MASTER

Perceived drivers and barriers to the adoption of online counseling by psychologists
the construction of the levels of adoption of online counseling model

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Award date:
2017

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PERCEIVED DRIVERS AND BARRIERS
TO THE ADOPTION OF ONLINE COUNSELING
BY PSYCHOLOGISTS

The Construction of
the Levels of Adoption of Online Counseling Model

By Milou Feijt
0958706

in partial fulfilment of the requirements for the degree of

Master of Science in
Human-Technology Interaction

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GGzE
Subject code: Master project Human-Technology Interaction 0PP06
Key words: online counseling, eHealth, psychologists’ attitudes, adoption of innovation, mental healthcare
Abstract

Despite growing evidence for the effectiveness of online counseling, its’ adoption among clinical psychologists remains low. The aim of the current study was to gain a deeper understanding of their restraint by taking a qualitative approach consisting of in-depth semi-structured interviews with clinical psychologists (N = 12). Whereas previous work on this topic has mainly resulted in undifferentiated lists of factors with a primary focus on barriers, the current study emphasizes perceived drivers and how they relate to each other. In general, a key driver for psychologists to adopt online counseling is the belief and experience that it can be beneficial to them or their practice. Perceived advantages that are novel to literature include the acceleration of the treatment process, increased intimacy of the therapeutic relationship, and new treatment possibilities due to online counseling. More importantly, a relation was found between the extent to which psychologists have adopted online counseling, and the drivers and barriers they experience. This is incorporated in the Levels of Adoption of Online Counseling (LAOC) model, which provides a framework for the factors that influence the adoption of online counseling. The LAOC model received support and recognition from psychologists during a communicative validation. An important insight gained is that psychologists having lower levels of adoption were found to experience relatively more barriers than drivers, whereas this balance shifts for higher levels. Furthermore, from the LAOC model it can be inferred that interventions to increase adoption should be tailored to the various levels of adoption of online counseling. In addition, the results indicate that organizational facilitation, involvement of high-level peers, and technological improvements could further facilitate the adoption of online counseling by psychologists.

Key words: online counseling, eHealth, psychologists’ attitudes, adoption of innovation, mental healthcare
Acknowledgments

This thesis would not have been possible without help of several people, and via this way I would like to thank a number of those who have supported me through the process of my research. First and foremost, I would like to express my sincere gratitude to my first supervisor, Prof. Dr. Wijnand IJsselsteijn, for offering me the opportunity to work on this project, and above all for his continuous support and guidance during my research. His great expertise and critical advice has greatly contributed to my academic development, while his affirming way of giving feedback at the same time felt very positively encouraging. My gratitude also goes to my second supervisor Prof. Dr. Ir. Yvonne de Kort for the great amount of effort and time taken in providing me with her thoughtful and knowledgeable feedback to take my thesis to a new level. I would also like to thank Dr. Femke Beute for her willingness to take the time and effort to fulfill the role of my third assessor. Furthermore, I am very grateful to Prof. Dr. Inge Bongers for her role as my company supervisor for her extremely helpful feedback and valuable knowledge from her expertise and experience within the GGzE, and for her efforts to connect me with mental health care professionals.

Next, I would like to express my deepest gratitude to the participants who took the time and effort to help me in spite of their full agendas. A special thanks goes out to Birgitte Beelen for her continuous helpfulness, insightful experiences with implementing online counseling and valuable background information. In addition, I would like to thank Rick Prins from Minddistrict for sharing his experiences with the implementation of eHealth platforms from the view of the developer.

Last, I would like to express many thanks to the dear people who surround me for their continuous encouragement, loving support and unwavering trust in me, not only during the past five months, but throughout the whole period of my studies.

Milou Feijt
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Chapter 1: Introduction

1.1 Online counseling

Since the rise of the Internet in the 1990’s, it has become an integral part of our daily lives. The range of possibilities available online is ever expanding and its’ potential for the field of mental healthcare has also long been recognized. Despite the possibilities online counseling offers, it has also been the target of strong criticism, and adoption in clinical practice remains lower than expected. Recent numbers show that in 2015 merely 9% of mental care users in the Netherlands have received some form of online counseling, and only in combination with face-to-face treatment (Krijgsman et al., 2016). An important factor in this contrast between the promise of online counseling and the actual use seems to be a reluctant attitude towards online counseling of psychologists (van Gemert-Pijnen et al., 2011). Gaining more insight into the exact nature of their restraint could be an important step towards the widespread adoption of online counseling tools. Therefore, the current study aims to gain a deeper understanding of the drivers and barriers for psychologists to the adoption of online counseling tools.

One issue that complicates research on this topic is the lack of a clear nomenclature. Over the past decades a mixture of terms and definitions has been used to describe online counseling. Terms such as online therapy, e(Mental)Health, eTherapy, telepsychology, computer-mediated communication, web-based interventions, and internet-based treatment are being used interchangeably, often without a precise explanation of what is exactly meant. Several authors have tried to come up with definitions to solve this problem (e.g. Mallen & Vogel, 2005; Rochlen, Zack, & Speyer, 2004). The current study will alternately use the terms online counseling and eHealth to refer to the definition formulated by Mallen and Vogel (2005, p. 764): any delivery of mental and behavioral health services, including but not
limited to therapy, consultation and psycho-education, by a licensed practitioner to a client in a non-face-to-face setting through distance communication technologies such as the telephone, asynchronous e-mail, synchronous chat, and videoconferencing.

In accordance with the variety of definitions, forms of online counseling show large differences with respect to characteristics such as their purpose, design and technology. Each tool has its own strengths and weaknesses, which determine the suitability for particular clients and kinds of psychological treatments, and consequently their use by psychologists. Technologies that are text-based, such as e-mail, chat, SMS, and Whatsapp, are most frequently used in practice; recent research shows that 60 to 90% of the Dutch psychologists send e-mails to their clients (Minddistrict, 2015; van der Vaart, Atema, & Evers, 2016). Other common modalities include telephone and videoconferencing. Often, these technologies are integrated in an online treatment platform with a secure login, where patients can communicate with their therapists, read and download online materials that are arranged into modules, and receive homework assignments and subsequent feedback (Andersson, 2016). More recently, technologies such as smartphone apps, games, and virtual environments are increasingly becoming used (Barak & Grohol, 2011). A more comprehensive discussion of the available online counseling tools and the role of their design is presented in section 1.6.

1.2 The effectiveness and process of online counseling

Right from the onset, there has been a lot of debate on online counseling and whether or not it is effective (Perle, Langsam, & Nierenberg, 2011). In response to the critiques, several outcome and process studies have been conducted. The most extensive meta-analysis on the effectiveness of online counseling conducted so far included 92 studies that used various kinds of outcome measures (Barak, Hen, Boniel-Nissim, & Shapira, 2008). For each study, Hedges’ g was calculated. Overall,
they found an average effect-size of 0.53, which is considered a medium effect and is similar to the average effect size found for face-to-face treatments. The results showed that the effect size strongly depended on the way in which effectiveness was measured; much higher effect sizes emerged when this was measured by an evaluation of an expert compared to self-report questionnaires or physiological measures. It was also found that treatments worked best for psychological compared to physiological problems, those taking a Cognitive Behavioral Therapy (CBT) approach were more effective compared to those that had a behavioral or psychodynamic orientation, and individual treatments were more effective than group treatments. It has to be noted though that these differences might not be exclusive for online psychotherapy but also hold for face-to-face treatments. Since this meta-analysis, several other meta-analyses have been published that show similar results (e.g. Andersson, Cuijpers, Carlbring, Riper, & Hedman, 2014; Andrews, Cuijpers, Craske, McEvoy, & Titov, 2010)

A concern about the process of online communication that is often expressed by therapists is whether it is possible to develop a strong therapeutic bond, which is considered crucial for an effective intervention (Lambert & Barley, 2001). A systematic review on this topic including five studies provides evidence that online counseling allows for a good therapeutic alliance (Hanley & Reynolds, 2009), which was supported more recently by Andersson et al. (2012). Other studies have attempted to assess client satisfaction with online counseling. A systematic review of these studies finds that clients’ satisfaction with online treatments is generally high and often equal to face-to-face treatments (Mallen, Vogel, Rochlen, & Day, 2005), in line with a more recent study by Murphy et al. (2009). Taken together, these studies suggest that online counseling allows for a good therapeutic relationship and client satisfaction.
1.3 Perceived drivers to the adoption of online counseling

In addition to the growing evidence for the effectiveness of online counseling, several studies have noted that it also offers some benefits that are unique to its online nature (e.g., Abney & Maddux, 2004; Chester & Glass, 2006; Rochlen et al., 2004). First and foremost is the potential to serve people who would otherwise be withheld from psychotherapy because of limited access, such as those in remote areas, with limited mobility or time restrictions, or people who are traveling (Rochlen et al, 2004). Online counseling has also been found to be particularly suitable for certain client groups. An example are young adults, because the Internet has become a major social environment for them, online counseling enables therapists to connect in a way that is both well known to them and engaging (Perle et al., 2011). Furthermore, online counseling has been reported to lower the barrier to treatment for those that feel embarrassed or afraid of others’ disapproval, as engaging in online counseling may be less stigmatizing than seeing a psychologist (Andersson, 2016). Studies also found that clients tend to be more self-disclosing online, a phenomenon is known as ‘the online disinhibition effect’ (Suler, 2004). The proposed explanation for this effect is that because the online environment minimizes social cues, it provides the illusion of privacy that in turn decreases perceptions of interpersonal risk, leading to increased emotional disinhibition. Online counseling also provides the possibility to quickly and easily link clients to multimedia resources that therapists deem relevant to their treatment (Rochlen et al., 2004).

Besides the general advantages of online counseling, each modality of communication also has its own advantages and disadvantages due to its particular characteristics. When online counseling is text-based, the act of writing provides the opportunity for enhanced self-reflection and a sense of ownership (Rochlen et al., 2004). Moreover, there is a vast body of evidence supporting the therapeutic effect of writing itself (Richards & Vigano, 2013). Another advantage is the ease of creating a
permanent record, which enables both clients and therapists to reflect on the therapeutic process and the client’s development during the course of the treatment (Chester & Glass, 2006). Online counseling that is asynchronous, such as e-mail, omits the requirement for a specific time appointment, increasing flexibility for both clients and therapists. Indeed, a recent study that qualitatively investigated the motivations and experiences of four practicing online therapists found that a main motivation to start their online practice was the freedom and flexibility it delivered to both them and their clients (Koufou & Markovic, 2017). Another benefit of e-mail is that it offers the possibility of immediacy, enabling a client to write down his or her thoughts and feelings at the moment a difficult situation occurs in contrast to having to wait until the next therapy session (Harrahad & Banks, 2016). A benefit specific to videoconferencing is that it offers the opportunity to see clients in different environments and states, which might yield new insights (Koufou & Markovic, 2017).

In addition to these proposed advantages for clients and therapists, a first systematic review of 16 studies suggests that Internet interventions are more cost-effective compared to other forms of treatment such as wait-list, treatment-as-usual, and group cognitive behavioral therapy (Donker et al., 2015). The strongest evidence was found for guided treatments, and for anxiety disorders, followed by depression, smoking cessation and alcohol misuse. Although the evidence is still limited and it is unknown how much costs can be reduced, it does explain the interest health insurance companies and the government have expressed in the use of online counseling.

1.4 Perceived barriers to the adoption of online counseling

It is important to note that the benefits found by the studies in the previous section do not investigate whether therapists are convinced of these advantages and
to which extent they transfer from research to clinical settings. With the growing body of literature on the effectiveness and advantages of online counseling described above, it could be expected that psychologists are eager to adopt it. On the contrary, however, studies mostly find the general acceptance of online counseling by psychologists to be only modest (Perle et al., 2013; Topooco et al., 2017; Vigerland et al., 2014; Wangberg, Gammon, & Spitznogle, 2007), although it has to be noted that results are mixed with some studies finding very low levels of acceptance (Carper, McHugh, & Barlow, 2013; Henneman, Beutel, & Zwerenz, 2017; Mora, Nevid, & Chaplin, 2008), and others reporting fairly high levels (Donovan, Poole, Boyes, Redgate, & March, 2015; Sinclair, Holloway, Riley, & Auret, 2013; Whitfield & Williams, 2004).

The level of acceptance seems to be dependent on the specific characteristics of the intervention. A common finding amongst almost all studies is that therapists show to be most accepting of online counseling tools for mild and well-defined problems, specifically for anxiety and mood disorders, and when the online treatment is used as an adjunctive to face-to-face treatment instead of a stand-alone intervention (Carper et al., 2013; Gun, Titov, & Andrews, 2011; Kivi et al., 2015; Perle et al., 2013; Sinclair et al., 2013; Topooco et al., 2017). Narrative accounts reported in these studies suggest that therapists perceive stand-alone online treatment as impersonal due to the elimination of face-to-face contact. The concept of ‘blended treatment’, in which online and face-to-face components are interconnected and integrated parts of a treatment process, is increasingly receiving attention (Wentzel, van der Vaart, Bohlmeijer, van Gemert-Pijnen, 2016). This blended treatment might be regarded as a middle path between traditional treatments that are completely face-to-face and stand-alone online treatments, and hence as more acceptable.

In addition, multiple studies have shown that therapists working with a cognitive behavioral therapy (CBT) approach are more accepting compared to other
therapeutic orientations such as psychodynamic, system, or behavioral (Perle et al., 2013; Wangberg et al., 2007), although this is not found in every study (Donovan et al., 2015). Surprisingly, no differences are found between licensed psychologists and clinical psychology students, although further analyses suggest that therapists younger than 45 years of age were more accepting to use online counseling as an adjunctive therapy compared to those older than 45 (Perle et al., 2013). Results on age differences are mixed though, as not all studies find an association between age and acceptance (e.g. Carper et al., 2013).

