References	142
<b>CONCLUSION</b>	151
Validation and psychometric quality of measures of treatment credibility and outcome expectations and satisfaction with treatment	152
Effects of Treatment Settings on Outcome Expectation, Treatment Credibility, and Pre-Therapy Client's Characteristics	153
Client perspective on change in blended therapy for depression	158
Limitations	160
Conclusions, future research, and clinical implication for the practice	162
<b>REFERENCES</b>	164

## TABLES

Table 1. <i>Description of the face-to-face session and online models of blended therapy of iCare4Depression</i>	8
Table I: Table 1. <i>Factor descriptive analysis of Portuguese version of CEQ</i>	44
Table I: Table 2. <i>CEQ factor structure for Portuguese population</i>	45
Table I: Table 3. <i>Correlation of CEQ and symptoms measures: Discriminant validity</i>	47
Table I: Table 4. <i>Linear regression analysis of CEQ and general symptoms (CORE-10) in session 3</i>	48
Table II: Table 1. <i>Description of Normality and homogeneity assumptions (Skewness and Kurtosis of each item) CSQ-18</i>	69
Table II: Table 2. <i>Correlation matrix of items of CSQ-18</i>	71
Table II: Table 3. <i>Exploratory factor solution for the CSQ-18 items</i>	72
Table II: Table 4. <i>Bootstrapping exploratory factor solution for the CSQ with 14 items</i>	72
Table II: Table 5. <i>Bootstrapping adjustment of the factorial solution for the CSQ with 14 items</i>	72
Table III: Table 1. <i>Description of pre-therapy patients' characteristics (N = 134)</i>	93
Table III: Table 2. <i>Diagnosis by DSM-5 in both contexts</i>	94
Table III: Table 3. <i>Bivariate correlation between the predictors of treatment credibility and outcome expectation pretreatment</i>	100
Table III: Table 4. <i>Multipredictor model and Interaction Model of the effect of treatment setting and pre-therapy patients' characteristics on the outcome expectation</i>	102
Table IV: Table 1. <i>Description of the face-to-face session and online models of blended therapy of iCare4Depression</i>	125
Table IV: Table 2. <i>Symptom's evolution in face-to-face sessions</i>	132

Table IV: Table 3. <i>Depressive symptoms (PHQ-9) at the end of each module on the online platform (Moodbuster)</i>	134
Table IV: Table 4. <i>Description of depressive symptoms, treatment credibility, and expectation of treatment, treatment satisfaction in T0, T1, T2, T3</i>	134
Table IV: Table 5. <i>Exercises completed by the client in the module of psychoeducation at the beginning of therapy and the relapse prevention module at the end of therapy in Moodbuster Platform</i>	134
Table IV: Table 6. <i>Summary of client change and rating at the second follow-up Change interview</i>	135

## FIGURES

Figure I: *Figure 1*. Path diagrams of Confirmatory model of CEQ with for two 46  
factor model without a good fit adjustment's indices  $\{\chi^2(4) = 13.711; \chi^2/df =$   
 $3.428 p = .008, CFI = .94, GFI = .95, TIL = .86, RMSEA = .17\}$

Figure I: *Figure 2*. Path diagrams of Confirmatory model of CEQ with for two 47  
factor model, factor of credibility, with item 1, item 2 and item 3, with a cross-  
load of the error of item 3 on the error of the item 2; and the factor of  
expectation with item 4 and item 6. This model presented an adequate fit  
adjustment's indices  $\{\chi^2(3) = .596; \chi^2/df = .199 p = .897, CFI = 1.00, GFI =$   
 $.99, TIL = 1.05, RMSEA = .000\}$



## **INTRODUCTION**



## **Effectiveness: Face-to-face psychotherapy versus blended interventions**

Over the last few decades, research on the effectiveness of face-to-face psychotherapy has consolidated its effects, not only in different therapeutic models but also when compared to the effects of medication (Cuijpers et al., 2020; Kamenov et al., 2016). Several meta-analyses verified these results in different therapeutic models, such as psychodynamic therapies, cognitive behavioral therapy, humanistic-experiential therapy, (Braun et al., 2013; Cuijpers et al., 2008, 2013, 2021) in different mental disorders (e.g. depression and anxiety; Cuijpers et al., 2008, 2013, 2021); and in different intervention context, (e.g. clinical trials and primary health care; Cuijpers et al., 2019; Linde et al., 2015; Twomey et al., 2015; Zhang et al., 2019). The results of these meta-analysis showed that clients treated with different therapeutic models, presented good therapeutic outcome at the end of therapy decreasing depressive symptoms to not clinically significant (Cuijpers et al., 2008, 2019, 2021). Even in the cognitive behavioral therapy with a remote therapist or self-guided, present similar results, which may suggest that these modality may have comparable efficacy to traditional psychotherapy (Linde et al., 2015; Zhang et al., 2019). According with Braun et al. (2013) although psychotherapy has similar efficacy in different models, this tends to be lower in psychodynamic therapy and cognitive behavioral therapy tends to be more effective in 90-minute sessions. Twomey et al., 2015 and Cuijpers et al., 2013 of that found that clients treated with psychotherapy in different diagnoses, namely anxiety and obsessive-compulsive disorder, in the primary care have a better recovery of symptoms than clients treated with the medication or the usual treatment. Research has gone even further and explored the maintenance of long-term effects of psychotherapy. Braun et al. (2013) in a meta-analysis verified that effectiveness of face-to-face psychotherapy is maintained up to 24 months after the end of the intervention in different psychotherapeutic models. This suggest that

the gains in recovery from depressive symptoms are maintained after 24 months of completion of face-to-face psychotherapy. More recently, a network meta-analysis found similar results, indicating that cognitive behavioral and psychodynamic therapies have a greater effect on support of psychotherapy effectiveness in the long term when compared to usual care (Cuijpers et al., 2021). The results of this network meta-analysis suggest that psychotherapy has a greater impact on the reduction of depressive symptoms than the usual treatment of primary care. Comparative studies on the effectiveness of psychotherapy using other types of intervention such as medication, or even a combination of interventions, i.e., psychotherapy and medication (Cuijpers et al., 2020; Kamenov et al., 2016) also show favorable results to psychotherapy effectiveness when used as only intervention method (Cuijpers et al., 2020; Kamenov et al., 2016). However, a meta-analysis performed by Kamenov et al., (2016), which evaluated the impact of the type of intervention (i.e., psychotherapy, medication, and a combination of both) on the quality of life of depressed clients, revealed that psychotherapy alone has a greater impact on the client's functioning and quality of life. According to Kamenov et al. (2016) depressed clients treated with psychotherapy with a duration higher than 3 months of treatment had an increase of functioning and quality of life.

Although the encouraging results of face-to-face psychotherapy are effective in the treatment of different mental disorders and about 75% of clients prefer this type of intervention (McHugh et al., 2013; Zhang et al., 2019), there is a gap in the accessibility to this kind of treatment (Alonso et al., 2007; Knudsen et al., 2022; Olsson et al., 2021; Rens et al., 2022). The medication remains the most used form of treatment (Cuijpers et al., 2019; Olfson & Marcus, 2010), even with the increase in the prevalence of anxiety and depression, which according to the World Health Organization (2017) is one of the most disabling disorders in the world. Several causes can explain the increase in

prevalence, from the economic impact and labor productivity, but also the increase in symptom severity when they access mental health services (National Health Council, 2019). Despite this scenario, the Covid-19 pandemic situation has worsened these numbers (Czeisler et al., 2020). Only in the first year did the prevalence of depressive and anxious symptoms increase 7 times (Czeisler et al., 2020; Xiong et al., 2020).

Before the pandemic period, a study on the prevalence of mental disorders in Portugal revealed that about 8% of diagnoses were depressive disorders, and 17% were anxiety disorders (Almeida et al., 2013). The same study revealed that about 81% of mild depressions and 34% of severe ones do not receive treatment due to the lack of intervention resources (Almeida et al., 2013). During the pandemic period due to COVID-19 a study of the impact in mental health and access to the mental health care system in Portugal reveals an increase in the need of intervention (Almeida et al., 2020). 33.7% of participants of the general population report the need of psychological support (Almeida et al., 2020). 27% reported moderate to severe symptoms of anxiety and 26.4% of depression, denoting a worsening of the prevalence compared to the results presented in the pre-pandemic period (Almeida et al., 2020). 24.1% of participants indicate that they do not have easy access to face-to-face psychological and emotional support, although 31.6% indicate that they have easy access to this support through the helpline (Almeida et al., 2020).

The post-pandemic period we have been living due to Covid-19 may exacerbate the need for mental health interventions (Knudsen et al., 2022). In a pandemic period, internet-based interventions and blended therapy have acquired greater relevance and became a fertile field for research, and their effectiveness and acceptance overall increased (Békés & Doorn, 2020; Dores et al., 2020; Khatib et al., 2021; Wind et al., 2020).

Internet-based interventions and blended therapy have emerged as a possibility to respond to the needs of intervention in a short period, as well as being a possible response to situations of less severe symptomatology (Hedman et al., 2012; Richards & Richardson, 2012). These interventions have been identified as a solution to the gap between intervention needs and existing resources, because they are shorter and require fewer professional resources (Hedman et al., 2012; Richards & Richardson, 2012). The internet-based interventions consist of completing self-help online modules, fundamentally based on the cognitive behavioral model (Ebert et al., 2018). The therapists have no contact with clients, or minimal contact by email or telephone (Ebert et al., 2018). Studies have shown that internet-based interventions are effective in reducing depression and anxiety (Cuijpers et al., 2015; Donker et al., 2013; Ebert et al., 2018; Richards et al., 2018), being as effective as the treatments as usual in primary care. However, in pre-pandemic periods, Internet-based interventions had high dropout rates, due to low expectations and credibility of these treatments, as well as low satisfaction with the treatment, which led to low adherence to interventions (Donker et al., 2013; Etzelmueller et al., 2020; Gerhards et al., 2011; Sanders et al., 2012). Furthermore, clients reported that these interventions have some disadvantages, specifically were too impersonal and generalist, as well as requiring high autonomy and little professional follow-up (Bendelin et al., 2011; Donker et al., 2013; Gerhards et al., 2011; Knowles et al., 2015; Sanders et al., 2012). However, research conducted during the pandemic has indicated a growing acceptance of these interventions. A pilot study involving university students was conducted during this period, with the aim of evaluating the dropout and adherence rates to online interventions. The study findings revealed that out of the 84 participants, 33 individuals (39.3%) did not complete the online intervention, while a significant majority of participants (78.6%) successfully completed the entire online intervention (Young et

al., 2022). However, studies that explore these results more consistently will be important, considering the end of the pandemic period.

To overcome the disadvantages of online intervention blended therapy emerged as a possibility, adding to the advantages of face-to-face psychotherapy (Richards et al., 2018). Blended therapy offers face-to-face sessions, combined with online modules, similar to internet-based interventions, based on the cognitive behavioral model (Richards et al., 2018). The online modules have the same role as the face-to-face sessions in this intervention (Wentzel et al., 2016), but the online modules must be adjusted to take into account the client's therapeutic needs (Titzler et al., 2019; Wentzel et al., 2016). Blended therapy supports and motivates the clients to follow the therapeutic process taking into account their characteristics and using the online platforms dynamically and flexibly (Titzler et al., 2019; Wentzel et al., 2016). According with some qualitative therapists and clients identified several advantageous aspects of the intervention, including the preservation of client autonomy, enhanced professional support, and shorter treatment duration (van der Vaart et al., 2014). Furthermore, Wentzel et al. (2016) suggest that blended therapy promotes structured engagement between sessions, leading to improved treatment adherence, commitment, and involvement. This positive effect is facilitated by the therapist's support and the personalized nature of the treatment.

The results on the effectiveness of blended depression treatment have been promising, when compared to the treatments as usual in primary care (Erbe et al., 2018; Kooistra et al., 2014; Mathiasen et al., 2016; Richards et al., 2013). An open trial within the iCare4Depression project (PTDC/MHC-PCL/1991/2014 - [www.icare4depression.ismai.pt](http://www.icare4depression.ismai.pt)) the main project where this Doctoral Thesis is integrated) had as its main goal to assess the applicability and effectiveness of blended therapy for depression in Portugal. In this project, the clients had 10 face-to-face sessions

complemented by 7 online modules, which included the following modules, an introductory module, psychoeducation, behavioral activation, physical exercise, problem solving, and relapse prevention (see Table 1).

Silva et al. (2023) Table 1. *Description of the face-to-face session and online models of blended therapy of iCare4Depression*. In Submitted

Module/ Face to face session	Objectives/contents
Introduction	Presenting the platform's functioning in a detailed manner to explain the process of blended therapy.
Face-to-face Session 1	Collection of problem history and explanation of session functioning
Psychoeducation	Raising awareness about depression and its treatment, assisting patients in setting therapeutic objectives, and encouraging self-reward through therapeutic exercises.
Face-to-face Session 2	Exploration of developmental history; Review and definition of objectives (in accordance with Psychoeducation online module).
Behavioral activation	Encouraging the establishment of a balanced daily routine that incorporates pleasurable activities. Providing exercises to identify and schedule pleasurable, routine, and necessary activities, while monitoring their impact on pleasure and competence.
Face-to-face Session 3	Review of performed/scheduled pleasure activities: analysis of task completion (expected levels of pleasure vs. experienced levels), obstacles to completion, new activities. Introduction to Physical Exercise and anxiety management (optional).

---

Physical exercise	Promoting the practice of physical exercise by offering psychoeducation on its benefits, providing strategies to overcome obstacles, and assisting in scheduling and monitoring its impact on mood.
Face-to-face Session 4	Introduction to Cognitive Restructuring; Training in thought recording.
Cognitive restructuring	Facilitating the alteration of patients' depressive automatic thoughts through psychoeducation, strategies, and exercises aimed at challenging and replacing them with more realistic thoughts.
Face-to-face Session 5 and 6	Cognitive Restructuring: Introducing the challenge component: practicing different challenge techniques during the session; creating alternative thoughts based on provided examples. Review of intervention objectives thus far. Introduction to Problem Solving (optional).
Problem-solving	Providing strategies for addressing various types of problems, including exercises for decision-making, planning, implementation, and evaluating the effectiveness of problem-solving strategies.
Face-to-face Session 7, 8 and 9	Continuation of cognitive restructuring of recorded thoughts or situations that occurred during the week. Exploration of Cognitive Schemas (optional - for clients who allow it). Review of problem record and solution planning, resolution of interpersonal problems, Problem-Solving - Unsolvable Problems (optional).

---

Relapse prevention	To encourage the recognition of warning signs and the development of action plans for coping with difficult future events, the self-help Moodbuster modules are available if necessary.
Face-to-face Session 10	Therapeutic process review along with the review of the online relapse prevention module.

Note: The distribution of online module completion can vary based on clients' needs. The modules for physical exercise and problem-solving are optional.

The design of the intervention, i.e., the number of face-to-face sessions and the online modules available was based on the previous research protocols in blended therapy (Kemmeren et al., 2016; Kooistra et al., 2016; Mathiasen et al., 2016). In the open trial conducted in Portugal, to investigate the clinical feasibility and effectiveness of blended therapy, the *Patient Health Questionnaire* (PHQ-9; Ferreira et al., 2018; Kroenke et al., 2001; Kroenke & Spitzer, 2002) and *System Usability Scale* (SUS; Brooke, 1996) were used as primary measures to monitor depressive symptoms and evaluate the acceptance of online platforms (Pineiro et al., 2021). Monitoring of depressive symptoms took place during the assessment session, follow-up sessions, as well as in all face-to-face sessions and at the end of each online module (Pineiro et al., 2021). The SUS was filled out by both clients and therapists during the follow-up sessions held at 16, 26, and 52 weeks after the start of the intervention. The results of open trial on the effectiveness of blended therapy in the treatment of depression showed a significant reduction in the severity of symptoms, even in cases with severe symptoms (Pineiro et al., 2021). It was also revealed that the client's experience with the *Moodbuster* platform was highly satisfactory, with significant levels of usability and satisfaction reported (Pineiro et al., 2021). According to this study, blended therapy seems to be effective in the treatment of

depression, and the clients who used the Moodbuster platform were easy to use and expressed overall contentment with their interaction with it (Pinheiro et al., 2021).

Similar results were found in several international research studies, which indicate that blended therapy has a higher effect on the reduction of depressive symptoms when compared with a waiting list, but also presents the same effectiveness as usual treatment in primary care (Erbe et al., 2018; Høifødt et al., 2013; Richards et al., 2013; van Breda et al., 2018). Richards et al. (2013), in a study done in the United Kingdom compared the effectiveness of blended therapy with usual treatment, with 235 clients in the first condition and 263 in the second. The results found that 48.9% of the clients that received blended therapy recovered from depression after the intervention and maintained the results until after 12 months of treatment (Richards et al., 2013). It was also found that in the usual treatment group, 35.4% of clients achieved and maintained positive results after 12 months of intervention (Richards et al., 2013). Blended therapy appears to be as effective as the usual treatment in the primary, as this effect persists for at least 12 months after the completion of the intervention (Richards et al., 2013). In other studies, done in the Netherlands and Norway the clients also presented higher levels of treatment satisfaction and engagement with online modules on blended treatments (Høifødt et al., 2013; Kooistra et al., 2016). The studies of the effectiveness of blended therapy during the Covid-19 pandemic are consistent with the previous research showing a reduction of depressive and anxiety symptoms and an increase in adherence to the online platforms (Mathiasen, 2022; Owusu et al., 2022). For example, the study by Owusu et al., (2022) examines the results of expanded implementation of blended therapy for the treatment of anxiety and depression symptoms. The study included clients who initiated the intervention between September 3, 2019, and July 21, 2021, in the United States of America (Owusu et al., 2022). In this study participated, 6,738 American clients with

symptoms of depression and anxiety. The results revealed that 81.5% experienced a reduction in symptoms of depression and anxiety by the end of the intervention, highlighting the effectiveness of blended therapy during the pandemic period (Owusu et al., 2022).

The current research has also revealed that clients consider online modules to be important to consolidate the learning about the therapeutic model, promote greater involvement in face-to-face sessions, and allow for a reflection process beyond face-to-face sessions, making therapy ubiquitous (Cerga-Pashoja et al., 2020). A qualitative study explored the advantageous aspects according to the therapists and clients upon the applicability and acceptance of blended therapy (van der Vaart et al., 2014). The results evidenced very positive aspects: the maintenance of client autonomy, greater professional follow-up, and shorter intervention time were the aspects considered by therapists and clients to be advantageous (van der Vaart et al., 2014). Also, according to Wentzel et al., (2016) in blended therapy, the clients are encouraged to keep the treatment between the sessions in a structured way, the personalized support by the therapist increases the adherence and a higher commitment and involvement in the treatment. The online tools facilitate the bridge between therapeutic content and client progress in face-to-face sessions (Cerga-Pashoja et al., 2020). According to Urech et al. (2018), the clients consider that blended therapy presents various advantages for the treatment of depression, specifically the support of the therapist not only in the face-to-face session but also in the client's adherence to the online modules. Moreover, the client's perception of constant monitoring increases the self-effectiveness perception empowered them with problem resolution (Urech et al., 2019).

## **Common factors in psychotherapy – A contextual model**

This modality of intervention is here to stay, and its effectiveness and acceptance are like face-to-face-psychotherapy. Having said that, it becomes increasingly relevant that research in blended therapy is oriented toward client change processes. Research in face-to-face psychotherapy has already shown that the effectiveness of interventions is often not only due to the intervention model and type of intervention, but also to relational, contextual, client, and therapist variables, i.e. the common factors of psychotherapy (Frank, 1973; Kazdin, 1979).

Common factors are elements that explain the change, and mechanisms of change that are similar across different intervention models in psychotherapy and predict part of its effectiveness (Kazdin, 1979). To understand the literature on common factors it is important to note that several explicative models for common factors have been proposed and highlight the importance of specific factors. Although exist, other common factor models like the first model of Rosenzweig (1936), the model of Frank (1961) purposed in the *Persuasion and Healing*, the model of Goldfried (1980), recently a contextual model has been proposed by Wampold (c.f. Wampold, 2015; Wampold & Imel, 2015; Wampold & Ulvenes, 2019). The contextual model possibly is the more complete model that explains the approach of the common factors, and for that, we will give it particular attention. This approach is influenced by the work of Frank (1961) and according with the contextual model exists three mechanisms through which psychotherapy produces its effects after the establishment of an initial connection (Wampold, 2015; Wampold & Ulvenes, 2019), namely: 1) the existence of a real therapeutic relationship; 2) the creation of expectations through the explanation of the treatment involved; and 3) specific ingredients which promote adaptative actions (Wampold, 2015; Wampold & Ulvenes,

2019). These three pathways can produce benefits in psychotherapy (which means that we can have several mechanisms underlying these pathways).

The first path is the real therapeutic relationship in psychotherapy, which is influenced by different social processes underlying an unusual relationship based on confidentiality, with boundaries where the disclosure of difficult material does not compromise it and is even encouraged (Wampold, 2015; Wampold & Ulvenes, 2019). The therapeutic alliance and empathy are presented in the literature as a mechanism of change in psychotherapy, presenting an important role in the prediction of the effectiveness of psychotherapy, even in blended treatments (Ly et al., 2015). However, when clients initiate psychotherapy, they also have expectations about the treatment, considering their previous experiences, recommendations, and cultural beliefs (Connell, et al., 2006). The initial interaction between the patient and therapist is crucial because research indicates that a higher number of patients tend to discontinue therapy prematurely after the first session compared to any other stage of therapy (Connell, et al., 2006). Further, several research found that therapeutic alliance is to be related to dropout in the psychotherapeutic process (Ghaemian et al., 2020; Johansson & Eklund, 2006; Sharf et al., 2010) A meta-analysis of 11 studies aimed to examine the relationship between therapy dropout and therapeutic alliance in individual psychotherapy (Sharf et al., 2010). The results demonstrate a moderately strong relationship between therapy dropout and therapeutic alliance, suggesting that clients with lower therapeutic alliance are more likely to discontinue psychotherapy (Sharf et al., 2010).

The second path concerning expectation arises from the fact that the clients are also impacted by a series of other factors, shaping their outcome expectations (e.g. previous experiences, recommendations, and cultural background; Benedetti, 2014). According to the contextual model, clients seeking psychotherapy want an explanation

for their suffering shaped by their own psychological beliefs (also called “folk psychology”; Thomas, 2001). These beliefs are influenced by cultural conceptions, but also by the client’s idiosyncrasies (Wampold, 2015). Psychotherapy explains the client’s difficulties, in the sense that provides a means of overcoming or coping with these difficulties, which increases their expectations about the treatment result. According to Frank and colleagues (1991), the expectation in psychotherapy is a source of remoralization. However, in this path, the critical moment for the client’s expectations is that explanation and action need to be consistent in the therapeutic process (Wampold, 2015). The client and therapist need to agree on therapy goals and tasks, two critical components of the therapeutic alliance (Crits-Christoph, et al., 2006; Horvath, 2006). The creation of expectations depends on the consistency of the theoretical explanation of the client's difficulties and of the intervention tasks, which contributes to the increase of the client's credibility in the intervention (Wampold, 2015; Wampold & Ulvenes, 2019). A strong therapeutic alliance throughout the therapeutic process can be seen as a good indicator to validate that the treatment is meeting the client's expectations (Wampold, 2015). Further on, we will explicit the contributions of expectations and credibility and their impact in the initial phase as well as throughout the therapeutic process.

In the contextual model, there is the last path, which refers to the treatment's specific ingredients. According to this model if clients consider the treatment to be credible and create the necessary expectations to overcome their problems, then the treatment will have well-specified therapeutic strategies for their resolution, named specific ingredients (Wampold, 2015; Wampold & Ulvenes, 2019). The specific ingredients play a very important role because, in addition to contributing to the creation of expectations (second path). The adoption of adaptive actions for each empirically validated intervention model is also promoted by the specific ingredients (Wampold,

2015). The therapeutic alliance is fundamental in this contextual model because without strong collaborative work, the client will struggle to adhere to the tasks proposed in the intervention (Wampold, 2015).

The contextual model tries to present a theoretical base to the common factors and reiterate their importance as therapeutic, not only to the research in psychotherapy but also to the clinical practice (Wampold, 2015; Wampold & Ulvenes, 2019). The research in the last decades has focused on several common factors, e.g empathy, alliance, and expectations. Given the scarce research on blended therapy and the relevance to the contextual model we only will review the empirical research about the expectations and credibility.

### **Outcome Expectation and treatment Credibility: Definition and measures development**

The research about outcome expectations and consequently about treatment credibility is connected to the research on common factors, mechanisms of the client change process, and process-outcome research in psychotherapy. However, the role and relevance of these constructs in research and clinical practice have only gained importance in the recent history of psychotherapy research. Thus, there is still a wide field to explore regarding the role of expectations and treatment credibility, not only in face-to-face psychotherapy but also in blended therapy and internet-based interventions.

A good starting point for this review is the definition of expectations and credibility, which – although related constructs – present themselves with different definitions and roles in the psychotherapeutic process. Expectations refer to the improvement that the client believes they will achieve with a specific treatment, having a higher focus on emotional processes (Deville & Borkovec, 2000). Expectations are often

related to the clients' perception of the therapist's skills, in how they believe in the therapeutic approach (Constantino, Coyne, et al., 2018). The expectations already exist before any contact with the therapist and inform the prognosis that clients have about the treatment they will receive (Constantino, Visla, et al., 2018). The expectations are influenced by several factors, namely: client history; therapist actions; dynamics between client and therapist, and results that are achieved during the treatment (Constantino, Visla, et al., 2018). These can often be out mismatched against the possible results. Expectations can be distinguished in: a) positives, when the client believes the treatment will work; b) lacking, when the client cannot imagine an outcome; c) negatives, when the client believes the treatment will not work; d) ambivalent situations, when exists a fluctuation regarding the effects of treatment (Constantino, Visla, et al., 2018).

Credibility refers to how reliable a treatment is (in the perspective of a given client). Treatment credibility can be influenced by the client's personal history or by the beliefs related to the etiology of the mental diseases (Constantino, Coyne, et al., 2018). In other words, if a specific therapy/treatment was effective in the past with a specific client, the perception would be that it is more credible than other interventions; or, if a client considers that the etiology of their problems is due to childhood experiences, the client will anticipate an intervention focused on attachment as more credible (Constantino, Coyne, et al., 2018).

Across the evolution of the research in outcome expectations and credibility, several measures have been developed and validated for different populations, namely: the Milwaukee Psychotherapy Expectations Questionnaire (Norberg et al., 2011); the Patients' Therapy Expectation and Evaluation Questionnaire (Schulte, 2008); the Anxiety Change Expectancy Scale (ACES; Dozois & Westra, 2005); the Credibility Scale

(Borkovec & Nau, 1972) and the Credibility/Expectancy Questionnaire (CEQ; Devilly & Borkovec, 2000).

The Milwaukee Psychotherapy Expectations Questionnaire (MPEQ) is one of the measures that assesses outcome expectations (Norberg et al., 2011). This measure has 13 items, with 2 factors: process expectations and outcome expectations. The items follow a Likert scale from 0 (not at all) to 10 (very much). Norberg et al. (2011) explored the psychometric properties of this measure in 3 students' samples. The results revealed that MPEQ has an internal consistency higher than .85.

The Patients' Therapy Expectation and Evaluation Questionnaire (PTEE) is another measure constituted by 11 items, with three subscales, that assess the hope of improvement, fear of change, and suitability (Schulte, 2008). The items follow a Likert scale from 1 (absolutely wrong) to 5 (absolutely right). This measure was validated for different populations, like anxiety and depression disorders, and the authors did not find any differences between them (Schulte, 2008). This measure also presented a higher internal consistency in all the subscales ( $\alpha=.89$  for the hope of improvement,  $\alpha=.73$  for fear of change, and  $\alpha=.81$  for suitability; Schulte, 2008).

The Anxiety Change Expectancy Scale (ACES; Dozois & Westra, 2005) assesses the efficacy expectation of change in anxiety disorders. It is as a measure with 20 items, following a Likert scale from 1 (strongly disagree) to 5 (strongly agree). This measure presents good psychometric properties in an undergraduate students sample ( $\alpha=.91$ ; Dozois & Westra, 2005).

The Credibility Scale is constituted by 5 items and was developed by Borkovec and Nau (1972). This scale assesses the client's perception of treatment credibility. However, during its development period, several criticisms were raised (Constantino, Visla, et al., 2018), namely: the absence of psychometric validation, difficulty in

distinguishing with the expectations construct, and being seen as an outcome measure by several researchers. Proceeding with a renewed interest in the investigation of expectations and credibility, a new measure was derived, overcoming the criticisms considered previously (Constantino, Visla, et al., 2018).

Hence, the Credibility/Expectancy Questionnaire (CEQ; Devilly & Borkovec, 2000) is constituted of 6 items with two subscales: the first one assesses the credibility, and the other assesses outcome expectations (Devilly & Borkovec, 2000). The credibility subscale explores three dimensions: if the treatment appears logical; if the treatment appears useful; and if the treatment is reliable. The expectation subscale explores: the improvement that clients think will occur; if clients feel that this therapy will help them; if clients feel that improvement will occur (Coste et al., 2019). This measure is scored on a Likert scale ranging from 1 to 9 (e.g., 1 means “not at all”, 5 “somewhat”, and 9 “very much”) or from 0% to 100% (in 10-point increments). Items 4 and 6 are coded from 0% -100% and are converted linearly on a Likert scale from 1 to 9 (Devilly & Borkovec, 2000; Nock et al., 2007; Smeets et al., 2008). This self-report measure is easily applicable to different clinical settings and treatments.

The CEQ is now the mostly used measure to assess expectation and credibility (cf. Cohen et al., 2015; Greenberg, Constantino, & Bruce, 2006; Newman & Fisher, 2010; Sochting et al., 2016; Thompson-Hollands et al., 2014; Tompkins, Swift, Rousmaniere, & Whipple, 2017). The CEQ validation study aimed to assess the psychometric properties of this measure in three clinical samples of generalized anxiety disorder, and post-traumatic stress disorder, and presented promising results regarding its factorial structure and internal consistency (Devilly & Borkovec, 2000). The results in the different samples were similar. In the three samples, two stable factors were found representing the subscales of treatment credibility and outcome expectation (Devilly & Borkovec, 2000).

The internal consistency in each factor was high, ranging from  $.79 < \alpha < .90$  for the expectancy subscale and ranging from  $.81 < \alpha < .86$  for the credibility subscale (Devilley & Borkovec, 2000). The internal consistency for the complete scale was also high, ranging from  $.84 < \alpha < .85$  in the different samples.

### **Empirical research on Outcome Expectation and Treatment Credibility**

Despite its relevance in the change process research in psychotherapy, when we consider the research on client outcome expectations and treatment credibility (Constantino, Coyne, et al., 2018; Constantino, Visla, et al., 2018; Newman & Fisher, 2010), the emphasis has been on tracing the association of these two constructs with psychotherapy outcome and with other psychotherapy process variables (e.g. adherence, therapeutic alliance; Constantino, Visla, et al., 2018; Newman & Fisher, 2010; Price et al., 2015).

A meta-analysis exploring the association between outcome expectations at an initial phase of treatment and psychotherapy outcome showed that higher expectations predicted better therapeutic outcomes and a higher therapeutic alliance (Constantino, Visla, et al., 2018). Similar results were found in other intervention contexts such as hospitals, and internet-based interventions, as well as for different mental disorders or clinical problems (e.g. depression, anxiety, chronic pain; Constantino et al., 2011; Newman & Fisher, 2010; Price et al., 2015; Thompson-Hollands et al., 2014). Research that assesses the predictive role of expectations in a more advanced phase of the therapeutic process in the outcome, has been limited. However, the available empirical results show that clients who show less severe symptoms at the begin of the treatment and have higher outcome expectations, in a later phase of the process, not only present better results therapeutic and a reduction in interpersonal problems (Constantino et al., 2016).

A recent study with depressed clients that received face-to-face psychotherapy, explored the predictors of the change in outcome expectations during the psychotherapeutic process, through a multilevel analysis (Vîslă et al., 2019). In this study the client's characteristics was considered predictors of both, initial outcome expectation and change in outcome expectation across the therapeutic process. The outcome expectation was measured at screening, pretreatment, session 7, and session 14 (Vîslă et al., 2019). The results showed that the absence of previous episodes of depression was a predictor of that change (Vîslă et al., 2019). Another study with clients with Generalized Anxiety Disorder in face-to-face psychotherapy, which explored clients' characteristics could be predictors of their pretreatment outcome expectation, using multilevel analysis. To this purpose, the outcome expectation was measured at the pretreatment (Vîslă et al., 2021). The results revealed that predictors could be related to clients' characteristics, such as educational status, engagement to treatment, symptoms severity, and therapists' effects (Vîslă et al., 2021). However, more research is needed to gather more consistent results (Vîslă et al., 2021).

Regarding the research on treatment credibility, empirical studies explores its association with treatment outcome, and psychotherapy process variables, like the therapeutic alliance at the initial phase of the therapeutic process, treatment satisfaction, adherence, and treatment preferences (Ahmed & Westra, 2009; Alfonsson et al., 2016; Ametrano, 2011; Ametrano et al., 2017; Constantino, Coyne, et al., 2018; Park et al., 2019; Sandell et al., 2011; Smeets et al., 2008; Sochting et al., 2016; Uebelacker et al., 2018). Most of the research incorporated credibility as a co-variable (Ahmed & Westra, 2009; Ametrano et al., 2017), and only a few studies examined the potential of credibility as a therapeutic factor (Sochting et al., 2016). some studies have shown inconsistent associations between credibility and treatment outcomes (Uebelacker et al., 2018). These

may due the way treatment credibility has typically been operationalized and measured (Constantino, Coyne, et al., 2018).

However, a metaanalysis was conducted by Constantino, Coyne, et al., (2018) that aimed to explore the association between patients' credibility perception and their posttreatment outcomes. This meta-analysis included 19 articles with clinical samples of face-to-face psychotherapy. The CEQ was the only measure used that was not specifically developed for individual studies (Constantino, Coyne, et al., 2018). The results found a positive association between credibility and therapeutic outcome ( $r = .12$ ), with a small effect size indicating a small, but significant positive effect ( $d = .24$ ; Constantino, Coyne, et al., 2018). Although clients with greater treatment confidence have better therapeutic results, these results should be considered with caution considering the reduced number of studies included in this meta-analysis, for not meeting the inclusion criteria (Constantino, Coyne, et al., 2018). According to Constantino, Coyne, et al., (2018) more studies with clinical samples in clinical trials, contexts of routine practice are necessary for a greater consolidation of these results.

Research in face-to-face psychotherapy also found that clients' with higher credibility scores presented not only a better therapeutic alliance but a better therapeutic outcome and higher satisfaction with the treatment (Ametrano, 2011; Smeets et al., 2008; Sochting et al., 2016).

Similar results were observed for Internet-based interventions. A recent study on Internet-based interventions analyzed the predictive effect of credibility in dropout cases, adherence to treatment, and therapeutic outcome (Alfonsson et al., 2016). The results found that early dropout may be due to low credibility and adherence to treatment. They also found that the rate of access to online materials was associated with the client's previous beliefs about the intervention, namely those who showed higher credibility

scores had greater adherence (Alfonsson et al., 2016). These results were consistent with research that found that clients that have higher credibility also evidence higher adherence, especially if that treatment meets their preferences (Park et al., 2019; Sandell et al., 2011; Uebelacker et al., 2018).

### **Client Perspectives on Change**

In psychotherapy, the therapist is capable to promote the credibility of the treatment, by being more responsive and persuading and increasing the expectations that clients have about the therapy (Constantino, Coyne, et al., 2018; Constantino, Visla, et al., 2018). Prior research suggests that the presentation of a therapeutic *rationale*, empathically following the client, and persuasion are possible strategies that may promote treatment credibility and outcome expectancy and thus can be monitored during the therapeutic process (Constantino, Coyne, et al., 2018; Constantino, Visla, et al., 2018).

Yet, if there is one consistent result across several paths of process research in psychotherapy, with high relevance for its implication to the theory, practice, and intervention policies in psychotherapy, is the overall consensus upon the importance of the client's perspective of change (Bohart & Wade, 2013; Levitt et al., 2016; Timulak & Keogh, 2017; Wampold & Imel, 2015). Focusing on the client's perspective gives the therapist indicators for client change trajectories and their expectations across the treatment (Owen et al., 2015; Wampold & Imel, 2015). According to Timulak and Keogh (2017) exploring the client's perspective gives us important information about specific theoretical constructs (e.g. therapeutic alliance, expectations, satisfaction with the treatment), but also allows us to hear the client's voice about their experiences and changes prompted by therapy. The studies carried out in the client change process in psychotherapy may adopt quantitative (e.g. multilevel analysis or psychometric measures

of client variables) and qualitative, open-ended methodologies (e.g. grounded analysis, thematic analysis, cases studies) which access in an open-ended format to the client experiences in psychotherapy; Braun & Clarke, 2012, 2021; Bryant & Charmaz, 2012; McLeod, 2010; McLeod, et al., 2021; Lutz et al., 2021; Timulak & Keogh, 2017).

