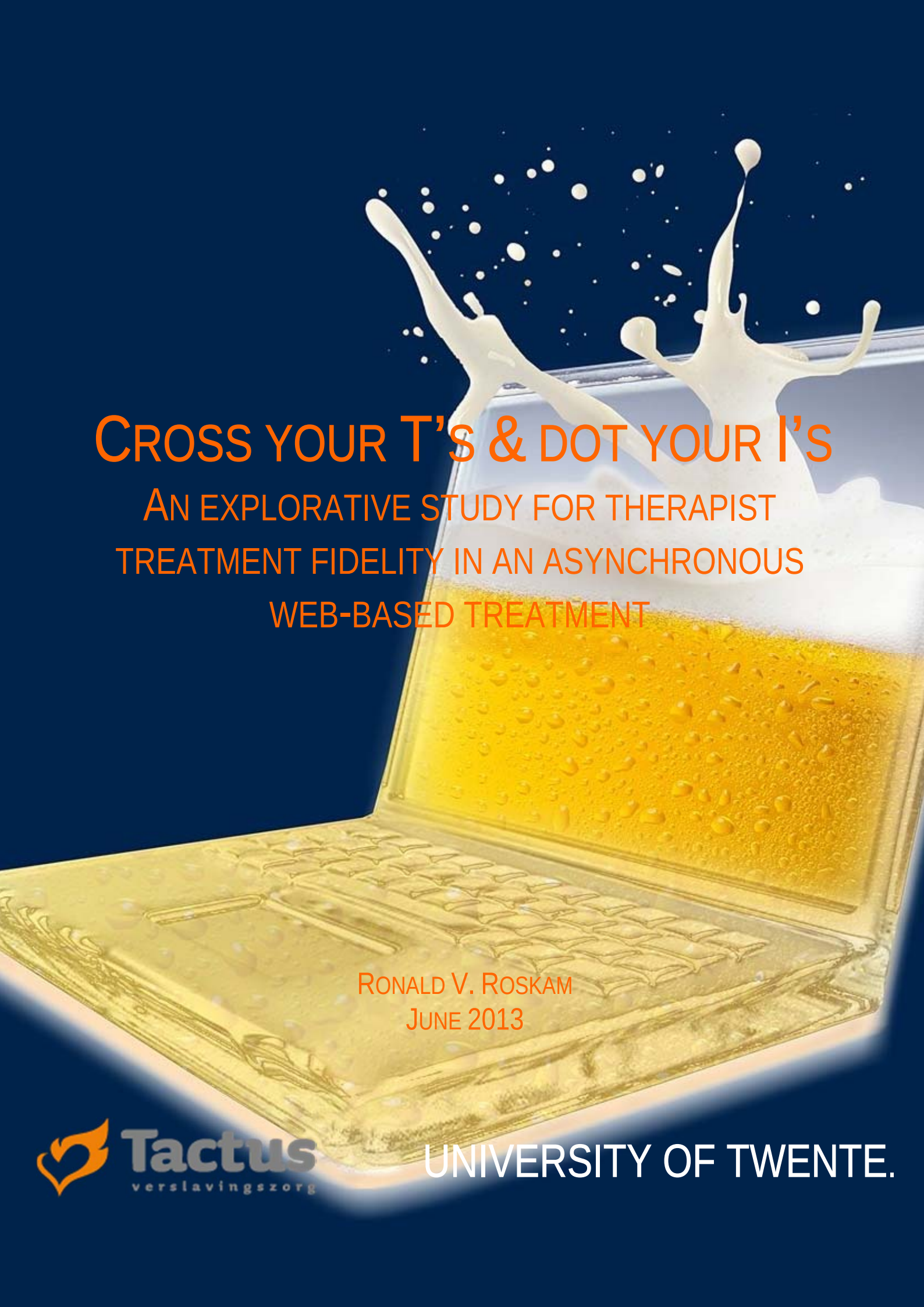

Cross your T's & dot your I's

An explorative study for therapist treatment fidelity in an asynchronous web-based treatment

Ronald V. Roskam

June 2013

Tactus verslavingszorg

University of Twente.