There have also been various attempts to gain deeper insights into therapists’ restraint to adopt online counseling. These studies often consist of surveys that mainly focus on perceived barriers. A criticism that is frequently expressed by therapists is that online counseling causes a dehumanization of the therapeutic environment (Lovejoy et al., 2009). They argue that the characteristic interaction of a face-to-face setting cannot be recreated online due to the lack of non-verbal cues, resulting in a weaker therapeutic bond. However, as mentioned earlier, this claim is not supported by research showing that therapeutic alliance in online counseling can be equally good as in face-to-face settings (Hanley & Reynolds, 2009). The lack of non-verbal cues also heightens the chance of misunderstanding on both sides, another concern that therapists often express (Rochlen et al., 2004). With video-mediated communication (e.g. Skype and Facetime) non-verbal cues to interaction remain visible, which may reduce misunderstanding (Simpson, 2009). However, it has been suggested that the online cues are different from those in traditional offline settings, and that some subtle non-verbal cues of live contact are missing (Harrad & Banks, 2016). Although evidence is limited, initial studies show that therapeutic alliance is not compromised in video-mediated communication and is sometimes even enhanced because clients feel less intimidated compared to face-to-face settings (Simpson, 2009).
Another reason found for therapists’ reluctance is the risk of clients misrepresenting themselves, as it is harder to verify one’s identity online (Alleman, 2002). This is of particular importance when it comes to managing an emergency, another concern often reported by therapists, who argue that online modalities lack the ability to adequately regulate crisis situations (Perle et al., 2011). Therefore, it is important that the therapist is sure of the true identity and location of their clients and in possession of emergency contact information at the start of the therapy sessions (Rummel & Joyce, 2010). Therapists also report more practical concerns such as the lack of adequate insurance reimbursement for services, costs of setting up and maintaining the infrastructure, licensure and jurisdiction constraints, lack of clear ethical guidelines for practice, patient privacy, confidentiality concerns and the potential detrimental effect of technology failure (Lovejoy et al., 2009; Perle et al., 2011; Rochlen et al., 2004). These concerns seem to be shared across the globe, as similar findings are reported for Australia (Donovan et al., 2015; Sinclair et al., 2013), Canada (Simms, Gibson, & O’donnell, 2011), Norway (Wangberg et al., 2007), Sweden (Kivi et al., 2015; Vigerland et al., 2014), the UK (Koufou & Markovic, 2017), and the USA (Haberstroh, Parr, Bradley, Morgan-Fleming, & Gee, 2008; Mora et al., 2008).

1.5 Contextual factors of daily clinical practice

The majority of the concerns mentioned above are increasingly being addressed, for example by the development of practical and ethical guidelines, new legislation, and technologies to ensure secure communication (Mallen, Vogel, & Rochlen, 2005; Dever Fitzgerald, Hunter, Hadjistavropoulos, & Koocher, 2010). Moreover, the outcome and process studies described previously do not support the concerns regarding the quality of the online therapeutic environment expressed by therapists. This raises the question whether the main cause of the low adoption rate of online
counseling lies in factors concerning the treatments in a narrow sense, which most of the conducted studies focused on, or whether it actually has to do with factors concerning the integration in clinical practice and the embedding in the bigger social-economic environment, such as knowledge and experience with the technologies, social norms, forces within the care system and the design of the tools. This is supported by literature on transferring innovations to practice that suggests that the decision to adopt an innovation depends on its reception and utility, which is determined by the adequacy of training, perceived ease of use, and how well it fits or has value within what is accepted in therapeutic practice and abilities of the users (Simpson, 2002).

Indeed, a factor that seems to play an important role in therapists’ willingness to use online tools is their level of knowledge of and comfort with the technologies and the experience they have with a particular tool. Multiple studies indicate that a majority of the therapists has very little knowledge of the availability and use of online counseling tools (Carper et al., 2013; Donovan et al., 2015). This is important, because research suggests that attitudes toward online counseling are affected by the level of comfort with the use of Internet technology (Wangberg et al., 2007). In addition, when asked about factors that would increase adoption of online counseling tools, health professionals reported information about the effectiveness and availability of the tools to be most important (Gun et al., 2011). Moreover, Donovan et al. (2015) found that increasing knowledge was associated with higher intention to use online treatment. These results are in line with earlier research showing that ‘hands-on’ training was directly related to the level of confidence therapists have in the use of videoconferencing (Simpson, 2009) and that learning through first-hand experience and obtaining new skills increased engagement with new online counseling technologies (Stephen et al., 2011). It also supports comments of therapists that they preferred to be familiar with online mental health resources.
prior to using them (Sinclair et al., 2013). These studies clearly show the importance of receiving adequate training for therapists to accept online counseling. However, currently no training standards have been developed yet, and most graduate programs in clinical psychology do not offer any courses on online counseling (Perle et al., 2011). Another problem is that there are only a very limited number of licensed psychologists to provide supervision and training. Therapists also express difficulties finding time to explore the range of available resources (Sinclair et al., 2013). This point was further elaborated in another study, where therapists reported that the pressure on productivity and efficiency in current mental healthcare does not allow them to learn and explore new methods (Kivi et al., 2015). The authors suggest that this issue is further complicated by therapists reporting they do not want to show their ignorance to peers.

The role of social influence was found again in a very recent study, showing that social norms were the strongest predictor of professionals’ acceptance of eHealth interventions (Henneman et al., 2017). These results are in line with earlier reviews arguing that because online counseling is not yet widely accepted, those who decide to adopt the innovative technologies in their practices may be putting their professional reputation at stake (Lovejoy et al., 2009; Andersson & Titov, 2014). This is supported by Sinclair et al. (2013), who reported that some therapists experienced social pressure from colleagues to reject online counseling tools. They suggest this is caused by socially defined expectations of how mental health services are delivered: by establishing the therapeutic relationship in a face-to-face treatment.

Forces within the current care system might also play an important role in therapists’ unwillingness to adopt online counseling. In the past years, there has been a lot of pressure on psychologists from health insurance companies and management to implement online counseling into their practice and various projects across Europe have been initiated to facilitate this (Topooco et al., 2017). Kivi et al. (2015) suggest
that therapists feel like they are being forced to start practicing online psychotherapy, which causes resistance in them. In their study investigating the attitudes of various stakeholder groups across Europe, Topooco et al. (2017) found that the most important barrier for implementation reported was the perception that the current care system is not yet ready for the delivery of online counseling. The closed-end questions of the survey do not allow for further insights into which aspects of the system the stakeholders referred to with this answer, but it might be that the conflict of being forced to work with online counseling while perceiving that the system is not ready for it causes therapists to be reluctant towards online practice.

1.6 Technology and design of online counseling tools

The technology and design of the available online counseling tools is also playing an important role in therapists’ experiences of online counseling. When investigating this factor, it shows that the range of available tools is very broad and still expanding at a rapid pace. Moreover, which tools are considered eHealth is also depending on the adopted definition. For example, self-help programs can be seen as online counseling, but not when some form of therapist support is included in the definition. As another example, phone calls and e-mail are generally seen as forms of online counseling, however, according to insurance companies they are merely different forms of direct contact. To keep a clear scope, the following overview includes only forms of online counseling that are covered by the definition formulated at the beginning of this chapter.

With respect to communication modalities, telephone and e-mail are most frequently used. Other common modalities include text messaging (SMS), instant messaging (e.g. Whatsapp), and video calling. These ways of communication can be provided through stand-alone software programs that are publicly available, but especially in larger mental healthcare organizations they are often integrated in an
online treatment environment developed by a specialized commercial company. In the past years, an increasing number of different treatment platforms have been developed. An important feature of these platforms is that they consist of a secure login to insure data security, in contrast to the public software. Besides the communication functionalities just described, these environments generally also include online interventions for a range of psychological disorders. The interventions are made up of modules that the client has to go through, usually consisting of a mix of psycho-education and assignments. Other common elements are questionnaires (i.e., to assess the extent of psychological distress), various diaries (i.e., to keep track of emotions or activities), and plans (i.e., motivational plan, relapse prevention plan). In general, the procedure is that therapists determine in which elements they enroll their clients, which then become available for the particular client.

The Dutch society for private psychologists recently examined the most common treatment platforms used for online counseling in the Netherlands (LVVP, 2016). Most of the nine platforms that were investigated offer interventions for a range of psychological disorders organized into several modules. The content for all interventions is based on a cognitive-behavioral therapy approach. Most platforms offer the possibility to adapt the modules to some degree, but this is generally limited to combining or dropping parts of modules. With respect to supported means of communication, all treatment platforms offer a feature to send e-mails through a secured connection and a chat functionality, and most also provide the option to make secured video calls. All platform providers have a helpdesk available for support and most also offer some kind of training, varying from webinars, a single course day on site or online documentation.

Lately, technologies such as smartphone apps, and games and virtual environments have been added to the spectrum of online counseling tools and are increasingly being used (Barak & Grohol, 2011). Most of the smartphone apps for
eHealth are focused on self-management, hence without any therapist guidance and therefore outside of the scope of the current study (Bakker, Kazantzis, Rickwood, & Rickard, 2016). However, they are relevant to the extent that therapists can advise them to their clients and in this way incorporate them in their therapy. Some examples are apps that contain mindfulness exercises or that enable self-monitoring of one’s mood. Another way to apply innovative technologies to online counseling is through games and virtual environments. Research shows that virtual worlds and online gaming can be used and implemented in a variety of mental health problems (Barak & Grohol, 2011). For example, Gorini, Gaggioli, Vigna, and Riva (2008) demonstrated how the virtual gaming environment of Second Life could be used in virtual clinical sessions with patients as a complement to periodic face-to-face sessions. This concept was even taken a step further by Lisetti et al. (2009) with the addition of biosensors to support an exposure therapy for anxiety disorders in a Second Life environment.

As can be derived from the above, there is a wide variety in forms of online counseling tools, ranging from applying fairly simple to very complex technologies with large differences between their specific characteristics. Various attempts have been made to structure these distinctions. Suler’s widely used cybertherapeutic theory (2000) proposes six dimensions in the interaction between psychologists and clients within an online environment: (1) synchronous (realtime) vs. asynchronous (delayed); (2) text-based vs. sensory-rich (e.g. involving sounds and images); (3) realistic vs. imaginary (recreating reality-oriented or highly imaginative experiences); (4) automated (solely computer-based) vs. interpersonal (involving some kind of interaction with a person); (5) present vs. invisible (degree of visibility of the professional or client); (6) delivered to an individual vs. a group. Another factor mentioned by Barak et al. (2008) is the therapeutic approach that the intervention is
based upon, such as cognitive-behavioral therapy (CBT), psychodynamic, or behavioral.

Regardless of the specific technology, yet another factor in therapists’ reluctance to online counseling may lie in the design of the available tools. Over the past years, some guidelines have been developed that prescribe how online counseling tools should be developed (e.g. Doherty, Coyle, & Matthews, 2010). However, these guidelines mainly focus on issues such as privacy, clinical procedures, and regulations rather than on human–technology interaction, despite widely acknowledged necessity to incorporate an understanding of human capabilities and limitations in order to develop effective technologies (DeLucia, Harold, & Tang, 2013). Similarly, it is generally recognized that it is important to involve intended end-users throughout the whole design process to ensure the product fits with in their needs and behaviors. However, it has also been noted that in current practice users are only minimally involved in the development of eHealth technologies (van Gemert-Pijnen et al., 2011). The lack of user-centeredness could be one of the reasons for the occurrence of technical issues with online counseling tools and have a negative influence on adoption, as people tend not to start using something that does not fit well in their current practice.

1.7 Current study

When looking at the described body of literature, it appears that the evidence for the effectiveness of online counseling is growing, at least for the treatment of mild psychological disorders and when used as an adjunctive to face-to-face treatment. Besides the effectiveness, a multitude of other benefits unique to online counseling have been suggested, such as increased access of psychological treatment, convenience, and increased emotional disinhibition of the client. These positive findings, however, are in contrast with the low adoption of online counseling by
psychologists. Several studies have been conducted to clarify this discrepancy by investigating therapists’ attitudes towards online counseling, and identify possible impeding or facilitating factors for adoption of eHealth. These studies, however, have mainly resulted in undifferentiated lists of perceived barriers and drivers. As a consequence, the exact nature of therapists’ reluctance to adopting online counseling remains elusive. Investigating how these factors relate to each other could lead to a deeper understanding and provide valuable knowledge on the adoption of online counseling that is not present in the existing literature.

In addition, as mentioned before, the majority of the studies conducted on the attitudes of therapists regarding online counseling has focused on identifying barriers to acceptance, and not on perceived drivers. The consistent unwillingness raises the question to what extent therapists actually experience the benefits of online counseling proposed by previous research. It could be that they are not aware of the advantages, or that they do not experience them as advantageous. It could also be that the perceived benefits do not weight up against the barriers. Perceiving a new technology as advantageous compared to existing practices has shown to be a key factor in the acceptance of an innovation (Rogers, 2003). Hence, it might be a more fruitful approach to put more emphasis on potential drivers for psychologists to adopt online counseling.

Furthermore, as explained earlier, not much attention has been given to the influence of contextual factors pertaining to the broader environment of daily clinical practice. Therefore, it might be much more effective to investigate the barriers as well as focus on the drivers for the adoption of online counseling as perceived by therapists and clarify their exact nature and interrelationships. It is important to not only focus on therapists’ perceptions regarding the therapeutic process of online counseling in a narrow sense, but take a broader perspective and also take into account therapists’ perceptions concerning the broader environment of daily clinical
practice, such as the level of knowledge and training, perceived social norms, the experienced forces within the current care system. Lastly, the design and usability of the technological tools should be included.

The aim of the current study is to gain an in-depth understanding of the drivers and barriers for psychologists to the adoption of online counseling tools. Because the focus of earlier work was mostly limited to investigating perceived barriers, the current study emphasizes perceived drivers, and examines how these factors relate to each other. The study also includes contextual factors in daily clinical practice and the role of technology in order to obtain a comprehensive view of the situation. Based on the insights gained in the current study, well-founded recommendations can be made with respect to technology, training and practice to increase the adoption of online counseling.
Chapter 2: Methodological Framework

2.1 Research design

The goal of the current study was to gain deeper insight in the barriers and drivers regarding online counseling as perceived by psychologists. The current study consisted of two phases, iterating twice through a cycle of literature research and data collection and analysis, thereby moving back and forth between theory and empirical data. An illustration of the research design is shown in Figure 1.

Figure 1. Illustration of the two-phased research design

The first phase was aimed at gathering in-depth information about the drivers and barriers to acceptance of online counseling from the perception of psychologists. To gain a thorough understanding of their perceptions, the study adopted a qualitative descriptive approach consisting of in-depth semi-structured interviews with clinical psychologists. Qualitative research is considered an appropriate method in studies that aim to explore peoples’ meaning behind processes, behaviors, feelings and experiences, as is the current study (Boeije, 2014). Furthermore, in-depth interviews provide valuable information to generate new insights into how people experience complex phenomena (Kvale, 2008). In addition, previous work on this
subject, which mostly involved survey questionnaires, did not lead to sufficient understanding. It was expected that conducting in-depth interviews would yield a more detailed data set that leads to a deeper understanding of the perceptions of psychologists.

