University of Twente

Blended care from a patient's view

An online intervention as part of integrated blended care with a face-to-face focus

Master thesis Positive Psychology and Technology

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Abstract

Background: As research has convincingly shown, online interventions are a cost-effective alternative to face-to-face therapy. However, non-adherence has long been a problem and many patients still prefer face-to-face sessions. To overcome these issues, blended care, which combines face-to-face sessions with an online intervention was created. So far, little is known about the experiences of important stakeholders with blended care. The present study explored how patients in primary care experience the online part of an integrated blended intervention with a face-to-face focus.

Methods: Six participants following a blended treatment completed a semi-structured interview with open questions and verbally indicated their likes and dislikes of the intervention when being shown an empty module of their online intervention. Additionally, a short questionnaire containing multiple-choice questions was taken.

Results: Overall, nearly all participants evaluated the online intervention within the integrated blended care structure positively, though its perceived helpfulness was mixed. Most participants started the online intervention without any expectations. Whereas the questions were sometimes seen as unclear, the testimonials were described as very helpful and participants would often use them to understand difficult questions. While most participants experienced a good match between the online intervention and their face-to-face sessions, some noted very little overlap in certain areas. The role of the therapist was perceived as helpful, though multiple participants indicated that they would have preferred more discussion of the progress on the online intervention. Execution of the online modules was difficult, but manageable due to its short length. Difficulties with the online intervention were mostly seen in different areas, such as motivational, psychological, situational, and technical. The ability to look back at one's work was positively evaluated by all participants.

Conclusions: As the results of this study show, the assumed advantages of online interventions in an integrated blended care structure are not always the same as those experienced by the participants. Adherence appears to not be the result of a single factor, but often of the combination of factors including the match between the participant and the intervention and the role of the therapist. To benefit most from a blended treatment, the online intervention has to be properly implemented into the face-to-face session, for which possible improvements are given.

Samenvatting

Achtergrond: Onderzoek heeft uitgebreid laten zien dat online interventies een kosteneffectief alternatief zijn voor face-to-face therapie. Non-adherentie is echter al lang een probleem en veel patiënten geven nog steeds de voorkeur aan face-to-face sessies. Om deze problemen te overkomen is blended care gecreëerd, waarin face-to-face sessies met een online interventie worden gecombineerd. Tot nu toe is weinig bekend over de ervaringen van belangrijke belanghebbenden met blended care. De huidige studie onderzoekt hoe patiënten in de eerstelijnszorg het online deel van een geïntegreerde blended interventie met een face-to-face focus ervaren.

Methoden: Zes participanten die een blended behandeling volgen hebben een semi-gestructureerd interview met open vragen ingevuld en verbaal aangegeven welke delen van de interventie ze goed of slecht vonden terwijl ze een lege module van hun online interventie te zien kregen. Verder is een korte vragenlijst met multiple-choice vragen afgenomen.

Resultaten: De online interventie werd door bijna alle participanten positive geëvalueerd, hoewel de waargenomen behulpzaamheid wisselend ervaren werd. De meeste participanten startten de online interventie zonder enige verwachtingen. Waar de vragen soms onduidelijk waren, werden de voorbeelden als heel behulpzaam ervaren en participanten gebruikten deze vaak om de moeilijke vragen te begrijpen. Terwijl de meeste participanten een goede match tussen de online interventie en de face-to-face sessies ervaarden, noteerden sommigen weinig overlap in bepaalde gebieden. De rol van de therapeut werd als behulpzaam ervaren, hoewel de voortgang van de interventie meer in de gesprekken besproken mocht worden. Uitvoering van de online interventie was moeilijk, maar haalbaar door de korte lengte van de modules. Moeilijkheden met de online interventie werden vooral gezien in verschillende gebieden, zoals motivationeel, psychologisch, situationeel, en technisch. De mogelijkheid om eerder werk weer terug te zien werd door alle participanten als positief ervaren.

Conclusie: Zoals de resultaten van de studie laten zien zijn de verwachtte voordelen van de online interventies in een blended care structuur niet altijd hetzelfde als die ervaren door de participanten. Adherentie lijkt niet het resultaat te zijn van een enkele factor, maar een combinatie van factoren waaronder de match tussen de participant en de interventie en de rol van de therapeut. Om het meeste voordeel van blended care te hebben, moet de online interventie goed geïmplementeerd worden in de face-to-face sessies, waarvoor mogelijke verbeteringen worden gegeven.

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1. Introduction

Mental health care within the Netherlands is under pressure. Budgets are shrinking and resources like the availability of qualified therapists are limited, though the number of clients keeps on rising (GGZ Nederland, 2013). A possible solution to these challenges can be found in the form of online health care, or eHealth, which has been defined as "the use of information and communication techniques, internet-technology in particular, to support or improve health and health care" (van Gemert-Pijnen, Peters, & Ossebaard, 2013, p. 12) and has been labeled as the next generation of health care delivery (Forkner-Dunn, 2003). Since use of the internet through personal computers has increased drastically in the last few decades ("Internet growth statistics," 2018), eHealth has the resources and potential to meet the ever increasing need for the right treatment of mental disorders without having to sacrifice in quality (Lal & Adair, 2014).

But online interventions can't replace regular treatment entirely. Many patients still prefer the connection and face-to-face conversation with a licensed therapist (Gun, Titov, & Andrews, 2011; Klein & Cook, 2010). Though new forms of treatment that combine online interventions with face-to-face sessions have been developed, little is known about how these treatments are perceived by the patients themselves. This study aims to explore how patients experience the blending of online interventions with regular face-to-face sessions.

1.1. Online Interventions

Over the past few decades, there has been a massive increase in the number of available online interventions and full treatment programs for common mental disorders such as depression (Karyotaki et al., 2017) and anxiety disorders (Andersson, 2016; Kuester, Niemeyer, & Knaevelsrud, 2016) can now be delivered entirely through the internet. Techniques from cognitive behavioral therapy (CBT) such as psycho-education and self-exposure are especially well-suited to be adapted into online interventions (Amstadter, Broman-Fulks, Zinzow, Ruggiero, & Cercone, 2009). When given online, CBT is referred to as computerized cognitive behavioral therapy, or cCBT.

A commonly asked question is whether these interventions are truly effective or not. Fortunately, with the rise in the amount of online interventions available, research into the topic

has also increased a great deal over the last few decades (Andersson, 2016), with the Netherlands being one of the top contributors to this research (Lal & Adair, 2014). As a comprehensive review and meta-analysis by Barak, Hen, Boniel-Nissim, and Shapira (2008) has shown, the effectiveness of online interventions for treating common mental disorders has become comparable to that of regular face-to-face treatment.

Furthermore, online interventions have a number of advantages over regular treatment. A systematic review by Musiat and Tarrier (2014) found cCBT to be a cost-effective alternative to face-to-face treatment, achieving similar results at lower direct costs. These interventions can be accessed privately from the household, which was proven to reduce travel cost- and time (GGZ Nederland, 2013) and giving patients the opportunity to work on their treatment in their own preferred time (Musiat & Tarrier, 2014). Other assumed advantages include the ability to update online interventions to fit the latest research findings within the field (Amstadter et al., 2009), as well as being able to provide personalized, tailored messages through engaging interactive tools (Musiat & Tarrier, 2014). Most importantly, a systematic review by Musiat and Tarrier (2014) showed that treatment satisfaction with cCBT was high, indicating that patients are content with online interventions, though more research into this topic is needed.

1.2. Adherence

However, despite the advantages of online interventions, adherence has long been a problem. Adherence has been described by the World Health Organization as "the extent to which a person's behavior […] corresponds with agreed recommendations from a health provider" (World Health Organization, 2003) and refers to the degree of completion of the modules within an online intervention (Donkin et al., 2011). It can be measured by comparing the intended usage of an online intervention with the actual usage of a participant (Kelders, Kok, Ossebaard, & Van Gemert-Pijnen, 2012). However, it is challenging to accurately determine the impact of adherence since the term is often only vaguely described and most studies fail to present data on how it was measured (Donkin et al., 2011).

Although the acceptability of online interventions is high and initial uptake is often good, adherence remains low and many participants end up dropping out before completing the intervention (De Graaf, Huibers, Riper, Gerhards, & Arntz, 2009). Kelders, Kok, Ossebaard, &

Van Gemert-Pijnen, (2012) concluded that only around 50% of all participants adhere to a typical online intervention. This is especially concerning, since a study by Donkin et al. (2011) showed that positive outcomes in online interventions are correlated with the number of modules completed. Furthermore, when adherence is low, this often leads to dropout (Donkin et al., 2011) which involves a participant leaving the treatment before fully completing all of the modules (Melville, Casey, & Kavanagh, 2010), thus never experiencing the full benefits an online intervention has to offer. Research into this topic has uncovered that adherence is typically not predicted by demographic variables such as age, education, socioeconomic- or marital status (Christensen, Griffiths, & Farrer, 2009). The most commonly given reasons for low adherence are presented in Table 1 and can be categorized under either characteristics of the participants, characteristics of the intervention, or as a result of the match between participant and intervention. However, the amount of variance in adherence explained by these factors remains small (Christensen et al., 2009; Melville et al., 2010).