In contrast to qualitative research, quantitative research from the client's perspective on change fundamentally refers to the analysis of the relevance of theoretical constructs and their association with therapeutic outcomes. These include studies on expectations (Constantino, Visla, et al., 2018) and treatment preferences (Swift et al., 2012), as well as studies monitoring and gathering client feedback on the psychotherapy progress (Lambert, 2013). These studies' results indicate that more positive expectations about treatments result in therapeutic success/positive outcome, as well as that clients' psychotherapy preferences are significantly associated not only with the therapeutic outcome but also with the rates of dropouts. Another aspect analyzed in this kind of studies is client treatment satisfaction. Client treatment satisfaction gives us to access a more complete perspective of the client concerning the treatment plans (Pascoe & Attkisson, 1983), or as an assessment of the quality of services (Säilä et al., 2008). Also, it can provide important information about the treatment that is made available to identify unsatisfied clients' needs (Carlson & Gabriel, 2001; Hanson et al., 2007). The research on client treatment satisfaction is associated with the treatment outcome, as well with the improvements in life quality (Blenkiron & Hammil, 2003; Donovan et al., 2002; Priebe et al., 2012; Smith et al., 2014). Clients with less satisfaction tend to disengage with the treatment (Blenkiron & Hammil, 2003; Hundt et al., 2013; Priebe et al., 2012).

The qualitative research in psychotherapy, specifically in face-to-face psychotherapy, has increased in the last decades, given that the quantitative measures reflect strict questions deriving from the theoretical constructs and not allowing access to

the perspectives and experiences relevant to the clients who are the target population of the therapeutic process (Timulak & Keogh, 2017). On this issue, Levitt et al. (2016) conducted a comprehensive qualitative meta-analysis of clients' experiences in psychotherapy based on 109 qualitative studies. According to their results, there are five clusters inherent to the client's perspective. The first one is that the therapeutic process is a process of change, oriented by curiosity and a pattern of identification (Levitt et al., 2016). Secondly, the importance of collaboration and recognition of differences in the client-therapist relationship; the therapist's credibility appears as a source of trust; also, and the caring relationship that allows clients to benefit from therapy. Finally, it is crucial for clients to acknowledge the autonomy within therapy and the significance of adapting the treatment to their individual needs. (Levitt et al., 2016). The results of this meta-analysis, denote the active role of the client in the therapeutic process (Levitt et al., 2016). Qualitative research, besides, allows a clearer representation of the client's experiences and also helps to explain the functioning of common factors in the therapeutic process, being able to guide clinical practice and future investigations (Levitt et al., 2016).

Case studies in psychotherapy are another way to analyze the clients' perspectives and the effectiveness of the psychotherapeutic process (McLeod et al, 2021). Besides being able to collect quantitative data on the therapeutic outcome, case studies are fundamentally focused on the qualitative analysis of process data that allows for exploring the clients' perspectives of the change process (McLeod et al, 2021). Another purpose is the analysis of changes in the client's perspective due to therapy or other extra-therapy elements (e.g., life events or client self-help; McLeod et al, 2021). Case studies are particularly important when the therapy is innovative and is still in evaluation (e.g., online intervention or blended therapies). There are different methods for analyzing case studies;

the most rigorous and common are the hermeneutic single-case efficacy (Elliott, 2002) or narrative case study methodologies (McLeod, 2010).

The hermeneutic single-case efficacy design is an interpretive approach used to evaluate treatment causality in individual therapy cases (Elliott, 2002). This approach utilizes quantitative and qualitative methods to establish a network of evidence. Firstly, it identifies direct demonstrations of causal connections between the therapeutic process and its outcomes (Elliott, 2002). Subsequently, it examines alternative explanations for observed changes during therapy to determine plausible non-therapy factors contributing to the apparent progress (Elliott, 2002). For this analysis, a collection of information about the client's therapeutic process is collected, including various outcome and process measures from multiple sources, for instance, the assessment through the Change Interview (Elliott, 2002).

Narrative case study methodologies involve examining and analyzing the personal narratives of clients and therapists within the therapeutic context (McLeod, 2010). The main aim of this approach is to understand how individuals make sense of their experiences, the meanings they attribute to events, and how these narratives influence their psychological well-being and therapeutic outcomes (McLeod, 2010).

Qualitative research oriented toward the perspective of clients' change and the impact that psychotherapy has on them presents important results for developing and improving the application of innovative therapeutic modalities. Regarding face-to-face psychotherapy, qualitative research denotes that the evaluation of effectiveness from the client's perspective is carried out based on clinical, and autobiographical elements and based on its agency (McLeod et al, 2021).

Recently, considering the relevance and the results on the efficacy of internet-based interventions and blended therapy we observed an increase in qualitative research

in this field, using open-ended interview questions, with grounded theory thematic analysis and only a few cases studies (Andersson & Berger, 2021; Braun & Clarke, 2012, 2021; Bryant & Charmaz, 2012; McLeod, 2010; McLeod, et al., 2021). However, these studies are still scarce and tend to focus on the acceptance of these interventions by clients (Cerga-Pashoja et al., 2020; Urech et al., 2019). Qualitative research that explored clients' perception of Internet-based interventions reveals that they are seen as impersonal (i.e. without contact with a professional), generic (i.e. ignoring clients' idiosyncrasies), and requiring high technological mastery (Gerhards et al., 2011; Knowles et al., 2015; Sanders et al., 2012). Clients also consider the motivation for the process to be a key element considering the high autonomy of these interventions (Bendelin et al., 2011). These results are in line with a systematic meta-synthesis of this literature, but a review of qualitative studies of Internet-based interventions, suggests that these barriers can be overcome with greater personalization of treatments (Knowles et al., 2014).

In blended therapy, the client's perspective has been explored usually focusing upon the acceptance and usability of this modality of psychotherapy, as well as in the analysis of its barriers and advantages (Cerga-Pashoja et al., 2020; Titzler et al., 2019; Urech et al., 2019). The results of these studies reveal that clients consider online modules to be important to consolidate the learning about the therapeutic model, promote greater involvement in face-to-face sessions, as well and increase the reflection process beyond face-to-face sessions, making therapy ubiquitous (Cerga-Pashoja et al., 2020). Online tools also allow in-face-to-face sessions to make it easier to follow and bridge the gap between therapeutic content and client progress (Cerga-Pashoja et al., 2020). According to a study by Urech et al. (2018), clients consider that blended therapy presents various advantages for the treatment of depression, specifically the support of the therapist not only in the face-to-face session but also in the adherence to the online modules. Also, the

clients have a perception of constant monitoring increases their self-efficacy perception empowered them in problem resolution (Urech et al., 2019). Several clients consider blended therapy more efficient than face-to-face therapy or internet-based interventions (Urech et al., 2019).

### **The present research**

Internet-based interventions in recent years have been pointed out as a possible answer to making depression treatments more accessible and maintaining the effectiveness of face-to-face psychotherapy. The Covid-19 pandemic made these interventions acquire even more importance, becoming the spotlight on research. However, despite their effectiveness, these interventions have some disadvantages, e.g. high rates of dropouts and relapses. Blended therapy (i.e. face-to-face sessions combined with online modules) has emerged as a possible alternative and with promising results. However, the current research focuses essentially on studies of efficacy and client acceptance of these interventions. The clients' perspective on the change process has not been explored, as well as the role of some common factors, such as credibility, expectations, and treatment satisfaction.

The present investigation is the result of a funded project "iCare4Depression" (PTDC/MHC-PCL/1991/2014 - [www.icare4depression.ismai.pt](http://www.icare4depression.ismai.pt)), which evaluated the effectiveness of blended therapy for depression in primary health care. This research aims to explore the client's perspective on the use of blended therapy for the treatment of depression in the context of routine practice and in primary health care, using quantitative and qualitative methodologies. Thus, we can divide this research into 4 studies: the first two studies refer to the validation for the Portuguese population of the Treatment Credibility and Expectancy (CEQ) and the Client Satisfaction Questionnaire-18. As

previously presented, credibility and expectations are considered variables associated with the processes of change in psychotherapy, being associated with the therapeutic result, but also allowing us to access the client's perspective on the process itself.

The Treatment Credibility and Outcome Expectancy scale is one of the most used measures in research to assess these constructs, and it had not been validated for the Portuguese population when this research began. Satisfaction with treatment, in a similar way to credibility and expectations, allows us to access the view that the client has about the treatment at the end of it, with the Client Satisfaction Questionnaire-18 being the most used instrument and with good psychometric qualities. Thus, these two initial studies have as their primary objective to explore the psychometric properties of a Portuguese version of these measures, applied in the context of routine practice, and carrying out a factorial and robustness analysis for each of the instruments.

The third study's aims were to examine the disparities in treatment credibility and outcome expectations based on pre-therapy patient characteristics in distinct treatment settings (routine practice and open trial) at baseline. Additionally, the study aimed to investigate the impact of treatment setting and pre-therapy patient characteristics on outcome expectations, as well as the potential interaction between these variables.

Finally, the fourth study is a case study analyzed through the hermeneutic single case study method, which assesses clients' perspectives on the changes experienced through a blended therapy treatment for depression, in a primary healthcare context. This study not only gives us a perspective on the treatment effectiveness for this client but also analyzes these client's changes and if they are due to the blended therapy treatment received.



## **CHAPTER I - PORTUGUESE VALIDATION OF THE CREDIBILITY/EXPECTANCY QUESTIONNAIRE IN ROUTINE PRACTICE<sup>1</sup>**

<sup>1</sup>This study has been published in the journal *Research in Psychotherapy: Psychopathology, Process and Outcome*, with the following authors: Sara Silva, Eunice Barbosa, João Salgado & Carla Cunha.

## **Abstract**

**Objective:** This study aimed to validate and explore the psychometric properties of the Credibility / Expectancy Questionnaire (CEQ) for the Portuguese population in the context of routine practice.

**Methods:** The sample includes 87 clients from a university psychotherapy clinic. All clients completed self-report measures to assess credibility and expectation (CEQ), as well as measures of general mental health (CORE), depressive symptoms (BDI-II) and therapeutic alliance (WAI) in session 1 and session 2.

**Results:** The exploratory analysis revealed the existence of two factors in CEQ for the Portuguese population, factor 1 credibility and factor 2 expectation. The measure demonstrated good internal consistency, test-retest reliability and good adjustment in the confirmatory analysis. In terms of convergent validity, no significant correlation was found between credibility and expectation and the therapeutic alliance.

**Discussion:** The results corroborate the CEQ psychometric qualities for the Portuguese population, also showing its applicability in a context of routine practice.

**Keywords:** Credibility, Expectation, Validation, Routine Practice, Psychotherapy

## **Credibility and Expectation – A Brief Construct Review**

Client's credibility and expectation in psychotherapy have been recently recognized as important aspects for the reduction of clinical symptoms (Constantino, Coyne, et al., 2018; Constantino, Visla, et al., 2018; Newman & Fisher, 2010). Credibility and expectations refer to the client's beliefs about the treatment and its role in achieving the desired changes, as well as the roles they and their therapists will adopt and engage throughout the therapy (Constantino et al., 2011; Constantino, Coyne, et al., 2018; Constantino & Westra, 2012). The recognition of the importance of these aspects is not just based on its impact on symptoms reduction, but also on the impact that clients' perceptions, motivations and actions have on therapy itself, such as a better understanding of the psychotherapeutic process, or a greater adherence and involvement in psychotherapeutic tasks (Constantino et al., 2011; Constantino, Coyne, et al., 2018; Constantino & Westra, 2012). Recently, several authors have been increasingly recommending the integration of empirically validated measures to assess client's credibility and expectation in clinical practice (cf. Andersson et al., 2012; Norberg et al., 2011; Twohig et al., 2010; Wahbeh, et al., 2016). However, these measures are often validated for specific intervention context or specific disorders. For this purpose, we will apply the Credibility Expectancy Questionnaire in the context of routine practice in a university psychotherapy clinic and evaluate the psychometric properties of the Portuguese version of this measure.

The Credibility/Expectancy Questionnaire (CEQ; Devilly & Borkovec, 2000) is one of the mostly used measures to assess the client's credibility and expectancy, which has shown results not only in reducing depressive, anxiety and general symptoms, but also in the increase of the therapeutic alliance in the psychotherapy (cf. Cohen et al., 2015; Greenberg, Constantino, & Bruce, 2006; Newman & Fisher, 2010; Sochting et al.,

2016; Stinson et al., 2018; Thompson-Hollands et al., 2014; Tompkins, Swift, Rousmaniere, & Whipple, 2017). It is a self-report questionnaire composed by 6 items clustered in two subscales: (1) credibility and (2) outcome expectation (Devilley & Borkovec, 2000). The credibility assesses how reliable the treatment is for the client (Devilley & Borkovec, 2000), which means, how much the client believes he/she can trust that treatment to be helpful for him/her and how helpful it will be. It is often related with the client's perception about the therapist's skills, measuring how much he/she believes in that therapeutic approach (Constantino, Coyne, et al., 2018). The expectation refers to the improvement that the client believes will be achieved with the treatment (Devilley & Borkovec, 2000; Stinson et al., 2018). The expectation precedes any contact with the therapist and is related to the client's expectation of how much he/she will improve with that particular treatment taking into account his/her perceptions upon it before treatment starts (Constantino, Visla, et al., 2018). While the credibility demands a higher cognitive focus, the expectation has a higher focus on emotional processes (Devilley & Borkovec, 2000). For instance, if a specific therapy/treatment was effective in the past with a specific client, the perception would be that it is more credible than other interventions (Constantino, Coyne, et al., 2018); or, if a client feels that he/she is not capable to complete a treatment due to a previous experience of dropout, he/she has a lower expectation about the result (Constantino, Visla, et al., 2018).

### **Psychometric properties of CEQ**

The psychometric properties of CEQ have been originally explored by Devilly and Borkovec (2000) in three clinical samples across three different contexts. In the first study, the first sample was comprised by 123 participants of a residential program for veterans receiving a one-week intervention focused on improving family functioning,

managing depression, anger and anxiety. The CEQ was filled at the day before the beginning of the treatment, after clients were informed about the treatment procedures. In the second study, the second sample was composed by 69 participants with generalized anxiety disorder, allocated into three therapeutic treatment conditions, namely: cognitive therapy (CT), relaxation and self-control desensitization, and also a combination of both. Each participant received 14 treatment sessions and the CEQ measures completed after sessions 1 and 2 were used for test-retest reliability (although the questionnaire was applied at the end of all sessions). Finally, the third study had a sample of 22 participants receiving cognitive behavior therapy (CBT) or eye movement desensitization and reprocessing (EMDR). The CEQ was applied at the end of the assessment session, after the therapeutic rationale had been introduced.

Across these samples, the authors found promising reliable results regarding the factorial structure, test-retest, internal consistency, and predictive capacity of CEQ (Deville & Borkovec, 2000). They found two factors, representing the subscales of credibility and outcome expectation. The internal consistency in each factor was high, ranging from  $.79 < \alpha < .90$  for the outcome expectation subscale, and from  $.81 < \alpha < .86$  for the credibility subscale. The internal consistency for the complete scale was also high, ranging from  $.84 < \alpha < .85$ . Also, a high inter-items correlation was found, specifically of  $.53 < r < .85$  in the expectation and of  $.62 < r < .78$  in the credibility factor. Results suggested a good reliability in the test-retest, namely with significant correlations in the outcome expectation ( $r = .82, p < .001$ ), and in the credibility subscales ( $r = .75, p < .001$ ). Finally, authors also reported that the expectation subscale was a good predictor of outcome ( $r = .39, p < .002$ ) on the generalized anxiety sample (Deville & Borkovec, 2000).

The CEQ has been validated in other intervention contexts, specifically, to assess parents' beliefs about their child's treatment for conduct problems (Nock et al., 2007) and for clients' beliefs on cognitive behavioral intervention for chronic pain (Smeets et al., 2008). The results are similar to the original version of the CEQ, showing good psychometric properties and the same factorial structure. Nevertheless, Nock and colleagues (2007) noted that item 5, which aims to assess expectations, cross-loaded on both factors. Even considering that in the original study the item 5 also cross-loaded on the credibility factor, it was suggested that in future studies items should be formulated with "I think" when assessing credibility and with "I feel" when tapping expectations.

Coste, Tarquinio, Rouquette, Montel, and Pouchot (2019) recently explored the psychometric properties of CEQ for the French population, namely through confirmatory analysis and test-retest reliability evaluation, with 206 patients diagnosed with post-traumatic stress disorder starting individual therapy. The CEQ was applied before the first session and after the presentation of the therapeutic rationale. The results corroborate those presented in the validation of the original version (Deville & Borkovec, 2000). Confirmatory factor analysis suggests that the most robust model has two factors, the first of credibility (item 1, item 2 and item 3) and the second of outcome expectation (item 4, item 5, item 6; Coste et al., 2019). The test-retest reliability evaluation, presented an excellent internal consistency with  $\alpha = .97$  for credibility and  $\alpha = .95$  for expectation (Coste et al., 2019).

Another recent study explored the content validity of CEQ with 17 patients with nonspecific chronic musculoskeletal pain or fibromyalgia from a clinical trial in pain rehabilitation with a motivational interviewing intervention (Mertens et al., 2013, 2017). The main question was how the patients responded and interpreted the CEQ before and during the intervention. The results suggested that there were no significant differences

in understanding the content of CEQ items. However, patients that had finished the treatment denoted the need to change their answer (Mertens et al., 2017). These results indicate that during the treatment, patients present different needs and understand the process of changing expectations in a distinct way (Mertens et al., 2017).

Previous research on the psychometric properties of CEQ has evidenced encouraging results by showing, in addition to good reliability indexes, good adjustment indexes and content validity for this measure. However, convergent and divergent validity was not considered in any of the previous articles (Coste et al., 2019; Devilly & Borkovec, 2000; Mertens et al., 2017; Nock et al., 2007; Smeets et al., 2008; Soto-Pérez & Franco-Martín, 2014), which is a limitation we hope to address in the present study (see below). The original validation article of the CEQ (Devilly & Borkovec, 2000) only explored predictive validity in relation to psychotherapy outcome, taking into account the improvements after the intervention in the depressive symptoms (assessed through the Beck Depression Inventory-II; Beck, Steer, Brown, 1996) and anxiety symptoms (assessed with the State-Trait Anxiety Inventory; Spielberger et al., 1970).

### **Aims**

Up until now, according to our review of the published literature there are no measures to assess treatment credibility and outcome expectation adapted to the Portuguese population. Also, previous studies were conducted on small samples (Devilly & Borkovec, 2000; Mertens et al., 2017; Nock et al., 2007; Smeets et al., 2008; Soto-Pérez & Franco-Martín, 2014); therefore, we hope to contribute to the literature on treatment credibility and outcome expectation by expanding the scope of the previous studies and using a larger sample of clients treated in routine psychotherapy practice.

The present study aims to adapt and validate the *Credibility/Expectancy Questionnaire* (CEQ; Devilly & Borkovec, 2000) to the Portuguese population, and specifically, to the routine practice of psychotherapy in a university counseling service. Since the CEQ is one of the credibility and expectancy measures that is most used in research, and previous studies showed good psychometric properties in different contexts of intervention and populations (Coste et al., 2019; Devilly & Borkovec, 2000; Mertens et al., 2017; Nock et al., 2007; Smeets et al., 2008; Soto-Pérez & Franco-Martín, 2014), the development of a Portuguese validation will contribute to foster research in this field. We aim to explore the psychometric properties and the factorial structure of CEQ, namely through exploratory factor analysis, confirmatory factor analysis, reliability test, test-retest. We will also expand the scope of the previous validation studies by analyzing the discriminant and convergent validity of the CEQ with depressive symptoms (assessed through the Beck Depression inventory; Beck, Steer, & Brown, 1996), anxiety symptoms (through the State-Trait Anxiety Inventory; Spielberger et al., 1970), general symptoms (Clinical Outcome Routine Evaluation – Outcome Measure 10; Barkham et al., 2013) and the therapeutic alliance (Working Alliance Inventory–6 items; Falkenström, Hatcher, Skjulsvik, Larsson, & Holmqvist, 2015).

## Method

**Participants:** This study involved 87 adult participants, all psychotherapy clients in a university counseling service, of whom 56,3% (n=49) were women and 43,7 % (n=38) were men, with no statistical differences found between these groups ( $\chi^2(86) = 87.00, p=.450$ ). Participants' ages ranged from 18 to 62 years old, with a mean age of 28 years (SD= 10.25); 44.8% (n=39) of the participants were employed, 36.8% were students (n=32); 9.2% (n=8) were unemployed; 6.9% (n=6) were working-students and 2.2%

(n=2) were maids or held other jobs from home. Also, 85.1% (n=74) of the participants were single, 10.3 (n=9) were married or in co-habitation and 4.6% (n=4) were divorced.

### ***Routine practice***

Participants were recruited from a university counseling service (University Institute of Maia (ISMAI), Portugal) with the aim to provide psychological support, psychotherapy and/or personal development services to the university community and to the surrounding community in general. Even though not all diagnostic information was available to all clients of this sample, to the ones that were, most were exhibiting the more common and prevalent emotional disorders, such as depression, anxiety and related disorders (Timulak et al., 2020). Therapists integrated in this counseling service adopt different empirically validated therapeutic approaches (e.g., Emotion Focused Therapy, Cognitive Behavioral Therapy) and receive clinical supervision provided by senior therapists, to support their evidence based clinical practices, As mentioned, the psychotherapy interventions follow empirical validated protocols ranging from 16 to 20 sessions. All the participants undergo an evaluation session, which implies the application of a clinical interview according with Diagnostic and Statistical Manual of Mental Disorders – 5th (DSM-V; American Psychiatric Association, 2013), namely *The Structured Clinical Interview for DSM-5® Disorders: Clinician Version* (SCID-V-CV; First et al., 2016), and the application of several questionnaires to assess depressive, anxious and general clinical symptoms. Along the psychotherapy process, these clinical symptoms are also monitored to provide an ongoing monitoring of client change throughout the therapeutic process.

## Measures

The *Structured Clinical Interview for DSM-5® Disorders: Clinician Version* (SCID-V-CV; First, et al., 2015) is a semi-structured interview which allows to collect, at an initial assessment moment, general data about psychopathological symptoms and disorders throughout the life cycle taking into account the classification and diagnostic criteria of the DSM-V (American Psychiatric Association, 2013).

The *Credibility/Expectancy Questionnaire* (CEQ; Devilly & Borkovec, 2000) is a self-report measure with 6 items to assess the clients' treatment credibility and outcome expectancy. In the credibility factor the items explore: if the treatment appears logical; if the treatment appears useful; and if the treatment is reliable. The outcome expectation items explore: the improvement that the patient thinks will probably occur; if the patient feels that this therapy will help him/her; if the patient feels that improvement will occur (Coste et al., 2019). This measure is scored on a Likert scale ranging from 1 to 9 (e.g., 1 means "not at all", 5 "somewhat", and 9 "very much") or from 0% to 100% (in 10-point increments). Items 4 and 6, coded from 0% -100%, are converted linearly on a Likert scale from 1 to 9 (Deville & Borkovec, 2000; Nock et al., 2007; Smeets et al., 2008). The CEQ in the original version is composed by two subscales: (1) treatment credibility (items 1, 2, and 3); and (2) outcome expectation (items 4, 5, and 6). The final scoring of this measure delivers a subscale score (computed by the sum of the items that compose each subscale), with a higher quotation indicating greater treatment credibility and outcome expectation (Deville & Borkovec, 2000; Nock et al., 2007; Smeets et al., 2008). As previously mentioned, the original English version of CEQ showed good psychometric properties with an internal consistency ranging from  $.84 < \alpha < .85$ .

The *Beck Depression Inventory-II* (BDI-II; Beck, Steer, Brown, 1996) is a self-report questionnaire that assesses the intensity of depressive symptoms. The Portuguese

version of the BDI-II has been developed by Coelho, Martins, and Barros (2002) from Beck and colleagues (1996). This measure comprises 21 items scored in a Likert scale ranging from 0 to 3 points. The total score indicates the intensity of depressive symptoms: mild depressive symptoms (from 0 to 13 points), mild depression (from 14 to 19 points), moderate depression (20 to 28 points) and severe depression (from 29 to 63 points). The Portuguese version has an internal consistency of .91 (Steer, Brown, Beck, & Sanderson, 2001).

The *State-Trait Anxiety Inventory (STAI)*; Spielberger et al., 1970) is a self-report questionnaire that evaluates the intensity of anxiety symptoms. The STAI is comprised by two sets of 20 statements to assess both the temporary, transitory anxiety (STAI-State) and the general anxiety (STAI-Trait). This instrument is scored in a Likert scale of 1 to 4 points. The Portuguese version presented good internal consistency, both on the STAI-State ( $\alpha = .89$ ) and STAI-Trait ( $\alpha > .88$ ; Silva & Campos, 1998; Silva, 2006).

The *Clinical Outcome Routine Evaluation – Outcome Measure 10 (CORE-10)*; Barkham et al., 2013) is a self-report measure that assesses mental health symptoms in different contexts. The CORE-10 is composed by 10 items clustered into 4 subscales: subjective well-being; complaints and symptoms; social and personal functioning; and risk behavior (Barkham et al., 2013). The 10 items are scored on a Likert scale that ranges from 0 (“never”) to 4 (“always”). The CORE-10 is a reduced version of the Clinical Outcome Routine Evaluation – Outcome Measure (CORE-OM; Sales, Moleiro, Evans, & Alves, 2012), a 34 items questionnaire translated and adapted for the Portuguese population (Sales et al., 2012). The Portuguese version presented a good internal consistency ( $\alpha > 0.80$ ).

The *Working Alliance Inventory–6 items (WAI-6)*; Falkenström et al., 2015) is composed of 6 items that evaluate the quality of the therapeutic relationship using a likert

scale from 1 (“never”) to 5 (“always”; Falkenström et al., 2015). The WAI-6 is a reduced version of the 12 items Working Alliance Inventory – Short Revised (WAI-SR; Horvath & Greenberg, 1989) translated and validated to the Portuguese population by Machado and Horvath (1999). The Portuguese version has an adequate reliability ( $\alpha = .95$ ; Machado & Horvath, 1999).

### **Procedures**

First, authorization was requested and provided by the authors of the CEQ for the translation, use, and validation of the measure for the Portuguese population. Second, the measure was translated into Portuguese. The translation process went through different phases: initially, the translation was carried out by two independent researchers who speak both languages; then, a synthesis of the first translation was carried out by the main researcher; finally, there was a back-translation and revision performed by an auditor, fluent in both languages. Third, the current study was submitted and approved by the ethical committee of the University (ISMAI, Portugal). The goals of the research were initially presented to all clients initiating psychotherapy at the university psychotherapy clinic and, when they agreed to participate in this study, researchers gathered their informed consent regarding the collection of the assessment data. Following the protocol of the clinic, all the clients had an initial assessment with the SCID-V, in order to assess clinical diagnosis. These clinical data are included in the clinical and confidential processes managed by the therapists, and the informed consent approved for this study did not include access to them. In this study only anonymous data collected a priori. Also, in this session where filled the BDI-II and the STAI measures. The CEQ was applied in at the end of session 1 and 2 (with a two week interval between the sessions). The CORE-10 was applied at the beginning of sessions 1, 2 and 3; and the WAI-6 at the end of the

session 1 and 2. This assessment protocol allowed the analysis of the discriminant (BDI, STAI, CORE-10), convergent (WAI) and predictive (CORE-10) validity of CEQ. The repeated application of the CEQ allowed for the test-retest reliability analysis.

### **Statistical Analysis**

For statistical analysis we used the SPSS 25 and AMOS 24 (SPSS Inc. Chicago, IL). An Exploratory Factor Analysis (EFA) was performed following the procedures of the original study (Deville & Borkovec, 2000). Factor extraction was carried out by the Principal Axis Factoring method followed by an oblique rotation, since the underlying factors (i.e. treatment credibility and outcome expectation) are assumed to be related to each other (Field, 2017). According to the Kaiser criterion, factors with an eigenvalue of greater than 1 were retained (Fabrigar & Wegener, 2012; Field, 2017; Kaiser, 1960; Marôco, 2018). The internal consistency of each factor was evaluated by the Cronbach alpha coefficient (.60 to .70 acceptable and > .70 recommended; Field, 2017; Marôco, 2018).

Also, Factorial Confirmatory Analysis (CFA) was performed following the similar strategy adopted by Kaya et al (2015) and Van Prooijen and Van der Kloot (2001). The adjustment quality of the factorial model was evaluated according to the indexes with empirical statistical support (Brown, 2015; Flora, 2018; Kline, 2016; Marôco, 2014), specifically: Chi-square of adjustment ( $\chi^2/df$ ); *Goodness of Fit Index* (GFI > .90); *Comparative Fit Index* (CFI > .90); *Root Mean Square Error of Approximation* (RMSEA).

We also performed a convergent and discriminant validity analysis. The convergent validity refers to the analysis of scales constituting the same or an identical construct and, therefore, it is expected that these measures present positive and high correlations between them (Marôco, 2014). In this study, we explored the correlation

between CEQ and WAI-C. The discriminant validity refers to the correlation with other measures that evaluate different constructs, and therefore, expecting low correlations between these (Marôco, 2014). For this kind of analysis, we carried out a Pearson correlation with measures of depressive symptoms (BDI), anxious symptoms (STAI) of session 0, general symptoms of session 1 (CORE-10) with the therapeutic alliance CEQ. The predictive validity was performed with CEQ in session 1 and with CORE-10 in session 3 following the procedures of regression models.

## Results

### Factor Structure

The descriptive statistics and tests for the normality of the sample were conducted among the items to ensure no violations of the assumptions were evident. The Kaiser-Meyer-Olkin measure verified the sample adequacy for the analysis (KMO = .73). According to several authors, the Kaiser-Meyer-Olkin  $> .70$  is acceptable (Field, 2017; Marôco, 2018). The item inter-correlation matrix showed a number of significant correlation and suggest that the questionnaire has a structure which could be detected by factor analysis [ $X^2(15) = 246.636 p < .000$ ]. The power to conduct the principal axis factoring was achieved. The initial statistic indicated the presence of 2 factors with eigenvalues above 1, which explains 75,5% of the total variance (see Table 1).

Table 1. *Factor descriptive analysis of Portuguese version of CEQ*

Factor	Eigenvalue	% of variance	Cumulative %
1	3,269	54,479	54,479
2	1,261	21,009	75,488

According to the theory, treatment credibility and outcome expectation are related variables. In fact, for this sample, the two factors derived a correlation of  $r = -0.39$ ; thus, an oblique rotation was performed. As it can be seen in Table 2, the communalities indicate that the extracted factors accounted for between .49% and .94% of that item's

variance, with items 1, 2, 3 loading on factor 1 (credibility) and items 4 and 6 loading on factor 2 (expectation). The item 5 is cross-loaded in both factors. Due to this, we followed the recommendation of Costello and Osborne (2005) for the removal of this item, since it does not give a clear explanation of the constructs and potentially impoverishes them.

Table 2. *CEQ factor structure for Portuguese population*

Item	Factor 1	Factor 2	Comm	Mean	$\sigma$
1. How logical does the therapy offered to you seem	.72	-.1	.56	8.38	.7
2. How successful do you think this treatment will be in reducing your symptoms	.67	-.45	.49	8.09	.93
3. How confident would you be in recommending this treatment to a friend	.77	-.42	.61	8.57	.62
4. How much improvement in your symptoms do you think will occur	.37	-.84	.58	7.79	.98
5. How much do you really feel that therapy will help you to reduce your symptoms	.68	.59	.71	8.24	.79
6. How much improvement in your symptoms do you really feel will occur	.35	-.97	.94	7.62	1.2

### Reliability

We analyzed each factor in terms of internal consistency to derive the Cronbach's  $\alpha$ . We also analyzed the item's total correlation, without item 5 (removed according to Costello & Osborne, 2005). A Cronbach's  $\alpha = .75$  was found for the treatment credibility factor, and a Cronbach's  $\alpha = .90$  was found for the outcome expectation factor. A Cronbach's  $\alpha = .78$  was found for the complete scale.

We assessed test-retest reliability by correlating the factor scores at session 1 with the scores at session 2. In the credibility factor, the results of the test-retest reliability were significant,  $r(52) = .44, p = .001$ ; in the expectation factor, the results also showed a

significant correlation,  $r(51) = .61, p = .000$ . When both factors were combined, the test-retest reliability was significant,  $r(51) = .59, p = .00$ .

### **Confirmatory analyses**

Confirmatory factor analysis was performed with the same sample in order to test the stability of the exploratory factor analysis. Initially, the adjustment of the model was made from the modification indexes (higher than 4;  $p < .001$ ) produced by AMOS. The model followed the factorial structure of the exploratory phase with the distribution of two factors, one of treatment credibility (item 1, item 2, and item 3) and other of outcome expectation (item 4 and item 6) that showed good adequacy of the items, since none of the items had a factor load of less than .50 (see Figure 1). However, a good model fit was not found  $\{\chi^2(4) = 13.711; \chi^2/df = 3.428, p = .008, CFI = .94, GFI = .95, TIL = .86, RMSEA = .17\}$ . Thus, we analyzed the change indexes in the model, suggesting a cross-load of the error from item 2 to item 3 were analyzed. According to Brown (2015), a small modification in the indexes can produce a good-fitting model improving the  $\chi^2$  with 1 *df*. In this sense, the modification index was changed from 4 to 1.

After model re-adjustment, the results of the confirmatory factor analysis indicate an appropriate adjustment model  $\{\chi^2(3) = .596; \chi^2/df = .199, p = .897, CFI = 1.00, GFI = .99, TIL = 1.05, RMSEA = .000\}$  with the existence of two factors: the credibility factor constituted by item 1 ( $\lambda = .17$ ), item 2 ( $\lambda = .65$ ) and item 3 ( $\lambda = 1.00$ ); and the expectation factor constituted by item 4 ( $\lambda = 1.00$ ) and item 6 ( $\lambda = 1.13$ ), respectively (see figure 2). It should be noted that there is a cross-load of the error of item 3 with the error of item 2.

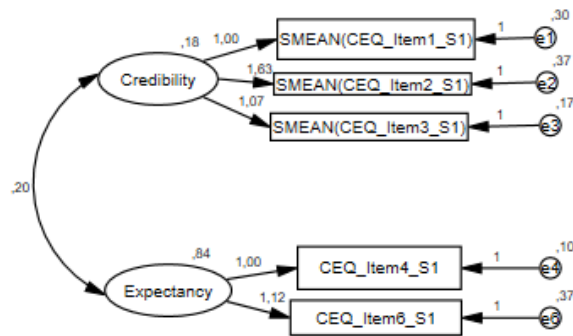


Figure 1. Path diagrams of Confirmatory model of CEQ with for two factor model without a good fit adjustment's indices  $\{\chi^2(4) = 13.711; \chi^2/df = 3.428 p = .008, CFI = .94, GFI = .95, TIL = .86, RMSEA = .17\}$ .

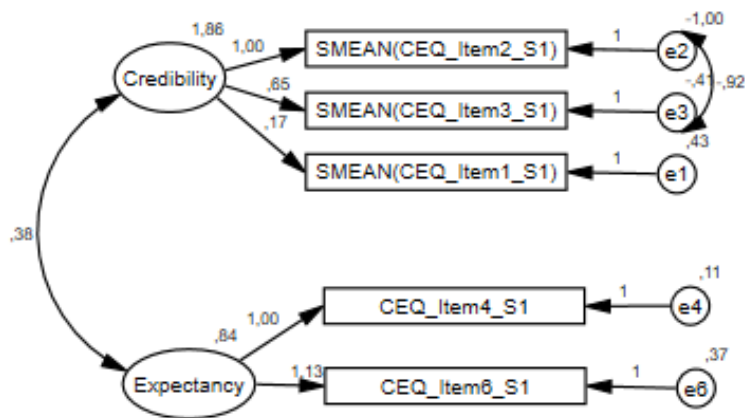


Figure 2. Path diagrams of Confirmatory model of CEQ with for two factor model, factor of credibility, with item 1, item 2 and item 3, with a cross-load of the error of item 3 on the error of the item 2; and the factor of expectation with item 4 and item 6. This model presented an adequate fit adjustment's indices  $\{\chi^2(3) = .596; \chi^2/df = .199 p = .897, CFI = 1.00, GFI = .99, TIL = 1.05, RMSEA = .000\}$

### Convergent validity

Convergent validity analysis was performed between the CEQ and WAI – 6 items.

Results evidenced that the association between treatment credibility on session 1 and

therapeutic alliance on session 2 was not statistically significant,  $r(68) = .23, p = .056$ . Similarly, the association between outcome expectation and the therapeutic alliance was not statistically significant,  $r(68) = .21, p = .09$ .

### Discriminant validity

Regarding the analysis of the discriminant validity, we considered the CEQ of the first session and the measurement of symptoms in the assessment session and session 1, namely through the BDI-II, STAI-T, STAI-S and CORE-10. No statistically significant associations were found (see Table 3).

Table 3. *Correlation of CEQ and symptoms measures: Discriminant validity*

	BDI		STAI-T		STAI-S		CORE-10	
	$r_p$	$p$	$r_p$	$p$	$r_p$	$p$	$r_p$	$p$
Credibility	.073	.526	-.043	.691	.097	.370	-.179	.097
Expectancy	-.012	.916	-.154	.154	-.124	.252	-.176	.103

### Predictive Validity

In terms of predictive validity, results show an association between the treatment credibility and the outcome expectation levels reported in session 1, with the symptoms assessed in session 3, as measured by CORE-10. More specifically, results indicate that the outcome expectation of session 1 is significantly associated with a decrease of symptoms of session 3,  $r = -.30, p = .019$ . Regarding credibility, there was no significant association with symptoms of the session 3,  $r = -.12, p = .372$ . The predictive validity of CEQ and symptoms at session 3 was also examined through a linear regression analysis (see Table 4). The results indicate that the outcome expectation significantly predicts the decrease of symptoms in session 3 ( $\beta = -.30; t(60) = -2.41; p = .019$ ). However, outcome expectation seems to have a low effect on the variability of decreased clinical symptoms.