Based on the findings from the first phase, a second literature research was conducted focusing on behavior change and implementation theories. From these sources, a theoretical model was constructed that captures different levels of adoption of online counseling and the drivers and barriers related to each level. The goal of the data collection in the second phase was to examine whether the model matched the perceptions and experiences of the participants. The strategy chosen for the validation of the model consisted of a communicative validation, a method often used in the Grounded Theory approach to validate the theory at the end of the analysis process (Bauer & Gaskell, 2000). Communicative validation involves returning to the participants to assess whether the experiences of the participants are accurately expressed in the constructed model. The results of the communicative validation were subsequently used to improve the constructed model.

### 2.2 Participants

Twelve participants participated in the first phase, of which only one did not participate in the second phase. The participants were clinical psychologists working in the Netherlands and selected in such a way that they represented a mix of age, gender, job position, kind of mental health care institution, and use of online counseling. Table 1 shows the distribution of these characteristics.
Table 1. Demographic details of the participants (n = 12).

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Note. GZ = Mental Health Care Psychologist, Gios = Mental Health Care Psychologist in training for specialist, KP = Clinical Psychologist

The eventual sample size was determined by a saturation criterion, which is generally defined as the point were no new themes, findings, concepts or problems emerge from the data (Francis et al., 2010). Francis et al., (2010) propose two principles for deciding when data saturation has been achieved; first specify a minimum sample size for initial analysis, and second, specify the stopping criterion, i.e., how many more interviews will be conducted without new information emerging before is concluded that the point of saturation has been reached. Based on findings from Francis et al. (2010) and Guest, Bunce, & Johnson (2006), the current study employed an initial sample size of ten participants, and a stopping criterion of two. As no new themes emerged during the last interviews, the data collection was terminated after twelve participants.

2.3 Data collection

As explained above, the data were collected in two phases of interviews. Through referrals from the experimenter and the supervisors, psychologists were approached via e-mails. Before the start of the interviews, participants were informed about the purpose and content of the study and signed an informed
consent form. The interviewer followed a semi-structured interview guide containing a mixture of both open and closed-ended questions. The topics covered were based on findings from previous research and pertained to participants’ knowledge, experience and attitudes towards the use of online counseling tools, covering current use, perceived advantages and disadvantages, influences of their social environment and the Dutch care system. The topic list can be found in Appendix A.1. Each interview lasted between 45-60 minutes. Most interviews were held in clinical practices of the participating psychologists, or otherwise in a quiet public space. If preferred by the participant, the interview was conducted via telephone or video call. With participants’ consent, interviews were audio recorded to allow for transcription and subsequent analysis. All files were stored in a secured location accessible only to the interviewer.

During the interviews in the second phase, all participants were given a print of the constructed model, a short summary of the results and a document with statements about the different levels. The interviewer followed a semi-structured interview guide with questions focusing on the general impression of the model and whether it matched their perceptions and experiences. The interview guide is attached in Appendix A.2. The interviews lasted between 20-40 minutes.

2.4 Data analysis

The interviews were transcribed and analyzed using NVivo 11 software. We employed a thematic analysis approach to derive themes in participants’ perceptions of barriers and drivers to accept online counseling. The transcripts were systematically analyzed using the procedure outlined in Boeije (2014), consisting of three phases. The first phase concerns open coding, which starts with ordering the data into fragments and determining their relevance to the research question. It then continues with coding the relevant fragments, giving them a label with a short
description that summarizes the content. In the second phase, axial coding, the list of codes that results from the previous phase are reviewed; splitting, merging, rearranging and renaming them as more information is gathered. Codes that relate to each other are clustered by distinguishing parent- and subcodes, which creates an hierarchic structure. This phase involves an iterative process, going back and forth between the data, codes and themes. Emerging themes were continuously reviewed for consistency of the codes within one theme and coherence with the entire data set. The third phase, termed selective coding, aims to integrate findings by searching for relationships between the themes identified during the phase of axial coding. During this phase, a model was developed that captures the relationships between levels of adoption of online counseling and the most important barriers and drivers for each group.

2.5 Data validation

Multiple standards exist for the quality of qualitative research. Commonly used are internal validity/credibility, reliability/dependability, objectivity/confirmability, and external validity/transferability (Miles & Huberman, 1994). The current study addressed these criteria by applying strategies described by Miles and Huberman (1994), and Wester and Peters (2004) to enhance the research quality. For instance, credibility was addressed by communicative validation. Dependability was established by performing a coding check by an independent scholar. The interrater reliability was determined at a Cohen’s kappa of 0.78, which is considered substantial (Landis & Koch, 1977), and acceptable for exploratory research (Neuendorf, 2002). The dependability criterion was further enhanced by peer debriefing. Confirmability was facilitated by providing clear examples of key themes and by peer debriefing, which consisted of discussing findings on various moments during the process with the supervisors of the researcher. Last, to improve
transferability theoretical sampling was used with the inclusion of psychologists in various job positions, mental health care institutions, age and level of adoption of online counseling. In addition, connecting the results to previous theories further helps establishing this criterion.
Chapter 3: Phase 1 – Results In-depth Interviews

3.1 Results thematic analysis

The results of the interviews are structured according to the theoretical framework, distinguishing four main themes: general characteristics of online counseling, drivers for the acceptance of online counseling, barriers for the acceptance of online counseling, and contextual factors of daily clinical practice. Within these themes, several subthemes were identified that provide more detailed information.

3.1.1 General characteristics of online counseling

Changing one’s way of working

A general point emerging from the interviews is that online counseling introduces a new way of working for psychologists, which implies a change of behavior. Participants suggested that having to change your established way of working could cause feelings of resistance.

“Psychologists have to change their way of working, with respect to both the intervention techniques they use and the form of their treatment, and these changes can lead to resistance.” (P2, L4)

The difficulty of changing habits was brought up on several occasions. For example, one participant reported that he particularly had difficulty to change his established way of working and implement online counseling in his treatments.

“It is not about awareness or convincing me anymore, I understand it can be beneficial. But the problem is, I have to start doing it. I have to change my automatic behavior, because in everyday practice you tend to keep following your daily routines and then you do not get accustomed to these new things.” (P9, L2)
In contrast, participants that were frequent users of eHealth reported they had become so used to applying online counseling in their treatment that it was integrated in their daily routines.

“I said, if you apply on my webpage, then I will answer you. So in this way he directly got registered in the system... for me it goes automatically, because I am used to it.” (P3, L4)

“I am already using it for quite a while, so for me it is quite normal.” (P7, L4)

**Necessity of face-to-face contact**

All participants expressed a strong opinion for the indispensability of face-to-face contact for the quality of their treatment. The most reported reason for this opinion is the lack of non-verbal cues when communicating in a non-face-to-face setting. Participants expressed that this leads to missing information that they deemed crucial for an accurate understanding of their client. For instance, they argued that seeing their client in person allowed them to capture very subtle signs in facial expressions and appearance, which they would not be able to see on a screen.

“Now you can get the complete picture, you can see someone’s facial expression, you can see if someone is short of breath... You just get so much more information when you have face-to-face contact, when you can see all those non-verbal cues.” (P10, L1)

Moreover, participants also mentioned that clients could disguise their true feelings more easily through computer-mediated communication, which compromises a true understanding. When using videoconferencing, only part of the body is captured by the screen, which leaves all cues outside of that frame unknown to the therapist.

“People might just keep up appearances on the screen, while simultaneously there is a lot happening under that screen, fumbling for example, and then you cannot detect that tension that well.” (P5, L5)

With text-based communication, another reason for misunderstanding is the lack of the information gathered from one’s voice, their paralanguage.
“Someone can use very formal language, while being very anxious at the same time. You cannot read that. So the tone and language, you cannot detect that through such a portal.” (P7, L4)

Although the lack of visual and auditory cues was considered most impairing to the understanding of their client, the role of smell was also brought up a few times. For example, one participant working with clients with alcohol problems indicated that smell was an important indicator for her in the assessment of a client’s abstinence.

“Clients enter, I smell them, I see them, I sometimes see them sweat a little, and then I know, ‘that person is not entirely clean’. Or I can say, you know, ‘I smell alcohol, and you are telling me you are still abstinent, is that true?’” (P1, L3)

Participants differed in the frequency of face-to-face contact they considered the minimum, but all agreed on the necessity of meeting a client at least once in person, and the importance of face-to-face contact during the intake process.

“For an intake I definitely would not [want to use mediated communication], there I do see objections. Then you just want to see someone in person. You want to have a clear view on a person’s appearance, the interpersonal contact, how that feels” (P8, L1)

“So what I often do is that I agree with having a meeting through Skype, that is well integrated in our system, but I do want to start, I do want to have seen someone in person at least once” (P11, L5)

In line with the necessity of face-to-face contact, all participants strongly doubted whether online counseling could entirely replace face-to-face treatments. The general opinion among participants was that they only wanted to use online counseling in combination with face-to-face sessions, as a complement to their treatment, otherwise known as blended treatment.

“I do not think it can truly be a replacement. Because the way that people behave and look are indispensible... I particularly find it a very nice complement to my treatment” (P3, L4)
Client suitability

All participants shared the opinion that not every kind of online counseling works for every client; it strongly depends on the client’s specific needs, capabilities and preferences.

“I think it very much depends on the person what you can and cannot apply.” (P4, L4)

“You have to make eHealth really adapted, customized, what does that client need, and what suits nicely.” (P3, L4)

A factor often mentioned to have an important influence on the specific utilization of eHealth is the nature and complexity of the psychological disorder that the client is treated for. Multiple participants noted that from their experience, some disorders made clients less suitable to eHealth, for example because they had more trouble to activate themselves or forget to do the homework assignments when provided through eHealth compared to during face-to-face settings.

“For example, when you are depressed, those often are people who cannot activate themselves, that that pattern of activity is still difficult. And people with ADHD they really forget it.” (P12, L2)

On the other hand, one participant also explained that for some disorders, online counseling actually is more suitable than traditional face-to-face contact, for example because their disorder is characterized by having difficulty with direct contact.

“Especially because some clients with autism point out that they struggle with direct contact. Or they say ‘I need to reflect on this at home, to let it sink in for a little’.” (P9, L2)

With respect to complexity, participants often made a distinction between first and secondary mental health care. They all agreed that the benefits of eHealth are larger when the disorder is less severe.

“If you look at secondary mental health care, then clients often have a psychiatric prehistory, are just a little more vulnerable, and then you notice that activating them through eHealth is less effective, at least that is my impression.” (P9, L2)
The influence of the client’s age on the choice of kind of eHealth was mentioned several times. For example, participants reported that young adults requested using Whatsapp, whereas elderly clients asked for communication through e-mail or telephone because that is what they are used to. Other client characteristics that were reported to influence the specific application of eHealth were the level of computer skills, intelligence, and the devices available to the client.

“Not everyone is equally skilled with computers, that does make a difference too. Then just using the discussion feature is already an accomplishment.” (P7, L4)

“Because of low intelligence it is of limited use for them, for instance the homework assignments are just too difficult for some clients.” (P1, L3)

Therapist suitability

Besides characteristics of clients, participants also reported characteristics of therapists that made them more or less suitable to apply online counseling. One factor that they believed to influence the use of eHealth is the level of affinity with technology. Some participants clearly expressed a dislike for technology and computer-mediated communication.

“I seldom or never Skype privately too. I have a brother who is living abroad and I call with him, but I do not Skype. It is just not my thing.” (P10, L1)

On the contrary, other participants reported that their personal interest in technology contributed to their use of eHealth.

“I think I am quite a nerd. I like computers so then it just speeds things up” (P5, L5)

“I like gadgets and the Internet, so I also make my way with it easily.” (P7, L4)

A factor that seems to be related to one’s personal interest in technology is the level of computer skills, which varied across participants.

“For me it is easy, I understand it very well, so that definitely helps. Then I think you just get the hang of it faster.” (P5, L5)
“But I have to admit, I do not even use, I am very bad with computers, so I do not have any experience with all those online telephone things. So I neither know how that would feel in practice.” (P8, L1)

Several participants argued that the level of computer skills was also strongly related to age, with younger therapists being both more skilled and also faster in learning new technologies.

“I think I am faster with responding to e-mails and I also figure it out more quickly than some of my older colleagues, who need a little more time.” (P1, L3)

One participant indicated that young psychologists might be more open to learning new treatments, as their way of working is not yet firmly established.

“I think that psychologists who are relatively at the start of their career are much more open, and feel more natural towards these kinds of applications, to learning new things.” (P4, L4)

However, another participant felt that older therapists with more experience might feel self-confident enough to try new approaches and adapt their treatment to the specific client instead of following a protocol.

Last, the therapeutic approach of the psychologist was mentioned several times, sharing the opinion that cognitive behavioral therapy is most suitable to eHealth.

“Cognitive behavioral therapy is a fairly practical, action-focused therapy. I believe it is also pretty standardized, with a lot of protocols, so also with more questionnaires available, thought records, those kinds of things. Those are ideal of course to practice at home.” (P9, L2)

In line with this, one participant working from a psychodynamic approach felt like her way of working was not possible with eHealth.

“I am psychodynamically trained, so I am not a cognitive behavioral therapist. I want the client to get to his feelings, so that associations can come up. But if you are occupied with a computer, then you move away from that.” (P10, L1)
3.1.2 Perceived drivers to the adoption of online counseling

Importance of realizing and experiencing advantages

All participants agreed that being convinced of the benefits of online counseling appeared to be a major driving factor in the adoption of online counseling.

“If I would know that it would bring something positive to my clients, then I would definitely be much more motivated” (P8, L1)

“I think that it has to be mostly in the intrinsic part, what can it offer me, why would it be beneficial to me, and not such as ‘do we satisfy the target of a certain number of blended treatments.’ If they would literally say ‘we ask more from you, but in the end this is what you get in return’, then that would be a big motivator of course.” (P9, L2)

It also became clear that becoming aware of personal advantages does not happen by itself, but requires some kind of incentive that triggers thinking about it. This point was demonstrated during one of the interviews, when a participant who at first was certain there was no way in which eHealth could be beneficial to her became aware of a situation in which it would actually provide an advantage. She suddenly became very enthusiastic and expressed that she felt motivated to explore this possibility. Moreover, several participants indicated that the interview already acted as an incentive because it made them think about how online counseling could be beneficial to them.

“Like now by just having this conversation I already think ‘I should just look into that in my own time, because it actually does have advantages’.” (P12, L2)

Importantly, it became clear that not only realizing the benefits of using online counseling, but also experiencing them is an important element in decreasing resistance and developing intrinsic motivation to continue using online counseling, which ideally results in an upward spiral of more positive experiences and further increase of motivation.
“You really have to experience it. Because if I have students coming along, they are all suspicious about eHealth and serious gaming at the beginning. And at the end of the day they have to build their own management game and then you find that they changed their minds. They feel like wow, I had no clue about everything that is possible.” (P11)
“I thought it would be nice to try, and I got more and more positive along the way.” (P3, L4)

Increased intimacy of therapeutic relationship

A frequently mentioned benefit is the more intimate and personal therapeutic relationship that can be developed because of online counseling. Participants explained this by the possibility online counseling offers for the therapist and client to have contact between face-to-face sessions. In this way participants felt like they stayed more in touch with their clients and were better able to give support.