Table 1. Most commonly given reasons for non-adherence

Category	Reason for non-adherence
Characteristics of the participant	Not having enough time to integrate the treatment into (daily) routine [1] [2] [3]
	High levels of emotional distress [3]
	Lack of motivation [3]
	Improvement in condition [3]
	Concerns about privacy [4]
Characteristics of the intervention	High burden of the program [3]
	Low frequency of interaction with a therapist [3] [5] [6]
	Low frequent intended usage [6]
	Few updates to the intervention [6]
	No extensive employment of dialogue support [6]
Match between participant and intervention	Mismatch between the goals of the participant and the intervention [7]
	Dissatisfaction with the intervention [7]
	Lack of ability to identify with the online intervention [5]
	Perceived lack of treatment effectiveness [3]

[1] Farrer, Griffiths, Christensen, Mackinnon, and Batterham (2014). [2] Wilhelmsen et al. (2013). [3] Christensen et al. (2009). [4] Doherty, Coyle, and Sharry (2012). [5] Wentzel, van der Vaart, Bohlmeijer, and van Gemert-Pijnen (2016). [6] Kelders et al. (2012). [7] Ludden, van Rompay, Kelders, and van Gemert-Pijnen (2015)

1.3. Blended Care

To overcome the issue of low adherence, it has been proposed to mix face-to-face sessions with online interventions (Dijksman, Dinant, & Spigt, 2017). The face-to-face part of the treatment would be able to provide the patients with more social control and a supportive therapeutic relationship, which is likely to increase the motivation to adhere to the online part of the treatment (Wilhelmsen et al., 2013). This new form of therapy has since become known as blended care. In blended care, online and face-to-face sessions are combined to form one unified treatment which can be delivered in the conventional health-care setting (Kooistra et al., 2014). Blended care can be integrated or delivered sequentially with a focus on either the face-to-face sessions or the online intervention (Erbe, Eichert, Riper, & Ebert, 2017). To avoid ambiguity, this study focuses on the type of blended care defined by Erbe et al. (2017) as integrated blended care with a face-to-face focus. This type of blended intervention bases itself on a face-to-face intervention, which is partly replaced or complemented by an online intervention.

Attention for blended care is growing throughout the world. In Dutch healthcare policy, blended care is actively encouraged as it is expected to become increasingly important in mental healthcare over the coming years (Schalken, 2013, p. 10). Indeed, many study protocols are being developed concerning the cost-effectiveness of blended care for different disorders (Kooistra et al., 2014; Massoudi et al., 2017; Romijn et al., 2015), though it may take some time for us to see these results. The rising attention for blended care is best exemplified by the E-COMPARED project, which was started by the European Commission and has eight European countries conducting similar RCT's into the effectiveness of blended interventions (Kemmeren et al., 2016).

Since blended care is a relatively new construct, the amount of completed research on the effectiveness of this form of therapy is limited. A systematic review by Erbe et al. (2017) was done on 44 studies. However, this review included studies on both integrated and sequential blended care, with a focus on both the face-to-face sessions as well as the online intervention. It concluded that blended care was equally effective as stand-alone face-to-face therapy, though there was a lot of variation in the type of blended care used in the different studies. When looking at integrated blended care with a face-to-face focus, a naturalistic study by Kenter et al. (2015) concluded that symptom improvement for the blended care- and face-to-face only groups were the same.

Furthermore, the Dutch Association of Mental Health and Addiction Care has indicated that investing in blended care will result in both economic- and social returns (GGZ Nederland, 2013).

Blended care has a number of advantages. Online modules can be used to substitute face-to-face sessions, thus saving therapists time and providing them with the opportunity to take on more patients which can reduce the waiting lists (Kooistra et al., 2014). This allows patients unlimited access to the treatment material as they can work on their treatment at home while still benefitting from the therapeutic relation that is created during the face-to-face sessions (Kenter et al., 2015). Furthermore, it ensures that the core information and exercises of the treatment are delivered and monitored structurally (Wentzel et al., 2016) and encourages patients to take a more active role in their own treatment (Kooistra et al., 2014; Van der Vaart et al., 2014). In a study by Wilhelmsen et al. (2013) on an online intervention supported by short face-to-face sessions, participants indicated that the face-to-face sessions were helpful and motivating and some even expressed them to be absolutely necessary to participate in the online component.

Though attention for blended care is growing, there is still a lack of research on the perceptions of the different parties involved. The CeHRes roadmap, which was specifically designed by van Gemert-Pijnen et al. (2013) as a roadmap for the development and implementation of eHealth interventions, contains the identification and description of the needs and problems of the stakeholders involved as its first step. Arguably the two most important stakeholders for the use of blended interventions are the therapists and patients. Yet, at the time of writing, only a recent article by Dijksman et al. (2017) assessed the perceptions of therapists within primary care on the use of blended care. They discovered that therapists were positive about blended care and intended to use it in the future. However, 79% of them deemed it absolutely necessary to know the perceptions of patients on blended care before using this type of intervention (Dijksman et al., 2017).

1.4. Present Study

To the best of my knowledge, at the time of writing, only the study by Wilhelmsen et al. (2013) has focused on the experience of patients in primary care following a blended intervention. However, this study concerned an integrated blended intervention with an Internet focus where the face-to-face sessions were mere consultations guided by a script with three compulsory subjects

and administered by a psychologist with limited training in CBT. The present study is the first to shed light on the experience of patients within primary care following an integrated blended intervention with a face-to-face focus administered by licensed therapist. Specifically, this study focuses on the following question: How do patients in primary care following an integrated blended intervention with a face-to-face focus experience the online part of the intervention? Gaining a better understanding of this topic could lead to improvements of blended interventions in the future, thus increasing adherence and ensuring that more people benefit from the online part of a blended intervention.

2. Methods

The study was designed as a qualitative research study using a semi-structured interview with open questions. The study protocol was approved by the ethics commission of the Behavioral Management and Social Sciences (BMS) faculty of the university of Twente. Ethical consent to perform the study at Mindfit Hardenberg was given by Dimence, the parent company of Mindfit.

2.1. Study Context

The study was conducted at Mindfit Hardenberg, a primary mental-healthcare provider with a team of 7 psychologists. Mindfit provides integrated blended care with a face-to-face focus, where 45-minute face-to-face sessions are alternated with online sessions within the secure web-based environment MindDistrict (www.minddistrict.com). MindDistrict offers a large catalogue of online interventions aimed at different psychological disorders. It is based on relevant literature and was created in cooperation with experts in the relevant fields, social workers, and the experience of clients (MindDistrict, 2018). Both patients and therapists can access their MindDistrict account from anywhere. Within the platform it is possible for therapists to send messages or give online feedback on any completed module. When signing up for treatment, patients automatically receive their MindDistrict account and are asked to complete its introductory course before the intake, ensuring that they are accustomed to MindDistrict before starting their treatment.

Within the first face-to-face sessions, patients are asked by their therapist if they would like to take part in an online intervention concurrent with their regular treatment. The therapists themselves decide to whom they introduce the possibility of an online intervention, based on their own judgment. The online intervention is introduced as an addition to their face-to-face sessions which is relevant to their disorder and which they are free to complete in their own time. Patients often decide whether to try the online intervention or not within the same session.

The online interventions have a fixed structure but as with the regular treatment at Mindfit, they differ in length and intensity depending on the severity of their disorder. At Mindfit, there are three different packages for face-to-face sessions: 5 sessions for mild severity of symptoms, 8 sessions for average severity, and 10 sessions for more severe symptoms. For the most common disorders such as depression and panic disorder, this categorization is also used to create three different online interventions for a single disorder (mild, average, and severe). The length of the online interventions for mild symptoms is 5 modules, whereas the online interventions for both average and severe symptoms consist of 11 modules. Patients are asked to complete one or two modules of the online intervention between face-to-face sessions, depending on the length of both the face-to-face and the online interventions.

Figure 1: Information and a video in which a therapist explains the theory in MindDistrict.

Figure 2: A testimonial of a fictional patient and exercises within MindDistrict.

The online modules consist of information relevant to the therapy followed by videos of a therapist explaining the theory, testimonials of fictional patients, exercises and homework assignments. Screenshots of the MindDistrict platform can be seen in Figures 1 and 2. Patients are asked to complete one or two online modules between face-to-face sessions, depending on the

ratio of online modules compared to face-to-face sessions. They can continue to access MindDistrict when their treatment is completed if they want to reread any information or look up their homework assignments.

The study was created in collaboration with Mindfit Hardenberg, in order to gain more understanding of the experience of patients with MindDistrict since Mindfit experienced a large amount of dropout with the online interventions within their blended care structure. As can be seen in Figure 3, of all the participants that started with an online intervention for panic disorder or depression, only about 11% fully completed it.

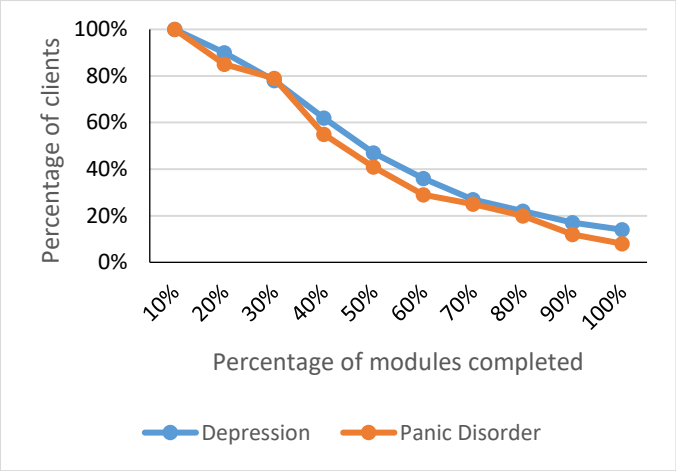

Figure 3. Percentage of clients completing n% of the online modules for depression and panic disorder. Total *N=345.* Data from Jan-May 2017.