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s1076353

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Abstract (English)

INTRODUCTION: This research is the first research assessing therapist treatment fidelity in a web-based treatment for participants coping with alcohol abuse- or addiction. The therapist treatment fidelity consists of an assessment of therapist treatment adherence and therapist competence, mostly measured by means of a rating scale. Encompassing an exploration of concepts of cognitive behavioral therapy (CBT) and motivational interviewing (MI) this research lays an extensive fundament for the 'Look At Your Drinking – Adherence Competence Scale (LAYD-ACS)'. The main research question is: 'How can therapist treatment adherence and competence be assessed in the web-based treatment Alcoholdebaas.nl?'

METHODS: A combination of directive and summative content analysis is used to explore three asynchronous online treatments. The treatments were initiated within the period of January 2009 until December 2011. The LAYD-ACS is created based on literature about therapeutic skills and has a dichotomous way of assessing therapist treatment fidelity by giving either a plus (+, good) or minus (-, not so good/room for improvement). An expert interview is held to assess the validity of the LAYD-ACS. The messages are analyzed independently by two raters (RVR and TZ). An inter-rater agreement has been achieved a priori by testing a pilot and a posteriori by discussions between the raters.

RESULTS: 24 categories were taken into account, 23 were recognized as applied in the treatments used. A total amount of 2154 codes were found. Almost 84% of all codes were given a plus value, and more than 16% are graded minus. The most dominant therapeutic skills were 'Support & Endorsement' and 'Consent & Non-Committal. Every category is described and underpinned with quotes from the web-based treatment.

CONCLUSION: The therapist treatment fidelity and the therapist competence are very good. Quantitative data showed very high rates. Concepts like 'Empathy' and 'Motivation' are not seen very often, but are the main concepts of MI, and thus, could be used more. The LAYD-ACS has shown to be an useful and promising rating scale to assess therapist treatment fidelity. Improvement can be made in validating the LAYD-ACS, by increasing reliability by using a more critical tool and make the LAYD-ACS more manageable. Although the LAYD-ACS shows a lot of room for improvement, this research has led to an extensive fundament of therapeutic techniques in a web-based treatment.

SEACH TERMS: Therapist treatment fidelity, integrity, adherence, competence, web-based treatment, rating scale, qualitative research.

Abstract (Dutch)

INTRODUCTIE: Dit onderzoek is het eerste onderzoek dat de therapeut-behandeling conformiteit toetst in een online behandeling voor deelnemers met alcoholmisbruik of –afhankelijkheid. De therapeut-behandeling conformiteit bestaat een toetsing van de behandelconformiteit en de vaardigheden van de therapeut, veelal aangeduid door middel van een kwalificatieschaal. Door het verkennen van concepten uit de cognitieve gedragstherapie (CGT) en motiverende gespreksvoering (MG) legt dit onderzoek een fundament voor de 'Look At Your Drinking – Adherence Competence Scale' (LAYD-ACS). De hoofdvraag luidt: 'Hoe kan therapeut-behandelcomformiteit en competentie getoetst worden in Alcoholdebaas.nl.'

METHODE: Een combinatie van een directieve en een summatieve inhoudsanalyse is gebruikt om berichten in drie asynchrone online behandelingen te verkennen. De behandelingen zijn gestart in de periode van Januari 2009 tot en met December 2011. De LAYD-ACS is aan de hand van literatuur met relevante therapeutische vaardigheden ontworpen. Dit instrument heeft een dichotome manier van het beoordelen van therapeutische vaardigheden, oftewel een plus (+, goed) dan wel een min (-, er is ruimte voor verbetering). De validiteit is getoetst in een interview met een expert. Een tussenbeoordelaars betrouwbaarheid is a priori verkregen via het testen van een pilot, en a posteriori via discussie.

RESULTATEN: Er zijn 24 verschillende categorieën onderzocht, waarvan er bij 23 een toepassing is gevonden. Er zijn totaal 2154 codes toegekend. Bijna 84% van alle codes die gegeven zijn hebben een plus gekregen, meer dan 16% werd beoordeeld als een min. De meest dominante therapeutische vaardigheden zijn 'bevestigen en ondersteunen' ('Support & Endorsement') en 'toestemming en vrijblijvendheid' ('Consent & Non-Committal'). Elke categorie is omschreven en onderbouwd met quotes uit de behandeling.