Table 4. *Linear regression analysis of CEQ and general symptoms (CORE-10) in session 3*

General symptoms	$R^2_a$	B (SE; IC 95%)	$\beta$	$t(df)$	$p$

Expectation	.074	-0.90 (.37; [-1.65-1.52])	-.30	-	.019
				2.41(60)	

## Discussion

This research aimed to explore the psychometric properties of the Credibility / Expectancy Questionnaire (CEQ) for the Portuguese population in routine clinical practice. We investigated the factorial structure (exploratory and confirmatory), internal consistency, test-retest, convergent, discriminant validity and the predictive validity of the scale in decreasing symptoms.

The results suggest the presence of two factors, one of treatment credibility and one of outcome expectancy, similar to what was found in the original validation study (Deville & Borkovec, 2000), as well as in other similar studies (e.g., Coste et al., 2019; Mertens et al., 2017; Nock et al., 2007; Smeets et al., 2008). However, in previous exploratory factor analysis, item 5 presented a cross-load factor in both factors (Nock et al., 2007), which is a result that was also found in the present study. In these cases, several authors recommend the removal of the item, since it does not give a clear explanation of the constructs and impoverishes them (Costello & Osborne, 2005). This is what we opted to do in the present Portuguese version of the CEQ. The cross-load of item 5 in both factors may be due to the formulation of the item, and it is consistent with previous findings in other studies. Actually, the empirical results support the view that this item (“At this point, how much do you feel this treatment will help you reduce your symptoms?”) combines elements related both with treatment credibility (how helpful do you think this treatment will be?) and outcome expectations (what do you feel and expect out of this treatment?). In sum, the cross-load item 5 in both factors for the Portuguese version suggests the need of future studies searching for items assessing expectations while avoiding this overlap with the other subscale.

Regarding internal consistency, results show that, after excluding item 5, the Portuguese version of CEQ presents a high internal consistency for each factor (treatment credibility  $\alpha = .75$  and outcome expectation  $\alpha = .90$ ), as well as for the full scale ( $\alpha = .78$ ; Field, 2017; Marôco, 2018). Similarly, a test-retest analysis with session 2 also shows good reliability, even without the item 5 (Field, 2017; Marôco, 2018). These results are consistent with the results obtained in other investigations, being a good indicator of the psychometric properties of the CEQ (Coste et al., 2019; Devilly & Borkovec, 2000; Nock et al., 2007).

In the convergent validity, the association between the CEQ credibility factor and the therapeutic alliance in session 2 was not statistically significant in the present study (Marôco, 2014). However, previous research suggests that credibility and expectation are associated with the therapeutic relationship and these processes may influenced each other throughout therapy (Ametrano, 2011; Smeets et al., 2008; Sochting et al., 2016). It is possible, though, that the present results may be explained by the fact that the alliance was considered here (assessed through the WAI) during the initial sessions, when the relationship is still being established (Ardito & Rabellino, 2011). Furthermore, research on credibility and expectations is still recent, and future studies should probably improve the criteria for assessing convergent validity, namely with a better construct than the therapeutic alliance.

Regarding discriminant validity, no significant association was found between CEQ and clinical symptoms. Prior research on this issue is not consistent; however, there are several previous studies that also did not find a correlation between the symptoms and the credibility and expectation (Devilly & Borkovec, 2000; Smeets et al., 2008; Sochting et al., 2016; Thompson-Hollands et al., 2014). Nevertheless, the absence of a significant correlation between CEQ and clinical measures targeting mental health symptoms are

within the expected results of a discriminant analysis, giving further support to the use of a 5-item version in the Portuguese context.

Finally, regarding the predictive validity of CEQ and symptomatic decrease in session 3, our results suggest that outcome expectation, specifically, has an effect in decreasing symptoms. These results are consistent with those of other validations (Cohen et al., 2015; Devilly & Borkovec, 2000; Smeets et al., 2008), which evidence that outcome expectation predict the decrease of the depressive and anxiety symptoms, treatment satisfaction and the improvement of well-being.

Previous studies on the confirmatory analysis of CEQ (Coste et al., 2019; Smeets et al., 2008) confirm the two-factor model, one for treatment credibility and one for outcome expectation. The present study also presented a similar and adjusted confirmatory model.

The results of this study, in addition to consolidating the psychometric properties of CEQ, also suggest its applicability in the context of routine practice. This validation for routine psychotherapy practice was a first step, which may later enable researchers to better understand how clients' characteristics may influence their beliefs in the therapeutic process. Recently, specific research suggests that some clinical characteristics of the participants may be related to treatment credibility and outcome expectations, such as the diagnosis, medication and previous experiences with psychotherapy (Constantino, Visla, et al, 2018), which were not analyzed here, but should be considered in future investigations. Despite these limitations, the present study contributes to this field by expanding the applicability of this measure, allowing for replicability in a larger sample than the previous ones used for the exploratory factor analysis (e.g., Coste et al., 2019; Mertens et al., 2017; Nock et al., 2007; Smeets et al., 2008). However, there are some limitations in the present study that may influence the interpretation of the results

presented here, specifically related to divergent and convergent validity (i.e. non-significant results), and with the confirmatory factor analysis (performed with a small sample, which was the same sample used in the exploratory factor analyzes).

In the future, and following the recommendation of Devilly and Borkovec (2000), we aim to explore the differences between the outcome expectation, contrasting a higher focus on emotional processes versus a cognitive focus. Possibly, this will also help to clarify the role of treatment credibility and outcome expectations in predicting therapeutic outcome (good versus poor outcome) and psychotherapy dropout. Therefore, an emphasis on longitudinal and process-outcome research is required, namely, to understand how treatment credibility and outcome expectations may evolve throughout psychotherapy and clarify their specific contributions to clients' involvement during the therapeutic process.

## References

- Ardito, R., & Rabellino, D. (2011). Therapeutic alliance and outcome of psychotherapy: historical excursus, measurements, and prospects for research. *Frontiers in Psychology*, 2, 1-11. doi: 10.3389/fpsyg.2011.00270
- American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders* (5th ed.). Arlington, VA, American Psychiatric Association
- Ametrano, R. (2011). Patient Outcome Expectations and Credibility Beliefs as Predictors of the Alliance and Treatment Outcome. *Masters Theses, February*.  
<http://scholarworks.umass.edu/theses/658>
- Andersson, G., Johansson, C., Nordlander, A., & Asmundson, G. J. G. (2012). Chronic pain in older adults: A controlled pilot trial of a brief cognitive-behavioural group treatment. *Behavioural and Cognitive Psychotherapy*, 40(2), 239–244.  
<https://doi.org/10.1017/S1352465811000646>
- Barkham, M., Bewick, B., Mullin, T., Gilbody, S., Connell, J., Cahill, J., Mellor-Clark, J., Richards, D., Unsworth, G., & Evans, C. (2013). The CORE-10: A short measure of psychological distress for routine use in the psychological therapies. *Counselling and Psychotherapy Research*, 13(1), 3–13.  
<https://doi.org/10.1080/14733145.2012.729069>
- Brown, T. (2015). Confirmatory Factor Analysis for Applied Research. In *The American Statistician* (Vol. 62, Issue 1). <https://doi.org/10.1198/tas.2008.s98>
- Cohen, M., Beard, C., & Björgvinsson, T. (2015). Examining patient characteristics as predictors of patient beliefs about treatment credibility and expectancies for treatment outcome. *Journal of Psychotherapy Integration*, 25(2), 90–99.  
<https://doi.org/10.1037/a0038878>
- Constantino, M. J., Arnkoff, D. B., Glass, C. R., Ametrano, R. M., & Smith, J. Z. (2011).

- Expectations. *Journal of Clinical Psychology*, 67(2), 184–192.  
<https://doi.org/10.1002/jclp.20754>
- Constantino, M. J., Coyne, A. E., Boswell, J. F., Iles, B. R., & Visla, A. (2018). A Meta-Analysis of the Association between Patients' Early Perception of Treatment Credibility and Their Posttreatment Outcomes. *Psychotherapy*, 55(4), 486–495.  
<https://doi.org/10.1037/pst0000168>
- Constantino, M. J., Visla, A., Coyne, A. E., & Boswell, J. F. (2018). A Meta-Analysis of the Association between Patients' Early Treatment Outcome Expectation and Their Posttreatment Outcomes. *Psychotherapy*, 55(4), 473–485.  
<https://doi.org/10.1037/pst0000169>
- Constantino, M. J., & Westra, H. A. (2012). An expectancy-based approach to facilitating corrective experiences in psychotherapy. *Transformation in Psychotherapy: Corrective Experiences across Cognitive Behavioral, Humanistic, and Psychodynamic Approaches*, 121–139. <https://doi.org/10.1037/13747-008>
- Coste, J., Tarquinio, C., Rouquette, A., Montel, S., & Pouchot, J. (2019). Cross-cultural adaptation and validation of the French version of the credibility/expectancy questionnaire. Further insights into the measured concepts and their relationships. *Psychologie Francaise*, 1–12. <https://doi.org/10.1016/j.psfr.2018.11.001>
- Costello, A. B., & Osborne, J. W. (2005). Best practices in exploratory factor analysis: Four recommendations for getting the most from your analysis. *Practical Assessment, Research and Evaluation*, 10(7).
- Devilley, G. J., & Borkovec, T. D. (2000). Psychometric properties of the credibility/expectancy questionnaire. *Journal of Behavior Therapy and Experimental Psychiatry*, 31(2), 73–86. [https://doi.org/10.1016/S0005-7916\(00\)00012-4](https://doi.org/10.1016/S0005-7916(00)00012-4)

- Fabrigar, L. & Wegener, D. (2012). *Exploratory factor analysis*. New York: Oxford University Press.
- Falkenström, F., Hatcher, R. L., Skjulsvik, T., Larsson, M. H., & Holmqvist, R. (2015). Development and validation of a 6-item working alliance questionnaire for repeated administrations during psychotherapy. *Psychological Assessment*, 27(1), 169–183. <https://doi.org/10.1037/pas0000038>
- Field, A. (2017). *Discovering Statistics Using IBM SPSS Statistics (5<sup>th</sup>ed)*. London: SAGE Publications.
- First, M.B., Williams, J.B.W., Karg, R.S., & Spitzer, R.L. (2016). *Structured Clinical Interview for DSM-5 Disorders, Clinician Version (SCID-5-CV)*. Arlington, VA: American Psychiatric Association
- Greenberg, R. P., Constantino, M. J., & Bruce, N. (2006). Are patient expectations still relevant for psychotherapy process and outcome? *Clinical Psychology Review*, 26(6), 657–678. <https://doi.org/10.1016/j.cpr.2005.03.002>
- Kaya, C., Tansey, T., Chan, F., Bezyak, J., Melekoğlu, M., Çakıroğlu, O., & Köse, S. (2015). Dimensionality of the Turkish Version of the Self-Stigma of Seeking Help Scale: Results from Exploratory and Confirmatory Factor Analyses. *International Journal for the Advancement of Counselling*, 37:105–116. Doi: 10.1007/s10447-014-9230-3
- Kline, R. B. (2016). *Principles and practices of structural equation modelling (Ed.4)*. New York: The Guilford Press.
- Mertens, V. C., Goossens, M. E. J. B., Verbunt, J. A., Köke, A. J., & Smeets, R. J. E. M. (2013). Effects of nurse-led motivational interviewing of patients with chronic musculoskeletal pain in preparation of rehabilitation treatment (PREPARE) on societal participation, attendance level, and cost-effectiveness: Study protocol for a

- randomized controll. *Trials*, 14(1). <https://doi.org/10.1186/1745-6215-14-90>
- Mertens, V. C., Moser, A., Verbunt, J., Smeets, R., & Goossens, M. (2017). Content Validity of the Credibility and Expectancy Questionnaire in a Pain Rehabilitation Setting. *Pain Practice*, 17(7), 902–913. <https://doi.org/10.1016/j.cognition.2017.03.009>
- Newman, M. G., & Fisher, A. J. (2010). Expectancy/Credibility Change as a Mediator of Cognitive Behavioral Therapy for Generalized Anxiety Disorder: Mechanism of Action or Proxy for Symptom Change? *International Journal of Cognitive Therapy*, 3, 245–261. <https://doi.org/10.1521/ijct.2010.3.3.245>.Expectancy/Credibility
- Marôco, J. (2014). *Análise de equações estruturais: Fundamentos teóricos, software e aplicações* (2ª ed). Pêro Pinheiro, Portugal: ReportNumber.
- Marôco, J. (2014). *Análise estatística com o SPSS Statistics* (6ª ed). Pêro Pinheiro, Portugal: ReportNumber.
- Nock, M. K., Ferriter, C., & Holmberg, E. (2007). Parent beliefs about treatment credibility and effectiveness: Assessment and relation to subsequent treatment participation. *Journal of Child and Family Studies*, 16(1), 27–38. <https://doi.org/10.1007/s10826-006-9064-7>
- Sales, C. M. D., Moleiro, C. M. de M., Evans, C., & Alves, P. C. G. (2012). Versão Portuguesa do CORE-OM: tradução, adaptação e estudo preliminar das suas propriedades psicométricas TT - The Portuguese version of the CORE-OM: translation, adaptation, and preliminary study of psychometric properties. *Rev. Psiquiatr. Clín. (São Paulo)*, 39(2), 54–59. <https://doi.org/10.1590/S0101-60832012000200003>
- Smeets, R. J. E. M., Beelen, S., Goossens, M. E. J. B., Schouten, E. G. W., Knottnerus, J. A., & Vlaeyen, J. W. S. (2008). Treatment expectancy and credibility are

- associated with the outcome of both physical and cognitive-behavioral treatment in chronic low back pain. *Clinical Journal of Pain*, 24(4), 305–315. <https://doi.org/10.1097/AJP.0b013e318164aa75>
- Sochting, I., Tsai, M., & Ogrodniczuk, J. (2016). Patients' perceptions of treatment credibility and their relation to the outcome of group CBT for depression. *Archives of Psychiatry and Psychotherapy*, 18(4), 7–15. <https://doi.org/10.12740/APP/66485>
- Soto-Pérez, F., & Franco-Martín, M. (2014). PsicoED: Una alternativa online y comunitaria para la psicoeducación en esquizofrenia. *Psicoperspectivas*, 13(3), 118–129. <https://doi.org/10.5027/PSICOPERSPECTIVAS-VOL13-ISSUE3-FULLTEXT-416>
- Stinson, E. J., Perez, M., Ohrt, T. K., Von Schell, A., & Bruening, A. B. (2018). The association between program credibility, expectancy, and acceptability with baseline pathology and outcome for a body acceptance prevention program. *Journal of Clinical Psychology*, 74(12), 2161–2172. <https://doi.org/10.1002/jclp.22654>
- Thompson-Hollands, J., Bentley, K., Gallagher, M., Boswell, J., & Barlow, D. (2014). Credibility and Outcome Expectancy in the Unified Protocol: Relationship to Outcomes. *Journal of Experimental Psychopathology*, 5(1), 72–82. <https://doi.org/10.5127/jep.033712>
- Timulak, L., Keogh, D., McElvaney, J., Schmitt, S., Hession, N., Timulakova, K., Jennings, C., & Ward, F. (2020). Emotion-focused therapy as a transdiagnostic treatment for depression, anxiety and related disorders: Protocol for an initial feasibility randomised control trial. *HRB Open Research*, 3:7. [doi.org/10.12688/hrbopenres.12993.1](https://doi.org/10.12688/hrbopenres.12993.1)
- Tompkins, K. A., Swift, J. K., Rousmaniere, T. G., & Whipple, J. L. (2017). The relationship between clients' depression etiological beliefs and psychotherapy

- orientation preferences, expectations, and credibility beliefs. *Psychotherapy*, 54(2), 201–206. <https://doi.org/10.1037/pst0000070>
- Twohig, M. P., Hayes, S. C., Plumb, J. C., Pruitt, L. D., Collins, A. B., Hazlett-Stevens, H., & Woidneck, M. (2010). A randomized clinical trial of Acceptance and Commitment Therapy vs. Progressive Relaxation Training for obsessive compulsive disorder. *J Consult Clin Psychol.*, 78(5), 705–716. <https://doi.org/10.1016/j.jpcs.2012.05.011>
- Van Prooijen, J. W., & Van der Kloot, W. A. (2001). Confirmatory analysis of exploratively obtained factor structures. *Educational and Psychological Measurement*, 6, 777–792.
- Vîslă, A., Constantino, M. J., Newkirk, K., Ogradniczuk, J. S., Vîslă, A., Constantino, M. J., Newkirk, K., & Ogradniczuk, J. S. (2018). The relation between outcome expectation , therapeutic alliance , and outcome among depressed patients in group cognitive-behavioral therapy. *Psychotherapy Research*, 28(3), 446–456. <https://doi.org/10.1080/10503307.2016.1218089>
- Wahbeh, H., Goodrich, E., & Oken, B. S. (2016). Internet-based mindfulness meditation for cognition and mood in older adults: A pilot study. *Alternative Therapies in Health and Medicine*, 22(2), 44–53.

**CHAPTER II- VALIDATION OF THE CLIENT SATISFACTION  
QUESTIONNAIRE: A PILOT PSYCHOMETRIC ANALYSES IN  
PORTUGUESE ROUTINE PRACTICE<sup>2</sup>**

<sup>2</sup>This study has been published in the journal *Research in Psychotherapy: Psychopathology, Process and Outcome*, with the following authors: Sara Silva, Isabel Basto, João Salgado & Carla Cunha.

## Abstract

**Objectives:** Treatment Satisfaction has been found to have good therapeutic results in psychotherapy, and the 18-item version of the Client Satisfaction Questionnaire (CSQ-18) is one of the most widely used measures for evaluating it, so this present study sought to: a) pilot analysis of the psychometric's properties and factorial structure, as well as validate the CSQ-18's applicability to the Portuguese population within the context of routine clinical practice; b) It also sought to explore the association that treatment satisfaction has with general symptoms, therapeutic alliance, and expectations at an early stage of psychotherapy.

**Methods:** The sample comprised 98 clients who were undergoing psychotherapy in a routine practice context. All these clients completed self-reported measures for symptom assessment and the therapeutic relationship, namely the Clinical Outcome Routine Evaluation – Outcome Measure, Working Alliance Inventory (WAI), and *Credibility/Expectancy Questionnaire*, in addition to the CSQ-18.

**Results:** The semi-confirmatory factorial analysis demonstrated that the CSQ-18 has good psychometric properties, and revealed an association between treatment satisfaction and therapeutic alliance.

**Conclusions:** The results corroborate the findings of other versions of the measure and present a good adjustment model to the semi-confirmatory factorial analysis.

Keywords: Treatment satisfaction, Validation, Routine Practice, Psychotherapy

According to the World Health Organization (2007), assessing treatment satisfaction is the best way to account for clients' concerns about services and opinions about new treatments. From the therapist's point of view, assessing satisfaction makes it possible to solicit feedback about a treatment's implementation and make improvements to the services and treatments provided, and it also helps anticipate negative reactions and behaviors, such as dropout, treatment disengagement, and poor treatment adherence, among other things (European Foundation for Quality Management, 2013; Draper et al., 2001; Howard et al., 2007; Vázquez et al., 2019).

Treatment satisfaction encompasses multiple aspects, such as an assessment of the services, care quality, and available treatments (Larsen et al., 1979). More specifically, according to Larsen et al. (1979), treatment satisfaction considers nine dimensions: physical surroundings, support staff, the type/kind of service, treatment staff, the quality of treatment, the quantity of treatment, the outcome of services, overall satisfaction, and service procedures. Assessing a client's satisfaction with treatment provides us with a more complete picture of the client without the bias of intervention programs (Attkisson & Zwick, 1982) and it also provides us with an assessment of the quality of services (Säilä et al., 2008). Moreover, it can provide important information about the treatment a client is receiving and possibly help to identify a client's unsatisfied needs and expectations (Carlson & Gabriel, 2001; Hanson et al., 2004).

### **Research into satisfaction with psychological treatments**

Studies of treatment satisfaction have been conducted to assess the quality of health services and establish a treatment's acceptance and effectiveness in various contexts, such as hospitals, primary health care systems, group interventions, and clinical trials (Blake Buffini & Gordon, 2015; Donovan et al., 2002; Hund et al., 2013; Kooistra et al., 2016; Palacios et al., 2018; Smith et al., 2014). When it comes to mental health,

however, research has been generally focused on healthcare settings related to substance abuse and mood and anxiety disorders (Buffini & Gordon, 2015; Donovan et al., 2002; Hutchison et al., 2022; Schulte et al., 2011; Smith et al., 2014).

The results generally show that satisfaction with psychological treatments tends to be high, regardless of the context (Hutchison et al., 2022; Schulte et al., 2011). Recent studies have found treatment satisfaction to be associated with good therapeutic results, improvements in quality of life, and even a decrease in hospitalizations, regardless of the treatment received (Blenkiron & Hammil, 2003; Donovan et al., 2002; Priebe et al., 2012; Smith et al., 2014). Moreover, clients who are not very satisfied with their treatments tend to disengage and drop out (Blenkiron & Hammil, 2003; Hundt et al., 2013; Lindhiem et al., 2014; Priebe et al., 2012).

Only a few studies have explored the association between treatment satisfaction and treatment factors like adherence to therapy, therapeutic alliance, and expectations (Constantino et al., 2011; Hundt et al., 2013; Smeets et al., 2008). Hundt et al. (2013) analyzed the predictors of treatment satisfaction following the conclusion of psychotherapy treatment, and their results showed that treatment satisfaction was positively associated with well-being, expectations, social support, improvement in symptoms, and treatment adherence (Hundt et al., 2013). Moreover, further research has suggested that positive expectations about treatment can predict client satisfaction (Constantino et al., 2011; Smeets et al., 2008). Other research that explored the association between treatment satisfaction and therapeutic alliance found that the most-satisfied clients had a stronger therapeutic alliance, both in the initial phase of therapy (Egede, et al., 2016; Miller & Weissman, 2002; Rumpold et al., 2005; Warnecke et al., 2020) and at the end of an intervention (Donker et al., 2013; Palacios et al., 2018; Rosenvinge & Klusmeier, 2000). However, these studies tend to assess satisfaction with

treatment retrospectively (Egede, et al., 2016; Hundt et al., 2013; Miller & Weissman, 2002; Rumpold et al., 2005; Warnecke et al., 2020) or at the end of the treatment (Donker et al., 2013; Palacios et al., 2018; Rosenvinge & Klusmeier, 2000).

### **Measures of treatment satisfaction**

There are only a few empirically validated measures of treatment satisfaction, and most studies use qualitative measures, such as interviews and other self-developed measures ( Jenkins-Guarnieri et al., 2015; Miller & Weissman, 2002; Roe et al., 2006; Schulte et al., 2011; Vázquez et al., 2019). The decision to create specific measures for different single studies may be justified, but it also raises difficulties when it comes to comparing between such studies. The Client Satisfaction Questionnaire (CSQ) is one of the most promising solutions to this problem, and it is the most widely used measure for assessing treatment satisfaction, especially the eight-item version (CSQ-8; Attkisson & Zwick, 1982; Larsen et al., 1979). This instrument, which was initially developed by Larsen et al. (1979) as a version with 18 items (CSQ-18), is a self-reported instrument based on a Likert scale for assessing treatment satisfaction. The CSQ-8 is of course a reduction of the CSQ-18, but both versions have good psychometrics with an  $\alpha \geq .91$  (Attkisson & Zwick, 1982; Larsen et al., 1979). In terms of the factorial structure of the original CSQ-18 version, it covers only one factor despite evaluating nine dimensions of treatment satisfaction, namely physical surroundings, support staff, type/kind of service, treatment staff, quality of treatment, quantity of treatment, the outcome of the service, overall satisfaction, and service procedure (Attkisson & Zwick, 1982; Larsen et al., 1979). The convergent validity of the measure was explored by investigating the link between treatment satisfaction and clinical symptoms, and a negative association between treatment satisfaction and clinical symptoms was found, meaning that clients with greater treatment satisfaction saw a reduction in clinical symptoms (Attkisson & Zwick, 1982;

Larsen et al., 1979). Furthermore, other studies of the CSQ-18's validity have yielded similar results, suggesting that improvements in clients' outcomes are somehow related to the way they perceive their treatment (Sabourin et al., 1989; Vázquez et al., 2019). Indeed, this measure has been validated among multiple populations—namely French Canadian, Castilian Spanish, and Filipino ones—and been shown to have good psychometric properties ( $\alpha > .80$ ), implying that the measure is robust in different contexts (Matsubara et al., 2013; Roberts et al., 1984; Sabourin et al., 1989; Vázquez et al., 2019).

Overall, the previous validation studies of the CSQ-18 have reported consistent results for the one-dimensionality of this measure (Attkisson & Zwick, 1982; Larsen et al., 1979). However, the previous validation studies of the CSQ only present, as a result of exploratory factor analysis, the internal consistency of the instrument. It was not found studies that explored adjusting the model of factorial structure.

### **The Present Study**

The CSQ has not yet been validated for the Portuguese population, so this study focuses on an initial, a pilot analysis of the psychometric properties' Portuguese European version of this instrument. Thus, in addition to analyzing the psychometric properties, we also present a pilot adjusting the model of factorial structure of the CSQ-18, applying a bootstrapping, within the context of routine psychotherapeutic practice. Moreover, as a secondary but complementary goal using the same sample, we also explore the relationship that treatment satisfaction has with general symptoms, therapeutic alliance, and expectations at an early stage of psychotherapy.

### **Method**

**Participants:** This study involved 98 adult participants aged between 18 and 63 ( $M=29$  years;  $SD=9.99$ ) of whom 68 (69.4 %) were women and 30 (30.6%) were men.

Of these, 58.2% had university degrees, 39.8% had completed high school, and 2% had only finished primary school. In terms of employment status, 54.1% were employed, 34.7% were students, 7.1% were unemployed, 3.1% were students/workers, and 1% were homemakers. Most (76%) of the participants were single, 14.3% were married or cohabitating, and 9.2% were divorced or widows/widowers.

All participants were recruited through a university counseling service University Institute of Maia (ISMAI), Portugal). Clients access university counseling services to receive psychological support, psychotherapy, and/or personal development. Cases may be self-referred or referred by other health services, and they involve different clinical symptoms. The participants were divided into clinical and nonclinical according with the symptom's severity measured with *Clinical Outcome Routine Evaluation — Outcome Measure 10* (Barkham et al., 2013) in assessment session (see in more detail in the procedures). In this study's sample, 83.7% of participants presented clinical symptoms, while 16.3% had nonclinical issues. Participants were informed about the study and its confidentiality conditions (i.e., to guarantee the anonymity of each participant), and all of them consented in writing to participate. For this study, we considered all clients of the service, even those who were already involved in the therapeutic process.

The clients of the university counseling service could access psychotherapy face-to-face or online, as well as a mixture of the two. The online sessions came about in response to the situation caused by the COVID-19 pandemic. More specifically, 84 clients (85.7%) received face-to-face psychotherapy, 6 (6.1%) received online psychotherapy, and 8 (8.1%) received a mix of both modalities.

### **Measures**

The *Client Satisfaction Questionnaire-18* (CSQ-18; Attkisson & Zwick, 1982; Larsen et al., 1979) is a self-reported measure with 18 items that assess the client's global

treatment satisfaction within a clinical context (e.g., quality of service, kind of service, the needs met, the likelihood of recommending it to a friend, the degree of help, how problems are dealt with, overall satisfaction, and chances of returning). The client answers 18 questions based on a four-point Likert scale (Attkisson & Zwick, 1982; Larsen et al., 1979). Thus, each item in the CSQ-18 is scored from 1 to 4, with the total score ranging from 18 to 72 (Attkisson & Zwick, 1982; Larsen et al., 1979), where higher scores indicate a greater level of satisfaction with treatment. The original version of the CSQ-18 has been shown to have good internal consistency ( $\alpha > 0.91$ ; Attkisson & Zwick, 1982).

The *Clinical Outcome Routine Evaluation — Outcome Measure 10* (CORE-10; Barkham et al., 2013) is a self-reported measure for assessing mental health in different contexts. It is clustered into four subscales, namely subjective well-being, complaints and symptoms, social and personal functioning, and risk behavior (Barkham et al., 2013). The 10 items are scored on a Likert scale ranging from 0 (“never”) to 4 (“always”). The CORE-10 is actually a reduced version of the *Clinical Outcome Routine Evaluation — Outcome Measure* (CORE-OM; Sales et al., 2012), which is a 34-item questionnaire that has been translated and adapted for the Portuguese population with good internal consistency ( $\alpha > 0.80$ ; Sales et al., 2012).

The *Working Alliance Inventory — 6 items* (WAI-6) comprises six items that evaluate the quality of a therapeutic relationship using a Likert scale that ranges from 1 (“never”) to 5 (“always”) (Falkenström et al., 2015). This is a reduced version of the 12-item *Working Alliance Inventory — Short Revised* (WAI-SR; Horvath & Greenberg, 1989), which has been validated for the Portuguese population with an adequate degree of reliability ( $\alpha = .95$ ; Machado & Horvath, 1999).

The *Credibility/Expectancy Questionnaire* (CEQ; Devilly & Borkovec, 2000) is a self-reported measure with six items for assessing a client’s credibility and expectations.

More specifically, the credibility items explore if the treatment is a) logical, b) useful, and c) reliable. The expectations items, meanwhile, explore a) the improvement that the patient expects to occur, b) whether the client feels that this therapy will help him or her, and c) whether the client feels that an improvement will occur (Devilly & Borkovec, 2000). This measure is scored on a Likert scale ranging from 1 to 9, where, for example, 1 means “not at all,” 5 means “somewhat,” and 9 means “very much,” as well as a percentage scale ranging from 0% to 100% in 10% increments. More specifically, items 4 and 6 are coded from 0–100%, so they are linearly translated to the Likert scale (Devilly & Borkovec, 2000; Smeets et al., 2008). The Portuguese version of the CEQ has five items with two subscales, namely (1) credibility with three items and (2) expectations with two items, and it has been shown to have good internal consistency ( $\alpha = .78$ ; reference to be inserted following the peer-review process).

### **Procedures**

Authorization to translate, apply, and validate the CSQ-18 measure for the Portuguese population was requested from, and granted by, the measure’s creators. Two independent researchers who were fluent in both relevant languages translated the measure to Portuguese. The main researcher conducted the first translation, while the back-translation and revision were performed by a specialized translator. This study sought, and was granted, approval by the ethics committee (5/CEDSMAI/2019; ISMAI, Portugal).

The goals of this research were presented to all clients, both the new ones and those already engaged in psychotherapy, of the university campus psychotherapy center, which is open to the general public in addition to students and staff. Inclusion in the study required the clients’ informed consent to participate and allow data to be collected. Following the clinic’s protocol, all clients had an initial assessment session where they

completed the CORE-10 before starting the session. The clients that were included in this study were divided into clinical and non-clinical according with the symptom's severity of CORE-10 of the initial assessment session according with the instrument cut of point. The clients that had a score of 10 or below were consider non-clinical, and of 11 or above were consider clinical, following the scoring procedure of CORE-10 (Connell & Barkham, 2007). Clients' who had already attended fewer than four sessions completed the CSQ-18 just before starting session four and five, while all remaining participants completed this measure in two consecutive sessions. The clients included in this study completed the CSQ-18 twice, with a minimum period between sessions of one week and a maximum period of three weeks. All clients also filled in the CORE-10 before starting a session and the WAI-6 and CEQ at the end of all sessions. We used all the CSQ-18 ratings from every participant in our exploratory factor analysis. The repeated application of the CSQ-18 allowed us to analyze the test–retest reliability. To achieve this study's other goals, we considered only those clients who had filled in the CSQ-18 at the initial stage of the process (i.e., session 4).

### **Statistical Analysis**

Initially, it was performed descriptive statistics and tests for the normality were conducted among the items, through the analysis of Skweness and Kurtosis (see Table 1). The Kaiser-Meyer-Olkin measure verified the sample adequacy for the analysis. The item inter-correlation matrix, through the Polychoric correlation, was performed following the recommendation of Baglin (2014) for exploratory factor analysis on ordinal variables (Table 2).

After the preliminary analysis, we performed an exploratory factor analysis using FACTOR (Ferrando & Lorenzo-Seva, 2017), which is a free program that facilitates such analyses (Lorenzo-Seva & Ferrando, 2006). The SPSS 25 (SPSS Inc. Chicago, IL)

software was also used to check the internal consistency in terms of the Cronbach's *alpha coefficient*, test–retest reliability, and *Spearman* correlation to achieve the remaining goals of the present study.

Table 1. Description of Normality and homogeneity assumptions (Skewness and Kurtosis of each item) CSQ-18

	<i>Mean</i>	Confidence interval IC 95%	<i>Variance</i>	<i>Skewness</i>	<i>Kurtosis</i>
Item 1	3.75	[3.59 - 3.90]	0.371	-3.330	14.106
Item 2	3.38	[3.15 - 3.62]	0.822	-1.742	2.634
Item 3	3.84	[ 3.70 - 3.97]	0.277	-4.782	8.071
Item 4	3.63	[3.44 - 3.82]	0.537	2.702	8.345
Item 5	3.59	[3.39 - 3.78]	0.546	-2.351	6.551
Item 6	3.64	[3.48- 3.79]	0.373	-2.554	10.810
Item 7	3.85	[3.70 - 3.99]	0.310	-4.998	27.653
Item 8	3.62	[3.46 - 3.78]	0.378	-2.430	10.135
Item 9	3.37	[3.20 - 3.55]	0.476	-1.398	4.141
Item 10	3.70	[3.54 - 3.85]	0.353	-2.998	13.526
Item 11	3.77	[3.63 - 3.91]	0.300	-3.802	20.690
Item 12	3.71	[3.55 - 3.87]	0.389	-2.973	11.815
Item 13	3.72	[3.56 - 3.87]	0.364	-3.114	13.447
Item 14	3.76	[3.61 - 3.90]	0.305	-3.676	19.640
Item 15	3.72	[3.57 - 3.87]	0.344	-3.175	14.730
Item 16	3.56	[3.38 - 3.73]	0.449	-2.037	6.554
Item 17	3.87	[3.74 - 3.99]	0.235	-5.687	39.240
Item 18	3.68	[3.49 - 3.87]	0.542	-2.931	9.126

For factor extraction (Timmerman & Lorenzo-Seva, 2011), the following criteria were used: parallel analysis, because it is considered an adequate procedure for determining the number of factors to retain; and ii) the Kaiser criterion, which involves retaining factors with an eigenvalue greater than 1 (Field, 2017; Kaiser,1960). Regarding the quality of the items and the factors for retaining an item, it was decided that commonality should be greater than .40 and adequate saturations should be greater than .35 (Costello & Osborne, 2005). Internal consistency was evaluated using the *Cronbach's alpha coefficient* (.60 to .70 is acceptable and greater than .70 is recommended; Field, 2017). The method used was *maximum likelihood* with *orthogonal varimax rotation* (Baglin, 2014; Field, 2017), considering that the variable is ordinal and independent. *Bootstrapping* was used to analyze the adjustment quality of the factorial model based on the indexes with empirical statistical support (Brown, 2015) given the size of the sample,

specifically the *robust mean-scaled chi-square* (RMSCS), *root mean square error of approximation* (RMSEA), *goodness-of-fit index* (GFI), *adjusted goodness-of-fit index* (AGFI), *non-normed fit index* (NNFI) and *comparative fit index* (CFI).

## Results

### Factor Structure

The Polychoric correlation was preferred over Pearson's correlation, with this decision being based on the recommendation of Baglin (2014) for exploratory factor analysis on ordinal variables (Table 2). The Kaiser–Meyer–Olkin measure supported the sample's adequacy for analysis (KMO = .90), as did the significant Bartlett's test [ $\chi^2(153) = 1049.6, p < .001$ ]. To determine the number of factors being extracted, we performed a parallel analysis with an orthogonal varimax rotation. However, four items could not be retained due to their low quality (Table 3), with their commonality values being lower than .40 (Costello & Osborne, 2005), namely item 1 ( $\lambda = .15$ ), item 2 ( $\lambda = .20$ ), item 3 ( $\lambda = .26$ ), and item 17 ( $\lambda = .19$ ).

After removing items 1, 2, 3, and 17, the factorial analysis was repeated, and was analyzed the quality of the factorial adjustment model using *Bootstrapping* with a 95% confidence interval to analyze the quality of the factorial adjustment model. The Kaiser–Meyer–Olkin measure verified the sample's adequacy for analysis (KMO = .93, IC 95% [.92 - .93]), as did the significant Bartlett's test [ $\chi^2(91) = 1064.9, p < .001$ ]. To determine the number of factors being extracted, a parallel analysis was again performed with orthogonal varimax rotation, and this revealed a factor that explained 60.96% of the variance (eigenvalue = 8.53 and a percentage cumulative of 60.96). An analysis of the commonality values showed a good relation between the items and the model (higher than .40) and high factor saturations (between .51 and .94; see Table 4). The adjustment indices for the factorial solution also reflected a good adjustment (see Table 5).