2.2. Participants

Participants were included in the study if they were (or had been) getting treatment at Mindfit Hardenberg. They needed to have fully completed the introductory course of MindDistrict to ensure that they were familiar with the online platform and had to have been assigned an online intervention within the platform relevant to their disorder. Participants were excluded from the study if they were not adequately proficient in the Dutch language (written or verbal), if they did not know how to operate a computer, or if participation in the study was expected to lead to emotional distress or interfere with the treatment. The inclusion- and exclusion criteria were evaluated by the acting therapists.

Initially, therapists searched for patients who had dropped out of the online intervention. However, since it proved to be difficult to obtain the required amount of participants, these criteria were adjusted after the second participant to include patients still working on the online intervention. Participants were selected based on purposive sampling, where the therapists strived to get as much variance as possible by selecting participants with different disorders, differences in age and gender, and participants who had either dropped out of the online intervention or who were still working on it. The therapists at Mindfit Hardenberg would check their client records to see which clients fit the inclusion criteria of the study. Client records were not made visible to anyone but the acting therapist. Possible participants were asked by their therapist via phone, email, or during a face-to-face session and were given information about the nature of the study. The interview was often scheduled right before or after an appointment at Mindfit Hardenberg, to reduce the travel cost and -time for the participants.

The participant data can be seen in Table 2. A total of six participants completed the interview, consisting of three men and three women. Purposive sampling was relatively successful as the ages of participants ranged from 20 to 67 years (mean=42.17, median=42.5, SD=16.45) and the participants followed a total of four different online interventions. It proved to be difficult to obtain participants who had fully stopped with the online intervention. A participant's status was only seen as dropped out if the participants themselves indicated that they would no longer continue working on the online intervention. As such, only one out of the six participants had dropped out of the online intervention, while the remaining participants were still active, though there had been gaps of multiple weeks in the completion of online modules. To ensure anonymity, pseudonyms were used for the participants.

Table 2. Characteristics of the participants

Pseudonym	Age range	Gender	Online intervention	Status
Anthony	20-29	Male	Panic disorder	Active
Barbara	50-59	Female	Panic disorder	Active
Carol	50-59	Female	Skills training trauma	Active
Dorothy	60-69	Female	Mindfulness	Stopped
Edward	20-29	Male	Social anxiety	Active
Frank	30-39	Male	Social anxiety	Active

2.3. Interview

The interview took place in a secluded room within Mindfit Hardenberg, within a few weeks after the participants agreed to take part in the study. Participants were first asked to read an information letter providing further details of the study. They were then asked if they had any further questions and provided with an informed consent document to sign. Participants were informed that participation would be entirely voluntary and that they could withdraw from the study at any point without giving a viable reason. No one was present in the room besides the participant and the researcher.

The set-up of the interview chronologically followed the process of working on an online intervention, commencing with the start of the online intervention, followed by the execution of the online intervention, possible difficulties with the online intervention, and finally an evaluation of the online intervention. The interview was partly based on the conclusions from previous research, such as with possible reasons for non-adherence. Here, participants would be asked whether they experienced any difficulties in the different areas known to be linked to adherence, such as technical, psychological, or motivational problems. The researcher strived to keep the interview itself as open as possible as not to guide participants in a certain direction. The interview was semi-structured, allowing participants the freedom to expand on certain questions and following the flow of the conversation while still adhering to the structure of the interview as a whole. Extra focus was given to the blended aspect of the intervention, with several questions concerning the role of and communication with the therapist during the online intervention and the combination of face-to-face and online sessions. Two different versions of the interview could be used: one for participants who were still completing the online modules and one for participants who had stopped the online intervention completely. The interview schemes can be found in Appendix A and B respectively.

The first part of the interview contained questions about the start and setup of the online intervention and about the content within the online intervention itself. Examples of questions in these sections are respectively: "*What were your expectations when starting the online intervention?"* and *"How do you experience working on the modules?"*. When the response to a question was limited, a follow-up question could be asked, such as: *"Do you experience working on the online modules as easy or difficult, and why?"*.

For the second part of the interview, participants would be asked to take place behind a laptop. Here, an empty online module of the intervention followed by the participant would be opened and the participant would be asked to scroll through it and to verbally indicate the parts of intervention they liked or disliked or any problems they encountered. During this time, the researcher was seated behind the participant and would take notes if the participant would take a long time or had trouble finding something. Participants were then asked to fill in a short questionnaire about the intervention containing 11 multiple-choice questions, which were rated on a 5-point Likert scale. The questionnaire can be found in Appendix C. The researcher would then scan the answers and ask for clarification on any question given a score of 1, 2 (inadequate) or 5 (very positive) or on any of the notes he had made earlier. An example of the questionnaire is shown in Figure 4.

How would you rate the following aspects of the online intervention?	**Very bad**		**Neutral**		**Very good**
3. The clarity of the online modules	1	2	3	4	5
4. The length of the online modules	1	2	3	4	5
5. The applicability of the online modules	1	2	3	4	5

Figure 4. Questions and lay-out of the questionnaire given to participants.

After this, the third part of the interview would take place. Participants who were still active with the online intervention would be asked about possible reasons for them to stop working on the online intervention, while the participant who had already dropped out was asked what lead them to stop the online intervention. Both groups were asked about the (potential) difficulties they encountered in working on the online intervention with questions such as *"Are there problems that you run into / or difficulties that you have when working on the online modules? Could you describe them?"*. The final questions were an evaluation of the online intervention as a whole. An example of a question from the evaluation is: *"Which aspects of the online intervention would you rate positively / negatively?"*. In total, the interview took between 40 to 60 minutes.

Questions in the interview were prompted by the interviewer. Field notes were taken when participants went through the online module on the computer and were subsequently discussed with the participant. The entire interview was recorded with a Samson C01U USB Studio

Condenser microphone. These recordings were then transcribed by the researcher. Transcripts were not returned to participants for comment or correction. Each interview was assigned a random number between one and six and the note linking the interview to its number was kept in a secured room at Mindfit Hardenberg.

2.4. Data Analysis

The study was conducted by a student (male, 27) of the university of Twente as a graduation thesis for the master Positive Psychology and Technology in collaboration with Mindfit Hardenberg. The researcher did not have any previous experience or training in conducting qualitative research. Though the researcher had worked as an intern at Mindfit Hardenberg, no relationship with the participants was established prior to the commencement of the interview. Participants were only made aware that the research was done as a graduation thesis by a student of psychology of the university of Twente.

Data from the questionnaire was analyzed manually, noting the scores given by each of the participants on every item and calculating the mean of the scores on a single item. The Likert scale in this study was used as a bipolar scaling method with a neutral option in the center. As such, the cut-off point for a negative score was a 2 or lower, whereas the cut-off point for a positive response was a 4 or higher. A 3 was seen as a neutral response. In contrast, on the questions concerning the amount of data per module, a score of 3 was seen as a positive reception, whereas a score of 2 or lower or a score of 4 or higher was seen as a negative reaction. Noteworthy answers in contrast with the general reception on a question were pointed out in the text, such as a score of 2 by a participant on an item with a mean score of 3,3 or higher. One participant was unable to fill in the questionnaire due to a problem with the Internet connection when trying to access the empty online modules.

Data-analysis was done within Atlas.ti version 7.5.7 and was based on the methods described in the book *Analyzing in qualitative research* by Boeije (2014). Transcriptions were anonymized by replacing personal information, such as the acting therapist, with placeholders and taking out personal stories not relevant to the study. Not all information could be completely anonymized, as certain data involved information about the type of online intervention while being

important to the study. However, the secured data concerning the type of intervention assigned to patients can only be accessed by the licensed therapists at Mindfit Hardenberg.

First an initial reading of the transcripts was performed to formulate a basic understanding of the viewpoints of the participant. Though previous information had been used in the formation of the interview, with the data-analysis, the researcher chose to use a bottom-up approach to stay as close to the participants' experience and words as possible. By using constant comparison in the form of open coding, an initial code tree was created. Here, the focus was on exploration of the data as the goal was to capture every relevant piece of data within a code. Codes were linked to 'meaningful units', which consisted of a section of text exploring a single theme. These meaningful units were developed by inductive reasoning after reading through all of the transcripts. They could consist of a few words up to multiple sentences and a single part of the transcript could have multiple meaningful units from different themes assigned to it. The process of linking codes to meaningful units was done at the same time as the data-collection process. New data would be processed via the existing code tree and new codes would be created when needed, until all relevant information could be accommodated within the existing codes.