CONCLUSIE: De conformiteit naar de behandelprotocollen en de vaardigheden van de therapeuten bleken erg goed. Kwantitatieve data geeft hoge scores weer. Ondanks dat het belangrijke concepten zijn binnen MG zijn concepten als 'empathie' ('Empathy') en 'motivatie' ('Motivation') erg weinig gevonden. Deze zouden meer gebuikt mogen worden. De LAYD-ACS bleek een bruikbare en veelbelovende kwaliteitsschaal om behandelconformiteit en de vaardigheden van de therapeuten te meten. De LAYD-ACS kan verbeterd worden door het instrument te valideren, kritischer te kijken naar de betrouwbaarheid en het instrument meer hanteerbaarder te maken. Ondanks de ruimte voor verbetering heeft dit onderzoek geleid tot een uitgebreid fundament van therapeutische technieken in een op internet gebaseerd behandeling.

ZOEKTERMEN: behandelconformiteit, integriteit, vaardigheid, online behandeling, kwaliteitsschaal, kwalitatief onderzoek.

Preface

Dear reader,

Welcome to my master thesis written for my graduation for the master of Mental Health Promotion in Psychology. With great pleasure I have performed this research in January and February 2013 at Tactus Addiction Treatment in Enschede. Within this project I could integrate two, according to my opinion, interesting fields within psychology: the field of addiction treatment and the field of eHealth. Although the thesis in the end became more methodological in qualitative perspective, I still enjoyed it to be able to dive into literature about addiction and online treatments. With regard to the addiction literature this was a satisfying refreshment and addition to my knowledge gained in my Bachelor of Nursing.

This research is performed with the ultimate goal to increase the quality of Alcoholdebaas.nl. Several researches of Marloes Postel, my first supervisor, showed that Alcoholdebaas.nl is effective, but has some flaws left. The treatment is already complete and it is very difficult to make any improvements on macro level. Still, to make some improvements, a research on micro level is necessary, to find the small areas which can be improved by using qualitative methods. Therefore, this research is called 'Cross your T's and dot your I's', which means something like perfecting the system. Although perfection is utopic, I think it is a good thing to always strife to make things better than they are, so, to cross the T's and dot the I's.

Several people have provided help in some way to this thesis. I would like to thank a few for their participation in this thesis:

- First of all is Tim Ziel. I would like to thank him for his collaboration on this project. Without Tim I would not have been able to realize this master thesis in the relatively short amount of six weeks. He guided me within the Tactus facilities and assisted in analyzing the data as a second coder.
- Marloes Postel, I would like to thank my first supervisor for her willingness and troubles to help arrange a project for me. Marloes initially came up with the idea to test the content quality of Alcoholdebaas.nl and let me free in working it out. Throughout the process she gave very useful comments for improving this master thesis.

- Marcel Pieterse. I would like to thank him for his precision in giving feedback. His ability to jump to the core problem within an instant helped me very much to go into depth with the current research. His comments were useful shaping the problem.
- I would like to thank Anneke Sools for her advice on qualitative research methods. The comments provided me additional insight on how to deal with the qualitative methods.
- I would like to thank Bert van Laar. Bert is supervisor for interns and new employees at Alcoholdebaas.nl. In addition, Bert had a big role in the development of Alcoholdebaas.nl. His expert view on the LAYD-ACS resulted in several small changes to the initial instrument to increase validity and to improve tailoring to Alcoholdebaas.nl and motivational interviewing.
- And finally I would like to thank Stefan Roskam, Max Dicker & Huib de Jong for their comments on this thesis. In addition, I would like to thank every other person who supported me in some way during this process and my study, like, for example my parents, my partner, my friends and the colleagues at Tactus Addiction Treatment. In addition, I would like to thank all the other people who are not mentioned here by name.