Table 2. Correlation matrix of items of CSQ-18

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Item 1	-	.29	.40	.17	.27	.13	.19	.28	.33	.36	.30	.36	.30	.31	.18	.33	.17	.38
Item 2		-	.57	.50	.37	.29	.38	.25	.11	.29	.53	.26	.30	.16	.31	.29	.22	.15
Item 3			-	.38	.33	.21	.43	.14	.35	.31	.54	.37	.23	.12	.45	.45	.53	.46
Item 4				-	.62	.61	.44	.69	.47	.48	.57	.62	.66	.60	.66	.76	.24	.56
Item 5					-	.56	.36	.57	.37	.44	.54	.55	.56	.54	.55	.61	.16	.46
Item 6						-	.24	.47	.38	.33	.45	.59	.51	.61	.42	.66	.18	.43
Item 7							-	.42	.03	.22	.48	.40	.38	.50	.49	.34	.54	.55
Item 8								-	.53	.50	.43	.58	.63	.60	.67	.66	.40	.52
Item 9									-	.64	.52	.50	.46	.48	.61	.60	.25	.27
Item 10										-	.67	.56	.56	.50	.46	.54	.23	.36
Item 11											-	0.63	0.59	0.43	.50	.67	.19	.35
Item 12												-	.63	.57	.53	.70	.17	.55
Item 13													-	.66	.56	.75	.25	.61
Item 14														-	.54	.63	.41	.69
Item 15															-	.78	.43	.52
Item 16																-	.31	.56
Item 17																	-	.49
Item 18																		-

Table 3. *Exploratory factor solution for the CSQ-18 items*

Item	Factor 1	Comm	Mean	Confidence interval IC 95%	$\sigma$
1	0.38	0.15	3.75	[3.59 - 3.90]	0.37
2	0.44	0.20	3.38	[3.15 - 3.62]	0.82
3	0.51	0.26	3.84	[3.70 - 3.97]	0.28
4	0.83	0.68	3.63	[3.44 - 3.82]	0.54
5	0.70	0.49	3.59	[3.39 - 3.78]	0.55
6	0.65	0.43	3.64	[3.48 - 3.79]	0.37
7	0.66	0.30	3.85	[3.70 - 3.99]	0.31
8	0.75	0.56	3.62	[3.46 - 3.78]	0.38
9	0.61	0.37	3.37	[3.20 - 3.55]	0.48
10	0.66	0.43	3.69	[3.54 - 3.85]	0.35
11	0.74	0.55	3.77	[3.63 - 3.91]	0.30
12	0.77	0.60	3.71	[3.55 - 3.87]	0.39
13	0.80	0.64	3.72	[3.56 - 3.87]	0.36
14	0.74	0.55	3.76	[3.61 - 3.90]	0.31
15	0.78	0.60	3.72	[3.57 - 3.87]	0.34
16	0.88	0.78	3.56	[3.38 - 3.73]	0.45
17	0.43	0.19	3.87	[3.74 - 3.99]	0.24
18	0.70	0.48	3.68	[3.49 - 3.87]	0.54

Table 4. *Bootstrapping exploratory factor solution for the CSQ with 14 items*

Item	Factor 1	Comm	Mean	Confidence interval IC 95%	$\sigma$
4	0.83	0.69	3.63	[3.44 - 3.82]	0.54
5	0.85	0.73	3.59	[3.39 - 3.78]	0.55
6	0.66	0.43	3.64	[3.48 - 3.79]	0.37
7	0.53	0.28	3.85	[3.70 - 3.99]	0.31
8	0.92	0.85	3.62	[3.46 - 3.78]	0.38
9	0.51	0.26	3.37	[3.20 - 3.55]	0.48
10	0.64	0.41	3.69	[3.54 - 3.85]	0.35
11	0.70	0.48	3.77	[3.63 - 3.91]	0.30
12	0.94	0.89	3.71	[3.55 - 3.87]	0.39
13	0.82	0.68	3.72	[3.56 - 3.87]	0.36
14	0.76	0.58	3.76	[3.61 - 3.90]	0.31
15	0.76	0.58	3.72	[3.57 - 3.87]	0.34
16	0.89	0.80	3.56	[3.38 - 3.73]	0.45
18	0.66	0.44	3.68	[3.49 - 3.87]	0.54

Table 5. *Bootstrapping adjustment of the factorial solution for the CSQ with 14 items*

	RMSCS	$\chi^2(77) = 12.882, p = .250$
	RMSEA	.000 [.000, .010]
<b>Index of adjustment</b>	GFI	.970 [.920, .990]
	AGFI	.964 [.906, .989]
	NNFI	1.151 [.447, 1.343]
	CFI	1.128 [.532, 1.290]

Note. 95% CI BCa = bias-corrected and accelerated confidence intervals for 95% level of confidence.

RMSCS = robust mean-scaled chi-square. RMSEA = root mean square error of approximation. GFI =

*goodness-of-fit index. AGFI = adjusted goodness-of-fit index. NNFI = non-normed fit index. CFI = comparative fit index.*

## **Reliability**

The internal consistency was analyzed without items 1, 2, 3, and 17 following the recommendation of Costello and Osborne (2005), with this yielding a Cronbach's  $\alpha = .88$ . The test-retest reliability was assessed by correlating the factor scores from the first application of the CSQ with those from the second application, and it was found to be reliable and significant,  $r(61) = .76, p = .00$ .

## **The associations that treatment satisfaction has with general symptoms, therapeutic alliance, and expectations at an early stage of psychotherapy**

To analyze the associations that treatment satisfaction has with general symptoms, therapeutic outcomes, and expectations, we used the Spearman correlation because normality requirements were not met. Only those participants who had completed the CSQ in session 4 were considered in this analysis. Treatment satisfaction and general symptoms ( $N=56$ ) were found to have a moderately negative but statistically significant association,  $r_s(56) = -.31, p = .02$ , meaning that at the early stage of psychotherapy, higher levels of treatment satisfaction tend to coincide with lower levels of general symptoms. Furthermore, as expected, treatment satisfaction was also significantly associated with higher levels of therapeutic alliance at an early stage of psychotherapy,  $r_s(28) = .39, p = .04$ . Finally, the association between treatment satisfaction and expectations was weak and not statistically significant,  $r_s(28) = .09, p = .66$ .

## **Discussion**

The present study set out to pilot exploration of the psychometric properties and factorial structure of the CSQ within the context of routine practice, as well as analyze the associations that treatment satisfaction has with general symptoms, therapeutic alliance, and expectations at an early stage of psychotherapy.

Similar to what was found in other studies that have analyzed the CSQ's factorial structure, the results suggest the existence of a single factor (Attkisson & Zwick, 1982; Larsen et al., 1979; Matsubara et al., 2013; Roberts et al., 1984; Sabourin et al., 1989; Vázquez et al., 2019), indicating that treatment satisfaction is a homogeneous variable across different countries and cultures. In addition, the results of the present study suggest removing items 1, 2, 3, and 17 because they have lower levels of saturation and retention (Costello & Osborne, 2005). This finding is not consistent with those for the original CSQ-18 version, but in the reduced CSQ-8 version, items 1, 2, 3, and 17 were also eliminated for having low levels of saturation and retention (Attkisson & Zwick, 1982; Larsen et al., 1979). Thus, the pilot validation of European Portuguese version should comprise 14 items, and we suggest that future studies should refer to it as CSQ-14-PT.

The previous validation studies did not explore the CSQ's adjustment model, so the present study proposed pilot analysis with *Bootstrap*, taking into account the removal of the previously mentioned items. The results gave a good adjustment index for the presented factorial structure, but this finding should be treated with caution given the relatively small sample size.

Regarding the internal consistency, the reduced version yielded a good Cronbach's alpha value ( $\alpha = .88$ ) and demonstrated good test-retest reliability. The former result is consistent with previous validation studies that have found good Cronbach's alpha values ( $\alpha > .80$ ) (Attkisson & Zwick, 1982; Larsen et al., 1979; Matsubara et al., 2013; Roberts et al., 1984; Sabourin et al., 1989; Vázquez et al., 2019).

By analyzing the means of each CSQ item, we verified that satisfaction with the psychotherapy treatment in the routine practice context was high, with it being similar to what would be found in a hospital, community, online, or group intervention context (Buffini & Gordon, 2015; Donker et al., 2013; Donovan et al., 2002; Palacios et al., 2018;

Schulte et al., 2011; Smith et al., 2014; Warnecke et al., 2020). Previous research into the association between satisfaction with psychotherapy treatment and general symptoms has found that satisfaction relates to lower levels of symptoms at the end of an intervention (Hundt et al., 2013). The results of the present study are in line with this trend, although they indicate that higher levels of satisfaction with treatment at an early stage of therapy are associated with lower levels of general symptoms.

Regarding the association between a client's satisfaction with treatment and the therapeutic alliance, the results indicate a significant relationship, such that greater satisfaction relates to a stronger therapeutic alliance at an early phase of therapy. This resembles the findings of studies of brief psychotherapy and group psychotherapy (Rumpold et al., 2005; Warnecke et al., 2020), as well as some studies that retrospectively analyzed the relationship between therapeutic alliance and satisfaction with treatment (Keleher et al., 2019).

The association between satisfaction with treatment and expectations was not found to be statistically significant. This is contrary to previous studies (Constantino et al., 2011; Smeets et al., 2008), but it should be noted that those previous studies analyzed the predictive power of initial expectations for determining the satisfaction level at the end of the treatment (Constantino et al., 2011; Smeets et al., 2008), while our study used one point of assessment at an early phase of treatment. Combining these findings suggests that satisfaction may improve over time as the results start to manifest.

This study has some limitations that should be considered when interpreting the results, especially the limited sample size. Although it meets the recommendations for validating psychometric properties (Gorsuch, 1983), a larger sample would make the results more robust. The data collection also occurred at different stages, and this was also a limiting factor because some clients were already engaged in the therapeutic

process while others were just beginning it. More specifically, being at different stages may have influenced the clients' perspectives about their treatment. However, we did not identify any studies that have analyzed differences in clients' treatment satisfaction at different stages of the therapeutic process, so this would be a research gap for a future study to fill.

The present study provides some important indicators for the importance of assessing clients' satisfaction with their treatment, not just at the end but also during the therapeutic process. Given that there is limited research that has analyzed the role of treatment satisfaction in psychotherapy, some aspects should be explored in future studies, particularly the predictive effect of the therapeutic alliance on satisfaction with treatment at different points in the therapeutic process. It would importantly explore the ruptures our lower levels on the therapeutic alliance interfere with the treatment satisfaction, and impact with the adherence to the therapeutic process. Regarding to the client's expectation, it would be interesting explore if the association of client's expectations and the treatment satisfaction is mediated by symptoms severity, treatment credibility. Moreover, some studies in psychiatric contexts have suggested that clients with a lower level of satisfaction tend to be more likely to drop out (Smith et al., 2014), so it would also be valuable to explore whether dropping out from treatment can be predicted by low levels of treatment satisfaction across different contexts.

## References

- Attkisson, C. C., & Zwick, R. (1982). The client satisfaction questionnaire. Psychometric properties and correlations with service utilization and psychotherapy outcome. *Evaluation and Program Planning, 5*(3), 233-237. doi: 10.1016/0149-7189(82)90074-X.
- Baglin, J. (2014). Improving your exploratory factor analysis for ordinal data: a demonstration using FACTOR. *Practical Assessment, Research and Evaluation, 19*(5). doi: 10.7275/dsep-4220.
- Barkham, M., Bewick, B., Mullin, T., Gilbody, S., Connell, J., Cahill, J., Mellor-Clark, J., Richards, D., Unsworth, G., & Evans, C. (2013). The CORE-10: a short measure of psychological distress for routine use in the psychological therapies. *Counselling and Psychotherapy Research, 13*(1), 3-13. doi: 10.1080/14733145.2012.729069.
- Blenkiron P., Hammill C.A. (2003). What determines patients' satisfaction with their mental health care and quality of life? *Postgraduate Medical Journal, 79*(932):337-40. doi: 10.1136/pmj.79.932.337. PMID: 12840123; PMCID: PMC1742729.
- Buffini, K. B., & Gordon, M. (2015). One-to-one support for crisis intervention using online synchronous instant messaging: evaluating working alliance and client satisfaction. *British Journal of Guidance and Counselling, 43*(1), 105-116. doi: 10.1080/03069885.2014.987723.
- Brown, T. (2015). *Confirmatory factor analysis for applied research*. New York, Guilford Publications.
- Carlson, M. J., & Gabriel, R. M. (2001). Patient satisfaction, use of services, and one-year outcomes in publicly funded substance abuse treatment. *Psychiatric Services, 52*(9), 1230-1236. doi: 10.1176/appi.ps.52.9.1230.
- Connell, J. & Barkham, M. (2007). *CORE-10 user manual, version 1.1*. Rugby, CORE

System Trust & CORE Information Management Systems Ltd.

- Constantino, M. J., Arnkoff, D. B., Glass, C. R., Ametrano, R. M., & Smith, J. Z. (2011). Expectations. *Journal of Clinical Psychology, 67*(2), 184-192. doi: 10.1002/jclp.20754.
- Costello, A. B., & Osborne, J. W. (2005). Best practices in exploratory factor analysis: four recommendations for getting the most from your analysis. *Practical Assessment, Research and Evaluation, 10*. doi: 10.7275/jyj1-4868.
- Devilley, G. J., & Borkovec, T. D. (2000). Psychometric properties of the credibility/expectancy questionnaire. *Journal of Behavior Therapy and Experimental Psychiatry, 31*(2), 73-86. doi: 10.1016/S0005-7916(00)00012-4.
- Donker, T., Bennett, K., Bennett, A., Mackinnon, A., Van Straten, A., Cuijpers, P., Christensen, H., & Griffiths, K. M. (2013). Internet-delivered interpersonal psychotherapy versus internet-delivered cognitive behavioral therapy for adults with depressive symptoms: Randomized controlled noninferiority trial. *Journal of Medical Internet Research, 15*(5), e82. doi: 10.2196/jmir.2307.
- Donovan, D. M., Kadden, R. M., DiClemente, C. C., & Carroll, K. M. (2002). Client satisfaction with three therapies in the treatment of alcohol dependence: results from Project MATCH. *The American Journal of Addiction, 11*, 291-307. doi: 10.1080/1055049029008809.
- Draper, M., Cohen, P., & Buchan, H. (2001). Seeking consumer views: what use are results of hospital patient satisfaction surveys? *International journal for quality in health care, 13*, 463-468.
- Egede, L.E., Acierno, R., Knapp, R.G., Walker, R.J., Payne, E.H., & Frueh, B.C.(2016) Psychotherapy for Depression in Older Veterans Via Telemedicine: Effect on Quality of Life, Satisfaction, Treatment Credibility, and Service Delivery

- Perception. *Journal of Clinical Psychiatry*, 77(12):1704-1711. doi: 10.4088/JCP.16m10951. PMID: 27835713.
- European Foundation for Quality Management. (2013). EFQM Excellence Model 2013. Brussels: EFQM.
- Falkenström, F., Hatcher, R. L., Skjulsvik, T., Larsson, M. H., & Holmqvist, R. (2015). Development and validation of a 6-item working alliance questionnaire for repeated administrations during psychotherapy. *Psychological Assessment*, 27(1), 169-183. doi: 10.1037/pas0000038.
- Field, A. (2017). *Discovering Statistics Using IBM SPSS Statistics (5<sup>ed</sup>)*. London: SAGE Publications.
- Ferrando, P. J., & Lorenzo-Seva, U. (2017). Program FACTOR at 10: origins, development and future directions. *Psicothema*, 29(2), 236-240. doi: 10.7334/psicothema2016.304.
- Hanson, K., Yip, W. C. & Hsiao, W. (2004) The impact of quality on the demand for outpatient services in Cyprus. *Health Economics*, 13 (12), 1167-1180. doi: 10.1002/hec.898.
- Horvath, A. O. and Greenberg, L. S. 1989. Development and validation of the Working Alliance Inventory. *Journal of Counseling Psychology*, 36: 223–233.
- Howard, P.B., Rayens, M.K., El-Mallakh, P., & Clark, J.J. (2007). Predictors of satisfaction among adult recipients of medicaid mental health services. *Archives of psychiatric nursing* 21(5):257-69. doi: 10.1016/j.apnu.2007.06.004. PMID: 17904483.
- Hundt, Na., Armento, M. E. A., Porter, B., Cully, J., Kunik, M. E., & Stanley, M. (2013). Predictors of treatment satisfaction among older adults with anxiety in a primary care psychology program. *Evaluation and Program Planning*, 37, 58-63. doi:

10.1016/j.evalprogplan.2013.01.003.

Hutchison, M., Russell, B. S., Gans, K. M., & Starkweather, A. R. (2022). Online administration of a pilot mindfulness-based intervention for adolescents: feasibility, treatment perception and satisfaction. *Current Psychology*, 1-13. doi: 10.1007/s12144-022-03025-x.

Jenkins-Guarnieri, M. A., Pruitt, L. D., Luxton, D. D., & Johnson, K. (2015). Patient perceptions of telemental health: systematic review of direct comparisons to in-person psychotherapeutic treatments. *Telemedicine and E-Health*, 21(8), 652-660. doi: 10.1089/tmj.2014.0165.

Kaiser, H. F. (1960). The application of electronic computers to factor analysis. *Educational and Psychological Measurement*, 20, 141–151.

<http://dx.doi.org/10.1177/001316446002000116>

Keleher, B., Oakman, J. M., Capobianco, K., & Mittelstaedt, W. H. (2019). Basic psychological needs satisfaction, working alliance, and early termination in psychotherapy. *Counselling Psychology Quarterly*, 32(1), 64-80. doi: 10.1080/09515070.2017.1367271.

Kooistra, L. C., Ruwaard, J., Wiersma, J. E., van Oppen, P., van der Vaart, R., van Gemert-Pijnen, J. E. W. C., & Riper, H. (2016). Development and initial evaluation of blended cognitive behavioural treatment for major depression in routine specialized mental health care. *Internet Interventions*, 4, 61-71. doi: 10.1016/j.invent.2016.01.003.

Larsen, D. L., Attkisson, C. C., Hargreaves, W. A., & Nguyen, T. D. (1979). Assessment of client/patient satisfaction: development of a general scale. *Evaluation and Program Planning*, 2(3), 197-207. doi: 10.1016/0149-7189(79)90094-6.

Lorenzo-Seva, U., & Ferrando, P. J. (2006). FACTOR: a computer program to fit the

- exploratory factor analysis model. *Behavior Research Methods*, 38(1), 88-91. doi: 10.3758/bf03192753.
- Machado, P., & Horvath, A. (1999). Inventário de aliança terapêutica – WAI. In M. R. Simões, M. M. Gonçalves & L. S. Almeida (Eds.), *Testes e Provas Psicológicas em Portugal* (Vol. 2, pp. 87-94). Braga: APPORT/SHO.
- Matsubara, C., Green, J., Astorga, L. T., Daya, E. L., Jervoso, H. C., Gonzaga, E. M., & Jimba, M. (2013). Reliability tests and validation tests of the client satisfaction questionnaire (CSQ-8) as an index of satisfaction with childbirth-related care among Filipino women. *BMC Pregnancy and Childbirth*, 13, 235. doi: 10.1186/1471-2393-13-235.
- Miller, L., & Weissman, M. (2002). Interpersonal psychotherapy delivered over the telephone to recurrent depressives: a pilot study. *Depression and Anxiety*, 16(3), 114-117. doi: 10.1002/da.10047.
- Palacios, J. E., Richards, D., Palmer, R., Coudray, C., Hofmann, S. G., Palmieri, P. A., & Frazier, P. (2018). Supported internet-delivered cognitive behavioral therapy programs for depression, anxiety, and stress in university students: open, non-randomised trial of acceptability, effectiveness, and satisfaction. *JMIR Mental Health*, 5(4), e11467. doi: 10.2196/11467.
- Priebe S, Golden E, McCabe R, Reininghaus U. (2012). Patient-reported outcome data generated in a clinical intervention in community mental health care – Psychometric properties. *Biomed Central Psychiatr*, 12, 113. doi: 10.1186/1471-244X-12-113.
- Roberts, R. E., Atrkisson, C. C., & Mendias, R. M. (1984). Assessing the client satisfaction questionnaire in English and Spanish. *Hispanic Journal of Behavioral Sciences*, 6(4), 385-396. doi: 10.1177/07399863840064004.
- Roe, D., Dekel, R., Harel, G., Fennig, S., & Fennig, S. (2006). Clients' feelings during

- termination of psychodynamically oriented psychotherapy. *Bulletin of the Menninger Clinic*, 70(1), 68-81. doi: 10.1521/bumc.2006.70.1.68.
- Rosenvinge, J. H., & Klusmeier, A. K. (2000). Treatment for eating disorders from a patient satisfaction perspective: a Norwegian replication of a British study. *European Eating Disorders Review*, 8(4), 293-300. doi: 10.1002/1099-0968(200008)8:4<293::AID-ERV346>3.0.CO;2-4.
- Rumpold, G., Doering, S., Smrekar, U., Schubert, C., Koza, R., Schatz, D. S., Bertl-Schuessler, A., Janecke, N., Lampe, A., & Schuessler, G. (2005). Changes in motivation and the therapeutic alliance during a pretherapy diagnostic and motivation-enhancing phase among psychotherapy outpatients. *Psychotherapy Research*, 15(1-2), 117-127. doi: 10.1080/10503300512331327092.
- Sabourin, S., Pérusse, D., & Gendreau, P. (1989). Psychometric properties of the French-Canadian version of the client of Mental Health Services Satisfaction Questionnaire (QSC-8 et QSC-18B). *Canadian Journal of Behavioural Science*, 21(2), 147-159. doi: 10.1037/h0079853. [Article in French].
- Säilä, T., Mattila, E., Kaila, M., Aalto, P., & Kaunonen, M. (2008). Measuring patient assessments of the quality of outpatient care: a systematic review. *Journal of Evaluation in Clinical Practice*, 14(1), 148-154. doi: 10.1111/j.1365-2753.2007.00824.x.
- Sales, C. M. D., Moleiro, C. M. de M., Evans, C., & Alves, P. C. G. (2012). The Portuguese version of the CORE-OM: translation, adaptation, and preliminary study of psychometric properties. *Revista de Psiquiatria Clínica*, 39(2), 54-59. doi: 10.1590/S0101-60832012000200003. [Article in Portuguese].
- Schulte, S. J., Meier, P. S., & Stirling, J. (2011). Dual diagnosis clients' treatment satisfaction - a systematic review. *BMC Psychiatry*, 11. doi: 10.1186/1471-244X-11-64.

- Smeets, R. J. E. M., Beelen, S., Goossens, M. E. J. B., Schouten, E. G. W., Knottnerus, J. A., & Vlaeyen, J. W. S. (2008). Treatment expectancy and credibility are associated with the outcome of both physical and cognitive-behavioral treatment in chronic low back pain. *Clinical Journal of Pain, 24*(4), 305-315. doi: 10.1097/AJP.0b013e318164aa75.
- Smith, D., Roche, E., O'Loughlin, K., Brennan, D., Madigan, K., Lyne, J., Feeney, L., & O'Donoghue, B. (2014). Satisfaction with services following voluntary and involuntary admission. *Journal of Mental Health, 23*(1), 38-45. doi: 10.3109/09638237.2013.841864.
- Silva, S., Barbosa, E., Salgado, J., & Cunha, C. (2021). Portuguese validation of the credibility/expectancy questionnaire in routine practice. *Research in Psychotherapy: Psychopathology, Process and Outcome, 24*(1). <https://doi.org/10.4081/ripppo.2021.495>
- Timmerman, M. E., & Lorenzo-Seva, U. (2011). Dimensionality assessment of ordered polytomous items with parallel analysis. *Psychological Methods, 16*(2), 209-220.
- Vázquez, F. L., Torres, Á., Otero, P., Blanco, V., & Clifford Attkisson, C. (2019). Psychometric properties of the Castilian Spanish version of the client satisfaction questionnaire (CSQ-8). *Current Psychology, 38*(3), 829-835. doi: 10.1007/s12144-017-9659-8.
- Warnecke, I., Reiss, N., Werner, A., Luka-Krausgrill, U., & Rohrmann, S. (2020). Treatment satisfaction and therapeutic alliance in three different treatment groups for test anxiety. *Journal of Cognitive Psychotherapy, 34*(2), 131-147. doi: 10.1891/JCPSY-D-18-00027.
- World Health Organization (2007). People-Centred Health Care: A policy framework. Geneva, Switzerland: WHO Document Production Services.

**CHAPTER III - EFFECTS OF TREATMENT SETTINGS ON  
OUTCOME EXPECTATION, TREATMENT CREDIBILITY, AND PRE-  
THERAPY PATIENT CHARACTERISTICS<sup>3</sup>**

<sup>3</sup>This study has been submitted to the journal *Psychotherapy Research*, with the following authors: Sara Silva, Andrea Visla, Patricia Pinheiro, João Salgado & Carla Cunha.

## **Abstract**

Previous studies suggest that patients' outcome expectations and treatment credibility are associated with the outcome of psychotherapy. However, most of these findings came from clinical trials, and there is scarce knowledge about what happens in routine practice. The present study goals were to explore: i) the differences in the baseline treatment credibility, outcome expectations, and pretreatment patient characteristics between two treatment settings; ii) explore the predictive effect of treatment setting pre-therapy patient characteristics on outcome expectations and treatment credibility; and iii) the interaction effect between treatment setting and pre-therapy patient characteristics in predicting outcome expectations. Data from 64 patients in an open trial and 70 patients from routine practice were collected. At baseline all 134 patients completed the Credibility/Expectancy Questionnaire to assess treatment credibility and outcome expectations, the Patient Health Questionnaire, and the Beck Depression Inventory–II to assess depressive symptoms. Pre-therapy patient characteristics data were also collected. Results showed that are differences between treatment settings in baseline outcome expectations and treatment credibility. We found treatment credibility to be higher in the open trial than in the routine practice and outcome expectations to be significantly higher in the routine practice.

**Keywords:** Treatment credibility, Outcome expectations, patient characteristics, open trial, routine practice, psychotherapy

Positive pretreatment patient's beliefs about how effective the psychological treatment might be seem to contribute to the engagement in the psychotherapeutic process (Constantino et al., 2017). Studies have shown that patients' early beliefs that treatments will work usually result in symptom improvements: this has been termed as *outcome expectations*(Constantino,2012). Outcome expectations reffers to the patient's prognostic belief about how helpful the treatment will be (Constantino, Visla, et al., 2018) and can also be associated with the sensation of hope, instilling a hopeful sentiment toward the effectiveness of a specific treatment. According to Snyder's (2002) hope theory, hope arises from a positive state of motivation for transformation, highlighting the patient's active participation in the journey and their anticipation of favorable results.

Outcome expectations may be, of course, influenced by how effective the patient considers a given treatment will be. This has been termed *treatment credibility* by Devilly and Borkovec (2000). Although treatment credibility and outcome expectations are related constructs, they are not synonymous. Treatment credibility encompasses patients' perceptions regarding the reliability and effectiveness of a treatment, forming an essential cognitive aspect within the treatment process (Deville & Borkovec, 2000). On the other hand, outcome expectations relate to an individual's anticipations regarding the outcomes that may arise from undergoing a specific treatment.

Previous research about the treatment credibility and outcome expectations have been focused on their impact in the therapeutic process and in the reduction of clinical symptoms. Research has shown that patients with higher treatment credibility tend to dropout less and have greater adherence to the treatment (Alfonsson et al., 2016). Also, higher baseline outcome expectations predict a better therapeutic outcome (Constantino, Visla, et al., 2018).

Treatment credibility has also been associated with other variables of the therapeutic process. For example, patients with higher treatment credibility scores evidence higher therapeutic alliance, better therapeutic outcomes, and higher treatment satisfaction (Ametrano, 2011; Smeets et al., 2008). Constantino, Coyne, and colleagues (2018) performed a metaanalysis exploring the association between treatment credibility and treatment outcomes, and found a positive association between treatment credibility and therapeutic outcome, with a small effect size ( $r = .12$ ).

Treatment credibility may be particularly important when introducing new interventions. Hence, it is important to note that studies investigating the treatment credibility of online interventions have yielded similar findings. A study on a 4-week internet-based cognitive behavioral relaxation program analyzed the predictive effect of treatment credibility in dropout cases, adherence to treatment, and therapeutic outcomes (Alfonsson et al., 2016). These authors found that early dropouts from this web-based intervention program were predicted by lower treatment credibility measured at baseline. Furthermore, treatment credibility measured at baseline predicted overall symptom improvement at the end of the program.

The role of outcome expectations as a mechanism of change is well established, and several studies have evidenced its association with therapeutic outcomes (e.g., Constantino, Visla, et al., 2018; Newman & Fisher, 2010; Price et al., 2015). Previous research had consistently shown that higher outcome expectations is associated with better therapeutic outcomes and therapeutic alliance (Constantino et al., 2005; Newman & Fisher, 2010; Price et al., 2015; Thompson-Hollands et al., 2014; Tsai et al., 2014; Webb et al., 2013), and predicts patients' treatment satisfaction at therapy termination (Hundt, et al., 2013). Recently, a metaanalysis by Constantino et al. (2021) showed that more optimistic outcome expectations was significantly associated with a

better quality of the therapeutic alliance across 10 independent samples comprising over 1000 patients. Another meta-analysis studied the association between outcome expectations measured at an initial phase of treatment and showed that higher outcome expectations predicted better therapeutic outcomes across 72 studies, including trials and naturalistic studies (Constantino, Visla, et al., 2018).

Given these results regarding the relationship between treatment credibility/outcome expectations and therapeutic outcomes, the research in the last years has been focusing on understanding which patients' characteristics and contextual variables (for instance, treatment setting, research design) may influence their treatment credibility and outcome expectations. Research in this field will allow therapists to better adjust interventions to address differences in patient characteristics, in order to promote greater engagement, adherence to treatment, and preventing treatment dropouts (Constantino et al., 2017; Frövenholt et al., 2007).

As the previous meta-analysis of Constantino and colleagues (e.g., Constantino, Coyne, et al., 2018) found the relation between outcome expectations and outcome to not differ depending on the treatment settings. Therefore, research on the role of patients' pre-therapy characteristics (e.g., age, sex, education, socioeconomic status; the severity of symptoms, previous therapy experiences, and medication) have been explored as potential predictors of the treatment credibility and outcome expectations (Cohen et al., 2015, Constantino et al., 2014, 2017; Mooney et al., 2014; Tran & Bhar, 2014; Tsai et al., 2014; Višlā et al., 2019, 2021; Webb et al., 2013). Usually, patients' variables are collected before the start of the interventions, allowing the establishment of a relationship between demographic and clinical characteristics (at pre-therapy) and baseline (i.e., session 0) outcome expectations or treatment credibility (Višlā et al., 2019, 2021).

Previous research has shown that age is associated with the patient's baseline treatment credibility and outcome expectations (Cohen et al., 2015; Tran & Bhar, 2014), even if in an inconsistent way. For example, Tsai et al. (2014) found that older patients have higher outcome expectations when initiating a group intervention for depression. Another study by Mooney et al. (2014) also found that age and education are predictors of treatment credibility at a baseline, explaining 31.3% of its variance. Specifically, older patients and patients with lower education showed lower baseline treatment credibility, and those patients who considered their treatments more credible at intake achieved a greater improvement in their symptoms of depression and anxiety.

Research has also been finding an association between the severity of symptoms and early outcome expectations (measured at baseline or at an initial phase of treatment) across clinical diagnoses (e.g., depression, substance abuse, anxiety, somatic disorders, personality disorders; Cohen et al., 2015; Constantino et al., 2014; Smeets et al., 2008; Swift et al., 2012; Tran & Bhar, 2014; Tsai et al., 2014; Webb et al., 2013). Namely, initial treatment credibility and outcome expectations were negatively associated with the severity of depressive and anxiety symptoms (Cohen et al., 2015; Constantino et al., 2014). According to these findings, the symptom severity can interfere with the treatment outcome and with the patients' engagement or adherence to treatment (Cohen et al., 2015).

Research by Rutherford and colleagues (2018) examined prospectively the patient outcome expectations mediated by placebo effects in adults with major depressive disorder, randomly assigned to a medication program or a placebo program. The patient's outcome expectations were measured the pre-and post-randomization and then treated with medication or a placebo for 8 weeks (Rutherford et al., 2018). The results showed that the patients that were medicated had higher outcome expectations

and a faster decrease in depressive symptoms (Rutherford et al., 2018). The mediation model showed that patient outcome expectations post-randomization partially mediated the effects of the medication at the end of the treatment (week 8; Rutherford et al., 2018).

Other studies also suggest that positive previous therapy experiences are associated with higher baseline outcome expectations (Swift et al., 2012; Tsai et al., 2014). A recent study by Constantino et al. (2017) demonstrated that the participants (non-graduated students) who had had previous therapy experiences presented higher outcome expectations and greater treatment satisfaction about the therapy experience.

Recent studies conducted by Vîslă et al. (2019, 2021) explored patients' characteristics at the intake (i.e., depression severity, previous depressive episodes, well-being, previous psychotherapy) as a predictor of baseline outcome expectations in a sample of depressive patients. The results obtained by Vîslă et al. (2019) showed that when the predictor was entered separately into analyses, the presence of previous psychotherapy, previous depressive episodes, depression severity, and well-being predicted the baseline outcome expectations. However, when a multipredictor model with all the predictors entered simultaneously, only the patients' pre-therapy levels of well-being and previous depressive episodes remained as predictors of baseline outcome expectations, explaining 38% of the variance. More recently, Vîslă et al. (2021) also carried out a study with a multipredictor model in a sample of patients with generalized anxiety disorder. These researchers explored the patient's characteristics as predictors of baseline outcome expectations (i.e., age, gender, marital status, education, worry severity, depressive severity, and comorbidity; Vîslă et al., 2021). Their results showed that only the depressive symptom severity predicted the baseline outcome expectations,

explaining 10% of the variance: namely, higher depressive symptom severity predicted lower baseline outcome expectations.

In sum, previous studies have been showing that age, symptom severity, previous experiences in psychotherapy, and being under medication are variables associated with either treatment credibility or outcome expectations.

### **The present study**

We devised this study in order to explore the relationship between treatment settings, patients' characteristics, and their interaction (settings\*patients' characteristics), with outcome expectations and treatment credibility. Taking into account that no differences were found in previous meta-analytic studies conducted by Constantino and collaborators (Constantino, Coyne, et al., 2018; Constantino, Visla, et al., 2018) about the relation between outcome expectations and treatment credibility and outcome, to not differ depending on the treatment setting, when comparing different treatment modalities, research designs, or even samples with different homogeneity, these variables do not seem relevant. This suggests, for example, that clinical trials do not have, *per se*, an effect in outcome expectations or treatment credibility. At the same time, the patients' characteristics were shown to be relevant and associated with treatment credibility and outcome expectations. Thus, we may ask if in particular cases, especially if particular settings "attract" different kinds of patients, the setting in itself may not be relevant *per se* but may be constituted by clients with particular profiles that may be relevant.

Taking this general background, the goals of this study were to: i) explore if there are differences in the baseline treatment credibility and outcome expectations of patients involved in two treatment settings (routine care, open trial) within the same

mental health service; ii) explore the predictive effect of treatment setting pre-therapy patient characteristics, such as age, symptom severity, medication, and previous therapy experiences on outcome expectations and treatment credibility; iii) analyze the effect of the interaction of treatment setting and patient pre-therapy characteristics on outcome expectations. These pre-therapy patient characteristics were selected given the extensive literature showing their association with the baseline outcome expectations and treatment credibility (c.f. Cohen et al., 2015; Constantino et al., 2017; Rutherford et al., 2018; Swift et al., 2012; Tsai et al., 2014; Višlă et al., 2019, 2021).

## **Method**

### **Participants**

The present study included a total of 134 patients, with ages ranging from 18 to 67 ( $M = 33$ ;  $SD = 11.57$ ). The sample includes participants in an open trial, occurring in University of Maia ( $n=64$ ) and participants receiving treatment in the routine practice of that university clinic ( $n=70$ ).

The 64 patients gathered in the open trial iCare4Depression conducted in University of Maia showed an average age of 38 years, mostly women (Table 1). Regarding qualifications, 46.9% had completed high school and 48.4% had university-level education. 45.3% were employed and 34.4% were unemployed. 53.1% of this sample's participants had previous therapy experiences and 53.1% used psychiatric medication. In terms of diagnosis (Table 2), 65,6% of the patients presented a depressive disorder diagnosis, which is coherent with the advertising of this study (open trial for the major depressive disorder). 50% had a single diagnosis of depression, and about 23.3% had a diagnosis of a depressive disorder with comorbidities, such as anxiety (4.7%) and borderline personality disorders (10.9%).

The 70 patients gathered in the routine practice of a university clinic showed an average age of 28 years (see Table 1), mostly women also (57.1%). Regarding qualifications, most of the patients have a high school education (60%) and were employed (57.1%). The prevalence of students (31.4%) was high in this sample, which is expected in a university clinic. In terms of clinical characteristics, 67.1% of the patients had no previous experience in psychotherapy, and 72.9% were not taking any psychiatric medication. The most prevalent diagnoses were anxiety (30%) and depressive disorders (22.9%), and 15.6% of patients had a diagnosis of depressive disorder with comorbidity with another clinical psychopathology (Table 2). 17.1% of the cases had other clinical conditions and/or subclinical symptoms.