In the next phase of the data-analysis, through axial coding, codes were abstracted to the underlying themes, greatly reduced the number of codes. Though the codes themselves were created bottom-up from the participants' experience, the underlying themes were partly informed by earlier research and partly based on the process of working on an online intervention within an integrated blended setting. The first three themes (*characteristics of the participants*, *characteristics of the intervention*, and *match between participant and intervention*) were based on important results from earlier research into adherence (Christensen et al., 2009; Kelders et al., 2012; Ludden et al., 2015). The theme of *therapist* was chosen since this study focuses on integrated blended care and questions about the role and activity of the therapist were included in each section of the interview. The final three themes were based on the set-up of the interview itself, chronologically detailing the *execution of the online intervention*, *possible difficulties with the online intervention,* and ending with an *evaluation of the online intervention*.

This version of the code tree was discussed with the internal mentor of the project, after which a new version of the code tree was created. This final version of the code tree can be seen in Figure 5 and features a great reduction in the number of codes by placing more emphasis on the difference between positive and negative experiences. The results shown in this paper were chosen

in a way that shows the amount of variation in the participants' answers, while still reporting the instances where numerous participants related the same experience, to give a clear picture of the answers given by the participants. Some sub-codes, such as the Introductory course are not discussed in the Results section as they only contain meaningful units with factual information on the introductory course and do not discuss the participants' experience.

Figure 5: The final code tree

3. Results

3.1. Questionnaire

The results from the questionnaire are shown in Tables 3 – 5. All aspects of the online intervention were received positively, with a mean score higher than 3,5. Both the presentation and layout of the online modules were rated especially well, with a mean score higher than 4,0. The applicability of the online modules was given a lower score by Barbara, who stated that the

testimonials in particular were not very applicable to her own situation. The amount of information, examples, and exercises were seen as just right by most participants, with the only notable outlier concerning the amount of examples being seen as too much by Frank. Frank also gave a low score to the statement that the things he needed were easy to find, indicating that he sometimes had trouble getting to the right place within the online modules. Finally, most participants were very satisfied with the online modules and would recommend the online intervention to other people. Satisfaction with the online intervention and willingness to recommend it to other people was split mostly between neutral and strong agreement, indicating that some participants found the online intervention to be a lot more useful than others.

Table 3. Number of answers on the questions asking participants to rate aspects of the online intervention from 1 (very bad) to 5 (very good).

	1	2	3	4	5	Mean
	Very bad		Neutral		Very Good	
The presentation of the online modules	-	-	-	4	1	4,2
The layout of the online modules	-	-	-	2	3	4,6
The clarity of the online modules	-	-	2	3	-	3,6
The length of the online modules	-	-	1	3	1	4,0
The applicability of the online modules	-	1	1	1	2	3,8

Table 4. Number of answers on the questions asking participants to rate aspects of the online intervention from 1 (too little) to 5 (too much).

	1	2	3	4	5	Mean
	Too little		Just right		Too Much	
The amount of information per module	-	1	3	1	-	3,0
The amount of examples per module	-	-	4	-	1	3,4
The amount of exercises per module	-	-	4	1	-	3,2

Table 5. Number of answers on the questions asking participants to what extent they agree with the statements from 1 (strongly disagree) to 5 (strongly agree).

	1	2	3	4	5	Mean
	Strongly disagree				Strongly Agree	
The things I needed were easy to find	-	1	2	1	1	3,4
I am satisfied with the online modules	-	-	2	1	2	4,0
I would recommend the online intervention to other people	-	-	2	-	3	4,2

3.2. Characteristics of the participants

Participants entered the online intervention with different expectations. A number of participants described themselves as having no expectations beforehand, stating that they went in *"completely blind"*. As Carol said: "*before I had seen it, I had no idea eh what I… what was ahead of me. What I was going to run through*". Though the participants themselves were sometimes unfamiliar with the online treatment, they were willing to try it. Indeed, some participants noted positive expectations beforehand, with Barbara stating that she was willing to try it because it was offered by a therapist and she expected the therapist to know what would be best for her. Both Dorothy and Frank had been open to the online modules because they knew someone else who been positive about their experience with an online intervention. As for negative expectations beforehand, some participants stated that they were unsure if they could complete the online intervention. As Barbara told her therapist: *"I'll try. But if it doesn't work out, I'll stop"*. Some participants were more neutral about their initial expectations of the online intervention, describing it more in terms of *"no harm, no foul"*.

Expectations beforehand do not appear to be reflective of how well the participants managed to complete the online treatment as a whole. Dorothy went in with very positive expectations, but ended up dropping out relatively quickly. However, she had expressed some concerns about the technical aspect of the online intervention, which was ultimately the reason for her stopping the intervention. Anthony, on the other hand, described himself as going in with very little expectations, but consistently made good progress with his online intervention.

Certain characteristics of the participants themselves did end up making it difficult for them to complete the online intervention. Dorothy had trouble with her eyesight which meant it cost her more energy to work on the online modules. Edward described his own difficulties with concentration as something that often stopped him from starting an online module: "*Yeah, concentration. […] You have to force yourself to do it. I'm not really good at that*.", also stating that "*I'm very good at postponing things and not doing them*". As such, he was having trouble finishing his online modules. Concerning foreknowledge, Carol had a lot of previous experience with relaxation techniques, a topic heavily featured in her online intervention. This led to her ultimately describing the online intervention as not being very useful for her: "*So far I haven't... really done much with it. […] It was… actually there wasn't very much new information for me*".

3.3. Characteristics of the intervention

Concerning the characteristics of the intervention itself, Anthony described the modules as being very user-friendly for people of all ages, stating: *"In principle, all modules are below each other… and it's all indicated with colors"*. Nearly all of the participants were very positive about the testimonials given in the online intervention. A number of participants specifically described this in relation to the sometimes unclear questions. They would use the testimonials to see what was meant by the question and what they had to fill in: "*But the good thing was that eh… there were examples there. I found that eh… that I was sometimes like what do they mean with this? And then I could click on an example, say from someone else and then you could see oh in that way"*. Edward was very positive about the testimonials given because it allowed him to see he was not the only one with this disorder: "*What you can think is that [short silence]… I'm weird or something, or I have things that are strange and then that you read that it's quite normal. More people have these symptoms. And then eh… yeah in some way that's sort of comforting."*.

As for the questions in the online intervention, Anthony was the only participant to be positive, stating that he: *"never had during the online therapy… that I didn't understand it"*. Multiple participants were more negative about the questions, describing them as sometimes being unclear: "*Like this, 'what do you recognize from the text?' That is eh… which text do they mean. The text from the examples? Or not?"*. Vague questions were often stated as making the online modules more difficult than they needed to be, which meant it cost participants more energy to complete them. Barbara even came to a stop in her online intervention because she didn't know how to answer a certain question within a module.

Finally, one aspect that came up with two participants in particular was the safety of the online intervention. For Barbara this was a concern because she had to do exercises at home and she expressed concern of going into hyperventilation and then into a full-blown panic attack. For this reason, she only wanted to do these exercises at Mindfit with the therapist present, as she stated: "*Then I know that he is there. Then it´s safe.*". Carol expressed concern about the safety of sharing very personal information on the internet, saying: "*yeah, it's a bit like, because almost anything can be traced. And eh… I'm trying to avoid that.*". Overall, though there were some concerns about safety, neither participant noted any real effect because of this on the outcome of the online intervention.

3.4. Match Participant / Intervention

Results were mixed on the match between the participant and the intervention, with some participants describing a very good fit between their regular face-to-face treatment and the online treatment and others describing a very poor fit between the two. Anthony in particular felt as though the online intervention was a very good fit, which showed in his adherence as he had nearly completed all of the online modules with ease, saying: *"[the therapist] indicated what we were working on. That came back within the online intervention, which was necessary. So they… they were linked to each other"*. Edward also described a very good fit, stating: "*Yes, it's an addition. It's not completely different. […] It fits really well.*". He had more trouble completing the online modules, though he attributed that more to internal factors, such as difficulty concentrating and a lack of motivation.

Other participants described a lack of overlap between their own symptoms and the ones presented in the online intervention. This was especially true for Barbara following the online intervention for panic disorder. The testimonials given in the online intervention for panic disorder both concern the fear of going outside. However, the panic disorder was different for Barbara and she explained having trouble reading the testimonials and completing the modules: "*I saw these examples of a man and a woman who are afraid of eh… going to the café, or walking alone to a supermarket or a baker. But I'm not like that.*". She had trouble connecting to the testimonials as she felt they may have a different disorder than her altogether: "*Maybe these other […] eh the man, the woman for outside and maybe a different disorder. Also panic disorder, but…"*. Carol also stated that the testimonials given in the online intervention were completely different from what she experienced herself and that they weren't much of help: "*Yes, I can't remember what that woman had. But that was really completely different from what I have. And I found that… that makes it different."*. As for the functions of the intervention, only Carol shortly mentioned the possibility of keeping a diary, but stated that she had never used it.

3.5. Therapist Support

When looking at how much of the content of the online intervention was talked about within the regular face-to-face sessions, it differed per therapist and participant. Anthony explained

that the content of the online modules was considered within the next sessions: "*And if I indicated something in the online intervention, [the therapist] could carry that into the next conversation, so to say. […] I found that very pleasant.*". He also stated that plans were made during the face-to-face sessions on how he would work on the next online module. Frank also stated that his progress with the online modules was discussed during the face-to-face sessions, though not in great length: *"Not that it was really the main focus, but it always passed by"*. On the other hand, multiple participants indicated that they never really spoke about their online intervention within the regular intervention, seeing them as two separate entities, with Edward saying: *"No, not really. It's just eh… for yourself"*. When asked, multiple participants did indicate that if they ran into any difficulties during the online intervention, they would discuss them with their therapist without much hesitation: "*If I couldn't figure that out and I would really be struggling with something, then I would surely discuss that with [the therapist]*.".