“People are making a stronger link with you, like ‘hey you also think about me outside of that room.’ And that is very beneficial to your relationship with people, they really feel I still exist for them.” (P6, L3)

It has to be noted though that not all participants shared this opinion. One participant even argued that being accessible between face-to-face sessions actually harmed the client’s process.

“You agree upon meeting weekly or biweekly, so why should I have to do something in between? The client has to learn how to retain, must learn to think his problem through, determine what he wants and what he wants to discuss and then he has to retain that for the next session.” (P10, L1)

Acceleration of treatment process

The majority of the participants reported that online counseling accelerated the therapy process, mostly because of the increased frequency of contact that intensifies the treatment.
“If I see clients here then I see them for just an hour, and the rest of the week or sometimes two weeks, depending on the kind of agreement you have, you do not have any influence on their lives. So eHealth gives you something of an intensifier. People can work on something every day.” (P11, L5)

According to the participants, another reason for the acceleration of the therapy is that clients exhibit a higher level of therapeutic activity at home.

“I notice that they really are much more active at home and also return to the next session with more to discuss. Or that they have already thought about that, whereas with others you have to make them reflect at that moment itself, and then it is hard sometimes, then the time passes by much quicker and you can make less progress, whereas when you make them work at home then you find that you can do much more in the sessions too.” (P9, L2)

Several participants pointed out that this does require them to behave pro-actively behavior in keeping track of their clients’ activity and at times reminding them to do their assignments. Still, most participants considered the ability to monitor and motivate their clients in between sessions as one of the biggest contributions of online counseling.

“So I remind people, not to mother them, but with some people that just works better, if I say like ‘hey, we have an appointment tomorrow, make sure you finish this because I have not received it from you yet.’ So I think it can speed up the process.” (P6, L3)

However, a few participants were less positive about having to monitor their clients. For instance, one participant expressed that it felt like she had to spend more time keeping track of their activity than actually treating them.

“You are not that much working on treating people but more on keeping track and activating them to do something.” (P12, L2)

Last, several participants reported that the therapy process also improved because online counseling facilitates the transfer of what the client has learned from the therapeutic setting to the home environment.
“By bringing care closer, in the personal space, first an e-mail, then an app-message, then contacting through video call at home, brings the therapy at the place where it should be.” (P5, L5)

Increased satisfaction of client needs

An added value of online counseling that was mentioned multiple times is that in some cases online counseling allows for a better satisfaction of client needs. For example, when it is very burdensome for the client to travel to the therapist’s office, when they are abroad, or in case of illness or other limiting circumstances, online counseling can be a convenient solution.

“I regularly have videoconferences with people with young children who cannot leave, or who are too ill to come. Or I also had several people living abroad, then it is also pretty convenient.” (P3, L4)

“If it is possible, through Skype, so they do not have to come all the way here. A lot of people find that too burdensome or exhausting.” (P5, L5)

Another situation in which clients prefer online counseling is when they find it easier to express themselves through writing than through speaking.

“Some clients also say, I am better with writing than speaking, so I prefer to send you the whole story through email instead of someone asking questions, because then I just cannot think of it.” (P1, L3)

Personal benefits therapists

Although less reported, some participants mentioned personal benefits of online counseling. Most frequent were benefits regarding saving time by being able to carry out administrative tasks more efficiently and not having to endlessly repeat the same psycho-education or remember the exact details because it can be provided to the client digitally.
“I heard myself explain the rationale behind the treatment for mood disorders six times a day, and eventually, if I have to do that six times a day, that does not give me a lot of energy anymore. So for me it is very convenient, because all the psychoeducation is done by Minddistrict.” (P4, L4)

New treatment possibilities

Some participants expressed that their enthusiasm towards eHealth was mostly due to the new treatment possibilities offered by online counseling, enabling them to treat their clients in ways that were not possible before.

“That is eHealth, actually applying a new form of treatment that was not possible in the past. And well, that is what fires me up.” (P4, L4)

These participants also showed clear ideas about the application of innovative technologies for future treatments. More specifically, the potential of biofeedback was mentioned several times, as an additional source of information for either client or therapist.

“If there would be a physiological instrument that can track the level of stress for people and gives a notification ‘hey it is building up now, start doing your relaxation exercise, call that friend now, take your medicine now. That trigger, right when you need it.” (P5, L5)

“It would be so exciting if you could do something with biofeedback in a room. That the room gets a certain color that the client requests, and that you can display the tension, that the client not only reflects on his feelings, but also can see with his own eyes how the body is responding.” (P4, L4)

One participant was convinced that these psychophysiological measures would significantly change both the field of mental health care as society in general. More specific, he expected a move towards more personalized care and increased use of eHealth for preventive measures.
3.1.3 Perceived barriers to the adoption of online counseling

Lack of knowledge and experience

A barrier that repeatedly came forward during the interviews was a lack of knowledge and experience of the therapist. This lack of knowledge emerged on various aspects of online counseling. For instance, some participants expressed that they did not know how to integrate eHealth into their treatments.

“Sometimes I also have to figure out ‘how can I do this?’” (P1, L3)

“On conferences, eHealth sometimes is a topic, but it is not integrated in the guidelines, multidisciplinary guidelines of how you ought to treat an anxiety disorder or early-phase schizophrenia. So practitioners actually have to come up with that themselves, besides the guidelines they feel like they are also obliged to adhere to.” (P4, L4)

This was also caused by a lack of knowledge of which tools they could offer to their clients, as several participants explained that they did not use online counseling because they lacked knowledge on the possibilities.

“I just have no clear idea of everything that is available in Minddistrict.” (P9, L2)

“There are also people who are willing but ask ‘where should I start and which program do I have to choose?’” (P3, L4)

In some cases, it seems that they are sometimes even unaware of this ignorance, which decreases the chance they will decide to learn more about it. This was even demonstrated during one of the interviews, when the participant explained that she did not use online counseling because she was certain there was no useful content available for her client group. After the interview she checked the catalogue for the first time since long and noted that there actually turned out to be suitable assignments and information for her target group.

The participants that were already regularly using online counseling reported to lack knowledge on a different aspect of online counseling; they indicated that they
had difficulties getting an overview of the entire range of online counseling tools, and expressed a desire to learn more about additional possibilities.

“Sometimes I hear something from a colleague, that I say ‘oh, is that available? I did not know’. And if I am not aware of something, then I will not use it. So I think you sometimes are unaware of everything you could do with it. Then you just start another diary, and that is okay, but it would be much more fun if you would be able to do more with it.” (P7, L4)

These participants also pointed out that part of this problem is due to the enormous amount of available tools. Moreover, the range of tools is continuously growing, which makes it even harder to keep up with all the new developments.

“So some said I start looking on the Internet and then I find an abundance of programs. Then I am completely flustered and think ‘how do I ever find out which program is right for me?’” (P3, L4)

As a solution, several participants suggested that it would be helpful if they would receive notifications about new developments.

“It would be more convenient to me if from time to time my employer or whoever else would post a message on the Intranet once in a week with ‘hey guys, these apps are available, and they can be downloaded for free in the Android store’.” (P6, L3)

An important barrier related to lack of knowledge is that most of the participants feel a strong obligation to be proficient in online counseling before they can apply it in their treatment, and often have the belief they ought to know everything about it. When they doubt their competence, they take a tentative stance towards the use of online counseling.

“And I feel like it does not come across professional to start such an eHealth module with someone if I would not know exactly how it works. I find that unacceptable.” (P12, L2)

“Health professionals are generally very focused on content and on providing quality, but because they lack sufficient time to learn the techniques adequately, they feel like they cannot
deliver that, which results in reluctance. Having more opportunity to learn would probably decrease this." (P2, L4)

The importance of this point was emphasized by the desire for training expressed by several participants, who reported that it would be helpful if psychologists would get the opportunity to practice more with their eHealth platform and try out various tools.

“It would make a big difference if I could practice more with the system. Because then it becomes familiar, whereas now it is not.” (P12, L2)

Increased demands of being more accessible

One of the added values of online counseling consistently reported is the increase in accessibility. As explained above, participants expressed several positive effects of being more accessible, such as the improvement of the therapeutic relationship and the quality of their treatment. However, participants reported that the increase in accessibility is not exclusively advantageous, but also puts a higher demand on them, because it increases the channels they have to keep track of and the times they have to be available.

“In a way eHealth makes the profession more burdensome. You have to hold more balls in the air as a health professional.” (P4, L4)

“Now I not only have to watch my e-mail, not only my phone, but then I also have to watch that Whatsapp.” (P10, L1)

Another way in which being easily accessible heightens pressure is by an increased feeling of responsibility, especially when dealing with crisis situations. This issue seems to be complicated by the lack of clear ethical guidelines and instructions on how to handle these kinds of situations.
“If at night I notice that someone is suicidal and I have read that message, what do I do? So that makes it aggravating, because you feel like you always have to be available and you also wonder where do my responsibilities lie.” (P6, L3)

Technological issues

All participants experienced some degree of technological issues. Most mentioned were barriers that concern logging into the system. Especially the extra time it takes and troubles with remembering passwords create obstacles for both psychologists and clients, which sometimes result in an entire abandonment of eHealth.

“Then he already had forgotten his password three times and it still did not work and then he just e-mailed me and then I think ‘okay whatever, just leave it then. Then we will just use e-mail’.” (P12, L2)

With respect to the online treatment platform used, several participants reported that their platform lacked a clear catalogue of the available content and also did not contain an adequate search tool. This complaint was shared across various platforms.

“A more practical inconvenience that I still experience, but that is something related to Minddistrict, the overview of the catalogue showing the contents. You can search for key words, but the catalogue is just very impractical.” (P7, L4)

Also common were comments on the quality of the connection when using videoconference, often experiencing delays in image or sound, or sudden disconnections. In line with these issues, several participants expressed the influence of usability and ease of use of the treatment platforms in their attitude towards online counseling.

“I will not start [using eHealth], except when they would show up with something supersonic, with a system that functions smoothly for me, because I find this program just very inconvenient and slow.” (P12, L2)
“When there was a new release, we just had all these technological hick-ups and then the spirits completely plummeted again.” (P7, L4)

### 3.1.4 Contextual factors of daily clinical practice

#### Feeling forced to use online counseling

An experience that was reported in every interview was a pressure from managers and health insurance companies to use online counseling. Moreover, a general sense of distrust against management emerged, as several participants expressed the feeling that their management’s interest in online counseling is solely driven by the goal to save money and not because psychologists or their clients benefit from it. Therefore, the pressure elicits a strong feeling of resistance.

“That is how eHealth is often looked at, like ‘it is just a way to claim a two percent or higher hourly rate from the insurance companies.’” (P4, L4)

Moreover, all participants emphasized that online counseling does not save as much time as management and health insurance companies generally believe. They feel that this is often overlooked, which further increases resistance.

“Someone who normally sees clients all of his time, can easily be busy online half or whole day. So it is effective, but not entirely in a sense that you gain all the time. And to my experience that is something that is not always recognized on management level.” (P4, L4)

#### Lack of time and support

All participants mentioned experiencing a high pressure on productivity during their work. Especially in larger mental health care settings every therapist is expected to make a certain number of declarable hours and generally this results in a continuous lack of time. Participants argued that not getting time to invest in eHealth during working hours significantly hinders the implementation of online counseling.
“There is nothing that exploring [eHealth] can be counted as, so then it reduces my production time and then I think ‘no, I will not do it, that will only cost me and does not benefit me at all’.” (P12, L2)

Visibility and awareness

Several participants mentioned the low visibility and awareness of eHealth during daily practice as an important influence on adoption of online counseling. For instance, some participants indicated that they found it hard to stay reminded of eHealth during their everyday business, and attributed this to a lack of consistent use and infrequent encounters with online counseling.

“Then for a moment it becomes apparent, and then it is gone again, and you just continue with your everyday business.” (P6, L3)

“I just barely encounter it, so then it also fades to the background more easily.” (P9, L2)

The low visibility and awareness of online counseling is also due to the topic of online counseling not being discussed much among colleagues or in team meetings.

“eHealth is primarily a topic that is just not that much discussed.” (P8, L1)

“There are a lot of different projects or things where profits can be gained, and then this one is just not on top of the list at the moment.” (P9, L2)

As a solution, participants argued that external triggers and standard procedures would be helpful to facilitate the adoptions of online counseling.

“Therefore I think to take action, it would be helpful to me, even if it is only a simple diagram for example for the intake procedure, so that you hear right at the doorstep ‘think of Minddistrict’. Actually some kind of alarm signal, some kind of trigger in whichever way.” (P9, L2)
3.2 Discussion in-depth interviews

The aim of the first phase was to gather in-depth information about the drivers and barriers to the adoption of online counseling from the perception of psychologists. The analysis of the interviews brought up several main themes. To summarize: general characteristics of online counseling included the new way of working online counseling involves, the indispensability of face-to-face contact, and the importance of adapting the used online counseling tools to the specific client. A major driver to the adoption of online counseling for psychologists is the belief and personal experience that online counseling can be beneficial to them or their practice, as it increases intrinsic motivation to use online counseling. Perceived benefits consist of the improvement of treatment quality, primarily because of a more intimate therapeutic relationship and acceleration of the treatment process, increased satisfaction of client needs, personal benefits for therapists, and new treatment possibilities. Barriers that were frequently reported consisted of lack of knowledge and experience, increased demands due to increased accessibility, and technological issues. Furthermore, several contextual factors in daily clinical practice emerged as impeding factors to the adoption of online counseling, most notably lack of time and resources, feeling forced to use online counseling, and low visibility and awareness of online counseling. Some factors expressed by participants to facilitate adoption were being convinced of the added value of online counseling, an external trigger to use online counseling, ease of use of the technology, and organizational support.
Chapter 4: Phase 2 – Construction and Validation of a Model

4.1 The adoption of online counseling in clinical practice as the adoption of new behavior

Several perceptions and experiences were shared across all participants, whereas others varied considerably, especially with respect to the experienced barriers and requirements for adoption of online counseling. A general characteristic of online counseling that all participants indicated as fundamental is that online counseling comprises a new way of working for psychologists, which implies a change of behavior and the adoption of new behavior. There is a vast body of literature on behavior change and the adoption of innovations. Multiple theories and models have been developed attempting to understand or explain factors that influence the adoption of new behavior and innovations, of which prominent ones are the Diffusion of Innovation Theory (DIT; Rogers, 2003), the Theory of Planned Behavior (Ajzen, 1985), Transtheoretical Model (Prochaska & DiClemente, 1983) and the Technology Acceptance Model (Davis, 1989). For an extensive review of behavior change and implementation theories, models and frameworks, see Davis, Campbell, Hildona, Hobbsa, and Michie (2015) and Nilsen (2015).