*Table 1. Description of pre-therapy patients' characteristics (N = 134)*

	Routine Practice (N = 70)	Open trial (N = 64)
<u>Sociodemographic</u>		
Age	M = 28 (SD = 8.66)	M = 38 (SD = 12.09)
Gender		
Female	57.1%	57.8 %
Male	42.9%	42.2%
Civil Status		
Single	85.7%	48.4
Married/ Co-habitation	11.4%	7.5
Divorced	2.9%	17.2
Widow	-	1.6
Qualifications		
Primary education	4.3%	4.7%
High School	35.7%	46.9%
University Education	60.0%	48.4%
Professional Situation		
Unemployed	5.7%	34.4%
Employee	57.1%	45.3%
Student	31.4%	7.8%

Employee and Student	4.3%	4.7%
Others	1.4%	7.8%
<u>Clinical</u>		
Previous Therapy	32.9%	53.1%
With medication	27.1%	53.1%
PHQ-9	-	M= 16,02 (SD=5,34)
BDI	M= 22,34 (SD=11,25)	-

Note:Phq-9 from 15 to 19 = moderately/severe depression;  
BDI from 20 to 28 points= moderate depression.

The patients included in the sample were collected between 2017 and 2019. All participants of the current study provided written informed consent to the use of their data. Participants were given information about the study and confidentiality conditions at the recruitment stage, to guarantee their anonymity in the research data analysis and publication.

Table 2. *Diagnosis by DSM-5 in both contexts*

Diagnosis	Routine Practice (N=70)	Open trial (N=64)
Spectrum of schizophrenia and other psychotic disorders	2.9%	4.7%
Bipolar disorders and related disorders	-	1.6%
Depressive Disorders	22.9%	50%
Anxiety Disorders	30%	12.5%
Somatic symptom disorders and related disorders	-	3.1%
Substance-related disorders and additive disorders	-	1.6%
Obsessive-compulsive disorders and related disorders	2.9%	-
Trauma-related disorders and stressors	2.9%	-
Eating and food ingestion disorders	1.4%	-
Sexual dysfunctions	1.4%	-
Disruptive disorders, impulse control and behaviors	1.4%	-
Depressive Disorders and Anxiety Disorders	7.1%	4.7%
Depressive Disorders and Borderline Personality	-	10.9%
Depressive Disorders and other clinical Diagnoses	8.5%	4.7%
Other clinical conditions/ Subclinical symptoms	17.1%	6.3%

Note: Other clinical conditions/ Subclinical refers to relational problems, occupational, non-specifically diagnoses, and subclinical symptoms.

This study includes a total of 22 therapists, two of whom working in the open trial study and 20 in the routine practice study. The two therapists of the open trial were female, aged between 29 and 34 years old, and their clinical experience ranged between four and seven years. One of the therapists had a Doctoral Degree in psychology and the other had a Master's Degree in clinical and health psychology. In the open trial research design, the therapists were only responsible for the assessment session (the moment where the baseline treatment credibility and outcome expectations were evaluated, as presented in the procedures section), each one evaluated between 25 and 39 participants respectively.

In the routine practice research design, three of the 20 therapists were male and 17 were female. The therapists age ranged between 23 and 48 years old ( $M = 32.05$ ;  $SD = 7.43$ ) and between 1 and 17 years of clinical experience ( $M = 4.8$ ;  $SD = 4.97$ ). Most of the therapists had a Master's Degree in clinical and health psychology and 4 therapists had Doctoral Degrees in psychology. In routine practice, all the therapists were responsible for all the sessions, including the assessment session. Each therapist treated a minimum of 1 participant and a maximum of 12 participants ( $M = 3.5$ ;  $SD = 2.89$ ). Of the 20 therapists, 6 of them treated only one participant.

## **Treatment Settings**

### ***Open trial***

The sample from a research context was recruited from the open trial of the project iCare4 Depression. The open trial was advertised (e.g., university context, newspaper, flyers), and participants signed up for assessment on the project's official website. The intervention protocol was a blended cognitive-behavioral therapy for depression, combining face-to-face sessions and online modules for 16 weeks

(Mathiasen et al., 2016). Although research is still scarce on this type of blended therapy, some studies have shown promising results (Richards et al., 2013; van der Vaart et al., 2014). Blended therapies showed an efficacy that is similar to what has been seen with usual, face-to-face treatments (Mathiasen et al., 2016).

### ***Routine Practice***

The routine practice patients were recruited from the university counseling clinic of University of Maia. This clinic aims to provide psychological support, psychotherapy, and personal development services and is open to the general community (not only university students). The cases are referred to by the patients themselves or by health services. Cases with different clinical presentations are treated in the clinic. Therapists use different empirically validated therapeutic approaches (e.g., Emotion-Focused Therapy; Cognitive Behavioral Therapy) and have regular supervision meetings. Treatment length depends on the needs of each specific case.

### **Measures**

*The Structured Clinical Interview for DSM-5® Disorders: Clinician Version* (SCID-5-CV; First et al., 2016) is a semi-structured interview that aims a systematic assessment of patients' clinical conditions, considering the classification and diagnostic criteria of the Diagnostic and Statistical Manual of Mental Disorders – 5th Edition (DSM-5). The SCID-5-CV allows to collect, at the initial moment, sociodemographic characteristics, and general data about psychopathology throughout the patients's life cycle (First et al., 2016). Subsequently, it addresses in detail each of the DSM-5 disorders, namely: mood disorders, psychotic disorders, substance use disorders, anxiety disorders, obsessive-compulsive disorder, post-traumatic stress disorder, adult attention-deficit/hyperactivity disorder, adjustment, and other nonspecific disorders (First, et al., 2016).

*The Beck Depression Inventory-II (BDI-II)* is a self-report questionnaire that assesses the intensity of depressive symptoms. The Portuguese version of the BDI-II has been translated and adapted by Coelho and colleagues (2002) from Beck and collaborators (1996). This measure comprises 21 items scored on a Likert scale ranging from 0 to 3 points. The total score indicates the intensity of depressive symptoms: mild depressive symptoms (from 0 to 13 points), mild depression (from 14 to 19 points), moderate depression (20 to 28 points), and severe depression (from 29 to 63 points). The Portuguese version has an internal consistency of .91 (Campos & Gonçalves, 2011). The present study also presented a good internal consistency ( $\alpha=.90$ ).

*The Patient Health Questionnaire (PHQ-9; Kroenke et al, 2001)* is a 9-item self-report instrument that assesses depressive symptoms considering. The patients must answer 9 questions using a Likert scale from 0 (never) to 3 (almost every day). The final score is obtained by summing up the item's responses and indicating the severity of the depressive symptoms: subclinical depression (from 0 to 4 points), mild depression (from 5 to 9 points), moderate depression (from 10 to 14), moderately/severe depression (from 15 to 19); severe depression (from 20 to 27). The PHQ-9 has shown good psychometric properties in different versions, including the Portuguese version with an internal consistency of .86 (Ferreira et al., 2019). The present study also showed good psychometric properties with an internal consistency of .81.

*The Credibility/Expectancy Questionnaire (CEQ; Devilly & Borkovec, 2000)* is a self-report measure with 6 items to assess the patients's treatment credibility and outcome expectation regarding treatment. Concerning the treatment credibility, the CEQ explores: a) if the treatment appears logical; b) if the treatment appears useful; and c) if the treatment is reliable. Regarding the outcome expectations, the CEQ explores: a) the improvement that the patients thinks will occur; b) if the patients feels that this therapy

will be helpful; c) if the patients feels that improvement will occur (Coste et al., 2019). This measure is scored on a Likert scale ranging from 1 to 9 (e.g., 1 means “not at all”, 5 “somewhat”, and 9 “very much”) or from 0% to 100% (in 10-point increments). Items 4 and 6 are coded from 0% -100% and are linearly transformed on a Likert scale from 1 to 9 (Devilly & Borkovec, 2000; Nock et al., 2007; Smeets et al., 2008).

The Portuguese version of CEQ has 5 items with 2 subscales, namely: (1) treatment credibility composed by the first 3 items; and (2) outcome expectation composed by the last 2 items (Silva et al, 2021). In this version, CEQ presented good psychometric properties, with a Cronbach’s alpha of .78 (Silva et al, 2021). The internal consistency of CEQ for the present study was  $\alpha = .84$ .

### **Procedures**

The present study was approved by the ethical committee of the University of Maia(5/CEDSMAI/2019; ISMAI, Portugal). In this study, the patients were recruited both from the routine practice and open trial (as described above).

In the open trial, after patients sign up on the website, they were contacted for an assessment session. The therapist who did the assessment session was not the same with the one that treated the patients that met the inclusion criteria. At the beginning of that session, patients were informed about the goals and the procedures of the open trial. They were informed that their therapist will be randomly assigned if they meet the inclusion criteria to be integrated into the trial. The patients received at this moment also a brief rationale about the blended treatment, where the principles of the treatment and the combination of face-to-face sessions with online modules were explained. Next, the psychologist conducted the SCID-5-CV diagnostic clinical interview during the session. Patients filled in the PHQ-9 before the interview and the CEQ at the end of the session. After all these procedures, the patients were informed if they were or were not

included in the open trial to receive a blended treatment. The sample of the current study was composed of the participants who signed up on the site, and who were afterward screened in the assessment session.

The patients who sought psychotherapy at the routine practice were also assessed during an initial session using the SCID-5-CV. The therapists in all the patients of the routine practice were responsible not only for the assessment session but also to provide the treatment. During the assessment session, no information about the specific treatment was provided at this phase. At the beginning of the assessment session all the patients filled in the BDI-II and the end, they filled in the CEQ.

### **Statistical Analysis**

Concerning the statistical analysis, it was conducted a standardization in *z-score* for BDI-II and PHQ-9, allows for comparing the results of both measures of depressive symptoms with SPSS 26 (SPSS Inc. Chicago, IL). Furthermore, to analyze the differences between treatment settings on baseline credibility and outcome expectations, pre-therapy patients' characteristics were performed with a T-test and a Chi-square. The exploration of the prediction and moderation (interaction) analysis was conducted in R software using the package lessR (Gerbing, 2023) and the interactions package (Long, 2021).

## **Results**

### **Differences in pre-therapy patient characteristics, treatment credibility, and outcome expectations between treatment settings (goal 1)**

First, we explored differences in the pre-therapy patients' characteristics. Results showed significant differences in the following patient characteristics. Age was significantly higher in the open trial,  $t(113.193) = 5.536, p = 0.00, r = .43$ . Previous therapy experiences were significantly lower in the routine practice setting: a lower

number of patients from the routine practice sample had had previous experience in psychotherapy,  $\chi^2(1) = 5,619, p = .018$ . The use of medication was significantly lower in the routine practice setting: a lower number of patients used psychiatric medication in the routine practice sample,  $\chi^2(1) = 9,440, p = .002$ .

To explore the differences between the baseline outcome expectations and treatment credibility across different treatment settings, a t-test was performed. Results indicated that treatment credibility was significantly higher in the open trial compared with routine practice,  $t(100.281) = 4.768, p = 0.00, r = .43$ . Also, baseline outcome expectations was significantly higher in the routine practice than in the open trial,  $t(114.694) = -3.852, p = 0.00, r = .34$ .

### **Effects of treatment setting on baseline outcome expectations and pre-therapy patient characteristics (goal 2 and goal 3)**

#### ***Primary Analysis***

Some preliminary analyses were considered before answering this second goal. The interdependence of the predictors (Patient age; Previous therapy experiences; Depressive symptoms; Medication use; Treatment setting) was explored with an intercorrelation analysis presented in Table 3. Results showed that the highest correlation found was between age and the treatment setting ( $r = -.44$ ). Other variables did not present a significant correlation or demonstrated a poor correlation ( $r < .30$ ).

Table 3. *Bivariate correlation between the predictors of treatment credibility and outcome expectations pretreatment*

	1	2	3	4	5.
1.Age	-	.06	-.06	-.26***	-.44***
2.Previous Therapy		-	-.17*	.17	-.21**
3.Z-score_Depressive			-	.28	.00
4.Medication				-	.27***
5.Treatment setting					-

Note:\*\*\* $p < .001$ , \*\* $p < .01$ , \* $p < .05$

Subsequently, two prediction analyses were performed: a Multipredictor analysis to explore the predictive effect of treatment setting and pre-therapy patient

characteristics on baseline treatment credibility and outcome expectations; and a Moderation (Interaction model) analysis to analyze the interaction between the variables on the baseline treatment credibility and outcome expectations.

Initially, we analyzed treatment setting and patient characteristics in baseline (age, previous therapy, severity of depressive symptoms, and medication use) as the predictor variables to predict baseline treatment credibility and outcome expectations. Treatment setting was the only significant predictor of baseline treatment credibility ( $\beta_5 = -4.05$ ,  $SE = .831$ ,  $p < .00$ ;  $R^2 = .15$ ). Treatment setting explained 15% of the variability of treatment credibility, with higher treatment credibility scores shown by patients in the open trial research design. The multipredictor model and the interaction model were not performed on this variable since none of the other pre-therapy patient characteristics were found as significant predictors.

Regarding baseline outcome expectations, the variables previous therapy ( $\beta_2 = -1.28$ ,  $SE = .63$ ,  $p < .05$ ), depressive severity symptoms (*z-score* BDI and PHQ-9;  $\beta_3 = -.66$ ,  $SE = .31$ ,  $p < .05$ ), medication use ( $\beta_4 = 2.00$ ,  $SE = .63$ ,  $p < .01$ ), and treatment setting ( $\beta_5 = 2.34$ ,  $SE = .60$ ,  $p < .001$ ) were all evidenced as significant predictors. Age was the only predictor that was non-significant ( $\beta_6 = -.05$ ,  $SE = .03$ ,  $p = .06$ ). Results showed that the variance of baseline outcome expectations was explained by the following pre-therapy patient characteristics, reported here according to their order as predictors. Treatment setting explained 9% of the outcome expectations variability: i.e. routine practice patients showed higher outcome expectations. Medication use explained 7% of outcome expectations variability, given that patients who were medicated showed higher outcome expectations. Depressive symptoms at pre-therapy explained 3% of baseline outcome expectations: that is, higher levels of depressive symptoms predicted lower baseline outcome expectations. Previous therapy experiences explained 2% of

outcome expectations: fewer previous therapy experiences predicted higher baseline outcome expectations for the treatment that was being initiated.

*Multi-predictor models on the outcome expectations at the intake*

Given the aforementioned results, we performed a prediction analysis to explore the predictive effect of treatment setting and pre-therapy patient characteristics on baseline treatment credibility and outcome expectations. In the first multi-predictor model (Model 1) it was entered in the equation all the variables that were significant (previous therapy, depressive severity symptoms, medication, and treatment setting). The results show that previous therapy no longer predicts the outcome expectations at the intake ( $t = 0.79, p > 0.05$ ). The depressive severity symptoms were non-significant, but with a statistical trend approaching significance ( $t = -1.86, p = .06$ ). According to this model, 17% of the variance of the baseline outcome expectations is explained by medication and the treatment setting ( $R^2 = .166$ ).

A second model was performed removing previous therapy as predictor variable (Model 2). All the predictors remain significant, inclusive the depressive severity symptoms, which means that the inserted clinical variables and the intervention context predicts the outcome expectations at the intake (Table 4). In this model, 17% of the variance of the baseline outcome expectations is explained by the pre-therapy patient characteristics and treatment setting ( $R^2 = .170$ ).

Table 4. *Multipredictor model and Interaction Model of the effect of treatment setting and pre-therapy patients' characteristics on the outcome expectations pretreatment*

	$\beta$ (SE)	$t$ /df
Model 1		
Intercept	6.99 (1.39)***	5.04 [130]
2.Previous Therapy	.49 (.62)	.79 [130]
3.Z-score_Depressive	-.056 (0.30)	-1.86 [130]
4.Medication	1.30 (.62)*	2.08 [130]
5. Treatment setting	1.91 (.61)**	3.10 [130]
Model 2		
Intercept	7.54 (1.20)***	6.30 [130]
3.Z-score_Depressive	-.60 (.30)*	-2.02 [130]
4.Medication	1.305 (.62)*	2.18 [130]

5. <i>Treatment setting</i>	1.99 (.61)**	3.29 [130]
Interaction Model		
Intercept	6.95 (3.10)**	2.24 [126]
3. <i>Z-score_Depressive</i>	.08 (3.10)	0.03 [126]
4. <i>Medication</i>	1.68 (1.92)	0.88 [126]
5. <i>Treatment setting</i>	2.44 (2.10)	1.16 [126]
<i>Treatment setting</i> × <i>Z-score_Depressive</i>	-.73 (2.10)	-.35 [126]
<i>Treatment setting</i> × <i>Medication</i>	-.24 (1.25)	-.75 [126]
<i>Treatment setting</i> × <i>Z-score_Depressive</i> × <i>Medication</i>	1.10 (1.25)	.88 [126]

Note: \*\*\* $p < .001$ , \*\* $p < .01$ , \* $p < .05$

### *Interaction of model of the pre-therapy patient characteristics variable and the treatment setting variable*

A Moderation (Interaction model) analysis was performed to explore the effect of the interaction of treatment setting and pre-therapy patient characteristics on the effect of baseline outcome expectations. The results did not find a statistically significant interaction between the variables (Table 4).

Overall, these results suggest that the treatment setting and medication use have statistically significant positive effects on the outcome expectations, while more severe depressive symptoms have a negative effect. However, the interactions between these variables do not appear to be statistically significant, indicating that the combined effects of these variables on outcome expectations are not significant.

## **Discussion**

Exploring the factors influencing patients' expectations and treatment credibility prior to therapy initiation holds substantial relevance in contemporary healthcare. These expectations and perceptions possess the potential to wield a noteworthy influence on treatment outcomes, patient engagement, and overall therapeutic effectiveness. In our study, we delved into the intricate interconnections among treatment setting, patient characteristics, individuals' baseline outcome expectations and treatment credibility as

they prepare for their therapeutic process. By exploring these complexities, our aim was to uncover insights that could contribute to informed clinical practices and an improved quality of care.

Specifically, the main goal of the present study was the exploration of the relationship between treatment settings and patients' characteristics, in relation to outcome expectations and treatment credibility. We investigated not only the direct effect of these variables, but also tested for potential interactions between them using a moderation analysis.

Regarding the first aim, our findings revealed significant differences in treatment credibility and outcome expectations between the two treatment settings. Specifically, the open trial participants reported higher treatment credibility baseline scores, while the routine sample showed higher baseline outcome expectations scores. These contrasting results may initially seem contradictory, but they actually highlight the importance of differentiating between treatment credibility and outcome expectations.

Treatment credibility relates to patients' perception of the treatment's reliability. From a patient's point of view, it is more focused on the perception of the treatment itself in general, and not necessarily on how this treatment will be helpful to me as a patient. In the open trial context, an intervention rationale was consistently presented, in line with research requirements, which likely contributed to the higher treatment credibility reported by participants. According to previous research, the presentation of a rationale for the intervention may increase adherence to treatment and increase credibility (Constantino et al., 2017; Frövenholt et al., 2007). This aspect was probably less frequent in the routine practice setting prior to the data collection, potentially explaining the lower scores observed in this context. Moreover, the trial was announced as a new form of intervention within a funded research project by a national science

agency, which may have influenced participants' perceptions of its credibility and reputation.

Outcome expectations, on the other hand, reflects patients' emotional beliefs about therapy and their confidence in its effectiveness in a more personalized way (Deville & Borkovec, 2000). Surprisingly, we found higher baseline outcome expectations scores in the routine practice setting, which may be attributed to the differences in patient characteristics between the two samples, particularly related to depression severity. Notably, the depressive symptoms severity scores found in the open trial patients were higher than the ones found in the university clinic. According to previous research, more severe depressive symptoms are associated with lower outcome expectations for treatment results (Cohen et al., 2015; Constantino et al., 2014; Constantino et al., 2017; Swift et al., 2012; Tsai et al., 2014; Vișlă et al., 2019, 2021). Thus, this finding in outcome expectations might be attributed to the variation in depression severity across the two treatment settings. Furthermore, this is coherent with the hope theory proposed by Snyder (2002). According to this theory, hope is based on a state of positive motivation for change, enhancing the patients' agency in this process and the expectations of positive outcomes. However, hope may be compromised by depressive cognitive biases, which can also influence outcome expectations (Snyder et al., 2000; Vilhauer et al., 2013).

Furthermore, our study explored the prediction of baseline outcome expectations based on patient's pre-therapy characteristics. We found that clinical variables, such as medication use and the severity of depressive symptoms, are much more associated with baseline outcome expectations compared to other characteristics like age, gender, or education. Patients using psychiatric medication reported higher baseline outcome expectations, suggesting that hope and optimism may be incremented by combining

medication and psychotherapy as complementary approaches. Conversely, patients with more severe depressive symptoms exhibited lower baseline outcome expectations.

These findings highlight the importance of considering patients' clinical profile and mental health condition when assessing their expectations about treatment outcomes.

We also explored potential interaction effects among treatment setting, medication use, and depressive symptom severity. However, none of these interactions were found to be statistically significant. This suggests that while treatment setting, medication use, and depressive symptom severity each independently influence baseline outcome expectations, their combined effects, or interactions, did not significantly alter patients' initial expectations. This finding implies that the impact of treatment setting and patient characteristics on outcome expectations may operate largely independently.

The results of this study reinforce previous studies and suggest an association of pre-therapy patients' characteristics with outcome expectations. Considering these elements at the baseline may promote a higher involvement in therapy. The biggest novelty of this study was the exploration of the interaction of the patient's characteristics and treatment setting on treatment credibility and outcome expectations. Although the results were unclear as to what the effect of the treatment setting was due to, it allows addressing some questions that were not possible to explore, such as whether the effect of the setting is primarily due to variables related to the clients and therapists rather than design variables of the study itself.

To finalize, some limitations must be considered here, namely due to the heterogeneity of the treatment settings. In this study, we presented two treatment settings with patients with higher variability of pre-therapy patients characteristics, specifically the diagnosis that in the open trial was mainly depressive patients and the procedures of recruitment of the open trial. These differences may interfere with the

patient's perception of the treatment's credibility and outcome expectations. Another limitation, that should be addressed in future studies, is the role of therapist effects, specifically in this study, in which some therapists only treated one case. Prior research has found variability in outcome expectations among therapists (Vîslă et al., 2019). Lastly, the measurement of treatment credibility and outcome expectations before the beginning of therapy (a baseline measurement) must be considered, especially given the studies that show that these scores can vary along the treatment (e.g. Constantino et al., 2021; Vîslă et al., 2019, 2021). However, the main goal here was to replicate studies about the effects of research design and patient characteristics; so, the measurement procedures were similar to others (e.g. Cohen et al., 2015; Constantino et al., 2017; Swift et al., 2012; Tsai et al., 2014; Vîslă et al., 2019, 2021). It remains also important to understand whether the treatment credibility and baseline outcome expectations scores predict the patients' involvement throughout the therapy, as well as their treatment evolution (e.g. Vîslă et al., 2021).

In conclusion, our study provides valuable insights into the complex relationship between treatment settings, patients' pre-therapy characteristics, baseline outcome expectations, and treatment credibility. A better understanding of the clinical impact of these variables can guide healthcare professionals in tailoring interventions to meet individual needs more effectively. By refining our understanding of these factors, we can enhance the efficacy and quality of psychotherapeutic interventions and ultimately improve patients' mental health outcomes.

## References

- Alfonsson, S., Olsson, E., & Hursti, T. (2016). Motivation and Treatment Credibility Predicts Dropout , Treatment Adherence , and Clinical Outcomes in an Internet-Based Cognitive Behavioral Relaxation Program : A Randomized Controlled Trial *Journal of Medical Internet Research*, *18*(3). <https://doi.org/10.2196/jmir.5352>
- Ametrano, R. (2011). Patient Outcome Expectations and Credibility Beliefs as Predictors of the Alliance and Treatment Outcome. *Masters Theses*, February. <http://scholarworks.umass.edu/theses/658>
- Cohen, M., Beard, C., & Björgvinsson, T. (2015). Examining patient characteristics as predictors of patient beliefs about treatment credibility and expectancies for treatment outcome. *Journal of Psychotherapy Integration*, *25*(2), 90–99. <https://doi.org/10.1037/a0038878>
- Constantino, M. J. (2012). Believing is seeing: An evolving research program on patients' psychotherapy expectations. *Psychotherapy Research*, *22*(2), 127–138. <https://doi.org/10.1080/10503307.2012.663512>
- Constantino, M. J., Ametrano, R. M., & Greenberg, R. P. (2012). Clinician interventions and participant characteristics that foster adaptive patient expectations for psychotherapy and psychotherapeutic change. *Psychotherapy*, *49*(4), 557–569. <https://doi.org/10.1037/a0029440>
- Constantino, M. J., Boswell, J. F., Bernecker, S. L., & Castonguay, L. G. (2013). Context-Responsive Psychotherapy Integration as a Framework for a Unified Clinical Science: Conceptual and Empirical Considerations. *Journal of Unified Psychotherapy and Clinical Science*, *2*(1), pp.1-20.
- Constantino, M. J., Coyne, A. E., Boswell, J. F., Iles, B. R., & Visla, A. (2018). A Meta-Analysis of the Association between Patients' Early Perception of Treatment

- Credibility and Their Posttreatment Outcomes. *Psychotherapy*, 55(4), 486–495.  
<https://doi.org/10.1037/pst0000168>
- Constantino, M. J., Coyne, A. E., Goodwin, B. J., Vîslă, A., Flückiger, C., Muir, H. J., & Gaines, A. N. (2021). Indirect effect of patient outcome expectation on improvement through alliance quality: A meta-analysis. *Psychotherapy Research*, 31(6), 711–725.  
<https://doi.org/10.1080/10503307.2020.1851058>
- Constantino, M. J., Coyne, A. E., Mcvicar, E. L., & Ametrano, R. M. (2017). The relative association between individual difference variables and general psychotherapy outcome expectation in socially anxious. *Psychotherapy Research*, 27(5), 583–594.  
<https://doi.org/10.1080/10503307.2016.1138336>
- Constantino, M. J., Penek, S., Bernecker, S. L., & Overtree, C. E. (2014). A preliminary examination of participant characteristics in relation to patients' treatment beliefs in psychotherapy in a training clinic. *Journal of Psychotherapy Integration*, 24(3), 238–250. <https://doi.org/10.1037/a0031424>
- Constantino, M. J., Visla, A., Coyne, A. E., & Boswell, J. F. (2018). A Meta-Analysis of the Association between Patients' Early Treatment Outcome Expectation and Their Posttreatment Outcomes. *Psychotherapy*, 55(4), 473–485.  
<https://doi.org/10.1037/pst0000169>
- Coste, J., Tarquinio, C., Rouquette, A., Montel, S., & Pouchot, J. (2019). Cross-cultural adaptation and validation of the French version of the credibility/expectancy questionnaire. Further insights into the measured concepts and their relationships. *Psychologie Francaise*, 1–12. <https://doi.org/10.1016/j.psfr.2018.11.001>
- Deville, G. J., & Borkovec, T. D. (2000). Psychometric properties of the credibility/expectancy questionnaire. *Journal of Behavior Therapy and Experimental Psychiatry*, 31(2), 73–86. <https://doi.org/10.1016/S0005->

7916(00)00012-4

- Elliott, K. P., Westmacott, R., Hunsley, J., Rumstein-mckean, O., & Best, M. (2015). The Process of Seeking Psychotherapy and Its Impact on Therapy Expectations and Experiences. *Clinical Psychology and Psychotherapy*, 22, 399–408. <https://doi.org/10.1002/cpp.1900>
- Ferreira, T. B., Sousa, M., Meira, L., Cunha, C., Santos, A., Silva, S., et al. (2019). Brief assessment of depression: Psychometric properties of the Portuguese version of the Patient Health Questionnaire (PHQ-9). *The Psychologist: Practice and Research Journal*, 1(2), 1-15. DOI:10.33525/pprj.v1i2.36
- First, M.B., Williams, J.B.W., Karg, R.S., & Spitzer, R.L. (2016). Structured Clinical Interview for DSM-5 Disorders, Clinician Version (SCID-5-CV). Arlington, VA: American Psychiatric Association
- Frövenholt, J., Bragesjö, M., Clinton, D., & Sandell, R. (2007). How do experiences of psychiatric care affect the perceived credibility of different forms of psychotherapy? *Psychology and Psychotherapy: Theory, Research and Practice*, 80(2), 205–215. <https://doi.org/10.1348/147608306X116098>
- Gerbing, D. (2023). *Less Code, More Results*. The School of Business, Portland State University. <https://cran.r-project.org/web/packages/lessR/lessR.pdf>
- Hundt, Natalie; Armento, Maria E. A.; Porter, Bennett; Cully, Jeffrey; Kunik, Mark E.; Stanley, M. (2013). Predictors of treatment satisfaction among older adults with anxiety in a primary care psychology program. *Evaluation and Program Planning*, 37, 58–63. <https://doi.org/10.1016/j.evalprogplan.2013.01.003>. Predictors
- Kroenke, K., Spitzer, R.L. & Williams, J.B.W. The PHQ-9. *J GEN INTERN MED* 16, 606–613 (2001). <https://doi.org/10.1046/j.1525-1497.2001.016009606.x>

- Long, J. A. (2021). *Comprehensive, User-Friendly Toolkit for Probing Interactions*. University of South Carolina: Columbia, SC, US. <https://cran.r-project.org/web/packages/interactions/interactions.pdf>
- Mathiasen, K., Andersen, T. E., Riper, H., Kleiboer, A. A. M., & Roessler, K. K. (2016). Blended CBT versus face-to-face CBT: A randomised non-inferiority trial. *BMC Psychiatry, 16*(1), 1–8. <https://doi.org/10.1186/s12888-016-1140-y>
- Mooney, T. K., Gibbons, M. B. C., Gallop, R., Mack, R. A., & Crits-Christoph, P. (2014). Psychotherapy credibility ratings: Patient predictors of credibility and the relation of credibility to therapy outcome. *Psychotherapy Research, 24*(5), 565–577. <https://doi.org/10.1080/10503307.2013.847988>
- Newman, M. G., & Fisher, A. J. (2010). Expectancy/Credibility Change as a Mediator of Cognitive Behavioral Therapy for Generalized Anxiety Disorder: Mechanism of Action or Proxy for Symptom Change? *International Journal of Cognitive Therapy, 3*, 245–261. <https://doi.org/10.1521/ijct.2010.3.3.245.Expectancy/Credibility>
- Nock, M. K., Ferriter, C., & Holmberg, E. (2007). Parent beliefs about treatment credibility and effectiveness: Assessment and relation to subsequent treatment participation. *Journal of Child and Family Studies, 16*(1), 27–38. <https://doi.org/10.1007/s10826-006-9064-7>
- Price, M., Ph, D., Maples, J. L., Jovanovic, T., Ph, D., Norrholm, S. D., Ph, D., Heekin, M., Rothbaum, B. O., & Ph, D. (2015). An Investigation of Outcome Expectancies as a Predictor of Treatment Response for Combat Veterans With PTSD: Comparison of Clinician, Self-Report, and Biological Measures. *Depression and Anxiety 32:392–399, 32, 392–399*. <https://doi.org/10.1002/da.22354>
- Richards, D. A., Hill, J. J., Gask, L., Lovell, K., Chew-Graham, C., Bower, P., Cape, J., Pilling, S., Araya, R., Kessler, D., Bland, J. M., Green, C., Gilbody, S., Lewis, G.,

- Manning, C., Hughes-Morley, A., & Barkham, M. (2013). Clinical effectiveness of collaborative care for depression in UK primary care (CADET): Cluster randomised controlled trial. *BMJ*, *347*(7922), 1–10. <https://doi.org/10.1136/bmj.f4913>
- Rutherford, Bret R; Wall, Melanie M.; Brown, Patrick; Choo, Tse-Hwei; Wager, Tor D.; Peterson, Bradley S.; Chung, Sarah; Kirsch, Irving; Roose, S. P. (2018). Patient Expectancy as a Mediator of Placebo Effects in Antidepressant Clinical Trials. *American Journal of Psychiatry*, *174*(2), 135–142. <https://doi.org/10.1176/appi.ajp.2016.16020225.Patient>
- Sandell, R., Clinton, D., Frövenholt, J., & Bragesjö, M. (2011). Credibility clusters, preferences, and helpfulness beliefs for specific forms of psychotherapy. *Psychology and Psychotherapy: Theory, Research and Practice*, *84*(4), 425–441. <https://doi.org/10.1111/j.2044-8341.2010.02010.x>
- Silva, S., Barbosa, E., Salgado, J., & Cunha, C. (2021). Portuguese validation of the credibility/expectancy questionnaire in routine practice. *Research in Psychotherapy: Psychopathology, Process and Outcome*, *24*(1). <https://doi.org/10.4081/ripppo.2021.495>
- Smeets, R. J. E. M., Beelen, S., Goossens, M. E. J. B., Schouten, E. G. W., Knottnerus, J. A., & Vlaeyen, J. W. S. (2008). Treatment expectancy and credibility are associated with the outcome of both physical and cognitive-behavioral treatment in chronic low back pain. *Clinical Journal of Pain*, *24*(4), 305–315. <https://doi.org/10.1097/AJP.0b013e318164aa75>
- Snyder, C. R. (2002). TARGET ARTICLE: Hope Theory: Rainbows in the Mind. *Psychological Inquiry*, *13*(4), 249–275. [https://doi.org/10.1207/s15327965pli1304\\_01](https://doi.org/10.1207/s15327965pli1304_01)
- Snyder, C. R., Ilardi, S. S., Cheavens, J., Michael, S. T., Yamhure, L., & Simpson, S.

- (2000). The role of hope in cognitive-behavior therapies. *Cognitive Therapy and Research*, 24(6), 747–762. <https://doi.org/10.1023/A:1005547730153>
- Swift, J. K., Whipple, J. L., & Sandberg, P. (2012). A prediction of initial appointment attendance and initial outcome expectations. *Psychotherapy*, 49(4), 549–556. <https://doi.org/10.1037/a0029441>
- Thompson-Hollands, J., Bentley, K., Gallagher, M., Boswell, J., & Barlow, D. (2014). Credibility and Outcome Expectancy in the Unified Protocol: Relationship to Outcomes. *Journal of Experimental Psychopathology*, 5(1), 72–82. <https://doi.org/10.5127/jep.033712>
- Tsai, M., Ogrodniczuk, J. S., Sochting, I., & Mirmiran, J. (2014). Forecasting success: patients' expectations for improvement and their relations to baseline, process and outcome variables in group cognitive-behavioural therapy for depression. *Clinical Psychology & Psychotherapy*, 21(2), 97–107. <https://doi.org/10.1002/cpp.1831>
- van der Vaart, R., Witting, M., Riper, H., Kooistra, L., Bohlmeijer, E. T., & van Gemert-Pijnen, L. J. E. W. C. (2014). Blending online therapy into regular face-to-face therapy for depression: Content, ratio and preconditions according to patients and therapists using a Delphi study. *BMC Psychiatry*, 14(1), 1–10. <https://doi.org/10.1186/s12888-014-0355-z>
- Vilhauer, J. S., Cortes, J., Moali, N., Chung, S., Mirocha, J., & Ishak, W. W. (2013). Improving Quality of Life for Patients with Major Depressive Disorder by Increasing Hope and Positive Expectations with Future Directed Therapy (FDT). *Innovations in Clinical Neuroscience* 10(3), 11.
- Vislá, A., Constantino, M. J., & Flückiger, C. (2021). Predictors of Change in Patient Treatment Outcome Expectation During Cognitive-Behavioral Psychotherapy for Generalized Anxiety Disorder. *Psychotherapy*, 58(2), 219–229.

<https://doi.org/10.1037/pst0000371>

Vîslă, A., Flückiger, C., Constantino, M. J., Krieger, T., Vîslă, A., Flückiger, C., Constantino, M. J., & Krieger, T. (2019). Patient characteristics and the therapist as predictors of depressed patients' outcome expectation over time: A multilevel analysis. *Psychotherapy Research*, 29(6), 709–722. <https://doi.org/10.1080/10503307.2018.1428379>

Webb, C. A., Kertz, S. J., Bigda-peyton, J. S., & Björgvinsson, T. (2013). The role of pretreatment outcome expectancies and cognitive– behavioral skills in symptom improvement in an acute psychiatric setting. *Journal of Affective Disorders*, 149(0), 375–382. <https://doi.org/10.1016/j.jad.2013.02.016>.

**CHAPTER IV - WHAT WORKS IN BLENDED THERAPY? A CLIENT  
CHANGE PERSPECTIVE IN BLENDED THERAPY INTERVENTION FOR  
DEPRESSION IN PRIMARY CARE <sup>4</sup>**

<sup>4</sup>This study has been submitted to the journal *Psychotherapy Research*, with the following authors: Sara Silva, Nuno Magalhães, João Salgado, & Carla Cunha.

## **Abstract**

Depression ranked among the world's most disabling disorders prior to the COVID-19 pandemic. However, the pandemic exacerbated its prevalence, widening the gap between the demand for intervention and the inadequate resources available for the treatment of depression. One potential solution proposed is blended therapy, which combines face-to-face sessions with online modules, thereby reducing the required intervention time. Encouraging results have emerged, even in primary care settings, demonstrating the effectiveness of blended therapy and the positive reception from clients. Nevertheless, little is currently understood about the mechanisms of change and how clients perceive these changes in the context of blended therapy.