The attitude of the therapist also differed. Some participants described their therapist as having a very laid-back approach, where they would be very clear to explain that the online intervention was not something that had to be done and that it was more voluntary of nature. Carol stated that: "*But [the therapist] always said 'You don't have to do it. You don't have to do anything', he said… because eh… 'I won't give you detention'". Like you didn't do your homework.*". This attitude was described positively by a number of participants. They stated that the online intervention wasn't feeling like a burden because they themselves could decide whether or not to actually do it or not. Dorothy in particular was very pleased that the therapist would not argue if she had trouble completing an online module.: *"Otherwise it would make me even more troubled. Then it would have the opposite effect"*. On the other hand, Edward did describe the online intervention as a sort of homework, saying: "*Yes, it does feel a bit like you haven't finished your homework with your teacher. […] He turns it on for you, he arranges it for you. So, it's also a bit of appreciation. Especially eh… He has to help me with this as well. And then if you don't do the things he expects you to do… it feels bad.*". He did further describe having trouble finishing the online modules within time.

As for the interpretation, Carol described an experience where she received feedback on an answer which felt to her as though her therapist had misinterpreted her answer, though she did not bring this up with her therapist. Most participants saw the role of the therapist as that of a guidance counselor during the online intervention, checking their progress and giving feedback or

answers when necessary. All participants described the ultimate choice for the online intervention as coming from themselves. In every case, the therapist briefly explained the online intervention within the first few sessions and participants were free to choose to use it or not.

3.6. Execution

None of the participants had thought of a plan beforehand of how and when they wanted to complete the online modules. In fact, no participant had a set moment when they worked on the modules, instead opting for a time when they felt right or when they had the time to work on it. When asked if he had a plan beforehand, Frank stated: *"Oh, no not at all. […]. It was really however it worked out"*. Barbara specifically chose to work on the modules in the evening when her partner was present, since she was afraid to do some of the exercises without anyone present to call for help if needed and she would often ask her partner for feedback on the answers she had filled in. As for the surroundings, all participants chose a quiet surrounding in which they were likely not be disturbed. As Dorothy described: "*Yeah, just sit separately. That I'm at least alone at the table with no one around me.*". Some participants explained they would stop working on the modules when other people were around and continue when those people had left: "*Or you just have someone next to you who can watch what you are doing, that would be a reason I think that I wouldn't do it"*.

Multiple participants described that it was important to take their time with the online intervention. As Anthony said: "*I really wanted to make the time for myself to do it […]. That I wouldn't have to do anything after. And that I then just eh… can keep my wits about me*". According to most participants, the modules could best be completed if someone had some time to themselves without being too preoccupied with other things. The modules were seen as taxing on the mind, as Edward described: "*You couldn't do it for a bit if you were still in your mind so to say. You just had to calmly keep typing*.". There were no participants who described the online modules as something that could be done quickly without any effort. Both Barbara and Carol noted that they sometimes skipped questions if they felt the questions didn't apply to them. As Barbara stated: *"For example like yes… afraid of going on the street. I don't have that. So I don't have to read that"*. This is in line with their earlier descriptions of a bad fit between their own symptoms and those sometimes described in the modules.

Despite the taxing nature of the modules, they were seen by most participants as very feasible since they weren't incredibly long. Edward liked the length of the online modules especially since it allowed him to fully concentrate on the module, something which he thought would not be possible with longer modules: "*Well I thought it was very pleasant eh… every time that you do a module… that it's not too long. You can cast your entire concentration on it. Because I think if you've got huge patches of text and a lot of explanation and that you then have to answer questions. Yeah, then you'd have to be really good in your concentration because then eh… yeah I can't do that so well*". Carol also commented that the shorter length was beneficial, since the online intervention was done in conjunction with the face-to-face treatment, which was seen as taxing on its own: "*I think it's good. Yeah. Not that you eh… if you've had a session and you're still processing that and that you're thinking like pff, I still have to do all of this as well. It's not like that at all. It's a good… good length".*

3.7. Difficulties

When asked if they would continue with the online intervention in the face of difficulties, most participants agreed that they would, with Carol stating: *"yeah, no but I'd always pick it back up again"*. Frank described himself as having relatively little trouble working on the intervention, saying: *"You won't be any worse because of it, anyway".* Indeed, most participants had a difficult time thinking of reasons for them to possibly stop working on the online intervention, even though some of them had talked about aspects of the intervention that they disliked, such as the difficult questions. When asked for a possible reason to stop, Barbara replied: "*When I'm cured*". She was the only participant to talk about asking for help from her partner or therapist when she ran into trouble with the online intervention, citing as an example: "*When I… have to do everything myself. And then I call him. Is this good or not? I mean, what he is asking… and I answered like this. And then eh, he would say […] yes, he means it like this and this like that. Then I have to change it. That happened a few times*".

As for motivational difficulties, both Edward and Frank noted that their motivation went down as the time progressed, with Frank describing: *"The motivation to do that keeps getting less and less. […]. Because in the beginning, you do everything quite fast. But that keeps getting more eh…"*. Indeed, he was nearly at the end of his online intervention and had trouble finishing the

final modules. He explained this drop in motivation because of the progress made during the treatment as a whole, saying: *"Yeah maybe it's also because you think like I'm actually making pretty good progress. Maybe that that's a… a reason like that you think it's all going pretty well I don't need this as much."*. On the other hand, Edward mostly described it as an easy thing to postpone the modules to the next day and not really making any time for them.

Psychological reasons were most often given for not wanting to complete a module at a certain time. Since the online modules were seen as taxing, participants didn't always feel ready to complete a module at any time. Carol described: "*Well, for example, I've just had a face-to-face session and then eh… I feel like I don't really want to… yeah, of course it's in your thoughts. But I don't really want to be thinking about it now"*. Anthony sometimes noticed these problems when trying to complete the online module, where it became difficult to complete because of the demanding nature, saying: *"But nine out of ten times if I had something like, I'm not focused in my head then eh… then it was saving the answers and then eh I closed the site".* This appeared to be mostly because the participants were already confronted with their disorders and personal problems through the face-to-face sessions and in their normal routine, that the online intervention could be seen as an extra burden. Dorothy said: "*Then you're really confronted by it because… well you actually have a problem and there eh […] outside of the program you're already working on it to fix it. […] If you're behind the computer it's all coming towards you like oh"*.

Other difficulties experienced by the participants were the situation they were in and technical difficulties. As Anthony stated, if they were stressed in their normal life, it became more difficult to complete the online modules, saying: *"I've also worked on it during a busy period in my life. Uhm but I noticed that it was harder uhm… I had more trouble remembering things".* Dorothy, who ended up stopping with the online modules admitted that she had worked on them during a difficult period in her life and agreed that this might have caused her to drop out of the online intervention: *"Yeah, maybe that… I wasn't ready for it. That I was having too difficult a time then… Maybe it would be easier for me now. I don't know"*. As for technical difficulties, there were mixed results. Some participants like Anthony and Carol argued that the online intervention itself was very easy to follow and complete technically, whilst others had more trouble with it. In this case, mostly the older participants Barbara and Dorothy stated that they had trouble with the technical aspects of the online intervention. For Dorothy especially, this appeared to be an important barrier to completing the online modules. When asked if the technical aspect of working

on the intervention on the computer contributed to her dropping out, she said: *"[The computer] does require action. Yes. I think that there was a certain reluctance in there. That it just wouldn't work because of it."*.

3.8. Evaluation

Overall, the online intervention was evaluated positively by most of the participants. Anthony was particularly positive about his experience, attributing the impressive progress he had made during his treatment partly to the online modules: "*Well I think if the [online intervention] hadn't been there… then I think I wouldn't have been so far as that I'm almost finished. […] And that's more a little motivation for myself. That in between sessions again, through the online intervention you're being eh… challenged again eh so to say"*. This experience was echoed by other participants as well. In particular, the ability to look back at the information given in the treatment and to see how one had completed the exercises before was considered an important advantage by all participants, with Edward noting he would look back at the information in his completed modules whenever he had something on his mind. As Frank described: *"And what I think is also an advantage of that online is that you can look back again. So how you handle certain situations, which you encounter in daily life. Like oh yes, that's how I can tackle this."*. This log of information from the treatment became very important, as multiple participants indicated that they had trouble remembering everything that was being discussed during the face-to-face sessions, with Barbara saying: *"Yes, I've made a photo of everything [the therapist] writes on the board. But eh yeah… with eh the [face-to-face sessions] then sometimes you forget again. And that's why. The internet I can… check again. It's easy".*

Despite the overall positive evaluation, there were some areas in which participants were critical of the online intervention. As a number of participants indicated, there is a lot of variation in how a single disorder can manifest itself within a person. This makes it difficult to create a good online intervention for a disorder, since it has to contain all of the working elements of the treatment without getting too specific, for fear of alienating participants to whom that specific section does not apply. As Dorothy said about the online intervention: *"It's more general eh. Just eh… do you recognize things […]. But it's more distant altogether"*. This was also experienced by Carol, who said: *"But sometimes […] that I think like well… this doesn't really help me very much.*

[…]. I think that it was too general.". Because the content of the intervention was too broad to be of any specific use for her, she ended by saying she hadn't used the online intervention a lot. Another disadvantage of the online intervention which was mentioned by a number of participants was the inability to receive direct feedback, with Barbara stating: *"But the internet, you can't ask. Well you can ask but […] you have to wait again. And then you forgot what was this again. Because [the therapist] can't answer right away. It takes time"*.