Although these models show large differences between the approaches they take, they share the conception that behavior change is not a one-step decision but a complex process involving multiple steps, and several of these models identify a number of stages or phases in the process of adopting a new behavior. A model that seems to be particularly well suited to describe the process of behavior change required to adopt innovative technology is Rogers’ well-established DIT (2003). The DIT introduces the ‘innovation-decision process’ that identifies five stages in the decision to adopt or reject an innovation. Rogers combines this with the notion that people differ in the time they need for this decision because of several characteristics.
and based on these differences he distinguishes five discrete adopter categories from fast to slow adoption. When combining these two concepts, this means that one, persons can change over time in which stage of the process they are, and hence change in the extent to which they have adopted an innovation, and two, there are differences between people in the time this change takes, and hence there are differences in the extent to which different people have adopted an innovation at a certain point in time.

From the results in the current study it appeared that this conception might also apply to the adoption of online counseling, as differences were found within the group of participants in the extent to which they had adopted online counseling. Five levels of adoption of online counseling were distinguished, drawn from the characteristics of the adopter categories proposed by the DIT (Rogers, 2003). The DIT describes five adopter categories: the first and fastest adopters are called innovators, characterized by venturesomeness and not being afraid to take risks. Innovators introduce new ideas by importing innovations from outside the particular environment. The next group consists of the early adopters, which are often opinion leaders and driving forces within their environment. According to Rogers, they decrease uncertainty for the later groups by first adopting an innovation and then giving their subjective evaluation. The third group, the early majority, still adopts an innovation earlier than average, but requires much more time for their decision compared to the first two groups. Rogers characterizes them as willing to innovate, but seldom leading the innovation. The late majority is considerably more skeptical about change, and often requires peer pressure in order to get convinced of an innovation. Last, the group of laggards is very traditional and conservative. They take the past as a point of reference and are suspicious of new developments. As an important side note, Rogers explicitly states that these descriptions consist of ideal
types, which means that they are abstractions of empirical evidence, and also implies that exceptions can be found.

The five levels of adoption of online counseling were determined based upon similarities between the characteristics of these adopter categories and characteristics of the participants regarding their attitude and use of eHealth. Table 2 lists the adopter categories from the DIT and their corresponding levels of adoption of online counseling that were identified in the current study and labeled according to the level of use of online counseling.

Table 2. *Adopter categories from Rogers’ DIT and their corresponding levels of adoption of online counseling*

<table>
<thead>
<tr>
<th>Adopter category Rogers</th>
<th>Level of adoption online counseling</th>
</tr>
</thead>
<tbody>
<tr>
<td>Laggards</td>
<td>No use</td>
</tr>
<tr>
<td>Late majority</td>
<td>Minimal use</td>
</tr>
<tr>
<td>Early majority</td>
<td>Passive use</td>
</tr>
<tr>
<td>Early adopters</td>
<td>Active use</td>
</tr>
<tr>
<td>Innovators</td>
<td>Pioneer/Innovative use</td>
</tr>
</tbody>
</table>

Besides classifying people into categories, the DIT (Rogers, 2003) argues that the decision to adopt an innovation is a process with multiple stages. This implies that over time, people can move to a different stage of this process and change in the extent to which they have adopted an innovation. Hence, people can have different levels of adoption at different points in time. Similarly, although the levels of adoption of online counseling are introduced as discrete categories with certain characteristics, it is also assumed that one’s level of adoption can change over time.
4.2 Introduction of the Levels of Adoption of Online Counseling (LAOC) model

When further examining the various levels of adoption of the participants, differences were found in the various drivers and barriers that were perceived relevant by the psychologists, dependent on the extent to which they had adopted online counseling. To provide a structured insight into these differences, the Levels of Adoption of Online Counseling (LAOC) model was developed. This model incorporates the five levels of adoption of online counseling introduced in the previous section, and links them to the general characteristics, drivers, barriers, and requirements that were found relevant for each level. These factors are directly derived from the main themes identified during the thematic analysis of the in-depth interviews, and hence are entirely based upon the perceptions expressed by the participants. To support and illustrate the link between the levels of adoption and the participants’ statements, the level of the participant is indicated behind the quotes reported in section 3.1.

The LAOC model is shown in Figure 2. The five top rectangles present the five levels of adoption including a characterizing phrase. The text above the connecting lines between levels describes the differentiating factor between these levels. The bars below the rectangles represent factors that constitute general characteristics, drivers, barriers, and requirements. When a factor is located under a particular level, this means that it is perceived important for that level. In other words, the bars that cover the whole breadth of the model consist of factors shared by all groups, whereas bars that are located under only one or a few levels are related to that particular level.
4.2.1 Description of the five levels of adoption of online counseling

This section consists of a description of the attitude, drivers, barriers and use of online counseling by psychologists in each level. Important to note is that, similar to the descriptions of the adopter categories outlined by Rogers (2003), the level descriptions are abstractions of empirical evidence, i.e., the results of the in-depth interviews, and sketch ideal types, which implies the existence of exceptions and deviations.
Level 1: No use

In the first level, psychologists are generally not convinced and even skeptical about the advantages online counseling can have. They do not feel like online counseling has any added value for them or their clients, and are therefore averse of using it. When they experience a pressure by management to do this anyway, they tend to be suspicious about management’s intent and believe the only reason is to save money and not because they or their clients benefit from it. This subsequently results in a strong feeling of resistance. Psychologists in this group might also feel like online counseling does not suit their profession, and show an aversion for computer-mediated communication. Another characteristic is a low level of computer skills and experience in online counseling. In accordance with this, use of online counseling tools is nearly absent, possibly with the only exception of telephone, and e-mail for administrative use (i.e., to reschedule an appointment).

Level 2: minimal use

The most important distinction between level 1 and 2 concerns the realization that online counseling can have added value. In this category, members are becoming convinced that online counseling can have advantages, but are generally unsure how to implement it into their daily practice. Because their intrinsic motivation is fairly low, online counseling has a low priority, which results in participants not wanting to spend too much time and effort on online counseling. As soon as it requires more time or mental effort, it is considered too much of a hassle and participants retreat to their old way of working. In line with this, technological problems have more influence in this group compared to higher levels and ease of use of the online counseling tools is a major requirement.

Because of the low level of intrinsic motivation, members of this group are not inclined to spend time on finding out more about possible applications of online
counseling. Therefore, there tends to be a low level of knowledge about the ways in which eHealth can be used in treatment, and hence might be considered inapplicable. Moreover, they are not always aware of this lack of knowledge, which further decreases the chance of looking into it. Therefore, the use of online counseling is likely to be restricted to tools such as e-mail, telephone and instant messaging, which are also used in private, hence familiar and easy to access.

Because applying online counseling tools is not integrated into their daily practice, psychologists are prone to automatically keep their traditional way of working, and by using online counseling only minimally, they do not gain the positive experiences that could further increase their intrinsic motivation. Therefore, a need might be expressed for external triggers and standard procedures to facilitate the uptake of online counseling use in daily routines.

Level 3: passive use

Psychologists in the third level have implemented online counseling tools in their daily routines. In a positive situation, the daily use leads to an increased conviction of the added value of online counseling, as they gather more and more positive experiences, which in turn heighten intrinsic motivation to continue using it. However, regular use also might confront them with challenges of online counseling, such as concerns about the pressure of being much easier accessible, and the resulting increased feeling of responsibility, especially in crisis situations. This possibly is at least partly due to a lack of clear ethical guidelines and instructions on how to handle these kinds of situations. Although members of this group are generally motivated to use online counseling, they tend to stick to the applications that are readily available and are not inclined to actively search for other possibilities, which results in a limited knowledge of the entire range of online counseling tools. Their use of tools mostly consists of familiar applications such as e-
mail, telephone and Whatsapp, or other smartphone apps that are relatively well known, for example consisting of mindfulness exercises. If available, an eHealth platform is regularly used.

**Level 4: active use**

In comparison to practitioners at level 3, psychologists at level 4 show a high level of personal interest in the developments of online counseling and hence have a higher intrinsic motivation to actively keep track of new developments in the field of online counseling. The new treatment possibilities online counseling tools offer can act as an additional driver for this group, as they feel that it enables psychologists to treat their clients in ways that were not possible before. They make use of a broad range of tools, and are eager to try ones that are newly available, such as virtual environments and games.

Most psychologists in this group function as experts of eHealth within their working environment, and might be one of the few in their team actively using online counseling. This small support base can result in financial and time restraints, which might hinder their drive to investigate new possibilities. Therefore, they could get frustrated by the lack of interest from colleagues in lower levels of adoption, and express a desire for their management to invest more in the development of new online counseling tools, as they feel there are valuable opportunities that are left unexploited.

**Level 5: pioneer**

Level 4 and 5 have more in common with each other than other adjacent levels. For instance, both levels are characterized by a strong personal interest in the innovation of online counseling, make use of a broad range of tools, and the new treatment possibilities eHealth offers constitute an important driver. The most
pronounced difference between the two levels is defined as entrepreneurship, that is, the initiation of projects to develop and test new online counseling tools. In addition, the participants in the highest level might also have a vivid vision about major changes they expect online counseling will bring to the field of mental healthcare and even society in general, such as the enabling of personalized care and the opportunity to use gathered data for preventive measures.

4.2.2 The added value of the LAOC model

The conducted studies on therapists’ reluctance towards the adoption of online counseling have so far mainly resulted in undifferentiated lists of barriers and drivers. As a consequence, the exact nature of therapists’ reluctance to adopting online counseling has remained hard to grasp, and attempts to increase the adoption of online counseling consequently have not led to satisfactory results. The current study takes a different approach by noting that the factors that are relevant to adopt online counseling are different for different levels of use of online counseling. Subsequently, the LAOC model was developed to create a clear representation of this differentiation. The factors incorporated in the model cover all the themes that were identified during the thematic analysis of the in-depth interviews; hence the model shows an excellent fit to the gathered data. This also implies that the model is entirely based upon the perceptions of psychologists, staying as close as possible to their actual experiences.

A particular added value of the LAOC model is that it provides a framework to further investigate the process of adopting online counseling. As explained earlier, an underlying assumption of the LAOC model is that adoption of a new behavior is a process and therefore one’s level of adoption can change (Rogers, 2003). By distinguishing different levels and corresponding relevant drivers and barriers, the LAOC model enables examining the transitions between the levels, how these factors
vary for different transitions and how they relate to each other. The model also provides the opportunity to investigate how other factors such as personality characteristics of psychologists or the specific online counseling tool influence the level of adoption of online counseling. Thereby the model provides the opportunity to gain a deeper understanding of the factors that influence the adoption of online counseling, comprising knowledge on the nature of therapists’ attitude towards online counseling that is not available yet. Moreover, this knowledge then can be used to inform how one’s adoption of online counseling can be influenced on a much more specific level than was possible before by developing interventions to increase adoption that are tailored to one’s level of adoption, hence targeting the specific barriers and drivers that are experienced.
4.3 Results communicative validation

This section represents the most important findings during the second phase, the communicative validation. The results are structured according to the topics discussed during the interviews, which involve the general impression of the model, recognition of the levels and opinions about the individual factors, and requirements to reach the next level.

4.3.1 General impression of the LAOC model

When presented with the LAOC model without any introduction, there were significant differences in participant’s immediate understanding of the figure. Some participants reported to instantly grasp the model, whereas others said they did not understand the structure at all. This changed with a brief explanation, where after all participants reported that they considered the model a very clear representation, and showed great interest in its content. Moreover, they recognized the displayed differences in adoption of online counseling and felt that it corresponded to the actual situation.

“I expect this is what we will keep seeing the following years, that there are large differences [in adoption of eHealth].” (P8, L1)

With respect to the design of the model, there was some confusion about the meaning of the colors used. Especially the colors around the rectangles of the levels was found confusing, because participants expected them to be related to the colors used for the bars in the lower part of the model, whereas they were not. Also, the meaning of the colors of these bars was not clear. Several participants had printed the model without colors, thereby losing the distinctions between the kinds of factors at all. Not all participants understood that the rectangles of the five levels were linked to the bars below, thereby missing the fundamental idea behind the model.
that some factors are important to one or two levels, whereas others are shared across all levels.

4.3.2 Comments on the levels of the LAOC model

When asked to which level they would classify themselves, all participants were able to appoint themselves to one or in between two levels. They supported this by giving examples of how their experiences matched the factors of that level, and also elaborated on why factors of other levels did not fit with their perceptions. From their responses, it became clear that they paid much attention to the description in the rectangle to determine the level they were located at. This sometimes led to a different understanding of what a particular level withheld than was intended. For example, one participant initially assigned herself to level 4, because she felt like level 3’s description ‘I use what I am familiar with’ did not resonate with her.

“I do not feel like I am at level 3, because ‘I know what I am familiar with’ sounds like ‘I know how a phone works, I know how email works, and I use that’, while I am also looking further, and sometimes send a YouTube movie or a text message to a client. This just sounds a lot like ‘I do it because I have to’.” (P1, L3)

However, after reading more elaborate descriptions of the levels, she reported level 3 actually did suit her better, but that she was led astray by the describing phrase.

All participants classified themselves to either the same or in between the same and an adjacent level as they were classified by the interviewer. Some participants indicated they recognized going through a process of moving from one to the next level. For example, one participant (L5) explained he remembered being hindered by the small support base for eHealth within his team a few years ago, a factor related to level 4, but by now had decided not to be held back by that anymore and to start his own projects because he wanted to, accepting that not everyone would be supportive.
“I recognize the small support base as a barrier from a couple of years ago. But now I think ‘I will just take this on because I like it, and then I will see how many people will follow.’ I am not going to let that hold me back anymore.” (P5, L5)

Moreover, this was even demonstrated within the course of the current study. One participant, who at the start of the first interview had a very negative attitude towards eHealth, had realized a possible advantage during the interview and became more enthusiastic. During the communicative validation, she was much more open about online counseling and assigned herself to level 2, pointing towards the realization of possible benefits as the main reason for her change of mind. She also indicated that this was brought about by the open conversation about the topic during the initial interview, which made her reconsider her opinion. These examples also give support for the identified differentiating factor between levels, i.e., the realization of possible benefits between level 1 and 2, and entrepreneurship between level 4 and 5.