I hope I can share the pleasure of this research and I hope that you will enjoy this master thesis while reading,

With kind regards,

Ronald V. Roskam

June 2013

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Introduction

Online treatments

Online treatments have emerged almost a decade after introduction of the internet in the mid-1990s (Barak, Klein & Proudfoot, 2009). One of the first who defined eHealth was Eysenbach (2001). He defined eHealth in such a broad way that he did not only capture the field of web-based treatments, but every part of the eHealth field. He described eHealth as '*health services and information delivered or enhanced through the internet and related technologies*' (Eysenbach, 2001, p1). In addition Eysenbach (2001) called it a way of thinking, a perspective someone can take and a strife to improve health care via information and communication technology. Throughout the years several terms have been used to describe the activities conducted via the internet for health purposes, for example, physical, social and mental health. The terms include web-based therapy, e-counseling, e-therapy, cyber therapy, tele-health, eHealth, e-interventions, online therapy, online treatment and so forth (Barak, Klein & Proudfoot, 2009). This research focuses on a web-based treatment, which embodies a small part of eHealth which will be explained further on.

Advantages and disadvantages of online treatments

The benefits of online treatments are found especially in availability, convenience, accessibility, cost-effectiveness, anonymity and privacy (Gainsbury & Bladzvzynski, 2011). A study of Postel et al (2011a) have showed that other, different target groups can be reached by online treatments, which are not likely to be reached with face-to-face treatment. For example, the treatment involved significantly more woman, significantly more highly educated participants, more participants with paid work, participants who received less prior alcohol treatments and significantly older participants when compared to the face-to-face treatment offered (Postel et al., 2011a).

Disadvantages of eHealth are the uptake and the impact of eHealth applications. Black et al. (2009) stress that while the number of eHealth technologies is growing, the understanding of eHealth is still limited with regard to the implementation. They stress that efforts need to be taken to ensure that the technology adopted both multidisciplinary and capable of untangling the complicated factors which can have an influence on the results. Van Limburg et al. (2011) stress that little attention is given to the implementation. To ensure this, Van Gemert-Pijnen et al. (2011) underlined the need for an implementation framework which aims to

improve the uptake and impact of eHealth technologies in practice. The CeHRes roadmap, created by the Center of eHealth Research & Disease Management (Van Gemert-Pijnen et al., 2011) stresses a complex, large and iterative process of eHealth development from the gathering of information from users and the context, creating and testing prototypes, operationalize and evaluate them. This complex and time-consuming process is mostly regarded as too intense, which results in more simple, less careful methods, which also results in lower quality and less tailored eHealth technologies (Van Gemert-Pijnen et al., 2011).

Alcohol consumption in the Netherlands

The substantial alcohol problems in the Netherlands led to the development of Alcoholdebaas.nl, a web-based treatment for people who experience problems with their alcohol usage. Alcohol is a common used drug in young and late adolescence (Hibel et al., 2009). Alcohol is, a drug that is more dangerous than heroin in terms of physical, social and financial influences and can be regarded as an endemic problem affecting every single person in society (Lee & Forsythe, 2011). In 2009 84% of the Dutch population consumed alcohol at least once, from which 90% is male, and 78% female (Van Laar, Cruts, Ooyen-Houben, Meijer, Croes & Ketelaars, 2012). De Graaf, Ten Have & Dorsselear (2010) reported that 14.3% (21.9% of all men and 14.3% of all women) of the Dutch population fit the criteria of alcohol abuse and 2.0% (3.1% of all men and 0.9% of all women) fit the criteria of alcohol dependency. Dijck & Knibbe (2005) even reported that 88.2% of their sample (N=7546) is consuming alcohol and 9.9% of the sample is abstinent. Luckily, the percentage binge drinkers (more than six standard glasses of alcohol a day, for example on Saturday evening when people going out) is significantly lowering. After years of increasing numbers of clients at the addiction treatment facilities, it is slightly decreasing since 2010 (Van Laar et al, 2012). It should be noted that although numbers are decreasing, both stay relatively high.