Compared to the face-to-face sessions, the online intervention was seen by all participants as a "*tool for extra aid*" or "*for support*", while the face-to-face sessions were the main focus. However, with some participants the online intervention was integrated well into the regular treatment, while with other participants they were seen as completely separate entities. This could be indicative of the progress in the online intervention. The participants who had made the most progress in their online intervention, such as Anthony and Frank, noted that the results of their online modules were always discussed within the regular treatment, whereas the participants who had trouble progressing through their online intervention, such as Carol and Edward, said that the results from their online modules were never discussed in the face-to-face sessions. However, it is unclear if there is a causal relation between these two factors and if there was, which factor would influence the other.

Most participants did note a clear preference for the face-to-face sessions. In particular, the back and forth of a conversation was missed in the online intervention, with Carol stating: *"Yes, because then you get feedback right away. And then I can respond to that myself again. I always find that pleasant"*. Edward expanded on this notion, saying: *"a computer doesn't know […] what you're feeling […]. A person can then, he can discuss that to get everything out that's inside you. And a laptop doesn't know like eh… oh now I can ask this. So that's eh, the benefit of having a lot of interaction. […]. That works better for me at least. [laughs]"*. Dorothy, especially, found the lack of being able to discuss their thoughts in the online intervention difficult.

When participants were asked what could be improved about the online intervention, they had a number of suggestions. Frank noted that the modules were very rigid in their execution and would have preferred a bit more flexibility, such as the ability to adjust exercises or add extra exercises or goals for oneself. On his own experience, he said: *"Yes, you have a certain… a goal that you should do, or say a certain exercise. And… well that, that didn't work. And then I did something else. But ehm… so the answers that I had to… the results of that exercise. Yeah, those*

weren't the answers to the goal I had set for myself. […] You can't adjust that.". Carol would have liked the online intervention to be a bit more specific, though she did realize this might be difficult to achieve. Barbara specifically mentioned the examples within the panic disorder intervention, saying: *"Because both examples are the same. Afraid of going outside. But I'm afraid of [something else]"*. She would have preferred it, if the examples didn't have the exact same type of fear as she sometimes felt as though they had a different disorder than she had. A number of participants couldn't mention anything to be improved. Finally, multiple participants noted that they would continue using the online intervention after the face-to-face sessions had ended, as they could easily fall back on what they had completed earlier.

4. Discussion

The aim of this qualitative study was to gain more insight into the experiences of patients in primary care using an online intervention within an integrated blended care structure. I used a semi-structured interview with open questions to get as close to the participants' experience as possible, with questions covering topics ranging from the characteristics of the participants to the execution of the online intervention itself and the role of the therapist in the treatment.

4.1. Principal results

When looking at the characteristics of the participant, most participants agreed to the online intervention without any real expectations. This is possibly due to the way Mindfit works with blended care. Mindfit provides integrated blended care with a focus on the face-to-face sessions and the online intervention within MindDistrict is described as an optional addition. The introductory module is completed long before the intake and most participants only learn about the possibility of an online intervention during their first face-to-face sessions. They are then asked if they would like to take part or not, giving them little time to form expectations. This could have an impact on the participant's motivation and thus their adherence. Indeed, within face-to-face sessions engagement is one of the top contributors to a successful outcome (Doherty et al., 2012), so it stands to reason the same is true for online interventions. In a study by Farrer et al. (2014),

participants who themselves sought help through an online intervention only showed an adherence of 14%, Participants who are offered one as an optional addition might be even less inclined to complete it, thus possibly reducing adherence through lack of motivation (Christensen et al., 2009).

Though other characteristics of the participant that were found in earlier studies, such as an improvement in condition (Christensen et al., 2009) and concerns about privacy (Doherty et al., 2012) were mentioned, they did not appear to affect adherence. An important characteristic not found in earlier research which might be linked to the outcome of the online intervention was foreknowledge, as Carol explained she did not experience much benefits from the intervention since she had seen it all before.

As for the characteristics of the intervention, a factor not found in earlier research but possibly related to a lower adherence is a difficulty in understanding the questions. Multiple participants had temporarily stopped working on the online intervention when faced with questions they had trouble understanding. This finding might be specific to the online platform used as I was not able to find any other study on an intervention within MindDistrict. The testimonials, on the other hand, were perceived as very helpful by nearly all participants. This is in contrast to previous research, where testimonials either had no effect on registration for an online CBT intervention (Healey, Griffiths, & Bennett, 2017) or where they were linked to a negative effect on the use of adjunct treatment (McClure et al., 2014). However, a study by Kelders et al. (2012) on adherence to online interventions described a number of persuasive design features that could be used to increase engagement and adherence. Among these, the testimonials as seen in MindDistrict share features of similarity (looking familiar to the participant), social comparison (having comparable symptoms), and recognition (by sharing their successful stories), possibly explaining their positive evaluation by the participants of this study.

Other characteristics of the intervention with connections to adherence from earlier research were not found in this study. Indeed, whereas low frequency of interaction with a therapist can cause low adherence (Kelders et al., 2012), within an integrated blended care structure there is a high amount of interaction due to the face-to-face sessions. This could lead to an increase in motivation and adherence. However, this depends on the integration of blended care, since some participants noted very little interaction with their therapist concerning progress on the online intervention, seeing the face-to-face sessions as a separate entity.

As was shown in earlier research, a poor match between the participant and intervention was a commonly given reason for low adherence (Ludden et al., 2015; Wentzel et al., 2016). This was most strongly felt by Barbara as she had trouble connecting to the testimonials, though her problems with adherence seemed to stem more from her difficulties with the questions. On the other hand, Anthony experienced a strong link between the online intervention and his face-to-face sessions and was the strongest adherer. His online progress was comprehensively discussed within the regular sessions, which aligns with the earlier notion that active support during an online intervention increases adherence (Waller & Gilbody, 2009). The fact that no participant mentioned a mismatch between the goals of the participant and the intervention could partially be explained by the fact that nearly all participants went into the online intervention without any expectations. Though a mismatch is possible between the (personal) goals of a participant and what is offered through the online intervention, even without previous expectations, no participant made mention of such a mismatch in this study. Perceived lack of treatment effectiveness was also not found in this study, though this may be because the online intervention was seen as an extra to the face-to-face sessions. As such, lack of effectiveness might be less noticeable within a blended care setting including face-to-face sessions compared to an online intervention only, where the treatment effectiveness can be only be measured by the effect of the online intervention.

This is the first study to look at whether therapist's style is linked to the ease of adherence for the participants. Within face-to-face sessions, one of the key factors in maintaining engagement is a supportive, therapeutic relationship that is tailored to the patient's needs (Doherty et al., 2012). It stands to reason that the same holds true for online interventions with therapeutic support, such as in blended care. Whereas some participants will work on an online intervention by themselves without the need for a therapist to monitor their progress, others will have more trouble starting with the online modules. This could be explained by the Self-Determination Theory, which states that people can either be intrinsically motivated to work on something if their needs for competence, autonomy, and relatedness are met, or externally motivated if one of these goals isn't met (Ryan & Deci, 2000).

A therapist can respond to the patients' motivation with a tailored management style. According to Baumrind (1971), authority consists of two dimensions: involvement and control. When a patient is internally motivated to work on the online intervention, little control is necessary. Indeed, participants in this study who adhered to the intervention stated that high control by a

therapist would be detrimental to their willingness to work on the intervention. However, if a patient has a hard time working on the online intervention by themselves, high involvement and control could be preferable as they can increase engagement with the online intervention, thereby increasing motivation. Based on the results of this study, the management style of the therapist can appear to patients as being low in control, as progress on the online intervention was not frequently discussed during the face-to-face sessions. This could make it harder for patients who are not internally motivated to complete the online modules and adhere to the intervention. Indeed, the participants who described their therapist as having a high involvement in their progress were more likely to have an easier time working on their online intervention. However, these results should be interpreted with care as the initial selection procedure focused on participants who were struggling with the online intervention, thus leading to a possible bias concerning lower than usual therapist involvement.

As for the execution of the online intervention, the general finding was that the modules did take a lot of energy to complete. Nevertheless, this did not often cause problems since the modules were short of length. Since many online interventions rely heavily on cognitive effort to process text and information, individuals with a lower need for cognition might experience more difficulties adhering to the intervention (Kelders, Bohlmeijer, & Van Gemert-Pijnen, 2013). By keeping the length of the modules on the shorter side, they become easier to complete, thus possibly increasing adherence. I was unable to find any other research into optimal duration of the modules within an online intervention. Though a systematic review by Kelders et al. (2012) discussed the features of a typical web-intervention, such as its usage, length of the intervention, and set-up, the duration of the online modules was not discussed. Results from this study suggest that the online modules should be low in the time it takes to complete, to accommodate for their demanding nature.