Some participants in higher levels also indicated that due to circumstances such as high workload or tasks in their current position they could temporarily perform behaviors linked to a lower level, while still maintaining a higher-level attitude. For instance, one participant mentioned that she had to spend a major part of her time on her education at the moment, and therefore temporarily refrained from starting up new projects and just used the online counseling tools she needed. She did intend to proceed with new projects in the future however.

“I am spending a lot of time on my education, so I have to do other things for a little while. But I know which tools are available, I can work with them. And if I have more time and mental resources again, then I will resume [developing new online counseling tools], I will surely continue it.” (P7, L4)
4.3.3 Comments on the factors of the LAOC model

In general, participants agreed with the factors in the model, in particular those that were shared by all groups or those related to their own level. For instance, two participants at level 2 mentioned that the interview had served as an external trigger that made them more aware of eHealth, confirming the ‘Need for an external trigger’ related to level 2.

“I have to say, in the weeks after the interview I noticed that it was more at the forefront, that I am aware of it much more. And I am really trying to make more use of it.” (P9, L2)

One factor that did not find recognition with participants was ‘Threat of profession’, related to level 1. In the same level, participants did not fully agree to lack of skills.

“I do not really recognize the lack of skills. I mean, I can e-mail, and this reminds me more of older colleagues, who by the way can e-mail, but they are still really typing a letter with two fingers. Whereas I can figure it out if I just have a manual of the system. I will be just fine with that” (P8, L1)

When asking further, it not so much seems to be a lack of skills, although she admitted that she did not know how to use various technologies yet, but more very limited experience with online tools. This was confirmed by another participant at the same level.

“I mean my daughter is speaking to her friend right now, through some kind of video call. I just have never used that before in my life.” (P10, L1).

When asked whether they thought any factors were missing, several participants reported that they missed a reference to the experienced pressure on productivity and the resulting lack of time. This revealed that it was not clear to participants that this was meant with the factor ‘conditions of daily practice’ in the model. Participants at level 4 and 5 indicated that these conditions still played a role, especially the lack of time. However, they also agreed that it probably had a lower
and less persistent impact on the adoption of online counseling on them compared to lower levels. As one pointed out:

“At level 4 and 5, you already have a firm fundament, so when you experience a period when you are working under high pressure, it only temporarily throws you back. Whereas I can imagine it is a more perpetuating factor in lower levels.” (P5, L5)

One participant mentioned that according to him, an important barrier also lay on a higher, national or even international level, with the professionals that determine the multidisciplinary guidelines that prescribe the treatment of various psychological disorders. At present, online counseling is not included in any of these guidelines, which to his experience is used by psychologists that are reluctant to use online counseling as an argument to reject online counseling from the outset. However, another participant at level 4 did not support this view; according to him practitioners generally do not strictly adhere to the existing guidelines and hence including online counseling would not be that influential for them. Moreover, he indicated that it might induce an artificial implementation of eHealth with a high risk of inappropriate use of the online counseling tools, which could lead to negative experiences instead of the intended positive ones, and actually confirm the negative attitude of therapists that were already skeptical, thereby further decreasing motivation.

This is in line with the experience of another participant, arguing that so far, her experiences with eHealth were mostly negative, in her case because the online treatment platform did not work properly, thereby decreasing her intrinsic motivation. She regretted this, because she did believe that when implemented in the right way, online counseling could definitely be beneficial to the client and the intervention.

“A lot of patients perceived it quite a struggle [to work with eHealth], so that decreases the intrinsic motivation. Which is such a pity, because I think if you execute it well that it can
have a lot of advantages. But if it is not working properly then it is rather negative.” (P12, L2)

One participant that classified himself as level 5 suggested that from his experience, it is important for people at level 4 and 5 to stay in touch with other practitioners in these levels, primarily to prevent persons at level 4 from becoming frustrated by the lack of support within their own working environment, and for psychologists at level 5 to stimulate their ideas. When suggesting this to other participants in these levels, they strongly agreed this would work as a facilitator in maintaining their use of online counseling.

Last, a missing factor reported was a strong dislike for mediated communication for practitioners at level 1. This was mentioned both by a participant who classified herself as this level, and by several participants in higher levels who recognized this from colleagues at level 1.

4.3.4 Requirements for increased adoption of online counseling

When asked about what would be required to increase their adoption of online counseling and thereby possibly moving to a next level, participants came up with several suggestions. Generally, participants reported that the model made them realize that different measures were needed for psychologists in different levels. One participant stated that being represented with the model made him realize that past interventions were ineffective because they were not tailored to specific segments.

“The first thing that comes to mind is that this explains, if it really works the way this model describes, why it is so hard to implement eHealth in an organization. Because an organization does not sufficiently take the different stages people are at into account. In an organization the interventions are not adapted to suit the specific users.” (P4, L4)
Furthermore, a recurring perception among participants comprised that the organization pressured them to use online counseling, but at the same time put only minimal effort into facilitating it.

“They have to be facilitated, as I suppose is the case for all changes. Right now no time or money is made available [for online counseling]. It has to start of their own initiative but also outside regular work hours, which takes away from activities that are valued more [by practitioners], so then it just does not get off the ground” (P2, L4)

When asked what kind of support would be most desired, the most frequent response was that time should be made available during working hours to gain knowledge and experience with online counseling.

“If my employer would say ‘you get an hour a week to learn more about eHealth, for a month so you can make it more your own’, then I would definitely do that.” (P12, L2)

“Just having the time to practice with it, to gain your own experiences.” (P8, L1)

A related manner in which the organization could support the adoption of online counseling, is by providing more training, for example on guiding principles on how online counseling can be applied in various treatments, or more practically how to use a particular online platform.

“Just like you have professional advancement courses on topics like ‘how can I guide clients towards self-help groups’, that there is one on ‘how can you improve the application of eHealth in your treatment’.” (P1, L3)

A suggested suitable moment for a more practical training on the online treatment platform would be during the introduction period, which usually also includes training in other digital applications used within the organization, such as the electronic patient record system.

“To learn how to use the electronic patient record I also had to take a course that involved a variety of exercises. That worked very well for me. So then I wonder ‘why are we not doing this for eHealth? If it is that important, include it in the introduction program’.” (P12, L2)
Another prerequisite brought forward was the importance of a user-friendly and effective working system, and sufficient technical support. Several participants reported that when the system did not work properly, they were inclined to revert to their old way of working.

“In case of technical failure, that you can call someone immediately. Lately, my colleague had to call a different company and was put on hold for at least half an hour. That always makes me so tired. Then I think, never mind, I will just do it the old way; I will write it by hand, scan it, and email it.” (P8, L1)

“I get completely frustrated when things do not work properly. And from my experience that happens quite often with these kinds of systems that are fairly new, and then I drop out.” (P2, L4)

Importantly though, all participants also pointed out that organizational support through time, training and technical support alone would not be sufficient to increase the adoption of online counseling, but that being intrinsically motivated was key. Generally, participants agreed that either gaining personal experience or witnessing successful utilization, preferably firsthand by someone such as a peer colleague, would be most effective in increasing their motivation. Moreover, several participants mentioned the importance of keeping an open dialogue on the topic to trigger awareness and reflection upon one’s opinion about online counseling.

“Merely the fact that we are talking about it. Because of that, you are incited to reflect on it, much more than when it is brought up in a plenary meeting. Actually it makes perfectly sense, by asking further questions, like you did last time, you are more or less forced to think about it, to reformulate [your statements], and thereby nuance your position.” (P8, L1)

Several participants emphasized that discussing the topic in an official setting such as a team meeting would not be effective. They suggested that to maintain their feeling of autonomy, it had to be discussed in an informal setting, for example in corridor chats with colleagues or with people external to the organization.
“Making eHealth a permanent issue on the agenda of team meeting would not work for me, then it becomes something directed by the organization again. It must be a topic that is discussed in the corridors instead of in the conference rooms. That when I witness it at colleagues, that I become curious myself, as though I get ‘contaminated’. You want to have that snowball effect, spreading in that way” (P9, L2)

In accordance to this, one participant who classified himself as level 5 stated that in his opinion the practitioners at level 4 and 5 played an important role in the uptake of eHealth in organizations, because they could induce such a snowball effect by sharing their positive experiences. However, a participant that supervised the implementation of online counseling in mental healthcare organizations in the past pointed out that from her experience, when management does not incite online counseling, the topic will cease. According to her, practitioners will be more willing to share their thoughts and cooperate with these developments if management would focus on professional content instead of on finance.

“By letting people think about these kinds of developments from the point of view of their profession, and how their profession can be improved, how it can add value. Because professionally driven practitioners do not get excited from finance, but from professional content.” (P2, L4)
4.4 The adapted LAOC model

Based on the results of the communicative validation, several adaptations were made to the initial model. The resulting model is shown in Figure 4, followed by a description of the applied adaptations.

![Diagram showing the adapted LAOC model](image)

**Figure 4.** The adapted Levels of Adoption of Online Counseling Model

**Design**

To ensure a better understanding of the model, lines were placed between the five levels. Second, the colors of the borders of the rectangles were changed to black
and the colored bars were changed to shades of grey to solve the issue of printing in black-and-white. Furthermore, a figure legend was added to explain the meaning of the different shades.

**Levels**

The name of the fifth level ‘pioneer’ was changed to ‘innovative use’ to make it consistent with the names of the other levels that all involved some description of use. Four of the five level characterizations were slightly adapted in an attempt to improve coverage of the level’s nature. This was done by refining the phrases and ensuring they all described behavior, whereas initially this was a mix of behavior, thoughts and desires. More specifically, ‘I am not eager to use it’ was changed to ‘I do not really want to use it’, ‘I use what I know’ to ‘I use what is readily available’, ‘I think there are more possibilities’ to ‘I am exploring more possibilities’ and ‘I have a new idea’ to ‘I am going to build upon my new idea’. To show that it is possible to change to both higher and lower levels, the arrowhead of the line between the level rectangles was removed.

**Factors**

At level 1, the factor ‘Threat of profession’ was removed, and replaced by ‘Dislike of mediated communication’. Additionally, the factor ‘Lack of skills’ was changed to ‘Lack of experience’. For the factors about lack of knowledge at levels 2 and 3, the ‘Lack of’ was replaced by ‘Limited’ to make it less offensive. Moreover, ‘Importance of support’ at level 3 was changed to ‘Importance guiding principles’ and the factor ‘Importance contact same level peers’ was added below level 4 and 5. Last, ‘Personalized care’ was replaced by the more abstract ‘Change of mental health care’ to allow for a more comprehensive coverage of the added value of online counseling to bring major changes to the field of mental health care.
Chapter 5: General Discussion

This chapter starts by summarizing the current study and its most important results. Then, these findings will be compared to previous work on therapists’ attitudes to the adoption of online counseling, followed by a reflection on the LAOC model and directions for future research. Last, several recommendations for technology and practice will be presented.

5.1 Principal findings

The aim of the current study was to gain a deeper understanding of the drivers and barriers for psychologists to the adoption of online counseling tools. Because the focus of earlier work was mostly limited to investigating perceived barriers, the current study also focused on perceived drivers, and includes contextual factors in daily clinical practice and the role of technology in order to obtain a comprehensive insight.

To achieve this, in-depth semi-structured interviews were conducted with psychologists working at diverse mental health care institutions and having varying levels of use of online counseling. Some general characteristics of online counseling shared by all psychologists consisted of recognizing online counseling as a new way of working, the indispensability of face-to-face contact, and the importance of suiting the used online counseling tools to the specific client. Several barriers to the adoption of online counseling were reported, the most important of which involve a lack of knowledge and experience, increased demands due to being more accessible, and technological issues. Furthermore, some contextual factors in daily clinical practice emerged as impeding factors, notably lack of time and resources made available by the organization, external pressure to use online counseling, and low visibility and awareness of online counseling.
An important added value of the current study compared to previous work is its’ emphasis on identification of drivers to the adoption of online counseling. It was found that in general, the belief and personal experience that online counseling can be beneficial to the therapist are crucial to increase adoption. Specific perceived benefits that are new to the existing literature concerned increased intimacy of the therapeutic relationship, an acceleration of the treatment process, better satisfaction of client needs, personal practical benefits for therapists, and new treatment possibilities.

Even more important, while examining the various levels of use of the participants, differences emerged in the importance of the perceived drivers and barriers dependent on the extent to which psychologists had adopted online counseling. Whereas previous studies on therapists’ attitudes regarding online counseling have mainly resulted in an undifferentiated list of barriers and drivers, the current study is the first to recognize a relationship between the extent to which psychologists have adopted online counseling and the particular drivers and barriers they experience. Subsequently, the Levels of Adoption of Online Counseling (LAOC) was developed that incorporates these differences to allow for an easy-accessible overview of this insight.

The LAOC model distinguishes five levels of adoption of online counseling and the corresponding drivers and barriers perceived by psychologists, determined based upon several characteristics regarding their attitude and use of eHealth. A low level of adoption indicates very limited knowledge, experience and use of online counseling, and a relatively high number of barriers and low number of drivers that are being associated with eHealth, resulting in a reluctant attitude towards online counseling. On the other end, psychologists at a high level are regularly using eHealth, thereby experiencing multiple ways in which online counseling has benefits for them and their treatment while perceiving less barriers. This shifted balance in
perceived barriers and drivers results in an increase of intrinsic motivation to continue their use of online counseling.

5.2 Factors influencing the adoption of online counseling

Part of the general characteristics, barriers, drivers and contextual factors found in the current study are in line with findings from previous research as described in Chapter 1 (e.g. Lovejoy et al., 2009; Perle et al., 2013; Rochlen et al., 2004). However, some of the perceived barriers and drivers to online counseling suggested by the existing literature were not supported by the results of the current study. Moreover, several new barriers and, more importantly, new drivers emerged that were not discussed in earlier studies.

5.2.1 General characteristics of online counseling

In line with previous work, a primary aspect of therapists’ attitudes on online counseling is the indispensability of face-to-face contact for psychological treatment due to a lack of non-verbal cues when communicating online, and accordingly the view that online counseling should only be used as an adjunctive to traditional face-to-face therapy (Carper et al., 2013; Gun, Titov, & Andrews, 2011; Kivi et al., 2015; Perle et al., 2013; Sinclair et al., 2013; Topooco et al., 2017). Psychologists also expressed that some clients need live contact to be able to feel close to their therapist and experience their empathy. A promising way to solve this might be the application of mediated social touch, defined as “the ability of one actor to touch another actor over a distance by means of tactile or kinesthetic feedback technology” (Haans & IJsselsteijn, 2006, p.153). First studies show that mediated social touch can increase a sense of connectedness and facilitate affective communication (e.g. Wang, Quek, Tatar, Teh, & Cheok, 2012).
Furthermore, the reported influence of client characteristics such as the nature and complexity of the psychological disorder, computer skills, and age on the suitability of online counseling, and the importance of adapting the choice of the used tools on the needs and abilities of the client are in correspondence with the existing literature (Kivi et al., 2015; Sinclair et al., 2013).