The consumption of alcohol can have several consequences. Alcohol can contribute to a wide range of diseases, such as cancer (Toriala, Kurl, Dyba, Laukkanen & Kauhanen, 2010) and brain hemorrhage (Suzuki & Izumi, in press). Alcohol is also a contributing factor for expanding aggression (Bushmen, Giancola, Parrott & Roth, 2012), collision when driving (Mann et al., 2010) and the risk of injury (Taylor et al., 2012). Alcohol also relates to mental health problems, such as an increased risk for suicide related outcomes (Miller et al., 2011). In addition, Collela, Savage & Whitmer (2010) stress that alcohol can be the cause of brain damage, which in itself can lead to the Wernicke encephalopatie or the Korsakoff's syndrome.

A web-based treatment

Alcoholdebaas.nl (in English, www.lookatyourdrinking.com) is developed in 2005 making use of the conveniences of eHealth in an attempt to reach out for a broader and more differentiated group of people who experience problems with their alcohol usage. Alcoholdebaas.nl consists of an online community for online contact with fellow participants, an informative website, a professional human supported internet treatment and follow-up care. The web-based treatment of Alcoholdebaas.nl has shown itself effective in various ways throughout several researches within a PhD project (Postel, 2010). The following information about Alcoholdebaas.nl is composed from Postel's dissertation (2010).

The structured web-based treatment consists of two parts wherein the participant gets individual attention of a professional social worker, for example a psychologist or a nurse. The treatment method is based on principles of the cognitive behavioral therapy (CBT) and motivational interviewing (MI). The interaction is asynchronous, which means a gap between the contacts exist, which is seen mostly in email conversations. Synchronous communication are real-time conversations, like for example video conferencing, instant messaging and live chat rooms (Perle, Langsam & Nierenberg, 2011). The treatment objective is to decrease or quit alcohol consumption. As seen later on, in the methods section, part one is more about diagnostics, psycho-education and getting insight in the function of alcohol. In the second part, the participant formulates own objectives and works to achieve change. The treatments duration is approximately three months and communication takes place in a secured environment on the website. Participants can log into their own file, where all the communication takes place and homework assignments can be sent and read.

Alcoholdebaas.nl, which will further be described by either its name or as a web-based online treatment, is an intervention which can be called a human-supported web-based therapeutic intervention and can be described as '*Human-supported web-based therapeutic interventions incorporate a human (usually a health/mental health professional or, in some cases, peer supporters) to provide support, guidance, and feedback* ' (Barak, Klein & Proudfoot, 2009). Even an intervention which contains automatic features besides the human-support is a human-supported intervention. According to a meta-analyzes of Barak, Hen, Boniel-Nissim & Shapira (2008) a human-supported online treatment can be as effective as a face-to-face treatment and is certainly effective for anxiety and stress with symptoms that will last after therapy ends. The human-support in the included studies ranges from telephone support, chat

room and e-mail contact to a guided website. Thus human-support contributes to the effectiveness of a web-based online treatment. A meta-analyses of Spek, Cuijpers, Nyklicek, Riper, Keyzer & Pop (2007) shows that internet cognitive behavioral therapy (iCBT) has a large mean effect size when providing support, while interventions without therapeutic support resulted in relatively small effect sizes. The therapeutic support in the studies used is mostly done by monitoring the participants progress and giving feedback. Other forms of web-based therapeutic interventions are web-based education intervention which primarily provides information about specific health problems, and a self-guided web-based therapeutic intervention in which the participant have to go through the system all by themselves (Barak, Klein & Proudfoot, 2009).

Treatment Components and therapeutic skills

One of the main things poorly done within the field of eHealth is research about components of the online treatments which contribute to the effectiveness of the treatment. Gainsbury & Bladzvzynski (2011) stress the need for research which analyzes the working components and show the working mechanisms. Note that this research does not aim to explain which component is most effective, but explores therapeutic skills according to the methods use.