The present study intends to analyze, through a hermeneutic single-case study, the evolution of client symptoms along blended therapy for the treatment of depression; to analyze the client's perspective upon the changes that occurred during therapy and whether these are due to blended therapy. For that, we analyzed a case of a client treated for depression through blended therapy in a primary health care setting. The client was monitored for depression, anxiety, and mental health symptoms throughout the process. The client's perspective about changes was assessed with the Change Interview. Results showed a decrease in symptoms throughout the process and the maintenance of symptom reduction after the intervention, even during a pandemic period. The changes identified by the client seem to occur due to the therapy and were maintained after the end of the treatment with blended therapy.

**Keywords:** Depression, Hermeneutic single-case study, Blended Therapy, Psychotherapy, Client Change.

According to the World Health Organization (2017), despite depression being the most disabling disease in the world, many people remain untreated due to a scarcity of resources and the stigma of suffering from mental health problems. This gap has been worsening due to the pandemic situation of Covid-19, and recent studies denote an increase in the prevalence of depression since the beginning of the pandemic (Czeisler et al., 2020; Salari et al., 2020; Xiong et al., 2020). A recent meta-analysis goes even further, stating that during the pandemic there was an increase of seven times in the prevalence of cases of depression when compared to the pre-pandemic period (Bueno-Notivol et al., 2021). Therefore, it becomes essential to gather intervention resources to reduce the pandemic's impact on mental health, and in particular on depression (Czeisler et al., 2020).

Internet-based interventions have been a solution to bridge the gap between the available intervention opportunities and the intervention needs, because they are easier to access and require fewer professional resources (Hedman et al., 2012; Richards & Richardson, 2012). These interventions are characterized by self-help online modules, where the contact with the therapists is nonexistent or occurs through email or telephone making the client-therapist contact minimal (Ebert et al., 2018). Several prior studies have shown that internet-based interventions are effective in reducing depression and anxiety (Cuijpers et al., 2015; Donker et al., 2013; Ebert et al., 2018; Richards et al., 2018). Some studies are even more promising: for example, a study of cancer survivors experiencing clinical symptoms of depression and anxiety, comparing the effectiveness of usual treatment (in person, face-to-face) and an internet-based intervention, revealed that the online intervention was more effective in reducing depressive symptoms and anxiety than the usual treatment (Murphy et al., 2020). However, these interventions have shown high dropout and relapse rates (Donker et al., 2013; Etzelmueller et al., 2020; Gerhards et al.,

2011; Sanders et al., 2012), with the phenomena being explained by low outcome expectation and lower client satisfaction with this kind of interventions (Donker et al., 2013; Gerhards et al., 2011). Moreover, several studies have elicited barriers to adhering to these interventions, namely, the high technologic knowledge required, the excess of generic content with little or no personalization at all, little professional support (requiring high client autonomy), as well as low treatment credibility in the internet-based interventions (Bendelin et al., 2011; Donker et al., 2013; Gerhards et al., 2011; Knowles et al., 2015; Sanders et al., 2012).

To overcome the difficulties evidenced in internet-based interventions, blended therapy has been proposed as a viable alternative, leading to the development and implementation of this treatment modality. Blended therapy includes two types of interventions: face-to-face sessions and online modules (Richards et al., 2018). In blended therapy, the online modules have the same role as the face-to-face sessions (Wentzel et al., 2016). The online modules should be adjusted and selected according to the clients' therapeutic process and progress (Titzler et al., 2019; Wentzel et al., 2016). Blended therapy supports and motivates clients to follow the therapeutic process by taking into account the client's characteristics in the use of the online platforms, dynamically and flexibly (Titzler et al., 2019; Wentzel et al., 2016). This type of intervention is advantageous since it suppresses criticisms considered in internet-based interventions, but maintains the benefits by reducing therapy time and waiting lists (Richards et al., 2018). A prior qualitative study exploring the client's and therapists' perspectives on the applicability and acceptance of blended therapy was developed by van der Vaart et al. (2014). The results were very positive, with the maintenance of client autonomy, greater professional follow-up, and shorter intervention time being reported as advantageous aspects by both therapists and clients (van der Vaart et al., 2014). Moreover, according to

Wentzel et al. (2016), in blended therapy, the clients are encouraged to keep the treatment focus between sessions in a structured way, while treatment adherence, commitment, and involvement increase in parallel with the support of the therapist and the personalized treatment.

Regarding the effectiveness of blended therapy in the treatment of depression, the results have also been promising when compared to the usual primary care treatments (Erbe et al., 2018; Kooistra et al., 2014; Mathiasen et al., 2016; Richards et al., 2013). The results found by Richards et al. (2013) reveal that clients that were treated with blended therapy had better recovery from depression when compared with the usual primary care treatments. However, the research about blended treatments is starting to raise new questions that go beyond the efficacy of these treatments, for instance, exploring the effect of mechanisms of change (Richards et al., 2018). Research about these mechanisms will allow for the adaptation of treatment to the client's specific needs (Richards et al., 2018).

#### **Client perspective of the change process**

In addition to effectiveness studies, the research on blended therapy has also explored the clients' perspectives on the acceptance and usability of this intervention model, as well as in the analysis of its barriers and advantages (Cerga-Pashoja et al., 2020; Titzler et al., 2018; Urech et al., 2019). The studies carried out in this area have been mainly of a qualitative character, through the analysis of interviews with clients who have been assisted in blended therapy (Cerga-Pashoja et al., 2020; Titzler et al., 2018; Urech et al., 2019). Clients consider that online modules are important to consolidate the learning about the therapeutic model, promote greater adherence to the treatment, and to even facilitate involvement in face-to-face sessions, as well as to increase the reflection process beyond face-to-face sessions, making therapy ubiquitous (Cerga-Pashoja et al.,

2020; Urech et al., 2019). In addition, the client's perception of constant monitoring increases their self-efficacy perception, empowering them to problem resolution (Urech et al., 2019).

As we have seen, studies on blended therapy have focused particularly on the effectiveness of these interventions in: i) the reduction of symptoms (Erbe et al., 2018; Kooistra et al., 2014; Mathiasen et al., 2016; Richards et al., 2013), ii) treatment acceptance (Cerga-Pashoja et al., 2020; Urech et al., 2019), and iii) identification of barriers and advantages associated with it (Cerga-Pashoja et al., 2020; Titzler et al., 2018; Urech et al., 2019). Even when addressing the client's subjective perception, research on blended therapy has been mainly focused on detailing the issues related to efficacy, and potential (dis)advantages of its use. However, research has begun to raise new questions that need to be explored, not only about the effects of blended therapy (Richards et al., 2018) but also about the specific change processes that this modality of treatment enables. What works in blended therapy, remains a question to be addressed (Richards, 2018).

In this regard, research about the client perspective of change has high relevance for its implication to the theory, practice, and intervention policies in psychotherapy (Constantino et al., 2022; Owen et al., 2015; Wampold, 2015). This type of research can have different foci: one avenue for research can explore the client's experience about specific theoretical constructs (e.g., therapeutic alliance, outcome expectation, satisfaction with the treatment), while another avenue for research can give emphasis to the clients' voices or perspectives upon their experiences and changes in therapy (Timulak & Keogh, 2017). Although the research in this field may adopt quantitative and qualitative methodologies, case studies can assume particular relevance in exploring the changes from the client's perspective (Timulak & Keogh, 2017). Case studies in this context can help to understand the change process in a single case, taking into account its

idiosyncrasies, and inform the therapist concerning the relevance of some themes for the client, as well as to difficulties that need to be overcome in clinical practice (Timulak & Keogh, 2017). Case studies that aim to explore the client's perspective on the change process usually use semi-structured interviews, for example, the Change Interview (Elliott, 2012; in more detail below). This analysis can follow a hermeneutic single-case efficacy design (Elliott, 2002; MacLoed et al., 2012; Wall et al., 2017) that gives important indicators about the relationship with clients, of the change process in general (Timulak & Keogh, 2017).

Although case studies have been a fertile and stimulating field for investigation in face-to-face psychotherapy, as they are particularly informative about the processes of change for psychotherapists, the truth is that studies in blended therapy adopting this method are still scarce. The few exceptions are the qualitative studies conducted by Cerga-Pashoja et al. (2020); and Urech et al., (2019) which focus on the acceptance of these interventions by clients. These studies identify the advantages and disadvantages of these interventions from the client's and therapist's perspective through thematic analysis and content analysis of interviews (Cerga-Pashoja et al., 2020; Urech et al., 2019). The investigation is even more scarce on case studies on blended therapy, and for this review, only the study by Titzler et al. (2019) was found. The main aim of the Titzler et al. (2019) study was to demonstrate the application of blended therapy in a case of depression in a clinical trial, not exploring the client's perspective regarding the intervention and the changes that are associated. Therefore, more systematic case studies are needed in the field of blended therapy.

### **Present Study**

Research in blended therapy at present consists of results about the effectiveness and the acceptance by the clients of this type of treatment for depression. New directions

are resurfacing, specifically with studies on the mechanisms of change in blended therapy, the client change perspective.

The present study is based on the hermeneutic single-case design, which aims to establish if the client changed (or not), which changes were experienced, whether therapy played a role in these client changes, and what processes brought about change (Elliott, 2002; Elliott et al., 2009; MacLoed et al., 2012; Wall et al., 2017). The hermeneutic single-case design has been used mainly in face-to-face psychotherapy (c.f. MacLoed et al., 2012; Wall et al., 2017); however, no studies were found in blended therapy. In this case study, we analyze a case of a depressed client, receiving blended therapy in a primary health care setting, with the following aims:

- a) To characterize the initial treatment credibility and outcome expectation about the blended therapy (according to a self-report measure by *Credibility/Expectancy Questionnaire*; Devilly & Borkovec, 2000);
- b) To characterize the evolution of depressive symptoms across the therapeutic process;
- c) To understand the changes reported by the client at the end of the therapy;
- d) To analyze how the client explains the changes identified at the end of the therapy.

### **Method**

**Client.** This client description was based on information collected through research questionnaires. “Anna” (fictional name) was 48 years old at the beginning of therapy. She is a married woman with 2 daughters, has a primary school degree, and was employed as a factory worker. The client was assisted in primary health care, in a hospital context, and was referred by the primary care doctor to psychological services for showing depressive and anxious symptoms. Anna was assessed by following the protocol of the icare4Depression project, to verify her eligibility to participate in the project. It should be noted that the research goals and procedures approved by the ethics committee

were explained and presented to Anna, who then provided an informed consent to participate in this study.

Throughout the evaluation session, it was found that the client experienced a recurrent episode of major depressive disorder, consistent with the diagnosis of major depression, and she was also diagnosed with generalized anxiety disorder. At the beginning of the therapy, Anna presented depressed mood, loss of interest, hopelessness, sleep disturbance, low self-esteem, and anxiety symptoms. Regarding the client's medical history, previous episodes of depression were identified after her mother's death (3 years ago). At the time, Anna had been followed up only with medication. However, Anna felt that depressive and anxiety symptoms became more intense a few months before the evaluation session, after the loss of her sister-in-law to cancer, with the client being one of her main caregivers. In addition to these episodes of grief, the client was living alone, as her husband and daughters were working and studying abroad. The client' social support was scarce, and the emergence of negative thoughts increased: "*I'm alone*" and "*if something happens, I can't help them*". Regarding her medication, Anna was medicated in the last 3 years with an antidepressant of Selective Serotonin Reuptake Inhibitors (SSRIs) and an anxiolytic for emergencies belonging to the group of benzodiazepines.

**Therapist.** The psychotherapist was a male licensed Psychologist, 43 years old at the beginning of the intervention. He had 20 years of experience in therapy and 18 years of experience in Cognitive Behavioral Therapy. The therapist received 20 hours of specific training in blended therapy, including training on the use of all the platforms of the icare4Depression project, specifically in the *Moodbuster* platform and in the mobile app.

**Researchers.** In the follow-up sessions, Anna was evaluated by a researcher who was a member of the icare4Depression project team, and the same person who administered the change interview. This researcher is a female PhD fellow in clinical psychology (first author) with 31-years-old, 7 years of experience in Cognitive Behavioral therapy and 3 years of experience in blended therapy. This researcher was blind to the therapeutic process and outcome in Anna's case.

The qualitative analysis involved two judges with experience in psychotherapy change process research, and a third one acting as an auditor. The two judges were female Ph.D. fellows in clinical psychology, aged 32 and 36 years old, with 6 and 7 years of clinical experience, respectively. When the judges could not reach a consensus, they consulted a third researcher (auditor). The auditor was a female Ph.D. researcher in clinical psychology, with 19 years of clinical experience.

### **Treatment**

The intervention followed the Cognitive Behavioral Therapy for depression protocol, with an adaptation to the blended therapy format (Kemmeren et al., 2016; Mathiasen et al., 2016). Anna had ten face-to-face sessions, complemented by seven online modules in *Moodbuster* (c.f. Erbe et al., 2017). The therapist guided the client through the completion of the online modules, which included: an introduction to blended therapy, psychoeducation, behavioral activation, physical exercise, problem solving, cognitive restructuring, and relapse prevention (see Table 1). Anna also had a mobile application to monitor her automatic thoughts, sleep, eating, and anxiety symptoms (for ecological momentary assessment), with available exercises for anxiety management. The therapist monitored and helped Anna in the completion of the online modules and the exercises of the mobile app.

Table 1. *Description of the face-to-face session and online models of blended therapy in the iCare4Depression project*

Module/Face-to-face Session	Objectives/contents
Introduction	Presenting the platform's functioning in a detailed manner to explain the process of blended therapy.
Face-to-face Session 1	Collection of problem history and explanation of session functioning
Psychoeducation	Raising awareness about depression and its treatment, assisting patients in setting therapeutic objectives, and encouraging self-reward through therapeutic exercises.
Face-to-face Session 2	Exploration of developmental history; Review and definition of objectives (in accordance with Psychoeducation online module).
Behavioral activation	Encouraging the establishment of a balanced daily routine that incorporates pleasurable activities. Providing exercises to identify and schedule pleasurable, routine, and necessary activities, while monitoring their impact on pleasure and competence.
Face-to-face Session 3	Review of performed/scheduled pleasure activities: analysis of task completion (expected levels of pleasure vs. experienced levels), obstacles to completion, new activities. Introduction to Physical Exercise and anxiety management (optional).
Physical exercise	Promoting the practice of physical exercise by offering psychoeducation on its benefits, providing strategies to overcome obstacles, and assisting in scheduling and monitoring its impact on mood.
Face-to-face Session 4	Introduction to Cognitive Restructuring; Training in thought recording.
Cognitive restructuring	Facilitating the alteration of patients' depressive automatic thoughts through psychoeducation, strategies, and exercises aimed at challenging and replacing them with more realistic thoughts.
Face-to-face Session 5 and 6	Cognitive Restructuring: Introducing the challenge component: practicing different challenge techniques during the session; creating alternative thoughts based on provided examples. Review of intervention objectives thus far. Introduction to Problem Solving (optional).
Problem-solving	Providing strategies for addressing various types of problems, including exercises for decision-making, planning, implementation, and evaluating the effectiveness of problem-solving strategies.
Face-to-face Session 7, 8 and 9	Continuation of cognitive restructuring of recorded thoughts or situations that occurred during the week. Exploration of Cognitive Schemas (optional - for clients who allow it). Review of problem record and solution planning, resolution of interpersonal problems, Problem-Solving - Unsolvable Problems (optional).
Relapse prevention	To encourage the recognition of warning signs and the development of action plans for coping with difficult future events, the self-help Moodbuster modules are available if necessary.
Face-to-face Session 10	Therapeutic process review along with the review of the online relapse prevention module.

Note: The distribution of online module completion can vary based on clients needs. The modules for physical exercise and problem-solving are optional

## Measures

*Structured Clinical Interview for DSM-5® Disorders: Clinician Version (SCID-5-CV*; First, et al., 2016) is a semi-structured interview that allows for conducting a

systematic assessment of clients according to the Diagnostic and Statistical Manual of Mental Disorders - 5th Edition (DSM-5). This interview consists of a clinical exploration of mental disorders in an adult's life and allows for the collection of general information about the existence of psychopathology (First, et al., 2016).

*Credibility/Expectancy Questionnaire* (CEQ; Devilly & Borkovec, 2000) is a self-report measure to assess the clients' treatment credibility and outcome expectation. Treatment credibility refers to how logical and useful the treatment is and its reliability. The expectation denotes the improvement that the client feels they will have with the therapy (Deville & Borkovec, 2000). This measure is scored on a Likert scale ranging from 1 to 9 (e.g., 1 means "not at all", 5 "somewhat", and 9 "very much") or from 0% to 100% (in 10-point increments). Items 4 and 6 are coded from 0% -100% are converted linearly on a Likert scale from 1 to 9 (Deville & Borkovec, 2000; Smeets et al., 2008). A higher score in the CEQ indicates more treatment credibility and outcome expectation. The Portuguese version of CEQ has 5 items with 2 subscales, (1) credibility with the first 3 items; and (2) expectations with the last 2 items. This version presents a good internal consistency ( $\alpha = .78$ ; Silva, 2021).

The *Client Satisfaction Questionnaire* (CSQ; Attkisson & Zwick, 1982; Larsen et al., 1979) is a self-report measure that assess the global client treatment satisfaction in a clinical context (e.g., quality of service, kind of service, met needs, reference, amount of help, deal with problems, overall satisfaction, and return). A higher score in the CSQ indicates greater treatment satisfaction. The Portuguese version has 14 items and presents good psychometric proprieties with Cronbach's  $\alpha = .88$  (Silva et al., 2023).

*Patient Health Questionnaire* (PHQ-9; Kroenke et al., 2001) is a self-report questionnaire that evaluates depressive symptoms considering their duration and intensity. The client answers nine questions using a Likert scale from 0 (never) to 3

(almost every day). The final score is obtained by adding the classification of all items. The Portuguese version has shown good psychometric properties with an internal consistency of .86 (Ferreira, et al., 2019). The PHQ-9 cut-off score is 9 points combined with an improvement of 50% (McMillan et al., 2010).

*Clinical Outcome Routine Evaluation – Outcome Measure 10* (CORE-10; Barkham et al., 2013) is a reduced version of the Clinical Outcome Routine Evaluation – Outcome Measure (CORE-OM; Sales et al., 2012), that evaluates mental health. The CORE-10 is clustered into 4 subscales: subjective well-being; complaints and symptoms; social and personal functioning; and risk behavior (Barkham et al., 2013). The 10 items are scored on a Likert scale that ranges from 0 (“never”) to 4 (“always”). The clinical cut-off score is 11 with a reliable change index of 6 points. The validation of the Portuguese CORE-OM has shown good internal consistency ( $\alpha > .80$ ; Sales et al., 2012).

*Generalized Anxiety Disorders* (GAD-7; Spitzer et al., 2006) is a 7 items questionnaire that assesses generalized anxiety symptoms according to a Likert scale from 0 (not at all) to 3 (nearly every day). The total score ranges from 0 to 21; the higher scores indicate more severe anxiety symptoms. The Portuguese validation showed good internal consistency ( $\alpha = .88$ ; Sousa et al., 2015). The GAD-7 cut-off score is 5 points for the Portuguese population.

*Client Change interview* (Elliott, 2012) is a semi-structured interview developed by Robert Elliott, which accesses the clients' perspectives of the changes that occurred during the intervention, as well as the factors that influenced it (Elliott, 2012). The interview takes between 30 to 45 minutes. This interview collects a qualitative assessment of the changes considering the client's own words (Elliott, 2012). It also allows a quantitative analysis of changes, through the client rating the changes according to a Likert scale from 1 (totally expected) to 5 (totally surprise; Elliott, 2012).

## Procedures

The project was implemented within a hospital in the North of Portugal that had a research collaboration protocol with the University of Maia. The icare4Depression project was presented to all the clients referred to the psychology department with depressive symptoms. All the clients that showed interest in participating in the project had an assessment session to explore the existence of exclusion criteria, specifically: (a) absence of symptoms for Major Depressive Disorder; (b) absence of proficiency in the Portuguese language; (c) not having a computer and/or a smartphone with internet access; (d) presence of severe psychiatric comorbidity requiring alternative treatments, primary to depression treatment; (e) high risk of suicide; (f) currently receiving psychotherapy; and (g) changes on medication in the last month or plans to change it before the end of the study. The following inclusion criteria were considered: (a) age of  $\geq 18$  years old; (b) diagnosis of Major Depression Disorder; (c) PHQ-9 score  $\geq 9$  at baseline; and (d) availability to use the *Moodbuster* platform. It is important to note that the protocol for this study was approved by the Ethics Committee of the Faculty of Psychology and Educational Sciences of the University of Porto (2017/09-1) and by the Hospital where it was implemented (Alto Minho Local Health Unit; n°29/2019-CES).

According to the icare4Depression project protocol, the clients that met the inclusion criteria received 15 weeks of CBT treatment in blended therapy, with 10 face-to-face sessions and 7 online modules delivered through the *Moodbuster* platforms. The clients were assessed in several moments, i.e., at pre-treatment, post-treatment, throughout the face-to-face sessions, and the three follow-up sessions (after 16, 26, and 52 weeks after the treatment beginning). All the clients and therapists gave informed consent to participate in the current study.

All the clients were evaluated with SCID-5 (First et al., 2016), a semi-structured clinical interview to verify the diagnosis of depression, as well as the existence of exclusion criteria; PHQ-9 (Kroenke, et al., 2001; Ferreira, et al., 2019) to assess depressive symptoms; CORE-10 (Barkham et al., 2013) and GAD-7 (Sousa et al., 2015; Spitzer et al., 2006) to assess the mental health and general anxiety levels. They also completed the CEQ (Deville & Borkovec, 2000; reference to be inserted at the end of the peer-review process) to assess the treatment credibility and initial outcome expectation, even for those who were not included in the blended intervention. The clients who participated in the blended therapy intervention during the 15 weeks were monitored in all sessions with the PHQ-9 (Kroenke, et al., 2001; Ferreira, et al., 2019), CORE-10 (Barkham et al., 2013), and GAD-7 (Sousa et al., 2015; Spitzer et al., 2006).

In the post-treatment phase and the follow-up session (one week after the end of the treatment; i.e. 16 weeks after the treatment began), clients were evaluated for depressive symptoms with PHQ-9 (Kroenke, et al., 2001; Ferreira, et al., 2019), as well as treatment satisfaction with CSQ (Attkisson & Zwick, 1982; Larsen et al., 1979). Thus, the SCID-5 (First et al., 2016) questions regarding depression and anxiety were used to evaluate the presence of criteria for the diagnosis of these disorders. At the second follow-up session, 10 weeks after the end of the treatment (i.e. 26 weeks after the treatment began) all the clients were also assessed in terms of depression (PHQ-9; Kroenke, et al., 2001; Ferreira, et al., 2019) and treatment satisfaction (CSQ; Attkisson & Zwick, 1982; Larsen et al., 1979) measures, and the Change Interview was applied (Elliott, 2012). The Change Interview was recorded in audio, as considered in the informed consent presented at the beginning of the intervention. Similarly, in the first follow-up session (i.e. 16 weeks after the treatment began), the presence of criteria for the diagnosis of depression was also evaluated. The therapeutic outcome of this case was evaluated by the decrease in

depressive symptoms below the PHQ-9 cut-off point, namely below 9 (Kroenke, et al., 2001; Ferreira, et al., 2019) combined with an improvement of 50% of depressive symptoms (McMillan et al., 2010). Anna's change interview was transcribed following the procedures of Mergenthaler and Stinson (1992) to allow for further qualitative analysis regarding her perspective of change according to the goals of the present study.

### **Coding Procedures**

The hermeneutic single-case efficacy design uses quantitative and qualitative methods to evaluate the treatment causality in single therapy cases. The hermeneutic single-case follows some elements for its analysis, namely: 1) client and therapist's essential data (e.g., demographic information, diagnosis, and clinical problems); 2) quantitative outcome measures (which are applied not only at the beginning and at the end of therapy but also monitored across the therapeutic process), as well as weekly measures of the client's main therapy-related problems or goals; 3) change interview to access the client perspective of changes; 4) helpful events of therapy, a qualitative measure to access the client perceptions of significant therapy events; 5) and records of therapy notes, e.g., therapist process notes, videotapes of the session (Elliott, 2002; Elliott et al., 2009).

In this case study, it was not possible to meet all the criteria regarding the hermeneutic single-case design, since this case was collected within a funded project where some measures were not considered (namely, the analysis of helpful events of therapy and records of therapy notes). The analysis of outcome measures in Anna's case considered the depressive symptoms, anxiety symptoms and mental health cut of points for each clinical measure used, along with their respective reliable change indexes. Also, the client's main therapy-related problems or goals were monitored with Moodbuster exercises at the beginning and end of therapy.

Considering the previously mentioned adjustments, the judges read the coding procedures of the hermeneutic-single case design theory proposed by Elliott (2002; 2009) and received a package of documents with instructions on how to approach the information and how to formulate a response. These documents also included the transcripts of the change interview, data collected in the *Moodbuster* modules, and data regarding the outcome measures collected in the face-to-face sessions. Each judge coded and commented independently on the client's changes. At the end of this process, they rated the level of these changes using a scale of 0 to 100%. During the final phase, the judges discussed the findings to find a consensus on the ratings. The auditor was consulted when disagreements emerged.

## **Results**

The results will be presented starting with a characterization of the client's symptom evolution throughout the process, followed by the characterization of the outcomes and treatment credibility and outcome expectation. Finally, we will focus on the client's perspective upon the changes that were achieved.

### **Client symptoms in the course of therapy**

As previously mentioned, the intervention had 10 face-to-face sessions complemented by 7 online modules. Depressive symptoms were monitored both in face-to-face sessions and at the end of each of the online modules carried out on the *Moodbuster* platform. The modules were carried out between face-to-face sessions. It should be noted that the client completed all *Moodbuster* online modules. Regarding the face-to-face sessions, it is possible to see in Table 2 the evolution of the depressive, anxiety and mental health symptoms. The depressive symptoms are below the cut-off point in session 3 (as can be seen in Table 2) and remained below until the follow-up sessions as previously seen in Table 4. The anxiety symptoms in Anna's case are

particularly important since she had comorbidity with a diagnosis of generalized anxiety. Anna's mental health tends to improve over the 10 sessions, since the symptoms remained stable below the cutoff point from session 3 onwards, until the end of the process (see Table 2).

Table 2. *Symptom's evolution in face-to-face sessions*

	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10
Depressive symptoms (PHQ-9)	9	10	7	6	5	4	5	5	3	3
Mental Health (CORE-10)	21	21	8	10	9	8	15	10	7	9
Anxiety symptoms (GAD)	12	13	6	5	6	6	7	6	5	6

Note: between the face-to-face session the client completed the online modules

Depressive symptoms decreased at the end of the online modules in *Moodbuster*. However, it should be noted that in the face-to-face sessions following the module of behavioral activation, cognitive restructuring, and problem-solving, there is a small decrease in depressive symptoms and mental health symptoms (see Table 2 and Table 3). This can be interpreted as a reaction to the opportunities for therapeutic work conducted in the previous sessions. The behavioral activation module, besides doing some psychoeducation, fosters the scheduling of activities, definition of routine, pleasure, and necessary activities. Anna had symptoms above the cutoff point in the psychoeducation module, whereas in the behavioral activation module she scored 2 on the PHQ-9, subclinical symptoms (see Table 3). In the next face-to-face session, the client also experienced a decrease in depressive symptoms that dropped below the cutoff point, but this reduction was more significant in mental health symptoms. More specifically, the mental health symptoms not only fell below the cutoff point but also changed significantly, fulfilling the reliable change criteria (see Table 2). It is noteworthy that the protocol for the third face-to-face session included continuing the behavioral activation

work. The cognitive restructuring module, besides doing psychoeducation about automatic thoughts, and cognitive errors associated with depression also presented cognitive restructuring exercises. In this module, Anna reported a slight increase in depressive symptoms (see Table 3), possibly due to the fact that she was facing some more pervasive issues underlying her symptoms. Furthermore, in the face-to-face sessions 5 and 6, the work carried on to the identification of automatic thoughts and also to their restructuring. Here, the client showed a slight decrease in depressive and mental health symptoms, which may indicate that completing the module and the cognitive restructuring work in the face-to-face sessions had a positive impact on the symptoms. Finally, the problem-solving module provided psychoeducation on different types of problems (i.e., small problems or problems with solutions, problems without solutions, and interpersonal problems) and offered a set of exercises to facilitate their identification, as well as resolution strategies. During the completion of this online module, Anna maintained her depressive symptoms below the cutoff point. However, in the subsequent face-to-face sessions, where the protocol included working on problem-solving issues, the client experienced a slight increase in depressive symptoms, along with an increase in her mental health symptoms. This latter moment is the only time during the therapy when Anna scores above the cutoff point for the CORE-10.

In the relapse prevention module, the client explored the achievement of the therapeutic goals, namely: a) better sleep; b) being more willing/gaining motivation to leave the house and involve herself in pleasurable activities; c) enrolling in a sport and go alone to this activity; d) experiencing greater concentration; e) learning to live with loneliness; and, f) stop having anxiety attacks. Anna classified the achievement of these goals as satisfied, rather satisfied, or very satisfied (see Table 5), which is similar to the

results of high satisfaction with the treatment found in the follow-up session (see Table 4).

Table 3. *Depressive symptoms (PHQ-9) at the end of each module on the online platform (Moodbuster)*

	Psycho-Education	Behavioral Activation	Physical Exercise	Cognitive Restructuring	Problem Solving	Relapse Prevention (Maintenance)
Depressive symptoms (PHQ-9)	10	2	5	7	5	4

Table 4. *Description of depressive symptoms, treatment credibility, and expectation of treatment, treatment satisfaction in T0, T1, T2, T3*

	T0	T1	T2	T3
Depressive symptoms (PHQ-9)	11	6	4	6
Treatment credibility (CEQ)	22	-	-	-
Expectation (CEQ)	15			
Treatment Satisfaction	-	55	48	50

Table 5. *Exercises completed by the client in the module of psychoeducation at the beginning of therapy and the relapse prevention module at the end of therapy in Moodbuster Platform*

Treatment Goals	Satisfaction <sup>a</sup>	Client comments
Better Sleep	Rather satisfied	"I only managed to achieve this goal with the help of my psychologist, as I had to keep myself busy with leisure activities."
Be more willing/pleasure to leave the house	Satisfied	"By being enrolled in the gym, I met new friends, and learned to control my breathing and practice some activities without getting hurt."
Being able to enroll in a sport and go alone to this activity	Very satisfied	"I started by signing up for the gym, going 3 times a week and having another class with the PT."
Have greater concentration	Rather satisfied	"With the help of the psychologist and my PT I learned that everything is achieved, but I had to learn to deal with my thoughts."
Learn to live with loneliness	Rather satisfied	"By doing the exercises that my psychologist was proposing to me during the consultations, I learned to control the saddest moments and with loneliness."
Stop having anxiety attacks	Rather satisfied	"If I think about the work done so far, it's trying to replace the errors of thoughts with positive thoughts."

Note: <sup>a</sup> rated by a Likert scale: unsatisfied, satisfied, rather satisfied, very satisfied.

## Outcome

The client showed mild to moderate depression in the assessment session, followed by high treatment credibility and outcome expectation (see Table 4). In the first follow-up, Anna had slight depressive symptoms, being below the cutoff point of PHQ-9 but also achieved an improvement of 50% of depressive symptoms (McMillan et al., 2010) congruent with a reliable change for depressive symptoms assessed by this measure

(see reliable change index scores for PhQ-9 in 9 McMillan et al., 2010). Thus, we can consider this case to be a good outcome case, as Anna’s symptom values remain below the cut-off point and met the criteria of reliable change index in follow-up 2 and the third follow-up (see Table 4). The client also showed high satisfaction with the treatment during the follow-up sessions (see Table 4).

### **Client Change Process**

Anna’s change process was analyzed qualitatively by the change interview applied in follow-up 2 (i.e. 26 weeks after the treatment began). In the change interview, the client identified 6 main changes: feeling more encouraged and energetic, more self-esteem and self-confidence, and better managing her worries and anxiety symptoms (see Table 6). The client considered that 5 changes were coded with “*surprising*”, “*very important*” and “*extremely important*” (see Table 6). The client also considered that these changes would not happen without the therapy. Referring to the change “better management of anxiety symptoms”, Anna considered this as an “*expected change*”; however, on Anna’s perspective, this change would not have occurred without the therapy and was classified as “*extremely important*” (see Table 6). When Anna was asked about non-changes or negative experiences with therapy, she did not mention any.

Table 6. *Summary of client change and rating at the second follow-up Change interview*

Changes			Level of surprise at change <sup>a</sup>	Likelihood without therapy <sup>b</sup>	Importance of change <sup>c</sup>
1.	Felling encouraged	more	5	1	4
2.	Felling with energy	more	5	1	4
3.	More self-esteem		5	2	5
4.	More self-confidence		4	1	5
5.	Better management of worries		5	1	5
6.	Better management of anxiety symptoms		2	1	5

Note: <sup>a</sup>1= expected 3= neither, 5= surprising; <sup>b</sup>1= unlikely, 3= neither, 5=likely; <sup>c</sup>1= not at all, 2= slightly, 3= moderately, 4= very, 5= extremely.

## Summary of the Arguments

*Affirmative brief:* The Affirmative brief consists of evidences towards the changes reported by Anna that could be attributed to the therapy. The client identified 6 changes that occurred during therapy and considered that these changes would not occur without them (see Table 6), namely: felling more encouraged and with more energy, more self-esteem and self-confidence, better managing her worries and anxiety symptoms. In addition, in the relapse prevention module of the *Moodbuster* platform, Anna emphasizes the role of the therapist and the therapy for achieving the therapeutic goals (see Table 5) and she considered that she was “*rather satisfied*” or “*very satisfied*” with the achievement of the therapeutic goals. In the change interview, the client emphasized the fact that these changes were sustained even through difficult periods, such as the lockdown periods during to the pandemic. Specifically, Anna highlighted the behavioral activation and physical exercise modules, the mindfulness strategies, and how keeping these strategies during the lockdown periods played a key role in her well-being. The client also pointed out that the face-to-face sessions that explored the situations of loss/grief were particularly important. These sessions helped Anna to deal with her losses, as well as to deal with the moments of loneliness. The change process helped Anna in the overall contexts that she had entered in contact with (e.g., with her family; at work), with more confidence and less symptomatology. The indexes of the outcome measures showed evidence of Anna’s improvement (less depression and anxiety and better mental health). These effects were considered a direct consequence of the therapy.

*Skeptic arguments:* Anna several times stated the importance of the therapeutic alliance and the *Moodbuster* platform as a primordial step to the achievement of the therapy goals. Therefore, Anna tends to be a person with energy and independence,

regarding her work, for example. She considered that the changes achieved were due to the therapy since she was depressed before the therapy. As stated before, we consider that the several lines of evidence support that Anna's change was not due to social desirability. The change process occurred due to her motivation and willingness to overcome the issues that she worked on during therapy.

*Affirmative rebuttal:* The Affirmative rebuttal to the Sceptic brief highlights the presence of reliable change on quantitative outcome measures, indicating a global reliable change in the client's problems. Changes were statistically reliable, according to the RCI indexes for the outcome measures used (she started with 11 points and in all the follow-up session remained below of 6 points), providing evidence for Anna's improvements, as illustrated in Table 3 and Table 5.. Anna can be considered a good outcome case for the treatment of the diagnosis of depression, achieving reliable changes (according to the RCI index for PHQ-9; McMillan et al., 2010).

*Skeptic rebuttal:* The Sceptic rebuttal aimed to demonstrate that all the arguments presented in the Affirmative case were invalid. The changes that occurred in Anna's case were due to the therapy. The therapeutic alliance and the personal characteristics of Anna, as a client, seem to be an important factor in the success of the therapy. The blended therapy was also beneficial to Anna since she showed commitment to the online and face-to-face sessions accross all phases of the therapeutic process. Thus, besides the higher outcome expectation, some of the results were considered new for the client, in a good way. She came out of her comfort zone, and she was surprised with her results. The changes were maintained after the end of the treatment.

*Judgments:* The judges independently concluded that Anna did change with a mean level of certainty of 85% (the probability ratings were 90% and 80%, respectively). Both

judges also concluded that the therapy contributed substantially to change, with a mean level of 93% (90% - 95%, respectively).

### **Discussion**

The present study aimed to characterize quantitatively Anna's initial treatment credibility and outcome expectation about the blended therapy, as well as her evolution in terms of depressive, anxiety, and mental health symptoms across the therapeutic process. From a qualitative perspective, the main aims here were to understand the changes reported by Anna at the end of the therapy and to what/whom she attributed those changes.

Considering that treatment credibility refers to the reliability of the treatment and that outcome expectation refers to how much the clients believe the treatment to work with them (Deville & Borkovec, 2000), in online interventions, research shows that clients usually evidence low treatment credibility and outcome expectations (Donker et al., 2013; Gerhards et al., 2011b). However, the quantitative results show that Anna presented higher treatment credibility and at the beginning of treatment, with similar results found in face-to-face therapy studies (Mooney et al., 2014; Tran & Bhar, 2014), as well as in a pilot study of blended therapy (reference to be inserted at the end of the peer-review process). Although treatment credibility and outcome expectation still have not been much explored in blended therapy studies, this study suggests that this client showed a good acceptance of these interventions, in line with the results found in prior studies (van der Vaart et al., 2014).