In this study, only one participant had dropped out. Therefore, the results concerning difficulties with the intervention can only be seen as possible reasons for lower adherence. In line with earlier research by Christensen et al. (2009), going through a difficult period in one's life was seen as a possible reason for low adherence. Other possible reasons for low adherence were technical difficulties, which were mostly described by older participants. However, in this case technical difficulties were seen mostly as having trouble finding the right page in the intervention as opposed to there being technical problems with the program itself. Due to the broad nature of

the term technical difficulties, it becomes troublesome to compare this to earlier research. To gain more understanding of the usage patterns of the participants while they were working on the online intervention, log-data would need to be generated (Kelders et al., 2013). However, this was beyond the scope of this study. In the future, log-data could give us more insight into not only the technical difficulties, but the use of online interventions in general. Overall, no single factor could be linked to adherence in participants. Even the participant who ended up dropping out cited multiple reasons, ranging between situational, technical and psychological difficulties.

In general, participants were very positive about the ability to view the exercises they had completed earlier whenever they wanted to. This is in line with earlier research by Beattie, Shaw, Kaur, and Kessler (2008) who reported that patients were positive about homework assignments since it provided them with the tools needed to regulate their thoughts and emotions at home. This study shows that the ability to see completed material at home is important not only to people working on an online intervention, but also to people following an online intervention within a blended care structure, even though they take part in face-to-face sessions as well. Multiple participants noted difficulties in remembering everything that was discussed during a face-to-face session. To gain long-term retention, retrieval of the information at a later time is necessary (Roediger III & Butler, 2011), an option that is not available after face-to-face sessions. Online interventions offer a way for participants to review what they have learned before, thus further cementing it into their memory.

This research was the first to study how participants viewed the online intervention within a blended care setting compared to the face-to-face sessions. All participants described the online intervention as an extra addition to the face-to-face session. This can be explained by the way blended care is set up at Mindfit. Mindfit uses an integrated blended care setup with a face-to-face focus. Patients enter Mindfit for the face-to-face sessions. Most only learn about the online intervention within their first face-to-face session and are then asked whether they would like to use it or not. This setup might explain why all participants saw the online intervention only as an extra and why they showed a clear preference for the face-to-face sessions, since that is what they signed up for in the first place.

4.2. Strengths and limitations

A strength of this study is that it is the first research to be done as an exploration of the experience of participants following an online intervention within a blended care structure. As a study by Dijksman et al. (2017) showed, therapists deemed it necessary to know the perceptions of patients on blended care before using this type of intervention. This study gives us a first look at these perceptions. Though the questions in the semi-structured interview were created from existing theory, where possible, the researcher aimed to stay as close to the participants' experiences during the interview itself, thus allowing participants the chance to elaborate on their experiences with an online intervention in blended care.

The current study also has a number of limitations. Firstly, the sample size was small, thus making it difficult to generalize the findings, though care was taken to achieve as much variation as possible within the sample size for gender, age, and disorder. Saturation was not fully reached as new codes had to be created after the final interview, though the amount of new codes necessary was very limited. Though a small sample, this qualitative study was able to gain many new insights into the experiences of patients with integrated blended care with a face-to-face focus, an area so far unexplored. Since this study was an exploration of participants' experiences, the results can still be used to possibly improve integrated blended care in the future. However, the results in this study are based on information from only one mental health center in the Netherlands. Most of the research on the topic of blended care has also been done within the Netherlands, raising the question how well these results can be generalized to other countries, such as those with less resources. Nevertheless, this is starting to change as more countries are starting their own research into the effectiveness of blended care (Kemmeren et al., 2016).

Another limitation of the study was the selection process. Therapists do not suggest an online intervention to all patients, thus risking a selection bias towards patients who may be more motivated to complete the treatment. Furthermore, the initial selection procedure focused on participants who had dropped out or were close to dropping out of the online intervention. This was discontinued after the second participant as it proved too difficult to obtain the required amount of participants necessary for the study. Because of this adjustment to the selection procedure, a bias may exist concerning the more negative experience of the initial participants compared to the population of patients receiving integrated blended care at Mindfit.

Within the study, the status of the participants as either active or dropped out was only registered at the time of the interview. Thus, it is not known whether participants who were marked as active ended up completing the online intervention or dropping out. As such, the status of the participants can only be seen as a snapshot of their progress and not as the final result. Data provided by these participants is useful nonetheless as the aim of this study was to explore the experience of patients throughout their online intervention, whether they were active or had dropped out. It was not possible to include more dropouts in this study for variation as these patients often either failed to react or refused to be included in the study. However, since the aim of this study was to explore the experience of all participants with the online intervention, and dropouts only constitute a portion of these, a majority of adherers was acceptable.

4.3. Practical implications

There are a number of practical implications for both the use and implementation of MindDistrict within Mindfit. Most importantly, MindDistrict is currently used as an addition to the face-to-face sessions and it seems to be viewed as such by both therapists and patients. This appears to lessen the impact of the online intervention and makes it easier to skip out on or stop with completely. This is not surprising, as MindDistrict has been added to Mindfit without any formal training and there are no manuals available for therapists on how to properly integrate an online intervention into a blended care structure with a face-to-face focus. Yet to properly benefit from blended care, the online intervention needs to be integrated into the treatment as a whole. Possible improvements for the implementation of MindDistrict at Mindfit are discussed in Table 3.

How to best implement an integrated blended treatment is further described in an article by Wentzel et al. (2016), who created a rationale for applying integrated blended care based on a number of postulates. They provide the instrument 'Fit for Blended Care' which can be used to assist both therapists and patients in how to best set-up a blended treatment and provide agreements on how to act should a problem related to barriers arise.

Table 3. Possible improvements in the implementation of MindDistrict at Mindfit.

Improvements	Explanation
Use the Fit for Blended Care instrument to provide therapists with an instruction on how to best integrate an online intervention into a blended treatment.	At the moment, there is no manual available for therapists on how to best integrate an online intervention into a blended treatment. By using the Fit for Blended Care instrument, therapists can learn how to set-up and configure the blended treatment and how to best deal with possible facilitators and barriers to its uptake.
Notify patients about the option to follow an online intervention at the end of the intake and ask for their decision in the next session.	Currently, patients are only told about the online intervention within the first few sessions and often make the decision whether or not to follow it right away. By notifying patients about the option for an online intervention in the intake and only asking their decision in the following session, patients are given the time to think about their decision
Put more emphasis on the advantages of an online intervention in the explanation.	Currently, a lot of patients start the online intervention with the idea 'no harm, no foul'. By putting more emphasis on the advantages of an online intervention, patients gain a better understanding of the intervention and are more likely to form positive explanations.
Give more information on the content of the online intervention beforehand.	Most participants currently start the online intervention without any real expectations on its content. This can create a mismatch between what a patient is looking for and what the online intervention has to offer. By offering more information on the online intervention before starting it, a patient will know what to expect, lessening the chance of a mismatch.
Create a plan to work on the online modules within a face-to-face session.	Most patients currently go into the online intervention without knowing what to expect. By creating a plan beforehand on how to work on the intervention, thought can be given to possible difficulties in the execution and patients are less likely to be overwhelmed by the online modules.
Discuss the outcome of the online modules within the face-to-face sessions.	Results from this study show that the outcome of the online modules is rarely discussed within the face-to-face sessions. However, discussing the online intervention within the face-to-face sessions would further cement the idea of a unified blended treatment instead of an online intervention simply as an addition.
Matching the attitude of the therapist towards the execution of the online intervention with the characteristics of the patient.	The attitude of the therapist towards the online intervention should match with the needs of a particular patient. The therapist should not take a controlling attitude with a patient who can be trusted to work on the intervention in their own time. However, this approach will work much better with patients who have trouble working on the intervention at home.

4.4. Future research

Though this study was the first to explore the experience of participants with integrated blended care with a face-to-face focus, future research on a much larger scale is needed to explore this topic more in-depth. By recruiting more participants in future studies, the experiences given by participants can be substantiated and expanded on, giving increasing validity to their generalization. Furthermore, increased attention should be given to the experience of participants who end up dropping out. This will provide a better understanding of the reasons for their non-adherence and can be used to assess possible methods to increase adherence to blended interventions in the future. To gain more insight into the usage patterns of participants in the online modules, log-files can be used to provide valuable data on the frequency and duration of online sessions and give us a clearer picture of what actually happens during the therapy. These findings can then be used to further tailor blended interventions towards individual patients, taking into account their characteristics and the severity of their symptoms. Also, while this study focused exclusively on patients using the MindDistrict platform, future research is needed on different mental health platforms to see if the results are specific to MindDistrict or if they can be generalized to online interventions within blended care in general. The practical implications here focus mainly on the role of the therapist, mostly neglecting the role of other stakeholders such as management in the optimal implementation of blended care. While this topic was outside the scope of this study, future research could provide useful tools and implications for other important stakeholders on how to best implement integrated blended care.