In a systematic review of Gainsbury & Bladzvzynski (2011) it is shown that CBT and MI are the most common used treatment aspects within online web-based alcohol treatments. According to Gainsbury & Bladzvzynski (2011) both treatment methods have shown themself effective. Barak et al. (2008) underpin this by showing that most of the used treatments in their meta-analyzes used aspects of CBT. Examples are that CBT showed effective for violent behavior in children and adolescents (Özabaci, 2011), in body image perception treatments (Jarry & Ip, 2005), in pediatric PTSD treatments (Kowalik, Weller, Venter & Drachman, 2011), in PTSD treatments in conflict areas (Wagner, Schulz & Knaevelsrud, 2012), in problematic gambling (Gooding & Tarrier, 2009) and internet addiction (Winkler, Dörsing, Rief, Shen & Glombiewski, 2013). Lately, CBT has proven itself effective in web-based treatments alcohol addiction treatment (Gainsbury & Blasczynski, 2011) and for work-related stress, mild to moderate depression, panic symptoms and bulimic symptoms (Ruwaard, 2012). Longmore & Worrell (2007) express in a review that the amount of efficacy research is surprisingly more than the relatively small number of research which aim to explore the therapeutic components. They underline that research up to this point has shown to be insufficient in addressing characteristics contributing to the effectiveness of CBT. CBT can be

described as a black box. The box works and is effective. Longmore & Worrell (2007) stress that there are several possibilities, but that the exact components which contribute to the effectiveness of the treatment remain unknown. Vernmark et al. (2009) describe several components which they integrated in an email CBT for depression. These components are quite similar to the CBT components in Alcoholdebaas.nl. These components, similarly used in face to face treatments (Vernmark et al., 2009), are: 1) case conceptualization, in which the therapist tries to make a fitting theory of the problems the participants presents (Persons et al., 2001), 2) functional analysis, in which the reason for a certain behavior is explained according to the theory of operant conditioning, 3) behavioral activation, a method in which for example fears are treated (Martell et al., 2001) and 4) cognitive restructuring, in which invalidating thoughts are substituted with useful, helping thoughts (Beck et al., 1979).

MI showed effective in various health sectors. Martins & McNeill (2009) discuss that MI is effective in diet and exercise, diabetes, and oral health. Originating from addiction treatment (Miller, 1983) MI is used in for example treating eating disorders (Macdonald, Hibbs, Corfield & Treasure, 2012) and in reducing partner aggression in both men and women (Woodlin, Sotskova & O'Leary, 2012) According to Miller & Rose (2009) a contributing element of MI is change talk, or '*that proficient use of the techniques of MI will increase clients' in-session change talk and decrease their sustain talk, which in turn will predict behavior change'* (Miller & Rose, 2009, p529). A second therapeutic component according to Miller & Rose (2009) is empathy. While referring to prior research Miller & Rose (2009, p530) describe the following: '*studies preceding MI showed a specific and strong relationship between the therapist empathy and drinking outcomes*'. Moyers et al. (2006) and Piersons et al. (2007) describe a few components of MI which are found in face to face treatment research: 1) confrontation, when used the therapist is clearly opposing the arguments of the participant or delivers counterarguments, 2) resistance, any refusal from either the therapist or the participant to comply with something like for example an argument or a certain type of intervention, 3) summarizing, giving a brief overview of the main topics, and 4) endorsing, which means giving support through for example positive feedback.

Knaevelsrud (2005) underlines that it are not the CBT components itself, but the therapeutic alliance which plays an important role. *'This is thought to be achieved by a high degree of transparency regarding therapeutic procedures, encouragement of questions and doubts, instructions, frequent positive feedback, creating hope, and the stimulation of positive*