Regarding the symptom's evolution, the depressive, anxiety, and mental health symptoms decreased across the therapeutic process, even when evaluated during the online modules. This is consistent with another case study in blended therapy which reported a symptom reduction only with face-to-face sessions and with the online

modules (Titzler et al., 2018). In addition to the face-to-face sessions, Anna's case seems to show 3 modules that had more impact on her depressive symptoms, namely, the modules on behavioral activation, cognitive restructuring, and problem-solving. These modules were also identified by the client during the change interview. Our hypothesis is that these modules may have created opportunities for therapeutic work, particularly the problem-solving module for addressing the grief-related issues that Anna brought as a problem. The completion of this module and the subsequent face-to-face sessions coincide with one of the moments that the client identifies as being significant for her, specifically the exploration of her family losses, where she also considers the importance of the therapeutic alliance as a crucial element for this work. These results can be explained in light of existing research, as particular adjustments for the intervention to align with Anna's therapeutic goals, a barrier in the online interventions that blended treatments seem to overcome more successfully (Richards et al., 2018). Personalization and professional support seem to be important aspects throughout the process, and the complementarity of face-to-face sessions and online modules seems to have had an impact on Anna's depressive symptoms (Titzler et al., 2018; Urech et al., 2019). The analysis of the relapse prevention module, which assesses the client's achievements and satisfaction with the treatment, also presents evidence confirming this. The maintenance of high satisfaction with the treatment assessed after the intervention suggests that blended therapy can overcome the barriers of the need for greater professional support and treatment personalization identified in online interventions, promoting greater adherence to the intervention (Knowles et al., 2014, 2015).

Anna's is considered a good-outcome case, as depressive symptoms remain below the cutoff point at the end of the intervention and there is a decrease of half of the total score, fulfilling the criterion of 50% recovery of reliable change index determined for

PHQ-9 (McMillan et al., 2010). It should be noted that these results are maintained throughout the follow-up sessions, which coincided with lockdown periods of the pandemic by COVID-19. These results indicate the effectiveness of blended therapy also in primary health care (Erbe et al., 2017; Etzelmueller et al., 2020; Richards et al., 2018), as well as a support the evidences of these treatments as a possible viable intervention in the post-pandemic scenario, to face increases in the prevalence of mood and anxiety disorders (Xiong et al., 2020). However, these results must be considered with caution, since we are analyzing only one case. Nevertheless, it would be important to explore these issues in more complete samples, to provide further indicators on how blended therapy works in cases with higher severity of depressive symptoms.

The analysis of Anna's changes throughout the therapeutic process seem to be due to blended therapy. The judges considered that the changes that occurred in the client were due to therapy with an average of 93% degree of certainty, demonstrating robustness in the attribution of the client's changes to being involved in the therapeutic process. The judges did not identify external elements of the therapy that might have influenced the change process. However, the client's motivation and engagement in therapy (client factors) seem to be characteristics that contributed to the achievements in the client's process and related to the psychotherapy process (Holdsworth et al., 2014).

Furthermore, through the analysis of the change interview, the therapeutic relationship and face-to-face monitoring were elements highlighted by the client as promoters of change. This is in line with previous research, as the therapeutic alliance is an important factor of psychotherapy identified and systematically associated with the changes achieved by psychotherapy clients (Baier et al., 2020). Furthermore, it is an indicator of the contributions of blended therapy to fill the gap in online interventions with less professional monitoring.

The analysis of the present case allows us to understand not only the effectiveness of blended therapy but also how the process of change occurred from the client's perspective. Going a little further, it shows us the client's most important moments and modules throughout the process, suggesting that it is more accepted than online interventions. Even with the richness of the case studies, this study presents limitations in the generalization of the results found since we only analyzed Anna's case. Additionally, it was not possible to follow all the procedures of the hermeneutic single case-study theory, which may influence the interpretation of some results.

As a primary health care case study, this study has important implications for clinical practice and for therapists working in this setting, highlighting the themes, strategies, online modules, and mechanisms of change that are important for the therapeutic process. However, some issues need to be addressed, namely in future studies exploring the differences and adherence to blended therapy during a period of the pandemic by COVID-19, by exploring differences with the pre-pandemic period. Another aspect to be explored in the future would be therapists' perspectives on the changes identified by clients. Finally, and to overcome the greatest limitation of this study, it would be important to explore the perspectives of these changes in more clients, using, for instance, a thematic analysis strategy, to confirm the results found.

## References

- Attkisson, C. C., & Zwick, R. (1982). The client satisfaction questionnaire. Psychometric properties and correlations with service utilization and psychotherapy outcome. *Evaluation and Program Planning*, *5*(3), 233–237. [https://doi.org/10.1016/0149-7189\(82\)90074-X](https://doi.org/10.1016/0149-7189(82)90074-X)
- Baier, A. L., Kline, A. C., & Feeny, N. C. (2020). Therapeutic alliance as a mediator of change: A systematic review and evaluation of research. *Clinical Psychology Review*, *82*, 101921. <https://doi.org/10.1016/j.cpr.2020.101921>
- Barkham, M., Bewick, B., Mullin, T., Gilbody, S., Connell, J., Cahill, J., Mellor-Clark, J., Richards, D., Unsworth, G., & Evans, C. (2013). The CORE-10: A short measure of psychological distress for routine use in the psychological therapies. *Counselling and Psychotherapy Research*, *13*(1), 3–13. <https://doi.org/10.1080/14733145.2012.729069>
- Bendelin, N., Hesser, H., Dahl, J., Carlbring, P., Nelson, K. Z., & Andersson, G. (2011). Experiences of guided Internet-based cognitive-behavioural treatment for depression: A qualitative study. *BMC Psychiatry*, *11*. <https://doi.org/10.1186/1471-244X-11-107>
- Bueno-Notivol, J., Gracia-García, P., Olaya, B., Lasheras, I., López-Antón, R., & Santabárbara, J. (2021). Prevalence of depression during the COVID-19 outbreak: A meta-analysis of community-based studies. *International Journal of Clinical and Health Psychology*, *21*(1). <https://doi.org/10.1016/j.ijchp.2020.07.007>
- Cerga-Pashoja, A., Doukani, A., Gega, L., Walke, J., & Araya, R. (2020). Added value or added burden? A qualitative investigation of blending internet self-help with face-to-face cognitive behaviour therapy for depression. *Psychotherapy Research*, *30*(8), 998–1010. <https://doi.org/10.1080/10503307.2020.1720932>

- Constantino, M. J., Coyne, A. E., Boswell, J. F., Iles, B. R., & Visla, A. (2018). A Meta-Analysis of the Association between Patients' Early Perception of Treatment Credibility and Their Posttreatment Outcomes. *Psychotherapy, 55*(4), 486–495. <https://doi.org/10.1037/pst0000168>
- Constantino, M. J., Coyne, A. E., Mcvicar, E. L., & Ametrano, R. M. (2017). The relative association between individual difference variables and general psychotherapy outcome expectation in socially anxious. *Psychotherapy Research, 27*(5), 583–594. <https://doi.org/10.1080/10503307.2016.1138336>
- Constantino, M. J., Gaines, A. N., & Coyne, A. E. (2022). Clients' own perspectives on psychotherapy outcomes and their mechanisms. *The Other Side of Psychotherapy: Understanding Clients' Experiences and Contributions in Treatment.*, 317–349. <https://doi.org/10.1037/0000303-012>
- Cuijpers, P., Riper, H., & Andersson, G. (2015). Internet-based treatment of depression. *Current Opinion in Psychology, 4*, 131–135. <https://doi.org/10.1016/j.copsyc.2014.12.026>
- Czeisler, M. É., Lane, R. I., Petrosky, E., Wiley, J. F., Christensen, A., Njai, R., Weaver, M. D., Robbins, R., Facer-Childs, E. R., Barger, L. K., Czeisler, C. A., Howard, M. E., & Rajaratnam, S. M. W. (2020). Mental Health, Substance Use, and Suicidal Ideation During the COVID-19 Pandemic — United States, June 24–30, 2020. *MMWR. Morbidity and Mortality Weekly Report, 69*(32), 1049–1057. <https://doi.org/10.15585/mmwr.mm6932a1>
- Devilley, G. J., & Borkovec, T. D. (2000). Psychometric properties of the credibility/expectancy questionnaire. *Journal of Behavior Therapy and Experimental Psychiatry, 31*(2), 73–86. [https://doi.org/10.1016/S0005-7916\(00\)00012-4](https://doi.org/10.1016/S0005-7916(00)00012-4)

- Donker, T., Bennett, K., Bennett, A., Mackinnon, A., Van Straten, A., Cuijpers, P., Christensen, H., & Griffiths, K. M. (2013). Internet-delivered interpersonal psychotherapy versus internet-delivered cognitive behavioral therapy for adults with depressive symptoms: Randomized controlled noninferiority trial. *Journal of Medical Internet Research*, *15*(5), 1–16. <https://doi.org/10.2196/jmir.2307>
- Ebert, D. D., Van Daele, T., Nordgreen, T., Karekla, M., Compare, A., Zarbo, C., Brugnera, A., Øverland, S., Trebbi, G., Jensen, K. L., Kaehlke, F., Baumeister, H., & Taylor, J. (2018). Erratum: Internet and mobile-based psychological interventions: Applications, efficacy and potential for improving mental health. A report of the EFPA E-Health Taskforce (*European Psychologist* (2018) 23 (167-187) DOI: 10.1027/1016-9040/a000318). *European Psychologist*, *23*(3), 269. <https://doi.org/10.1027/1016-9040/a000346>
- Elliott, R. (2002). Hermeneutic single-case efficacy design. *Psychotherapy Research*, *12*(1), 1–21. <https://doi.org/10.1080/713869614>
- Elliott, R., Partyka, R., Alperin, R., Dobrenski, R., Wagner, J., Messer, S. B., Watson, J. C., & Castonguay, L. G. (2009). An adjudicated hermeneutic single-case efficacy design study of experiential therapy for panic/phobia. *Psychotherapy Research*, *19*(4–5), 543–557. <https://doi.org/10.1080/10503300902905947>
- Erbe, D., Psych, D., Eichert, H., Riper, H., Ebert, D. D., & Ebert, D. D. (2017). Blending Face-to-Face and Internet-Based Interventions for the Treatment of Mental Disorders in Adults: Systematic Review Corresponding Author: *JOURNAL OF MEDICAL INTERNET RESEARCH*, *19*(9). <https://doi.org/10.2196/jmir.6588>
- Etzelmüller, A., Vis, C., Karyotaki, E., Baumeister, H., Titov, N., Berking, M., Cuijpers, P., Riper, H., & Ebert, D. D. (2020). Effects of internet-based cognitive behavioral therapy in routine care for adults in treatment for depression and anxiety: Systematic

- review and meta-analysis. *Journal of Medical Internet Research*, 22(8).  
<https://doi.org/10.2196/18100>
- Ferreira, T. B., Sousa, M., Meira, L., Cunha, C., Santos, A., Silva, S., et al. (2019). Brief assessment of depression: Psychometric properties of the Portuguese version of the Patient Health Questionnaire (PHQ-9). *The Psychologist: Practice and Research Journal*, 1(2), 1-15. DOI:10.33525/pprj.v1i2.36
- First, M.B., Williams, J.B.W., Karg, R.S., & Spitzer, R.L. (2016). Structured Clinical Interview for DSM-5 Disorders, Clinician Version (SCID-5-CV). Arlington, VA: American Psychiatric Association
- Gerhards, S. A. H., Abma, T. A., Arntz, A., De Graaf, L. E., Evers, S. M. A. A., Huibers, M. J. H., & Widdershoven, G. A. M. (2011a). Improving adherence and effectiveness of computerised cognitive behavioural therapy without support for depression: A qualitative study on patient experiences. *Journal of Affective Disorders*, 129(1–3), 117–125. <https://doi.org/10.1016/j.jad.2010.09.012>
- Gerhards, S. A. H., Abma, T. A., Arntz, A., De Graaf, L. E., Evers, S. M. A. A., Huibers, M. J. H., & Widdershoven, G. A. M. (2011b). Improving adherence and effectiveness of computerised cognitive behavioural therapy without support for depression: A qualitative study on patient experiences. *Journal of Affective Disorders*, 129(1–3), 117–125. <https://doi.org/10.1016/j.jad.2010.09.012>
- Holdsworth, E., Bowen, E., Brown, S., & Howat, D. (2014). Client engagement in psychotherapeutic treatment and associations with client characteristics, therapist characteristics, and treatment factors. *Clinical Psychology Review*, 34(5), 428–450. doi:10.1016/j.cpr.2014.06.004
- Knowles, S. E., Lovell, K., Bower, P., Gilbody, S., Littlewood, E., & Lester, H. (2015). Patient experience of computerised therapy for depression in primary care. *BMJ*

*Open*, 5(11). <https://doi.org/10.1136/bmjopen-2015-008581>

Knowles, S. E., Toms, G., Sanders, C., Bee, P., Lovell, K., Rennick-Egglestone, S., Coyle, D., Kennedy, C. M., Littlewood, E., Kessler, D., Gilbody, S., & Bower, P. (2014). Qualitative meta-synthesis of user experience of computerised therapy for depression and anxiety. *PLoS ONE*, 9(1). <https://doi.org/10.1371/journal.pone.0084323>

Larsen, Daniel L; Attkisson, C. Clifford; Hargreaves, William A.; Nguyen, T. D. (1979). Assessment of Client / Patient Satisfaction : Development of a General Scale. *Evaluation and Program Planning*, 2, 197–207.

McMillan, D., Gilbody, S., & Richards, D. (2010). Defining successful treatment outcome in depression using the PHQ-9: A comparison of methods. *Journal of Affective Disorders*, 127, 122-129. <https://doi.org/10.1016/j.jad.2010.04.030>

Mooney, T. K., Gibbons, M. B. C., Gallop, R., Mack, R. A., & Crits-Christoph, P. (2014). Psychotherapy credibility ratings: Patient predictors of credibility and the relation of credibility to therapy outcome. *Psychotherapy Research*, 24(5), 565–577. <https://doi.org/10.1080/10503307.2013.847988>

Murphy, M. J., Newby, J. M., Butow, P., Loughnan, S. A., Joubert, A. E., Kirsten, L., Allison, K., Shaw, J., Shepherd, H. L., Smith, J., & Andrews, G. (2020). Randomised controlled trial of internet-delivered cognitive behaviour therapy for clinical depression and/or anxiety in cancer survivors (iCanADAPT Early). *Psycho-Oncology*, 29(1), 76–85. <https://doi.org/10.1002/pon.5267>

Owen, J., Adelson, J., Budge, S., Wampold, B., Kopta, M., Minami, T., & Miller, S. (2015). Trajectories of Change in Psychotherapy. *Journal of Clinical Psychology*, 71(9), 817–827. <https://doi.org/10.1002/jclp.22191>

Richards, Derek; Enrique, Angel; Palacios, Jorge; Duffy, D. (2018). Internet-Delivered

Cognitive Behaviour Therapy. In *Cognitive Behavioral Therapy and Clinical Applications* (pp. 223–238).

Richards, D. A., Hill, J. J., Gask, L., Lovell, K., Chew-Graham, C., Bower, P., Cape, J., Pilling, S., Araya, R., Kessler, D., Bland, J. M., Green, C., Gilbody, S., Lewis, G., Manning, C., Hughes-Morley, A., & Barkham, M. (2013). Clinical effectiveness of collaborative care for depression in UK primary care (CADET): Cluster randomised controlled trial. *BMJ*, *347*(7922), 1–10. <https://doi.org/10.1136/bmj.f4913>

Salari, N., Hosseinian-Far, A., Jalali, R., Vaisi-Raygani, A., Rasoulpoor, S., Mohammadi, M., Rasoulpoor, S., & Khaledi-Paveh, B. (2020). Prevalence of anxiety, depression, and psychological distress among the general population during the COVID-19 pandemic: A systematic review and meta-analysis. *Globalization and Health*, *16*(57). <https://doi.org/10.1177/00207640211003121>

Sales, C. M. D., Moleiro, C. M. de M., Evans, C., & Alves, P. C. G. (2012). Versão Portuguesa do CORE-OM: tradução, adaptação e estudo preliminar das suas propriedades psicométricas TT - The Portuguese version of the CORE-OM: translation, adaptation, and preliminary study of psychometric properties. *Rev. Psiquiatr. Clín. (São Paulo)*, *39*(2), 54–59. <https://doi.org/10.1590/S0101-60832012000200003>

Sanders, C., Rogers, A., Bowen, R., Bower, P., Hirani, S., Cartwright, M., Fitzpatrick, R., Knapp, M., Barlow, J., Hendy, J., Chrysanthaki, T., Bardsley, M., & Newman, S. P. (2012). Exploring barriers to participation and adoption of telehealth and telecare within the Whole System Demonstrator trial: A qualitative study. *BMC Health Services Research*, *12*(1), 1–12. <https://doi.org/10.1186/1472-6963-12-220>

**Silva, S.**, Basto, I., Salgado, J., & Cunha, C. (2023). Validation of the client satisfaction questionnaire: a pilot psychometric analysis in Portuguese routine practice. *Research*

- in Psychotherapy: Psychopathology, Process and Outcome*, 26(2), 687. doi: 10.4081/ripppo.2023.687
- Silva, S.,** Barbosa, E., Salgado, J., & Cunha, C. (2021). Portuguese validation of the credibility/expectancy questionnaire in routine practice. *Research in Psychotherapy: Psychopathology, Process and Outcome*, 24(1). <https://doi.org/10.4081/ripppo.2021.495>
- Smeets, R. J. E. M., Beelen, S., Goossens, M. E. J. B., Schouten, E. G. W., Knottnerus, J. A., & Vlaeyen, J. W. S. (2008). Treatment expectancy and credibility are associated with the outcome of both physical and cognitive-behavioral treatment in chronic low back pain. *Clinical Journal of Pain*, 24(4), 305–315. <https://doi.org/10.1097/AJP.0b013e318164aa75>
- Sousa, T.V., Viveiros, V., Chai, M.V. *et al.* Reliability and validity of the Portuguese version of the Generalized Anxiety Disorder (GAD-7) scale. *Health Qual Life Outcomes* 13, 50 (2015). <https://doi.org/10.1186/s12955-015-0244-2>
- Spitzer RL, Kroenke K, Williams JBW, Löwe B. A Brief Measure for Assessing Generalized Anxiety Disorder: The GAD-7. *Arch Intern Med*. 2006;166(10):1092–1097. doi:10.1001/archinte.166.10.1092
- Kroenke, K., Spitzer, R.L. & Williams, J.B.W. The PHQ-9. *J GEN INTERN MED* 16, 606–613 (2001). <https://doi.org/10.1046/j.1525-1497.2001.016009606.x>
- Timulak, L., & Keogh, D. (2017). The client’s perspective on (experiences of) psychotherapy: A practice friendly review. *Journal of Clinical Psychology*, 73(11), 1556–1567. <https://doi.org/10.1002/jclp.22532>
- Titzler, I., Egle, V., Berking, M., Gumbmann, C., & Ebert, D. D. (2019). Blended Psychotherapy: Treatment Concept and Case Report for the Integration of Internet-And Mobile-Based Interventions into Brief Psychotherapy of Depressive Disorders.

*Verhaltenstherapie*. <https://doi.org/10.1159/000502390>

- Titzler, I., Saruhanjan, K., Berking, M., Riper, H., & Ebert, D. D. (2018). Barriers and facilitators for the implementation of blended psychotherapy for depression: A qualitative pilot study of therapists' perspective. *Internet Interventions, 12*, 150–164. <https://doi.org/10.1016/j.invent.2018.01.002>
- Tran, D., & Bhar, S. (2014). Predictors for treatment expectancies among young people who attend drug and alcohol services: A pilot study. *Clinical Psychologist, 18*(1), 33–42. <https://doi.org/10.1111/cp.12009>
- Urech, A., Krieger, T., Möseneder, L., Biaggi, A., Vincent, A., Poppe, C., Meyer, B., Riper, H., & Berger, T. (2019). A patient post hoc perspective on advantages and disadvantages of blended cognitive behaviour therapy for depression: A qualitative content analysis. *Psychotherapy Research, 29*(8), 986–998. <https://doi.org/10.1080/10503307.2018.1430910>
- van der Vaart, R., Witting, M., Riper, H., Kooistra, L., Bohlmeijer, E. T., & van Gemert-Pijnen, L. J. E. W. C. (2014). Blending online therapy into regular face-to-face therapy for depression: Content, ratio and preconditions according to patients and therapists using a Delphi study. *BMC Psychiatry, 14*(1), 1–10. <https://doi.org/10.1186/s12888-014-0355-z>
- Wall, J. M., Kwee, J. L., Hu, M., & McDonald, M. J. (2017). Enhancing the hermeneutic single-case efficacy design: Bridging the research–practice gap. *Psychotherapy Research, 27*(5), 539–548. <https://doi.org/10.1080/10503307.2015.1136441>
- Wampold, B. E. (2015). How important are the common factors in psychotherapy? An update. *World Psychiatry, 14*(3), 270–277. <https://doi.org/10.1002/wps.20238>
- Wentzel, J., van der Vaart, R., Bohlmeijer, E. T., & van Gemert-Pijnen, J. E. W. C. (2016). Mixing Online and Face-to-Face Therapy: How to Benefit From Blended

Care in Mental Health Care. *JMIR Mental Health*, 3(1), e9.  
<https://doi.org/10.2196/mental.4534>

Xiong, J., Lipsitz, O., Nasri, F., Lui, L. M. W., Gill, H., Phan, L., Chen-Li, D., Iacobucci, M., Ho, R., Majeed, A., & McIntyre, R. S. (2020). Impact of COVID-19 pandemic on mental health in the general population: A systematic review. *Journal of Affective Disorders*, 277(June), 55–64. <https://doi.org/10.1016/j.jad.2020.08.001>

**CONCLUSION**

In this thesis, four investigations were developed that allowed us to reflect on the role of outcome expectation and treatment credibility of clients in the initial phase of psychotherapy, not only in routine practice but also in blended therapy for depression. In addition, it was also possible to explore client satisfaction with blended therapy and their perspective on change in the psychotherapeutic process. The discussion of the results of the four investigations carried out will be integrated with the following aspects: 1) Validation and psychometric quality of measures of treatment credibility and outcome expectation and satisfaction with treatment; 2) Effects of treatment settings on outcome expectation, treatment credibility, and pre-therapy patient characteristics; 3) Client perspective on change in blended therapy for depression; 4) Limitations; 5) Conclusion, future research and clinical implications for clinical practice.

### **Validation and psychometric quality of measures of treatment credibility and outcome expectations and satisfaction with treatment**

The central focus and departure point of this PhD thesis is the analysis of the client's perspective in different ways, with the analysis of treatment credibility and client outcome expectation, and treatment satisfaction. However, there were no validated measures for the Portuguese population that assessed these constructs. The CEQ and CSQ-14 are the most usually used measures for assessing treatment credibility and client outcome expectations, as well as treatment satisfaction, thus the importance of validating them for the Portuguese population.

In the CEQ, the validation study results were similar to the original validation study (Deville & Borkovec, 2000), but also in similar validation studies (e.g., Coste et al., 2019; Mertens et al., 2017; Nock et al., 2007; Smeets et al., 2008) which not only shows good psychometric indicators but also confirms the two-factor factorial structure model: one

for treatment credibility and another for outcome expectation. Furthermore, the validation study denoted the applicability of the measure in routine practice. This initial study also oriented towards the need to understand if specific client clinical characteristics lead to higher treatment credibility and better outcome expectations and if there is an effect of treatment setting as is suggested in some research (Constantino, Visla, et al, 2018).

Concerning the validation study of CSQ-14, the results of the factorial structure are similar to other research studies (Attkisson & Zwick, 1982; Larsen et al., 1979; Matsubara et al., 2013; Roberts et al., 1984; Sabourin et al., 1989; Vázquez et al., 2019), showing the existence of one factor and good psychometric proprieties. The innovation of this validation was the semi-confirmatory analysis that was performed with *Bootstrap*, which showed a good index of adjustment of the presented factor structure, consolidating the applicability and robustness of this measure.

### **Effects of Treatment Settings on Outcome Expectation, Treatment Credibility, and Pre-Therapy Client's Characteristics**

This study had two main aims: the first one was to explore the differences between treatment credibility and outcome expectation and pre-therapy patients' characteristics in different treatment settings (i.e. routine practice and open trial) at the baseline. The second aim was to explore the effect of treatment setting and pre-therapy client characteristics on the outcome expectations and the interaction of these variables.

The findings indicate that treatment credibility is significantly higher in the open trial, while outcome expectations are significantly higher in the routine practice. This divergence in treatment credibility may be attributed to the consistent presentation of intervention rationales in the open trial, as required by the research design. Conversely, such presentations may have been less frequent in routine practice. Previous research

suggests that providing a rationale for the intervention can enhance treatment adherence and confidence (Constantino et al., 2017; Frövenholt et al., 2007). These findings should be considered in future studies to reinforce important elements for clinical practice that align with patients' treatment preferences and needs (Constantino et al., 2012; Constantino, Coyne, et al., 2018).

Moreover, the fact that most open trial clients who participated in this study have had prior therapy experiences may contribute to these results. Previous research has shown that varying levels of previous experiences can impact treatment credibility scores (Frövenholt et al., 2007). Positive experiences in previous treatments can foster greater engagement in the therapy process and enhance treatment credibility (Constantino et al., 2017; Constantino, Coyne, et al., 2018; Frövenholt et al., 2007; Sandell et al., 2011).

Regarding outcome expectations, the study reveals significantly higher scores in the routine practice context compared to the open-trial research design. This finding can be explained by the severity of depressive symptoms observed in open trial clients, which exceeds the average depressive symptom scores found in the routine practice. Previous research indicates that higher symptom severity is associated with lower expectations for treatment outcomes (Cohen et al., 2015; Constantino et al., 2014).

The prediction analysis of client-therapy characteristics indicates that baseline outcome expectations are more influenced by clinical variables, such as medication use and the severity of depressive symptoms. This finding helps to clarify the distinctions between the constructs of outcome expectation and treatment credibility. While these constructs are related, outcome expectation is primarily linked to the client's emotional beliefs about therapy, reflecting their perception of how effective a particular treatment will be (Constantino, Visla, et al., 2018; Devilly & Borkovec, 2000). On the other hand, treatment credibility pertains to the client's perception of treatment reliability and

constitutes a cognitive element or focus (Deville & Borkovec, 2000). Outcome expectation can also be associated with feelings of hope, reflecting a sense of optimism that a specific treatment will be beneficial. According to Snyder's hope theory (2002), hope is rooted in a state of positive motivation for change, highlighting the client's active role in the therapeutic process and their expectation of positive results. However, clients who have a reduced sense of hope, often due to the severity or recurrence of depression, may experience compromised motivation and a biased outcome expectation influenced by the severity of their symptoms (Snyder et al., 2000; Vilhauer et al., 2013).

The second multipredictor model suggests that medication, depressive symptoms severity, and treatment settings explain 17% of the baseline outcome expectation. Previous research has shown an effect on the severity of depressive symptoms: clients who have higher severity of symptoms show lower outcome expectations (Cohen et al., 2015; Constantino et al., 2017; Swift et al., 2012; Tsai et al., 2014; Višlă et al., 2019, 2021), also, medication use seems to have a positive effect on the baseline outcome expectation (Rutherford et al., 2018), which is consistent with what we found in our study. However, when we explored the interaction model between the variables, it was not found to be statistically significant, which means that the interaction of the pre-therapy client characteristics variable, and the treatment setting variable did not influence that baseline outcome expectation. These results, similar to those found in previous studies, seem to suggest that pre-therapy patient characteristics have an important role in the prediction of baseline outcome expectations (Cohen et al., 2015; Constantino et al., 2017; Swift et al., 2012; Tsai et al., 2014; Višlă et al., 2019, 2021) and that those expectations do not seem to be influenced by the treatment setting. Possibly the effect found for the treatment setting is due to other variables, like therapist effect or other factors that were not controlled in this study. However, there are some variables that distinguish these

treatment settings, such as the presentation of the rationale (always present in the open trial condition), which can influence clients specifically in the treatment credibility dimension.

The results of this study reinforce and consolidate those obtained in previous studies by suggesting an association of pre-therapy clients' characteristics with outcome expectation. Considering these constructs at the baseline or beginning of treatment may promote a higher involvement in therapy. The exploration of the interaction of the client's characteristics and treatment setting on treatment credibility and outcome expectation was an innovative aspect considered in this study. Although the results were unclear as to what the effect of the treatment setting was due to, it allowed to address some questions, namely whether these effects of the treatment setting were due to other clients and therapists' variables, for instance, diagnoses, and therapists' experience. That should be an important line of inquiry to explore in future research.

It is important to acknowledge several limitations of this study. One key limitation arises from the heterogeneity of the treatment settings under focus (routine practice and open trial). We included two treatment settings with clients who exhibited a wide range of pre-therapy characteristics, particularly regarding the diagnosis, with the open trial mainly consisting of clients with depressive symptoms. The differences in these characteristics and the recruitment procedures for the open trial may have influenced clients' perceptions of treatment credibility and outcome expectation.

Another crucial limitation that warrants investigation in future studies is the impact of therapist effects. In this study, some therapists only treated a single case, which may have introduced variability in outcome expectations among therapists. Exploring and addressing these therapist effects is essential for a more comprehensive understanding of the factors influencing treatment credibility and outcome expectations (Vişlă et al., 2019).

Lastly, it is important to acknowledge a potential limitation regarding the measurement of treatment credibility and outcome expectation at the beginning of therapy as a baseline measurement. This approach may have limitations, particularly considering studies that demonstrate how these scores can fluctuate throughout the course of treatment (e.g. Constantino et al., 2021; Vişlă et al., 2019, 2021). However, the main goal here was to replicate studies about the effects of research design and clients' characteristics; so, the measurement procedures were similar to others (e.g. Cohen et al., 2015; Constantino et al., 2017; Swift et al., 2012; Tsai et al., 2014; Vişlă et al., 2019, 2021). It remains also important to understand whether the treatment credibility and baseline outcome expectation scores predict the patients' involvement throughout the therapy, as well as their treatment evolution.

The present results can also be discussed considering the contextual model for common factors, particularly concerning the influence of contextual factors on the client's perspective of therapy (Wampold, 2015; Wampold & Imel, 2015). Considering these, it would be helpful to analyze if therapists have an awareness of client change trajectories and their outcome expectation not only across the therapeutic process (Owen et al., 2015; Wampold & Imel, 2015) but also before it started. Constantino, Visla, and colleagues (2018) suggest that therapists should address outcome expectation of psychotherapy by providing psychoeducation about treatment approaches, discussing evidence-based practices, and fostering realistic optimism about treatment. The implementation of these kinds of strategies may increase the client's motivation and engagement in therapy (Constantino et al., 2012). The therapist should assess and discuss these factors with their clients to better understand their perspectives and adapt the treatment accordingly (Constantino et al., 2012; Constantino, Visla, et al., 2018). For example, clients with more severe symptoms may have lower outcome expectation, and addressing these

expectations may require additional support and psychoeducation (Constantino et al., 2012; Constantino, Visla, et al., 2018). Attending to these factors, clinicians can optimize the therapeutic process, strengthen the therapeutic alliance, and potentially enhance treatment outcomes for their clients (Constantino et al., 2012).

### **Client perspective on change in blended therapy for depression**

The fourth research study was a hermeneutic single case study in primary health care that intended to analyze the initial treatment credibility and outcome expectations, as well as the evolution of the symptoms across the therapy and also the treatment satisfaction at the end of the blended intervention. As a hermeneutic single case study, it also aimed to analyze the client's perspective on the changes that occurred during therapy, as well as whether these are due to blended therapy.

The quantitative results of Anna's case study, similar to the previous study presented and the results of face-to-face therapy studies (Mooney et al., 2014; Tran & Bhar, 2014), showed higher treatment credibility and outcome expectations at the beginning of treatment. Although treatment credibility and outcome expectations are still not much explored in blended therapy, research suggests that clients show greater acceptance of these interventions (van der Vaart et al., 2014) contrary to what happened with Internet-based interventions in pre-pandemic periods. Previous research on internet-based interventions showed high dropout rates, due to low outcome expectation and low treatment credibility with these treatments, as well as low satisfaction with the treatment, which led to low adherence to interventions (Donker et al., 2013; Etzelmüller et al., 2020; Gerhards et al., 2011; Sanders et al., 2012). According to this case study and the third study previously presented which analyzes the treatment credibility and outcome expectation of blended therapy, our findings seem to point out that blended therapy has a

better acceptance from the client's perspectives. Although these results cannot be generalized because the third study involved an open trial sample in blended therapy. We do not have indicators of the results of treatment satisfaction of clients who had blended therapy, it at least indicates that clients are available for blended therapy as a form of intervention. In addition, in the case study, the quantitative scores related with treatment satisfaction are high, indicating that clients may show higher acceptance of blended therapy to detriment of internet-based interventions.

The client analyzed in this fourth study was a good-outcome case, since she showed reliable improvement and was below the cutoff point of depressive symptoms at the end of the treatment and in the follow-up sessions (which coincided with a period of the pandemic by COVID-19). These results suggest that blended therapy may also be effective in a primary health care setting (Erbe et al., 2018; Etzelmueller et al., 2020; Høifødt et al., 2013; Richards et al., 2013; van Breda et al., 2018). Richards et al. (2013) in a study in primary health care denoted that the clients who received blended therapy recovered from depression after the intervention and maintained the results until after 12 months of treatment.

Blended therapy could be considered as a possible treatment for mood and anxiety disorders, that during the pandemic COVID-19 significantly increased in prevalence (Xiong et al., 2020). The studies of the effectiveness of blended therapy during the pandemic due to Covid-19 are consistent with the previous research showing a reduction of depressive and anxiety symptoms and an increase in adherence to the online treatment platforms (Owusu et al., 2022).

In this case study, we found a decrease in depressive symptoms, anxiety, and mental health symptoms across the therapeutic process, even during the completion of online modules. Similar results were also found in another case study in blended therapy, which

reported a symptom reduction not only in face-to-face- sessions but also after the online modules (Titzler et al., 2018). The client of this case-study besides considering that face-to-face sessions were important, also revealed that some of the online modules were important for her management of depressive symptoms. These aspects highlight some of the blended therapy assumptions, concerning the possible treatment adjustments to satisfy the client's needs and goals, overcoming the barriers of internet-based interventions (Richards et al., 2018).

Personalization and professional support are important aspects throughout the process, and the complementarity of face-to-face sessions and online modules seems to have had an impact on this case study (Titzler et al., 2018; Urech et al., 2019). Previous research on this field also suggests that online tools facilitate the bridge between the therapeutic content and client progress in face-to-face sessions (Cerga-Pashoja et al., 2020). Urech et al. (2019), showed that clients consider that in blended therapy therapist support has an important role in the treatment, not only in the face-to-face sessions but also in the monitoring of the client's adherence to the online modules. The client's perception of constant (and at distance) therapist's monitoring increases self-effectiveness and empowered them with problem resolution (Urech et al., 2019).

The maintenance of high satisfaction with the treatment assessed after the intervention suggests that blended therapy can overcome the barriers of the need for greater professional support and treatment personalization identified in online interventions, promoting greater adherence to these intervention (Knowles et al., 2014, 2015). The analysis of the client's perspective of changes throughout the therapeutic process seems to be due to blended therapy. According Holdsworth et al., (2014) the client's motivation and engagement in therapy seem to be characteristics that contributed to the client's process of change which can be related to the change process in psychotherapy. From the

client's perspective, the therapeutic relationship, and the therapeutic alliance had a central role in her change process since these relationship elements helped to deal with emotional pain in face-to-face sessions and encourage to engage in the online module. As suggested in the research, the therapeutic alliance is an important mechanism of change in psychotherapy (Baier et al., 2020). Furthermore, it is an indicator of the contributions of blended therapy to fill in the gap of online interventions with less professional monitoring and it seems that the mechanisms of change shown in face-to-face psychotherapy may have the same relevance in this kind of intervention.

### **Limitations**

It is important to consider some of the limitations present in the studies of this dissertation. In the validation studies (first and second studies), the major limitation refers to the sample size: although they comply with the recommendations (Gorsuch, 1983), a larger sample in both validation studies, would bring more robustness. In the treatment satisfaction validation study, the fact that the data collection happened at different stages was also a limiting factor since some clients were already in the therapeutic process while others were at the beginning of psychotherapy.

The major limitations of the third study were the heterogeneity of the intervention contexts, for instance, the diagnosis in the open trial was mainly major depression while in the routine practice was anxiety disorders, which could interfere with symptoms severity and with outcome expectations. Also, the recruitment procedures were different from the routine practice, and the absence of control for therapist effects was a limitation, since some studies found variability of outcome expectations between therapists (Vişlă et al., 2019). The measurement of treatment credibility and outcome expectations before the beginning of therapy can also be a limitation, however, the main goal was the replication of studies about the effects of client's characteristics; therefore, the procedures of

measurement adopted here were similar to others (c.f. Cohen et al., 2015; Constantino et al., 2017; Rutherford et al., 2018; Swift et al., 2012; Tsai et al., 2014; Vîslă et al., 2019, 2021)

The hermeneutic single case study, although it brought us the richness of the client's perspective upon the changes occurring during a blended therapy treatment, does not allow us to generalize the results. Another limitation, this time at a methodological level, is the fact that it was not possible to rigorously apply all the procedures and measures of analysis prescribed by the hermeneutic single case study method. However, the design of the project iCare4Depression (where this case was sampled) did not contemplate this methodology, which would certainly bring a more complete analysis of the client's perspective on her therapeutic process.