5.2.2 Perceived drivers to adoption of online counseling

The existing literature on therapists’ attitudes regarding online counseling has given little attention to the benefits perceived by therapists. Therefore, most of the drivers found in the current study are not yet described in the existing literature. To begin with, the current study indicates that a key factor in the adoption of online counseling by psychologists is the conviction that online counseling has an added value to them, as this increases their intrinsic motivation to use online counseling and enables them to overcome barriers that they will inevitably encounter. This result supports earlier suggestions by studies that touch upon the topic through survey questionnaires, finding that perceiving a relative advantage for a new technology over current practice is crucial to the adoption of the innovation (Henneman et al., 2017; Lovejoy et al., 2009).

With respect to the nature of the experienced benefits of online counseling, the current study suggests that psychologists perceive the acceleration of the treatment process as a primary advantage. A suggested reason for this acceleration is that adding online counseling tools intensifies the treatment, as they enable an increase of contact between face-to-face sessions. This explanation is in line with research suggesting that higher session frequencies are related to faster clinically significant gains in psychological distress (Erekson, Lambert, & Eggett, 2015). Another reason for the acceleration of the treatment process suggested by the current study is that online counseling increases clients’ activity at home, as they can continue to engage
in therapy independently through for example homework assignments. Moreover, psychologists are enabled to monitor their clients’ activity and progress and motivate them more directly if necessary.

In contrast to therapists’ concern often reported in literature that online counseling hinders a good therapeutic relationship (Lovejoy et al., 2009), the current study found that eHealth can actually facilitate a more intimate therapeutic relationship, because it allows psychologists to keep connected with their clients more easily and to provide extra support between face-to-face sessions. As a consequence, clients reported to feel that their psychologist genuinely cared, even outside the therapy setting. This finding supports Erekson et al.’s (2015) suggestion that increased session frequency also leads clients and therapists to feel more actively involved and connected with each other.

Although online counseling accelerates the treatment process, this does not necessarily mean that it also is more efficient in terms of total time spent. Despite online counseling often being associated with saving time, psychologists emphasize that providing good online counseling, i.e., responding to e-mails and text messages, giving feedback on assignments, and going through one’s work prior to the next face-to-face session, also costs a fair amount of time. Even though psychologists expressed some efficiency benefits, mostly regarding administrative tasks, this is certainly not a strong driver to adopt online counseling. This knowledge is important, because if efficiency is brought forward as the main argument to use eHealth, as is often the case, psychologists tend to feel like their management’s only intention is to save money and not because they or their clients benefit from it, which causes resistance.

A last driver that is generally not included in the list of perceived benefits is the finding that for some psychologists a significant added value of online counseling comprises the new opportunities for treatment it provides, enabling therapists to
treat clients in a way that was not possible in the past, which can range from allowing to monitor the activity of a client between face-to-face sessions, to the application of innovative technologies such as virtual reality for exposure treatment.

In addition to these new drivers, the current study confirmed earlier work that suggested the potential to reach out to clients with limited access and lower threshold for therapy as benefits of online counseling (e.g. Rochlen et al., 2004; Perle et al., 2011).

5.2.3 Perceived barriers to online counseling

An important barrier to the adoption of online counseling reported in literature is the perception of therapists that a good therapeutic relationship cannot be developed online (Lovejoy et al., 2009). As mentioned above, the current study did not find support for this. Although this result is perfectly in line with research showing that online communication does allow for a good therapeutic alliance (Hanley & Reynolds, 2009), it is interesting that, in contrast to the majority of earlier studies on therapists’ experiences with online counseling, psychologists in the current study also explicitly report to have this experience, and even found therapists experiencing a more intimate relationship with their clients due to online counseling. It has to be noted though that in the current study, all participants used online counseling as an adjunctive to face-to-face sessions, which could be an explanation of the differences with earlier results.

Next, earlier work frequently mentions concerns involving legislation and licensure (Lovejoy et al., 2009; Perle et al., 2011). However, this was not at all supported by the current study, possibly due to differences in the judicial systems of the various countries in which the studies were conducted. In addition, concerns about misrepresentation of the client did not emerge (Rochlen et al., 2004). This could be explained by the fact that all psychologists in the current study only used online
counseling in combination with face-to-face sessions, hence had proof of the client’s identity and felt confident in being able to reliably identify their clients in online settings.

Psychologists expressed difficulties with how to deal with crisis situations, as being more easily accessible through online counseling tools made them feel more responsible. Concerns about emergency situations are often reported in literature, however they mostly focus on psychologists arguing that online modalities do not allow for an adequate response in these situations (Perle et al., 2011), whereas psychologists in the current study expressed to be primarily bothered by the increased pressure of feeling this responsibility.

Furthermore, a new finding of the current study is the perceived increase of demands due to the increase in communication channels that psychologists have to monitor and the times they have to be available, and being expected to respond within a certain amount of time. This barrier is barely discussed in the existing literature on therapists’ attitudes regarding online counseling, whereas it was emphasized several times in the current study. These findings are in line, however, with earlier research focusing on affective costs and benefits associated with communication technologies, which have resulted in the development of the Affective Benefits and Costs Questionnaire (ABC-Q; IJsselsteijn, van Baren, Markopoulos, Romero, & De Ruyter, 2009) and the Affective Benefits and Costs of Communication Technologies (ABCCT) questionnaire (Yarosh, Markopoulos, & Abowd, 2014), which was derived from the ABC-Q. These questionnaires have incorporated the scales ‘Obligations’, covering the aspect that communication technologies may introduce an obligation to connect, and ‘Expectations’, referring to the increase of expectations of communication that might be induced by communication technologies, such as the frequency of contact or quickness of response. The correspondence between these scales and the perceived barriers found
in the current study do not only provide support for the current results, but also suggest that the questionnaires might be valuable instruments to examine experienced affective costs and benefits of online counseling tools for psychologists, and investigate differences between the various levels of adoption of online counseling.

5.2.4 Contextual factors of daily clinical practice

Besides the barriers experienced in the therapeutic setting, psychologists also perceived impeding contextual factors in the broader environment of daily clinical practice. For instance, lack of knowledge and experience regarding online counseling emerged as a major barrier among therapists, which is in line with research suggesting that an increase of knowledge about online counseling is positively related to its’ acceptance (Donovan et al., 2015), as is an increase in experience through hands-on training (Stephen et al., 2011). In line with two earlier qualitative studies on therapists’ experiences, psychologists explained it is hard to find time to resolve the lack of knowledge (Sinclair et al., 2013), and attributed this to the pressure on productivity in current mental healthcare settings (Kivi et al., 2015).

Most psychologists recognized a pressure to use eHealth from management, and particularly for those with a low level of adoption of online counseling this was a major source of resistance, in support of earlier suggestions by Kivi et al. (2015). Interestingly, for psychologists with a higher level of adoption this pressure becomes less of an issue, which they explained by their intrinsic motivation to use eHealth.

Opposite to earlier work reporting that psychologists are influenced by social pressure from colleagues to reject eHealth, and are afraid using it will put their professional reputation at stake (Lovejoy et al., 2009; Andersson & Titov, 2014), psychologists actually experience that colleagues do not bother much about online counseling. The general attitude on the work floor seems to be rather disinterested
than judgmental. However, this results in a different problem of online counseling having a low priority and visibility, fading to the background in the context of everyday business-as-usual.

5.3 Reflection on the LAOC model and directions for future research

As mentioned before, previous work on therapists’ attitudes towards online counseling has mainly resulted in undifferentiated lists of barriers and drivers. The current study thus adds important new insights by finding a relationship between the extent to which psychologists have adopted online counseling, and the drivers and barriers they experience, and developing the Levels of Adoption of Online Counseling (LAOC) model to create a structured overview of these differences.

As explained in section 3.3, the LAOC model provides a framework for further research on the factors that influence the adoption of online counseling. An important next step to facilitate this research would be to invest in the development of a measurement instrument such as a questionnaire to assess one’s level of adoption of online counseling. A model that might be suitable to develop such a measure is the Rasch Model, which has been used previously to develop measurements of human characteristics and behaviors (Bond & Fox, 2013). As an example, Ganglmair-Wooliscroft and Wooliscroft (2015) used Rasch Modeling to develop a questionnaire that assesses one’s adoption of new ethical behaviors. They found that the distribution of the scores could be linked to the adopter categories of the Diffusion of Innovation Theory (DIT; Rogers, 2003). Their results suggest that Rasch Modeling might be suitable for distinguishing people in their level of adoption of new innovative behaviors.

Once able to quickly assess one’s level of adoption of online counseling, this opens up a range of possibilities for further research. First, it could be applied to
enable research on adoption of online counseling that comprises a larger number of participants. Even though the participants in the current study were carefully selected to comprise a representative sample of psychologists, it has to be noted that it involved an in-depth research with a limited sample. Therefore, it is hard to estimate to which extent the findings can be generalized to the broader population of psychologists. Conducting a study with a bigger sample could thus provide broader support for the LAOC model. Another possible application of such a measure would be to gain insight into how the levels of adoption of online counseling of clinical professionals are distributed within a team, organization, or even at an (inter)national level.

Second, as explained before, the LAOC model assumes that one’s level and thereby the corresponding characteristics (i.e., perceived drivers, barriers, and requirements) can change over time. In support of this, the current study found that some participants were at one level during the first interview and at another level during the second, reporting to experience different barriers and drivers. The finding that it is possible to change one’s level of adoption raises the question what influences such a transition. Longitudinal research could use the LAOC model as a framework to investigate changes in the level of adoption over time, which factors are associated with these changes, and how these factors vary for different transitions. The knowledge gained from this research could be further expanded by investigating how the LAOC model relates to models describing processes of behavior change and implementation. More specifically, since the levels of the LAOC model are based upon the adopter categories of the DIT (Rogers, 2003), it would be interesting to examine how the various levels of the LAOC model and the transitions between levels relate to the five stages described in the DIT’s innovation-decision process mentioned earlier. This could provide further insight into the process of adoption of online counseling.
A related question pertains to how the change of one’s level of adoption of online counseling can be intentionally influenced. Since the LAOC model shows that psychologists in different levels of adoption experience different barriers and drivers, it is reasonable to argue that the interventions to increase adoption also should be tailored to the various levels, instead of implementing a one-fits-all solution that is currently common practice.

This notion is supported by the DIT (Rogers, 2003), which proposes that different strategies should be applied to different adopter categories to increase the adoption of an innovation. More specifically, according to Rogers, strategies to appeal to the group of laggards include statistics, fear appeals, and pressure from people in the other adopter groups. For the late majority, Rogers suggests that providing quantitative information on how many other people have tried the innovation and have adopted it successfully is effective. Strategies to appeal to the early majority include success stories and evidence of the innovation’s effectiveness. Early adopters do not need arguments to convince them to change, but can be facilitated with how-to information on implementation. Last, innovators only need very little, if at all, encouragement to adopt an innovation.

For the largest part, these strategies for the various adopter categories formulated by Rogers (2003) correspond with the requirements to increase adoption expressed by psychologists in the current study (see Table 2 for the adopter categories and their corresponding levels of adoption of online counseling). For example, the proposed strategy of providing success stories and evidence of the innovation’s effectiveness for the adopter category of the early majority is in accordance with the finding that personal positive experiences and thereby provided evidence of the effectiveness increases the adoption of online counseling for psychologists at level 3. As another example, psychologists at level 4 tend to be the driving forces of online counseling in their working environment and have expressed to struggle with the further
dissemination of online counseling in their team, which is in line with the suggested strategy for the corresponding adopter category of early adopters to provide information on how to implement online counseling. It has to be noted, though, that the suggested strategies to change one’s level of adoption are still hypothetical, based on the expressed requirements by psychologists in the current study. Further research is needed to examine whether these interventions are effective in changing the level of adoption.

A more fundamental question related to interventions to increase the adoption of online counseling, is whether a higher level of adoption actually results in an increase of the frequency of use or range of online counseling tools. Therefore, further research is needed to examine whether changing the level of adoption results in a corresponding change of use of online counseling.

Another possible direction for future research would be to investigate possible relationships between the levels of adoption of online counseling and other factors, such as personality characteristics of psychologists. This would enable further characterization of the various levels. Furthermore, investigating whether the levels of adoption differ for various online counseling tools could provide more specific directions about requirements for training and improvement of the technologies.

Last, it would be interesting for future research to investigate how psychologists with different levels of adoption of online counseling, influence each other. As is recognized by both literature and the current study, the general attitude regarding online counseling on the work floor has a large influence on its’ adoption (Henneman et al., 2017). Since a large part of the psychologists collaborate in teams, gaining knowledge on how people in different levels influence each other and how they can collaborate could provide valuable information to improve implementation of online counseling.
5.4 Recommendations

5.4.1 Recommendations for technology and design

Based on the findings in the current study and literature, some recommendations can be made with respect to the technology and design of online counseling tools. With respect to the online treatment platforms, it is recommended to improve the searchability of the catalogue with the available content (e.g. treatment modules, questionnaires, diaries). A possible solution is the development of a better search tool that processes more detailed queries. Another more comprehensive solution is to build a recommender system that suggests content based on features such as ratings of other therapists or client characteristics. A second recommendation on eHealth platforms is to increase the adaptability of the content, allowing therapists to adjust it to their own and their client’s needs and abilities. Furthermore, the content of online interventions currently consists mostly of text. A way to make them more attractive would be to replace the large amounts of text by more visual and engaging stimuli such as videos and game-elements. Last, organizations often have several digital systems in use, and psychologists spend a considerable amount of time switching from one to the other. Integrating the various systems would save them valuable time and annoyance.