expectations.' (Knaevelsrud, 2005, p26). The therapeutic alliance seems to be a consistent predictor of therapy outcomes in the last thirty years of psychotherapy research (Del Re et al., 2012). In a systematic review about a web-based treatment Postel, De Haan & De Jong (2008) already state that in regular face-to-face therapy, '*the quality can only be as good as the therapist is doing it'* (p712). They stress that the role of a professional therapist is very important in face-to-face treatment, and, although evidence has not yet been found, in online treatments. The therapeutic alliance is described as one of the important parts of online treatment that may enable or stimulate behavioral change in patients (Gainsbury & Bladzvzynski, 2011; Andersson et al., 2012). Several researchers emphasize different parts of the therapeutic alliance. Elvins & Green (2008) have underlined therapist warmth and flexibility (Castonguay, Constantino, & Grosse Holtforth, 2006) and collaboration and emphasizing common ground (Creed & Kendall, 2005). Other concepts of the therapeutic alliance are trustworthiness, experience, confidence, lucid communication and accurate interpretation (Ackerman & Hilsenroth, 2003). Akerman & Hilsenroth (2003) found that enthusiasm, interest, exploration, involvement and activity were means of therapist investment in the therapeutic alliance. Therapeutic alliance is mostly researched in face-to-face contacts (Elvins & Green, 2008). but is not limited to it. Although there is not much research about the therapeutic alliance in web-based treatments available, the physical presence or absence of a therapist (and related behavior) does not seem to matter. An example of related behavior is the supporting nod of the therapist. A concept found in both face to face treatments as in therapist guided online treatments show that the working alliance remains, even without the physical presence of the therapist. Research shows that the working alliance is a possible contributer to the effectiveness of an online treatments (Andersson et al., 2012). Examples are from Knaevelsrud (2005) who measured therapeutic alliance via the working alliance inventory (WAI) in an internet-based psychotherapy for posttraumatic stress disorder and from Andersson et al. (2012) who also used the WAI to assess therapeutic alliance in an internet cognitive behavioral therapy. Andersson et al. (2012) concluded that alliance is possibly less important in an iCBT than in standard face-to-face treatments. Knaevelsrud (2005, p72) found that '*the more positive patients experienced the therapeutic relationship at the end of treatment the less psychological symptoms they reported after the treatment*.'

Therapist treatment fidelity

The main concept encompassing therapist adherence and competence is treatment fidelity, sometimes called treatment integrity, which can be defined as *'the extent to which the*

intervention was implemented as intended' (Perepletchikova, Treat & Kazdin, 2007, p829). Treatment fidelity encompasses three aspects (Perepletchikova, Treat & Kazdin, 2007; Resko, Walton, Chermack, Blow & Cunningham, 2012). The first is therapist treatment adherence, which is defined as the degree to which the therapists utilize or avoid prescribed procedures (Hogue et al., 2008). The second is therapists competence, which is defined as the therapists capacities, or, '*the level of the therapists skill and judgment'* (Perepletchikova, Treat & Kazdin, 2007, p829). The third is treatment differentiation, which refers to the degree to which comparative treatment approaches differ from each other in practice (Hogue & Dauber, 2013).

The therapist treatment adherence and therapist competence are the two most important concepts of treatment fidelity. As Waltz, Addis, Koerner & Jacobsen (1993, p620) state: *'Successful tests of treatment integrity include both an assessment of therapist adherence to the treatment protocol and a determination that the interventions are being performed competently.'* Although the definition of Waltz et al. (1993) is almost two decades old, research about therapist fidelity is mostly done over the last 5-10 years. The adherence, competence and the differentiation can be measured by following pre- and proscribed therapist behaviors. Waltz et al. (1993) state that the easiest way to asses adherence is by presence or absence of a therapeutic intervention. A more extensive method can be used when an assessment is not only done by the presence of a technique, but also by rating the frequency or extensiveness of the techniques (Waltz et al., 1993). Competence is mostly measured with reliable an validated instruments (Gearing, El-Bassel, Ghesquiere, Baldwin, Gilles & Ngeow, 2011). An example is from Campbell et al. (2013) who developed the Twelve Step Facilitation Adherence Competence Empathy Scale (TSFACES) for outpatient, community-based, addiction treatment centers to strengthen the Twelve Step Facilitation (TSF) method, a manual guided treatment which aims to increase engagement among clients in 12-step activities. Imel, Baer, Martino, Ball & Carroll (2011) used an existing checklist to assess therapist treatment adherence and competence for Motivational Enhancement Therapy (MET), a form of therapy based on MI. Weck, Richtberg, Esch, Höfling & Stangier (2013) used the Cognitive Therapy Scale (CTS) to assess therapist competence in Maintenance Cognitive Therapy (MCT). Campbell et al. (2013), Imel et al. (2011) and Weck et al. (2011) al used rating scales which were reliable, valid and thoroughly researched. They all used rating scales to assess taped videos of therapies. Muse & McManus (2013, p498) stress the need of formative (ongoing) and summative (end) assessment methods. Although both have

been proposed in theoretical models for eHealth implementation (see for example Van Gemert-Pijnen et al., 2011), it is noteworthy that not one research about treatment fidelity in a web-based treatment is found.