### **Conclusions, future research, and clinical implication for the practice**

The present PhD thesis, through the four studies developed, allowed concluding that blended therapy, more than being accepted by primary health care clients, seems to be a viable treatment solution for the reduction of depressive symptoms, as reported in the case study. As suggested in the literature, this form of intervention seems to solve the barriers of internet-based interventions, such as the lack of personalization of treatment, the need for closer monitoring by the therapist, and promotes greater adherence to online modules in the complementarity of face-to-face sessions (Richards et al., 2018).

This was also the first step towards studying process-efficacy variables, specifically the mechanisms of change usually analyzed in face-to-face psychotherapy and understanding that their relevance emerges in the same way in blended therapy. Specifically, it would be important to analyze whether the therapeutic result is predicted by the client's outcome expectations, not only at the beginning of the blended therapy and

across the therapeutic process. This was a goal that was not possible to explore in the present thesis due to sample constraints. Furthermore, the present studies recognize the impact of the intervention context, and clinical and demographic characteristics on these variables and mechanisms of change.

In future research, it seems to be important to explore how the mechanisms of change interfere with the efficacy of blended therapy, not only for depression but also in other diagnoses and different intervention contexts. Another aspect to be explored in the future would be the therapists' expectations and perspectives upon the changes identified by their clients in blended therapy. Finally, and to overcome the greatest limitation of the fourth study, it would be important to explore the perspectives of these changes in more clients, using, for instance, a thematic analysis, to confirm the results found here.

The present dissertation seems to add important results not only for the effectiveness and acceptance from the perspective of blended therapy clients, and in primary health care setting. The analysis of their perspective is important because, on the one hand, it allows not only to identify the changes that the clients recognize in themselves in the sequence of the treatment and to assess the specific impact of blended therapy. This assessment is particularly important for adjusting the intervention to the client's needs and increasing its effectiveness. In addition, it could be a first step to help therapists in their routine practice to identify the themes, strategies, online modules, and mechanisms of change that are important for the therapeutic process.

## References

- Ahmed, M., & Westra, H. A. (2009). Impact of a treatment rationale on expectancy and engagement in cognitive behavioral therapy for social anxiety. *Cognitive Therapy and Research*, 33(3), 314–322. <https://doi.org/10.1007/s10608-008-9182-1>
- Alfonsson, S., Olsson, E., & Hursti, T. (2016). Motivation and Treatment Credibility Predicts Dropout , Treatment Adherence , and Clinical Outcomes in an Internet-Based Cognitive Behavioral Relaxation Program : A Randomized Controlled Trial  
Corresponding Author : *JOURNAL OF MEDICAL INTERNET RESEARCH*, 18(3).  
<https://doi.org/10.2196/jmir.5352>
- Almeida, J., Xavier, M., Cardoso, G., Pereira, M., Gusmão, R., Corrêa, B., et al. (2013). *Estudo Epidemiológico Nacional de Saúde Mental - 1º Relatório*. Lisboa: Faculdade de Ciências Médicas, Universidade Nova de Lisboa. ISBN: 978-989-98576-0-5.
- Alonso, J., Codony, M., Kovess, V., Angermeyer, M. C., Katz, S. J., Haro, J. M., De Girolamo, G., De Graaf, R., Demyttenaere, K., Vilagut, G., Almansa, J., Pierre Lépine, J., & Brugha, T. S. (2007). Population level of unmet need for mental healthcare in Europe. *British Journal of Psychiatry*, 190(APR.), 299–306.  
<https://doi.org/10.1192/bjp.bp.106.022004>
- Ametrano, R. (2011). Patient Outcome Expectations and Credibility Beliefs as Predictors of the Alliance and Treatment Outcome. *Masters Theses, February*.  
<http://scholarworks.umass.edu/theses/658>
- Ametrano, R. M., Constantino, M. J., & Nalven, T. (2017). The influence of expectancy persuasion techniques on socially anxious analogue patients' treatment beliefs and therapeutic actions. *International Journal of Cognitive Therapy*, 10(3), 187–205.  
<https://doi.org/10.1521/ijct.2017.10.3.187>

- Békés, V., & Doorn, K. A. van. (2020). Psychotherapists' attitudes toward online therapy during the COVID-19 Pandemic. *Journal of Psychotherapy Integration*, 30(2), 238–247. <https://doi.org/10.1037/int0000214>
- Bendelin, N., Hesser, H., Dahl, J., Carlbring, P., Nelson, K. Z., & Andersson, G. (2011). Experiences of guided Internet-based cognitive-behavioural treatment for depression: A qualitative study. *BMC Psychiatry*, 11. <https://doi.org/10.1186/1471-244X-11-107>
- Benedetti, F. (2014). *Placebo effects: understanding the mechanisms in health and disease*, 2nd ed. New York: Oxford University Press.
- Bohart, A. C., & Wade, A. G. (2013). The Client in Psychotherapy. In M. J. Lambert (Ed.), *Bergin and Garfield's Handbook of Psychotherapy and Behavior Change* (6th ed., pp. 219-257). Hoboken, New Jersey: John Wiley & Sons, Inc.
- Borkovec, T. D., & Nau, S. D. (1972). Credibility of analogue therapy rationales. *Journal of Behaviour Therapy and Experimental Psychiatry*, 3, 257}260.
- Braun, S. R., Gregor, B., & Tran, U. S. (2013). Comparing Bona Fide Psychotherapies of Depression in Adults with Two Meta-Analytical Approaches. *PLoS ONE*, 8(6). <https://doi.org/10.1371/journal.pone.0068135>
- Braun, V., & Clarke, V. (2012). Thematic analysis. *APA Handbook of Research Methods in Psychology, Vol 2: Research Designs: Quantitative, Qualitative, Neuropsychological, and Biological.*, 2, 57–71. <https://doi.org/10.1037/13620-004>
- Braun, V., & Clarke, V. (2021). Conceptual and design thinking for thematic analysis. *Qualitative Psychology*. <https://doi.org/10.1037/qup0000196>
- Bryant, A., & Charmaz, K. (2012). Grounded theory and psychological research. In *APA handbook of research methods in psychology, Vol 2: Research designs: Quantitative, qualitative, neuropsychological, and biological.* (Vol. 2, pp. 39–56).

<https://doi.org/10.1037/13620-00>

Caldas de Almeida, T., Heitor, M. J., Santos, O., & Costa, A., Virgolino, A., Rasga, C., et al. (2020). *Relatório final: SM-COVID19 – Saúde mental em tempos de pandemia*. Lisboa: Instituto Nacional de Saúde Doutor Ricardo Jorge, Instituto de Saúde Ambiental da Faculdade de Medicina da Universidade de Lisboa, Sociedade Portuguesa de Psiquiatria e Saúde Mental

Cerga-Pashoja, A., Doukani, A., Gega, L., Walke, J., & Araya, R. (2020). Added value or added burden? A qualitative investigation of blending internet self-help with face-to-face cognitive behaviour therapy for depression. *Psychotherapy Research*, 30(8), 998–1010. <https://doi.org/10.1080/10503307.2020.1720932>

Cohen, M., Beard, C., & Björgvinsson, T. (2015). Examining patient characteristics as predictors of patient beliefs about treatment credibility and expectancies for treatment outcome. *Journal of Psychotherapy Integration*, 25(2), 90–99. <https://doi.org/10.1037/a0038878>

Connell, J., Grant, S., & Mullin T. (2006). Client initiated termination of therapy at NHS primary care counseling services. *Counselling and Psychotherapy Research Journal*, 6(1), 60-67, DOI: 10.1080/14733140600581507

Constantino, M. J., Arnkoff, D. B., Glass, C. R., Ametrano, R. M., & Smith, J. Z. (2011). Expectations. *Journal of Clinical Psychology*, 67(2), 184–192. <https://doi.org/10.1002/jclp.20754>

Constantino, M. J., Coyne, A. E., Boswell, J. F., Iles, B. R., & Visla, A. (2018). A Meta-Analysis of the Association between Patients' Early Perception of Treatment Credibility and Their Posttreatment Outcomes. *Psychotherapy*, 55(4), 486–495. <https://doi.org/10.1037/pst0000168>

Constantino, M. J., Visla, A., Coyne, A. E., & Boswell, J. F. (2018). A Meta-Analysis

- of the Association between Patients' Early Treatment Outcome Expectation and Their Posttreatment Outcomes. *Psychotherapy*, 55(4), 473–485.  
<https://doi.org/10.1037/pst0000169>
- Constantino, M. J., Višlā, A., Ogrodniczuk, J. S., Coyne, A. E., & Söchting, I. (2016). Forward thinking: correlates of posttreatment outcome expectation among depressed outpatients / Pensamiento prospectivo: correlatos de las expectativas de resultados post-tratamiento de pacientes ambulatorios que sufren depresión. *Estudios de Psicología*, 37(2–3), 282–310.  
<https://doi.org/10.1080/02109395.2016.1189205>
- Coste, J., Tarquinio, C., Rouquette, A., Montel, S., & Pouchot, J. (2019). Cross-cultural adaptation and validation of the French version of the credibility/expectancy questionnaire. Further insights into the measured concepts and their relationships. *Psychologie Francaise*, 1–12. <https://doi.org/10.1016/j.psfr.2018.11.001>
- Crits-Christoph, P., Connolly Gibbons, M.B., Crits-Christoph, K., et al. (2006). Can therapists be trained to improve their alliances? A pre-preliminary study of alliance-fostering psychotherapy. *Psychotherapy Research* 16(3), 268-81.  
 DOI:10.1080/10503300500268557
- Cuijpers, P., Noma, H., Karyotaki, E., Vinkers, C. H., Cipriani, Andrea, & Furukawa, T. A. (2020). A network meta-analysis of the effects of psychotherapies, pharmacotherapies and their combination in the treatment of adult depression. *World Psychiatry*, 19(1), 92–107. <https://doi.org/10.1002/wps.20701>
- Cuijpers, P., Quero, S., Dowrick, C., & Arroll, B. (2019). Psychological Treatment of Depression in Primary Care: Recent Developments. *Current Psychiatry Reports*, 21(12). <https://doi.org/10.1007/s11920-019-1117-x>
- Cuijpers, P., Quero, S., Noma, H., Ciharova, M., Miguel, C., Karyotaki, E., Cipriani, A.,

- Cristea, I. A., & Furukawa, T. A. (2021). Psychotherapies for depression: a network meta-analysis covering efficacy, acceptability and long-term outcomes of all main treatment types. *World Psychiatry, 20*(2), 283–293.  
<https://doi.org/10.1002/wps.20860>
- Cuijpers, P., Riper, H., & Andersson, G. (2015). Internet-based treatment of depression. *Current Opinion in Psychology, 4*, 131–135.  
<https://doi.org/10.1016/j.copsyc.2014.12.026>
- Cuijpers, P., Sijbrandij, M., Koole, S. L., Andersson, G., Beekman, A. T., & Reynolds, C. F. (2013). The efficacy of psychotherapy and pharmacotherapy in treating depressive and anxiety disorders: A meta-analysis of direct comparisons. *World Psychiatry, 12*(2), 137–148. <https://doi.org/10.1002/wps.20038>
- Cuijpers, P., van Straten, A., Andersson, G., & van Oppen, P. (2008). Psychotherapy for Depression in Adults: A Meta-Analysis of Comparative Outcome Studies. *Journal of Consulting and Clinical Psychology, 76*(6), 909–922.  
<https://doi.org/10.1037/a0013075>
- Czeisler, M. É., Lane, R. I., Petrosky, E., Wiley, J. F., Christensen, A., Njai, R., Weaver, M. D., Robbins, R., Facer-Childs, E. R., Barger, L. K., Czeisler, C. A., Howard, M. E., & Rajaratnam, S. M. W. (2020). Mental Health, Substance Use, and Suicidal Ideation During the COVID-19 Pandemic — United States, June 24–30, 2020. *MMWR. Morbidity and Mortality Weekly Report, 69*(32), 1049–1057.  
<https://doi.org/10.15585/mmwr.mm6932a1>
- Deville, G. J., & Borkovec, T. D. (2000). Psychometric properties of the credibility/expectancy questionnaire. *Journal of Behavior Therapy and Experimental Psychiatry, 31*(2), 73–86. [https://doi.org/10.1016/S0005-7916\(00\)00012-4](https://doi.org/10.1016/S0005-7916(00)00012-4)

- Donker, T., Bennett, K., Bennett, A., Mackinnon, A., Van Straten, A., Cuijpers, P., Christensen, H., & Griffiths, K. M. (2013). Internet-delivered interpersonal psychotherapy versus internet-delivered cognitive behavioral therapy for adults with depressive symptoms: Randomized controlled noninferiority trial. *Journal of Medical Internet Research*, *15*(5), 1–16. <https://doi.org/10.2196/jmir.2307>
- Dores, A. R., Geraldo, A., Carvalho, I. P., & Barbosa, F. (2020). The use of new digital information and communication technologies in psychological counseling during the COVID-19 pandemic. *International Journal of Environmental Research and Public Health*, *17*(20), 1–24. <https://doi.org/10.3390/ijerph17207663>
- Dozois, D. J. A., & Westra, H. A. (2005). Development of the Anxiety Change Expectancy Scale (ACES) and validation in college, community, and clinical samples. *Behaviour Research and Therapy*, *43*(12), 1655–1672. <https://doi.org/10.1016/j.brat.2004.12.001>
- Ebert, D. D., Van Daele, T., Nordgreen, T., Karekla, M., Compare, A., Zarbo, C., Brugnera, A., Øverland, S., Trebbi, G., Jensen, K. L., Kaehlke, F., Baumeister, H., & Taylor, J. (2018). Erratum: Internet and mobile-based psychological interventions: Applications, efficacy and potential for improving mental health. A report of the EFPA E-Health Taskforce (*European Psychologist* (2018) 23 (167-187) DOI: 10.1027/1016-9040/a000318). *European Psychologist*, *23*(3), 269. <https://doi.org/10.1027/1016-9040/a000346>
- Elliott, R. (2002). Hermeneutic single-case efficacy design. *Psychotherapy Research*, *12*(1), 1–21. <https://doi.org/10.1080/713869614>
- Erbe, D., Psych, D., Eichert, H., Riper, H., Ebert, D. D., & Ebert, D. D. (2017). Blending Face-to-Face and Internet-Based Interventions for the Treatment of Mental Disorders in Adults : Systematic Review Corresponding Author : *Journal*

- of Medical Internet Research*, 19(9). <https://doi.org/10.2196/jmir.6588>
- Ferreira, T. B., Sousa, M., Meira, L., Cunha, C., Santos, A., Silva, S., et al. (2019). Brief assessment of depression: Psychometric properties of the Portuguese version of the Patient Health Questionnaire (PHQ-9). *The Psychologist: Practice and Research Journal*, 1(2), 1-15. DOI:10.33525/pprj.v1i2.36
- Frank, J.D. (1973). *Persuasion and healing: a comparative study of psychotherapy*, 2nd ed. Baltimore: Johns Hopkins University Press.
- Gerhards, S. A. H., Abma, T. A., Arntz, A., De Graaf, L. E., Evers, S. M. A. A., Huibers, M. J. H., & Widdershoven, G. A. M. (2011). Improving adherence and effectiveness of computerised cognitive behavioural therapy without support for depression: A qualitative study on patient experiences. *Journal of Affective Disorders*, 129(1–3), 117–125. <https://doi.org/10.1016/j.jad.2010.09.012>
- Ghaemian, A., Ghomi, M., Wrightman, M., & Ellis-Nee, C. (2020). Therapy discontinuation in a primary care psychological service: why patients drop out. *The Cognitive Behaviour Therapist*, 13, E25. doi:10.1017/S1754470X20000240
- Gorsuch, R. L. (1983). *Factor Analysis (2nd ed.)*. Hillsdale, NJ: Lawrence Erlbaum Associates.
- Greenberg, R. P., Constantino, M. J., & Bruce, N. (2006). Are patient expectations still relevant for psychotherapy process and outcome? *Clinical Psychology Review*, 26(6), 657–678. <https://doi.org/10.1016/j.cpr.2005.03.002>
- Horvath, A. O. (2006). The alliance in context: Accomplishments, challenges, and future directions. *Psychotherapy: Theory, Research, Practice, Training*, 43(3), 258–263. <https://doi.org/10.1037/0033-3204.43.3.258>
- Høifødt, R. S., Lillevoll, K. R., Griffiths, K. M., Wilsgaard, T., Eisemann, M., Waterloo, K., & Kolstrup, N., (2013). The clinical effectiveness of web-based

- cognitive behavioral therapy with face-to-face therapist support for depressed primary care patients: randomized controlled trial. *Journal of Medical Internet Research*, 15(8),153. <http://dx.doi.org/10.2196/jmir.2714>.
- Hundt, Natalie; Armento, Maria E. A.; Porter, Bennett; Cully, Jeffrey; Kunik, Mark E.; Stanley, M. (2013). Predictors of treatment satisfaction among older adults with anxiety in a primary care psychology program. *Evaluation and Program Planning*, 37, 58–63. <https://doi.org/10.1016/j.evalprogplan.2013.01.003>.Predictors
- Johansson, H., & Eklund, M. (2006). Helping alliance and early dropout from psychiatric out-patient care: the influence of patient factors. *Social Psychiatry and Psychiatric Epidemiology*, 41(2),140–7. <https://doi.org/10.1007/s00127-005-0009-z>.
- Kamenov, K., Twomey, C., Cabello, M., Prina, A. M., & Ayuso-Mateos, J. L. (2016). The efficacy of psychotherapy, pharmacotherapy and their combination on functioning and quality of life in depression: A meta-analysis. *Psychological Medicine*, 47(3), 414–425. <https://doi.org/10.1017/S0033291716002774>
- Kazdin, A. E. (1979). Nonspecific treatment factors in psychotherapy outcome research. *Journal of Consulting and Clinical Psychology*, 47(5), 846–851. <https://doi.org/10.1037/0022-006X.47.5.846>
- Kemmeren, L. L., van Schaik, D. J. F., Riper, H., Kleiboer, A. M., Bosmans, J. E., & Smit, J. H. (2016). Effectiveness of blended depression treatment for adults in specialised mental healthcare: Study protocol for a randomised controlled trial. *BMC Psychiatry*, 16(1), 1–14. <https://doi.org/10.1186/s12888-016-0818-5>
- Khat ib, A., Gelkopf, M., Kapolnik, E., & Hassan-Abbas, N. (2021). (2021). The Assessment of Effect iveness by Therapists of Online Therapy During the COVID-19 Pandemic Era in Israel. *Journal of Psychotherapy Integration*, 2021.

<https://doi.org/10.1037/int0000267>

Knowles, S. E., Lovell, K., Bower, P., Gilbody, S., Littlewood, E., & Lester, H. (2015).

Patient experience of computerised therapy for depression in primary care. *BMJ*

*Open*, 5(11). <https://doi.org/10.1136/bmjopen-2015-008581>

Knowles, S. E., Toms, G., Sanders, C., Bee, P., Lovell, K., Rennick-Egglestone, S.,

Coyle, D., Kennedy, C. M., Littlewood, E., Kessler, D., Gilbody, S., & Bower, P.

(2014). Qualitative meta-synthesis of user experience of computerised therapy for depression and anxiety. *PLoS ONE*, 9(1).

<https://doi.org/10.1371/journal.pone.0084323>

Knudsen, A. K. S., Skogen, J. C., Stene-Larsen, K., Gustavson, K., & Reneflot, A.

(2022). Met and unmet need for mental health care before and during the COVID-19 pandemic. *European Journal of Public Health*, 32(1), 49–51.

<https://doi.org/10.1093/eurpub/ckab183>

Kooistra, L. C., Ruwaard, J., Wiersma, J. E., van Oppen, P., van der Vaart, R., van

Gemert-Pijnen, J. E. W. C., & Riper, H. (2016). Development and initial

evaluation of blended cognitive behavioural treatment for major depression in routine specialized mental health care. *Internet Interventions*, 4, 61–71.

<https://doi.org/10.1016/j.invent.2016.01.003>

Kroenke, K., Spitzer, R.L., & Williams, J.B. (2001). The PHQ-9: validity of a brief

depression severity measure. *Journal of General Internal Medicine*, 16(9),606-13.

doi: 10.1046/j.1525-1497.2001.016009606.x. PMID: 11556941; PMCID:

PMC1495268.

Kroenke, K., & Spitzer, R. L. (2002). The PHQ-9: A new depression diagnostic and

severity measure. *Psychiatric Annals*, 32(9), 509–515.

<https://doi.org/10.3928/0048-5713-20020901-06>

- Lambert, M. J. (2013). Outcome in psychotherapy: The past and important advances. *Psychotherapy, 50*(1), 42–51. <https://doi.org/10.1037/a0030682>
- Levitt, H. M., Pomerville, A., & Surace, F. I. (2016). A Qualitative meta-analysis examining clients' experiences of psychotherapy: A new agenda. *Psychological Bulletin, 142*(8), 801–830. <https://doi.org/10.1037/bul0000057>
- Linde, K., Sigterman, K., Kriston, L., Rücker, G., Jamil, S., Meissner, K., & Schneider, A. (2015). Effectiveness of psychological treatments for depressive disorders in primary care: Systematic review and meta-analysis. *Annals of Family Medicine, 13*(1), 56–68. <https://doi.org/10.1370/afm.1719>
- Lutz, W., de Jong, K., Rubel, J. A., & Delgado, J. (2021). Measuring, predicting, and tracking change in psychotherapy. In M. Barkham, W. Lutz, & L. G. Castonguay (Eds.), *Bergin and Garfield's handbook of psychotherapy and behavior change: 50th anniversary edition* (pp. 89–133). John Wiley & Sons, Inc
- Ly, K. H., Topoco, N., Cederlund, H., Wallin, A., & Bergström, J. (2015). Smartphone-Supported versus Full Behavioural Activation for Depression : A Randomised Controlled Trial. *PLOS ONE, 1*–16. <https://doi.org/10.1371/journal.pone.0126559>
- Martins, A.I., Rosa, A.F., Queirós, A., Silva, A., & Rocha, N.P. (2015). European Portuguese Validation of the System Usability Scale (SUS). *Procedia Computer Science, 67*, 293 – 300. [doi.org/10.1016/j.procs.2015.09.273](https://doi.org/10.1016/j.procs.2015.09.273).
- Mathiasen, K., Andersen, T. E., Riper, H., Kleiboer, A. A. M., & Roessler, K. K. (2016). Blended CBT versus face-to-face CBT: A randomised non-inferiority trial. *BMC Psychiatry, 16*(1), 1–8. <https://doi.org/10.1186/s12888-016-1140-y>
- Mathiasen, K., Andersen, T.E., Lichtenstein, M.B., Ehlers, L.H., Riper, H., Kleiboer, A., & Roessler, K.K. (2022). The Clinical Effectiveness of Blended Cognitive

- Behavioral Therapy Compared With Face-to-Face Cognitive Behavioral Therapy for Adult Depression: Randomized Controlled Noninferiority Trial. *Journal of Medical Internet Research*, 24(9). doi: 10.2196/36577.
- McAleavey, A. A., & Castonguay, L. G. (2014). Insight as a common and specific impact of psychotherapy: Therapist-reported exploratory, directive, and common factor interventions. *Psychotherapy*, 51(2), 283–294.  
<https://doi.org/10.1037/a0032410>
- McLeod, J. (2010). *Case study research in counseling and psychotherapy*. London: Sage. <https://doi.org/10.4135/9781446287897>
- McLeod, J., Stiles, W. B., & Levitt, H. M. (2021). Qualitative research: Contributions to psychotherapy practice, theory, and policy. In M. Barkham, W. Lutz, & L. G. Castonguay (Eds.), *Bergin and Garfield's handbook of psychotherapy and behavior change: 50th anniversary edition* (pp. 351–384). John Wiley & Sons, Inc.
- Newman, M. G., & Fisher, A. J. (2010). Expectancy/Credibility Change as a Mediator of Cognitive Behavioral Therapy for Generalized Anxiety Disorder: Mechanism of Action or Proxy for Symptom Change? *International Journal of Cognitive Therapy*, 3, 245–261.  
<https://doi.org/10.1521/ijct.2010.3.3.245.Expectancy/Credibility>
- Nock, M. K., Ferriter, C., & Holmberg, E. (2007). Parent beliefs about treatment credibility and effectiveness: Assessment and relation to subsequent treatment participation. *Journal of Child and Family Studies*, 16(1), 27–38.  
<https://doi.org/10.1007/s10826-006-9064-7>
- Norberg, M. M., Wetterneck, C. T., Sass, D. A., & Kanter, J. W. (2011). Development and psychometric evaluation of the Milwaukee Psychotherapy Expectations Questionnaire. *Journal of Clinical Psychology*, 67(6), 574–590.

<https://doi.org/10.1001/archpediatrics.2012.244>

Olfson, M., & Marcus, S. C. (2010). National trends in outpatient psychotherapy.

*American Journal of Psychiatry*, 167(12), 1456–1463.

<https://doi.org/10.1176/appi.ajp.2010.10040570>

Olsson, S., Burström, B., Hensing, G., & Löve, J. (2021). Poorer mental well-being and prior unmet need for mental healthcare: a longitudinal population-based study on men in Sweden. *Archives of Public Health*, 79(1), 1–13.

<https://doi.org/10.1186/s13690-021-00706-0>

Owen, J., Adelson, J., Budge, S., Wampold, B., Kopta, M., Minami, T., & Miller, S.

(2015). Trajectories of Change in Psychotherapy. *Journal of Clinical Psychology*, 71(9), 817–827. <https://doi.org/10.1002/jclp.22191>

Owusu, J. T., Wang, P., Wickham, R. E., Varra, A. A., Chen, C., & Lungu, A. (2022).

Real-World Evaluation of a Large-Scale Blended Care-Cognitive Behavioral Therapy Program for Symptoms of Anxiety and Depression. *Telemedicine and E-Health*, 00(00), 1–9. <https://doi.org/10.1089/tmj.2021.0590>

Park, J., Swift, J. K., & Penix, E. A. (2019a). The Relationship Between Client

Regulatory Focus and Treatment Use Intentions, Attitudes, Credibility Beliefs, and Outcome Expectations for Psychotherapy. *Journal of Contemporary*

*Psychotherapy*, 49(4), 265–272. <https://doi.org/10.1007/s10879-019-09419-6>

Park, J., Swift, J. K., & Penix, E. A. (2019b). The Relationship Between Client

Regulatory Focus and Treatment Use Intentions, Attitudes, Credibility Beliefs, and Outcome Expectations for Psychotherapy. *Journal of Contemporary*

*Psychotherapy*, 49(4), 265–272. <https://doi.org/10.1007/s10879-019-09419-6>

Pinheiro, P., Ferreira, T., Sousa, M., Barbosa, E., Meira, L., **Silva, S.**, Basto, I., &

Salgado, J. (2021, May). Clinical results of the pilot study of the iCare4Depression

Project. Paper presented at 10th ICCP INTERNATIONAL CONGRESS OF  
COGNITIVE PSYCHOTHERAPY.

Rens, E. (2022). *Normative and perceived unmet mental health needs , health care use and barriers to care for mental health problems in a general population sample*. 1–23.

Richards, Derek; Enrique, Angel; Palacios, Jorge; Duffy, D. (2018). Internet-Delivered Cognitive Behaviour Therapy. In *Cognitive Behavioral Therapy and Clinical Applications* (pp. 223–238).

Richards, D. A., Hill, J. J., Gask, L., Lovell, K., Chew-Graham, C., Bower, P., Cape, J., Pilling, S., Araya, R., Kessler, D., Bland, J. M., Green, C., Gilbody, S., Lewis, G., Manning, C., Hughes-Morley, A., & Barkham, M. (2013). Clinical effectiveness of collaborative care for depression in UK primary care (CADET): Cluster randomised controlled trial. *BMJ*, *347*(7922), 1–10.  
<https://doi.org/10.1136/bmj.f4913>

Rosenzweig, S. (1936). Some implicit common factors in diverse methods of psychotherapy. *American Journal of Orthopsychiatry*, *6*(3), 412–415.  
<https://doi.org/10.1111/j.1939-0025.1936.tb05248.x>

Sandell, R., Clinton, D., Frövenholt, J., & Bragesjö, M. (2011). Credibility clusters, preferences, and helpfulness beliefs for specific forms of psychotherapy. *Psychology and Psychotherapy: Theory, Research and Practice*, *84*(4), 425–441.  
<https://doi.org/10.1111/j.2044-8341.2010.02010.x>

Sanders, C., Rogers, A., Bowen, R., Bower, P., Hirani, S., Cartwright, M., Fitzpatrick, R., Knapp, M., Barlow, J., Hendy, J., Chrysanthaki, T., Bardsley, M., & Newman, S. P. (2012). Exploring barriers to participation and adoption of telehealth and telecare within the Whole System Demonstrator trial: A qualitative study. *BMC*

- Health Services Research*, 12(1), 1–12. <https://doi.org/10.1186/1472-6963-12-220>
- Schulte, D. (2008). Patients' outcome expectancies and their impression of suitability as predictors of treatment outcome. *Psychotherapy Research*, 18(4), 481–494. <https://doi.org/10.1080/10503300801932505>
- Sharf, J., Primavera, L. H., & Diener, M. J. (2010). Dropout and therapeutic alliance: A meta-analysis of adult individual psychotherapy. *Psychotherapy*, 47(4), 637–45. <https://doi.org/10.1037/a0021175>.
- Smeets, R. J. E. M., Beelen, S., Goossens, M. E. J. B., Schouten, E. G. W., Knottnerus, J. A., & Vlaeyen, J. W. S. (2008). Treatment expectancy and credibility are associated with the outcome of both physical and cognitive-behavioral treatment in chronic low back pain. *Clinical Journal of Pain*, 24(4), 305–315. <https://doi.org/10.1097/AJP.0b013e318164aa75>
- Snyder, C. R. (2002). TARGET ARTICLE: Hope Theory: Rainbows in the Mind. *Psychological Inquiry*, 13(4), 249–275. [https://doi.org/10.1207/s15327965pli1304\\_01](https://doi.org/10.1207/s15327965pli1304_01)
- Snyder, C. R., Ilardi, S. S., Cheavens, J., Michael, S. T., Yamhure, L., & Simpson, S. (2000). The role of hope in cognitive-behavior therapies. *Cognitive Therapy and Research*, 24(6), 747–762. <https://doi.org/10.1023/A:1005547730153>
- Sochting, I., Tsai, M., & Ogrodniczuk, J. (2016). Patients' perceptions of treatment credibility and their relation to the outcome of group CBT for depression. *Archives of Psychiatry and Psychotherapy*, 18(4), 7–15. <https://doi.org/10.12740/APP/66485>
- Swift, J. K., Whipple, J. L., & Sandberg, P. (2012). A prediction of initial appointment attendance and initial outcome expectations. *Psychotherapy*, 49(4), 549–556. <https://doi.org/10.1037/a0029441>

- Thompson-Hollands, J., Bentley, K., Gallagher, M., Boswell, J., & Barlow, D. (2014). Credibility and Outcome Expectancy in the Unified Protocol: Relationship to Outcomes. *Journal of Experimental Psychopathology*, 5(1), 72–82. <https://doi.org/10.5127/jep.033712>
- Timulak, L., & Keogh, D. (2017). The client's perspective on (experiences of) psychotherapy: A practice friendly review. *Journal of Clinical Psychology*, 73(11), 1556–1567. <https://doi.org/10.1002/jclp.22532>
- Titzler, I., Egle, V., Berking, M., Gumbmann, C., & Ebert, D. D. (2019). Blended Psychotherapy: Treatment Concept and Case Report for the Integration of Internet- And Mobile-Based Interventions into Brief Psychotherapy of Depressive Disorders. *Verhaltenstherapie*. <https://doi.org/10.1159/000502390>
- Thomas, R.M. (2001). *Folk psychologies across cultures*. Thousand Oaks: Sage.
- Tompkins, K. A., Swift, J. K., Rousmaniere, T. G., & Whipple, J. L. (2017). The relationship between clients' depression etiological beliefs and psychotherapy orientation preferences, expectations, and credibility beliefs. *Psychotherapy*, 54(2), 201–206. <https://doi.org/10.1037/pst0000070>
- Twomey, C., O'Reilly, G., & Byrne, M. (2015). Effectiveness of cognitive behavioural therapy for anxiety and depression in primary care: A meta-analysis. *Family Practice*, 32(1), 3–15. <https://doi.org/10.1093/fampra/cmu060>
- Uebelacker, L. A., Weinstock, L. M., Battle, C. L., Abrantes, A. M., & Miller, I. W. (2018). Treatment credibility, expectancy, and preference: Prediction of treatment engagement and outcome in a randomized clinical trial of hatha yoga vs. health education as adjunct treatments for depression. *Journal of Affective Disorders*, 238(May), 111–117.
- Urech, A., Krieger, T., Möseneder, L., Biaggi, A., Vincent, A., Poppe, C., Meyer, B.,

- Riper, H., & Berger, T. (2019). A patient post hoc perspective on advantages and disadvantages of blended cognitive behaviour therapy for depression: A qualitative content analysis. *Psychotherapy Research, 29*(8), 986–998.  
<https://doi.org/10.1080/10503307.2018.1430910>
- van Breda, W., Bremer, V., Becker, D., Hoogendoorn, M., Funk, B., Ruwaard, J., & Riper, H. (2018). Predicting therapy success for treatment as usual and blended treatment in the domain of depression. *Internet Interventions, 12*, 100–104.  
<https://doi.org/10.1016/j.invent.2017.08.003>
- van der Vaart, R., Witting, M., Riper, H., Kooistra, L., Bohlmeijer, E. T., & van Gemert-Pijnen, L. J. E. W. C. (2014). Blending online therapy into regular face-to-face therapy for depression: Content, ratio and preconditions according to patients and therapists using a Delphi study. *BMC Psychiatry, 14*(1), 1–10.  
<https://doi.org/10.1186/s12888-014-0355-z>
- Vîslă, A., Constantino, M. J., & Flückiger, C. (2021). Predictors of Change in Patient Treatment Outcome Expectation During Cognitive-Behavioral Psychotherapy for Generalized Anxiety Disorder. *Psychotherapy, 58*(2), 219–229.  
<https://doi.org/10.1037/pst0000371>
- Vîslă, A., Flückiger, C., Constantino, M. J., Krieger, T., Vîslă, A., Flückiger, C., Constantino, M. J., & Krieger, T. (2019). Patient characteristics and the therapist as predictors of depressed patients' outcome expectation over time : A multilevel analysis. *Psychotherapy Research, 29*(6), 709–722.  
<https://doi.org/10.1080/10503307.2018.1428379>
- Wampold, B. E. (2015). How important are the common factors in psychotherapy? An update. *World Psychiatry, 14*(3), 270–277. <https://doi.org/10.1002/wps.20238>

- Wampold, B.E., & Imel, Z. E. (2015). *The great psychotherapy debate: the research evidence for what works in psychotherapy*, 2nd ed. New York: Routledge.
- Wampold, B. E., & Ulvenes, P. G. (2019). Integration of common factors and specific ingredients. In J. C. Norcross & M. R. Goldfried (Eds.), *Handbook of psychotherapy integration* (pp. 69–87). Oxford University Press.  
<https://doi.org/10.1093/med-psych/9780190690465.003.0003>
- Wentzel, J., van der Vaart, R., Bohlmeijer, E. T., & van Gemert-Pijnen, J. E. W. C. (2016). Mixing Online and Face-to-Face Therapy: How to Benefit From Blended Care in Mental Health Care. *JMIR Mental Health*, 3(1), e9.  
<https://doi.org/10.2196/mental.4534>
- World Health Organization (2017). Depression and Other Common Mental Disorders: Global Health Estimates. Geneva, Switzerland: WHO Document Production Services.
- Xiong, J., Lipsitz, O., Nasri, F., Lui, L. M. W., Gill, H., Phan, L., Chen-Li, D., Iacobucci, M., Ho, R., Majeed, A., & McIntyre, R. S. (2020). Impact of COVID-19 pandemic on mental health in the general population: A systematic review. *Journal of Affective Disorders*, 277(June), 55–64. <https://doi.org/10.1016/j.jad.2020.08.001>
- Young, D. K. W., Carlbring, P., Ng, P. Y. N., & Chen, Q. rong J. (2022). Feasibility of Self-Guided Online Cognitive Behavioral Therapy for University Students During COVID-19. *Research on Social Work Practice*, 32(8), 898–911.  
<https://doi.org/10.1177/10497315221087904>
- Zhang, A., Franklin, C., Jing, S., Bornheimer, L. A., Hai, A. H., Himle, J. A., Kong, D., & Ji, Q. (2019). The effectiveness of four empirically supported psychotherapies for primary care depression and anxiety: A systematic review and meta-analysis. *Journal of Affective Disorders*, 245(September 2018), 1168–1186.

<https://doi.org/10.1016/j.jad.2018.12.008>