Although there is evidence of the effectiveness of blended care, how it is best implemented is still relatively unknown. So far, the optimal dosage of face-to-face sessions, combined with Internet-sessions is still unknown, as well as which treatment elements are best incorporated online as opposed to face-to-face. These issues are currently being examined by the large-scale European E-Compared study, which will provide evidence-based recommendations on how to best integrated blended care within routine healthcare (Kemmeren et al., 2016). Subsequently, the practical implementation of blended care also requires further research. Within Mindfit, it is left up to the therapists on how to introduce the online intervention of blended care as no protocol for this procedure is in place. This means that, even though blended care has been proven to be effective, it might still not work as well as intended due to poor implementation. Further research

is necessary on how to best implement blended care within routine practice so that protocols can be created for future use. Finally, the results from this study indicate that it is best for the attitude of the therapist towards the execution of the online intervention to match the needs of the participant, where a stricter approach would be detrimental for participants who are motivated to work on the online intervention by themselves. Future research is needed to examine this topic in more detail.

4.5. Conclusion

In this study, I attempted to shed a light on the experiences of participants with the online intervention of a blended care treatment. The results show that the online intervention was seen as generally favorable by most participants, though there was much variation in the amount of self-proclaimed improvements participants experienced because of it. The perceived advantages of the online intervention and adherence to the intervention are not the result of a single factor, but instead of a combination of factors including the match between the participant and intervention and the role the therapist takes. Better implementation is needed in order to form an integrated blended treatment with a face-to-face focus, for which practical implications are given. In order to improve blended care in the future, the face-to-face sessions and online intervention need to be integrated more closely into a single, unified treatment instead the online intervention only being used as an addition to the face-to-face treatment.

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Appendix A: Questionnaire

Imagine that you were going to complete a module of the online intervention you are following. Please, verbally walk the interviewer through the process of how you would complete the module. You don't actually need to write anything down. The module itself is an empty module in a practice area. If there are things that you like or dislike, or other things that you notice, please verbally narrate this to the interviewer.

How would you rate the following aspects of the online intervention?	**Very bad**		**Neutral**		**Very good**
1. The presentation of the online modules	1	2	3	4	5
2. The layout of the online modules (information - examples - exercises)	1	2	3	4	5
3. The clarity of the online modules	1	2	3	4	5
4. The length of the online modules	1	2	3	4	5
5. The applicability of the online modules	1	2	3	4	5

	Too little		**Just right**		**Too much**
6. The amount of information per module	1	2	3	4	5
7. The amount of examples per module	1	2	3	4	5
8. The amount of exercises per module	1	2	3	4	5

To what extent do you agree with the following statements?	**Strongly disagree**				**Strongly agree**
9. The things I needed were easy to find	1	2	3	4	5
10. I am satisfied with the online modules	1	2	3	4	5
11. I would recommend the online intervention to other people	1	2	3	4	5

Appendix B: Interview - Active participant

Introduction - Explanation of the interview

Explain terms (online intervention, modules, treatment path)

Short check with the participant whether the name, age, and the disorder for which he/she is undergoing treatment have been filled in correctly.

Interview schedule

Online Intervention - Start

I'll start with some general questions. These questions are about the start of the online intervention.

- How did the choice to start with the online intervention originate?
    - Were you aware of the possibility to start an online intervention beforehand?
        - Who made the eventual choice to start with the online intervention?

- How did you regard the online intervention relative to your regular treatment path?

- What expectations did you have beforehand on following an online intervention?
    - Were there (possible) advantages that you saw in starting an online intervention?
    - Were there (possible) disadvantages that you saw in starting an online intervention?

- What were your expectations of the content of the online intervention?

- What were your expectations on the role of the therapist in the online intervention?

Online Intervention - Execution

The following questions are about the execution of the online intervention. Here, we will look deeper into your experience with working on the online modules.

- Before starting the online intervention, did you have an idea of how you wanted to work on the online intervention?

    - If yes, what was your idea/plan?
        - Did you keep to a fixed time of day or location?

    - Did you discuss this plan with your therapist?

    - Could you describe the setting in which you normally worked on the online modules?

- How do you experience working on the online modules?

    - Do you experience working on the online modules to be easy or difficult?
        - Why did you choose easy/difficult?

- To what extent does working on the online intervention meet your expectations?

- To what extent is the execution of the online intervention discussed during your face-to-face sessions with the therapist?

- To what extent are the content and progress on the online intervention discussed during the face-to-face sessions with your therapist?

- To what extent are you motivated to continue with the online intervention?

- Has working on the online intervention had an effect on your treatment path?
  - If yes, could you describe the effect?

Online Intervention - Difficulties

It is possible that while working on the online intervention you encountered certain things that you experienced as difficult. These will be discussed in the following section.

- Are there things that you run into / that you find difficult when working on the online intervention?

  - Could you describe these?

  Potentially give an example of a barrier someone can experience - a neutral example.
  Possible areas: technical - social - psychological - content (treatment) - motivational

- Are there aspects of the online intervention that do not meet your expectations?
  - If yes, could you describe these?

  - Are there things that you miss in the online intervention / that you would have liked to have seen?
    - If yes, what?

- Would there be reasons for you to stop with the online intervention?
    - If yes, what would these reasons be?

- Can you think of things that could cause you to stop working on the online intervention?
    - Internal things?

    - External things?

- How do you experience the role of the therapist in your online intervention?

    - Are you, in your opinion, receiving enough support from your therapist?
        - Could you explain?

    - To what extent would you discuss potential difficulties with the online intervention with your therapist?

Online Intervention - Evaluation

Finally, I would like to ask you some questions about the online intervention in general.

- Which aspects of the online intervention do you experience positively?

- Which aspects of the online intervention do you experience negatively / could be improved in your opinion?

    - How would you improve this?

- Which aspects of the role of your therapist in the online intervention do you experience positively?

- Which aspects of the role of your therapist in the online intervention do you experience negatively / could be improved in your opinion?
    - How would you improve this?

- Which aspects of the online intervention do you feel are best suited to be carried out online?
    - Are there parts of the treatment that you feel do not fit in an online intervention?
        - If yes, which?
        - Why would these parts not fit in an online intervention in your opinion?

Appendix C: Interview - Stopped participant

Introduction - Explanation of the interview

Explain terms (online intervention, modules, treatment path)

Short check with the participant whether the name, age, and the disorder for which he/she is undergoing treatment have been filled in correctly.

Interview schedule

Online Intervention - Start

I'll start with some general questions. These questions are about the start of the online intervention.

- How did the choice to start with the online intervention originate?
    - Were you aware of the possibility to start an online intervention beforehand?
        - Who made the eventual choice to start with the online intervention?

- How did you regard the online intervention relative to your regular treatment path?

- What expectations did you have beforehand on following an online intervention?
    - Were there (possible) advantages that you saw in starting an online intervention?
    - Were there (possible) disadvantages that you saw in starting an online intervention?

- What were your expectations of the content of the online intervention?

- What were your expectations on the role of the therapist in the online intervention?

Online Intervention - Execution

The following questions are about the execution of the online intervention. Here, we will look deeper into your experience with working on the online modules.

- Before starting the online intervention, did you have an idea of how you wanted to work on the online intervention?

    - If yes, what was your idea/plan?
        - Did you keep to a fixed time of day or location?

    - Did you discuss this plan with your therapist?

    - Could you describe the setting in which you normally worked on the online modules?

- How do you experience working on the online modules?

    - Do you experience working on the online modules to be easy or difficult?
        - Why did you choose easy/difficult?

- To what extent did working on the online intervention meet your expectations?

- To what extent was the execution of the online intervention discussed during your face-to-face sessions with the therapist?

- To what extent were the content and progress on the online intervention discussed during the face-to-face sessions with your therapist?

- To what extent were you motivated to continue with the online intervention?

- Has working on the online intervention had an effect on your treatment path?
  - If yes, could you describe the effect?

Online Intervention - Stopped

Eventually you stopped working on the online intervention. The following questions will be about this process.

- Can you describe the process of stopping with the online intervention?

  - Was it a conscious choice not to continue working on the online intervention?
    - If yes, what were your reasons for stopping with the online intervention?

    - If no, could you describe what led you to not continue with the online intervention?

      - Can you think of possible reasons why you did not continue with the online intervention?

- Were there things that you ran into / that you found difficult when working on the online intervention?

  - Could you describe these?

Potentially give an example of a barrier someone can experience - a neutral example.

Possible areas: technical - social - psychological - content (treatment) - motivational

- Were there aspects of the online intervention that did not meet your expectations?
    - If yes, could you describe these?
    - Were there things that you missed in the online intervention / that you would have liked to have seen?
        - If yes, what?
- How do you experience the role of the therapist in your online intervention?
    - Are you, in your opinion, receiving enough support from your therapist?
        - Could you explain?
    - To what extent would you discuss potential difficulties with the online intervention with your therapist?
- Could you describe to what extent the act of stopping with the online intervention was discussed with your therapist?
    - What was the reaction of your therapist?
        - To what extent did the therapist try to persuade you to keep going with the online intervention?

Online Intervention - Evaluation

Finally, I would like to ask you some questions about the online intervention in general.

- Which aspects of the online intervention did you experience positively?

- Which aspects of the online intervention did you experience negatively / could be improved in your opinion?
    - How would you improve this?

- Which aspects of the role of your therapist in the online intervention did you experience positively?

- Which aspects of the role of your therapist in the online intervention did you experience negatively / could be improved in your opinion?
    - How would you improve this?

- Which aspects of the online intervention did you feel were best suited to be carried out online?

    - Were there parts of the treatment that you feel do not fit in an online intervention?
        - If yes, which?

        - Why would these parts not fit in an online intervention in your opinion?