Although over the past years considerable progress has been made in the quality of videoconferencing technology, there is still a need for further improvement, especially with respect to lagging images and sound, and reliability of the connection. Moreover, there might be possibilities for innovative technologies to address the limited non-verbal cues available with videoconferencing that were repeatedly reported to cause feelings of missing important information about the client. For instance, a non-verbal cue that is considered important for mutual understanding is eye contact (Argyle & Dean, 1965). However, with most videoconferencing systems eye contact is lacking due to the vertical displacement
between the camera, which is often located at the top edge of the screen, and the image of the communication partner’s eyes in the center of the screen. Various technologies have been developed that enable eye contact during videoconferencing (e.g. Kuster, Popa, Bazin, Gotsman, & Gross, 2012). Neureiter, Murer, Fuchsberger, & Tscheligi (2013) compared such a system to a system that does not facilitate eye contact and found that the eye contact increased the perception of non-verbal cues such as gestures, and increased feelings of social presence, i.e., the salience and closeness of the other person in the interaction. Hence, in the context of psychological treatment, this technology might facilitate feelings of closeness between therapist and client. Another possibility for innovative improvement of videoconferencing technologies is the addition of stereoscopic depth cues resulting in true three-dimensional depth perception, which is suggested to provide an experience that is closer to face-to-face contact (Johanson, 2001).

Regarding the development of innovative technologies, it is also recommended to focus on the improvement of psychophysiological measures. More specifically, accurate measurements of stress could be a valuable addition for psychological treatments as an extra source of information for either clients or therapists. Another recommended direction for future research is the application of virtual reality, both with respect to the range of applications as to developing devices that involve lower costs and less expertise compared to existing ones. Last, mediated social touch seems to comprise a promising way to enhance feelings of closeness when communicating online. It is recommended to explore the possibilities of applying the available technologies of mediated social touch to online counseling and invest in further development of the involved technologies to augment its potential for online counseling.
5.4.2 Recommendations for training and practice

As explained earlier, the LAOC model suggests that interventions to increase the adoption of online counseling should be tailored to the various levels of adoption. In general, because psychologists in lower levels experience relatively more barriers and fewer drivers compared to psychologists in higher levels, more effort has to be put into interventions to increase their adoption. This is not to say that it is not worthwhile to invest in facilitating the initiatives regarding online counseling of psychologists at level 4 and 5. As explained earlier, practitioners at level 4 and 5 could play an important role in the increase of adoption of lower-level peers by sharing their positive experiences.

Based on the perceived barriers and drivers and the expressed requirements by psychologists in each particular level, some recommendations can be made with regards to the focus and content of interventions and training targeting the various levels. The focuses for levels 1 to 5 can respectively be summarized as follows: introduce, accustom, expand, reinforce and facilitate. An overview of the recommendations is shown in Figure 5.

<table>
<thead>
<tr>
<th>Level 1</th>
<th>Level 2</th>
<th>Level 3</th>
<th>Level 4</th>
<th>Level 5</th>
</tr>
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<tbody>
<tr>
<td><strong>No use</strong></td>
<td><strong>Minimal use</strong></td>
<td><strong>Passive use</strong></td>
<td><strong>Active use</strong></td>
<td><strong>Innovative use</strong></td>
</tr>
<tr>
<td>Introduce</td>
<td>Accustom</td>
<td>Expand</td>
<td>Reinforce</td>
<td>Facilitate</td>
</tr>
<tr>
<td>* hands-on training</td>
<td>* training on the job</td>
<td>* suggest other opportunities</td>
<td>* notifications new technologies</td>
<td>* facilitate initiatives to develop and test new tools</td>
</tr>
<tr>
<td>* gain positive experience</td>
<td>* integration in daily routines</td>
<td>* opportunities</td>
<td>* connect to other same-level peers</td>
<td>* connect to other same-level peers</td>
</tr>
<tr>
<td>* increase self-efficacy tools</td>
<td>* educate on possibilities</td>
<td>* new tools</td>
<td>* encourage exemplary role</td>
<td>* encourage ambassador role</td>
</tr>
<tr>
<td></td>
<td>* standard procedures</td>
<td>* clear overview range of tools</td>
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*Figure 5. Proposed focus and content of interventions and training for each level of adoption of online counseling.*
For psychologists at level 1, the most important aim of interventions should be to introduce online counseling. It is recommended to encourage active participation and experiential learning, for example by a workshop in which they have to build their own online treatment module. In this way they can gain positive experiences with online counseling and increase their feeling of self-efficacy with the tools.

For the second group, the most important focus should be to get accustomed to online counseling and integrate the tools into daily routines, for example by training on the job (i.e., a one-on-one training by an expert) preferably a peer colleague at level 4 or 5. Furthermore, information on possibilities of online counseling and the implementation of standard procedures and reminders to use eHealth could also facilitate the adoption of online counseling in this group.

As psychologists at level 3 are already regularly using online counseling, the focus should be on further expanding the range of used tools and thereby increasing their experiences, for example by suggesting other options and tools, and sending notifications when new tools become available. In addition, providing a clear and comprehensive overview of available tools could be helpful.

Psychologists at level 4 generally will not need support to increase their use of eHealth, but their ideas and motivation for online counseling can be reinforced by notifying them of new innovative technologies and by connecting them to other same-level peers to maintain their enthusiasm and encourage their activity for online counseling. In addition, as mentioned earlier, they could play an important role as successful exemplars for lower-level colleagues, which could be encouraged for example by rewarding them for these activities.

For level 5, a similar focus is recommended, although psychologists in this level probably will need even less encouragement to retain their use of online counseling. Besides connecting to same-level peers and encouraging an exemplary role just described, psychologists at level 5 could be facilitated by providing required
resources to elaborate on their ideas to develop and test new tools, in order to keep innovating online counseling.

Besides these suggestions for the focus of individual interventions and training, some recommendations can also be made to improve contextual factors of daily clinical practice. For instance, to counter the sense of distrust towards management’s interest in eHealth, it is recommended that managers put more emphasis on the professional content when advocating online counseling instead of finance and efficiency, as psychologists are expected to be more willing to cooperate with these developments when they are convinced it adds value for them and their treatment. Giving practitioners time during working hours to gain knowledge and experience with eHealth could further support the adoption of online counseling, and at the same time decrease distrust in management’s intention. Furthermore, it is important to keep an open dialogue on the topic of online counseling to facilitate continued awareness and reflection upon one’s opinion about eHealth. This is expected to be most effective if stimulated by colleagues, and hence it is recommended that peers having a higher level of adoption initiate these discussions.

5.5 Conclusion

The current study took a qualitative approach using in-depth interviews with clinical psychologists to gain a deeper understanding of the perceptions of psychologists regarding the barriers and drivers to the adoption of online counseling. Whereas previous work on online counseling has mainly resulted in undifferentiated lists of factors to the adoption of online counseling with a primary focus on barriers, the current study puts an emphasis on perceived drivers. In general, the belief and experience that online counseling can be beneficial to them or their treatment appeared crucial for psychologists to increase adoption. Perceived drivers include
the improvement of treatment quality, better satisfaction of client needs, personal benefits for therapists, and new treatment possibilities enabled by online counseling.

More importantly, the current study found a relationship between the level of adoption of online counseling, and the drivers and barriers that are experienced by psychologists. Subsequently, the Levels of Adoption of Online Counseling (LAOC) model was developed that incorporates these differences. An important insight that can be gained from the LAOC model is that psychologists in lower levels were found to experience relatively more barriers than drivers, whereas this balance shifts for psychologists in higher levels. Furthermore, a valuable lesson that can be learnt from the LAOC model is that training and interventions to increase adoption of online counseling should be tailored to the various levels of adoption of psychologists.

A particular added value of the LAOC model is that it provides a framework to enable further research on the process of adoption of online counseling and to investigate how other factors relate to the level of adoption of online counseling. An important next step to facilitate this research would be to invest in the development of a measurement instrument to assess one’s level of adoption of online counseling.
References


presented at the 17th ACM Conference on Computer Supported Cooperative Work & Social Computing (pp. 84-96). doi: 10.1145/2531602.2531634
Appendix A: Topic Lists

A.1 Topic list in-depth interviews

Background information

- Wat is uw huidige functie?
- Hoe lang bent u al werkzaam als psycholoog?
- Welke psychische stoornissen behandelt u het meest?
- Wat voor soort behandeling biedt u voornamelijk?

General characteristics and own experience with online counseling

- Wat verstaat u precies onder online behandeling of eHealth?
- Wat is uw ervaring met online behandeling of eHealth?
- Welke vorm van online behandeling past u toe/heeft u toegepast? (doel van toepassing, technologie, frequentie, duur)
- Wat was uw patiënten doelgroep?

Attitude, barriers and drivers

- Hoe denkt u over online behandeling?
- Waarvoor is naar uw mening online behandeling wel of niet geschikt, en waarom?
- Wat zijn de belangrijkste redenen waarom u online behandeling wel/niet gebruikt heeft?
- Wat zouden voordelen voor u zijn om online behandeling aan te bieden?
- En wat zouden nadelen voor u zijn?
- Wat zou er nodig zijn om online behandeling (meer) te gaan gebruiken?
- Wat moet er veranderen zodat u online behandeling zou gaan gebruiken?
- In welke situatie zou u online behandeling wel gebruiken?
- Heeft u een voorbeeld van een recente situatie waarbij u tegen belemmeringen van online behandeling aan liep?
• Hoe heeft u geprobeerd deze belemmeringen op te lossen of te omzeilen?

Knowledge and training
• Heeft u een training of opleiding gevolgd over online behandeling, of op een andere manier informatie hierover gekregen?
• Aan welke kennis of training met betrekking tot online behandeling heeft u het meeste behoefte? En op welke manier zou u die het liefst aangereikt krijgen?

Influence of conditions working environment
• Hoe wordt er binnen uw organisatie of praktijk over het algemeen gedacht over online behandelen?
• Hoe denkt u over collega’s die online behandeling aanbieden?
• Hoe denkt u dat er over u gedacht wordt als u online behandeling aan zou bieden?
• Hoe wordt er vanuit de management of organisatie gedacht over online behandeling?
• Er u wel eens druk om wel of juist geen online behandeling aan te bieden?

Tools/technologies
• Hoe ziet uw ideale online behandeling tool eruit?

Expectations
• Welke mogelijkheden ziet u voor online behandeling?
• Hoe zouden deze mogelijkheden naar uw mening moeten worden geïmplementeerd in de huidige praktijk?
• Hoe verwacht u dat online behandeling zich zal ontwikkelen de komende jaren?
A.2 Topic list communicative validation

• Wat is uw algemene indruk van het model?
• In welk level zou u zichzelf plaatsen? Waarom?
• Welke kenmerken sluiten vooral aan? En welke niet?
• Mist u nog belangrijke factoren?
• Wat is er volgens u nodig om in het volgende level te komen?
Appendix B: Summary

The evidence for the effectiveness of online counseling is growing and several benefits have been suggested, such as increased access of psychological treatment, convenience, and increased emotional disinhibition of the client. These positive findings, however, are in contrast with the low adoption of online counseling by psychologists. Several studies have been conducted to clarify this discrepancy by investigating therapists’ attitudes towards online counseling, and identify possible impeding or facilitating factors for adoption. These studies, however, have mainly resulted in undifferentiated lists of perceived barriers and drivers. As a consequence, the exact nature of therapists’ restraint remains elusive.

The aim of the current study was to gain a deeper understanding of the drivers and barriers for psychologists to the adoption of online counseling tools. Because the focus of earlier work on this topic was mostly limited to investigating perceived barriers, the current study also emphasizes perceived drivers, and how they relate to each other. It also includes contextual factors in daily clinical practice and the role of technology in order to obtain a comprehensive insight. To achieve this, the study employed a qualitative descriptive approach consisting of in-depth interviews with twelve clinical psychologists, which were transcribed and analyzed using a thematic analysis approach.

The results showed that general characteristics of online counseling consisted of recognizing online counseling as a new way of working, the indispensability of face-to-face contact, and the importance of suiting the used online counseling tools to the specific client. Several barriers to the adoption of online counseling were reported, the most important of which involve a lack of knowledge and experience, increased demands due to being more accessible, and technological issues. Furthermore, a number of contextual factors in daily clinical practice emerged as impeding factors, notably lack of time and resources made available by the organization, external
pressure to use online counseling, and low visibility and awareness of online counseling.

An important added value of the current study with respect to previous work is its’ emphasis on identification of drivers to the adoption of online counseling. It was found that in general, the belief and personal experience that online counseling can be beneficial to the therapist is crucial to increase adoption. Specific perceived benefits that are new to the existing literature concern increased intimacy of the therapeutic relationship, an acceleration of the treatment process, better satisfaction of client needs, personal practical benefits for therapists, and new treatment possibilities.

More importantly, while examining the various levels of use of the participants, differences emerged in the relevant perceived drivers and barriers dependent on the extent to which psychologists had adopted online counseling. Whereas previous studies on therapists’ attitudes regarding online counseling have mainly resulted in an undifferentiated list of barriers and drivers, the current study is the first to recognize a relationship between the extent to which psychologists have adopted online counseling and the particular drivers and barriers they experience. Subsequently, the Levels of Adoption of Online Counseling (LAOC) was developed that incorporates these differences to allow for an easy-accessible overview of this insight.

The LAOC model distinguishes five levels of adoption of online counseling, determined based upon several characteristics regarding their attitude and use of eHealth, which are drawn from the adopter categories of the Diffusion of Innovation Theory (DIT, Rogers, 2003). A low level of adoption indicates very limited knowledge, experience and use of online counseling, and a relatively high number of barriers and low number of drivers that are being associated with eHealth, which results in a reluctant attitude towards online counseling. Psychologists at a high
level, on the other hand, are regularly using eHealth, thereby experiencing multiple ways in which online counseling has benefits for them and their practice while perceiving less barriers. This shifted balance in perceived barriers and drivers ideally results in a positive reinforcing pattern of increasing intrinsic motivation to use online counseling.

A particular added value of the LAOC model is that it provides a framework to enable further research on the process of adoption of online counseling, and to investigate how other factors such as personality characteristics of psychologists or the specific online counseling tool influence the level of adoption of online counseling. An important next step to facilitate this research would be to invest in the development of a measurement instrument such as a questionnaire to assess one’s level of adoption of online counseling.

The LAOC model received support and recognition from psychologists during a communicative validation. It has to be noted though that the study consisted of a limited sample. Conducting a study with a bigger sample could thus provide broader support for the LAOC model.

A valuable lesson that can be learnt from the LAOC model is that training and interventions to increase adoption of online counseling should be tailored to the various levels of adoption of psychologists. Other general recommendations are to improve contextual factors by increasing organizational support in terms of providing time during working hours as well as training, technical support, frequent and open discussions of the topic, and demonstrations of successful utilization by colleagues that have a high level of adoption. With respect to technology of the tools, it is recommended to improve the overview, flexibility and searchability of the content of eHealth platforms, invest in the enhancement of videoconferencing technologies, and explore the opportunities of innovative technologies such as biofeedback, virtual reality, and mediated social touch.