Direction of Research

Research about components which contribute to the treatment effectiveness of MI and CBT is limited. Qualitative research is not found very often in eHealth research and therapist fidelity is not only a relatively new concept, it also has not been applied to a web-based treatment before. To the author, only one peer-reviewed article is known which performs an explorative research via qualitative methods in a web-based treatment. Paxling et al. (2012) did a study to address the content of therapist messages in a guided iCBT for generalized anxiety disorders. While using content analysis they derived 490 codes of therapist messages with 44 patients. They derived eight distinct therapeutic interventions, for example deadline flexibility, task reinforcement, self-disclosure, emphatic utterance and self-efficacy shaping. The most common therapist behavior was task reinforcement embodying 40% of the codes. Although this research has found some therapeutic skills in a iCBT, more research is necessary to underpin Paxling et al.'s (2012) findings.

This research is the first in line of two different researches which attempt to fill the research gap of assessment of therapist treatment fidelity in web-based treatments. As discussed therapist treatment adherence and competence is mostly measured by rating scales in face to face treatments. Both researches aim to create such a rating scale specifically for Alcoholdebaas.nl. This research is creating an extensive fundament to define the therapeutic skills which are relevant for this rating system. This research is qualitative and primarily explorative. A pilot version of a rating scale will be made, which will be continued to be researched in a second research project. This second project will also combine the scale with a quantitative database.

Difficulty lies in how to distinguish working components from skills and therapist performance. Therefore, one important differentiation has been made in this research. For example, steps of CBT, like the case conceptualization and functional analysis, are integrated within the system as assignments which can be made individually by the participants. Several assignments go in depth with assessing thoughts, behaviors and feeling and the relation between these three, which are typical CBT steps. The CBT assignments only differ slightly from those used in face-to-face counseling. In contrary, MI is a mindset which takes a very

different perspective. MI is the leading concept of how a therapist' should communicate and is done through messages between therapists and participants, which embodies the focus of this research.

Research Questions

The preceding parts discussed the CBT, MI and therapeutic alliance elements of a web-based treatment, treatment fidelity and the lack of fidelity research in web-based treatments. This research aims to fill the gap of therapist treatment fidelity research in online treatments. It primarily aims to address the first two sub concepts of therapist treatments fidelity: therapist treatment adherence and competence. Due to the characteristic of being a pilot, the treatment cannot be compared with another web-based treatments, but, the treatments can be compared between each other. Given the small number of participants this research, only descriptions and thoughts on the differences can be given. Thus, the third characteristic of treatment fidelity, treatment differentiation is not measured, but will be described shortly. The main research question is defined as:

- How can therapist treatment adherence and competence be assessed in the web-based treatment Alcoholdebaas.nl?

To ultimately be able to create the 'Look At Your Drinking – Adherence Competence Scale' (LAYD-ACS) to assess therapist treatment adherence and competence in Alcoholdebaas.nl an exploration of essential therapist elements of CBT and MI is necessary. Although elements were already described earlier on, it remains questionable which are applicable in Alcoholdebaas.nl. Although methods like MI and CBT are important, a treatment is not per se limited to these techniques.

- Which therapeutic skills are relevant according the literature when assessing a web-based treatment?
- Which therapeutic skills ought to be applied in Alcoholdebaas.nl?
- To what extent are therapeutic skills applied in Alcoholdebaas.nl?

Method

In this research a first indication of notable elements of CBT, MI and the therapeutic alliance have been explored to assess therapist treatment fidelity in Alcoholdebaas.nl and to give advice about how to improve therapist treatment adherence and competence.

Participants and Data

Since the first use of Alcoholdebaas.nl the messages and all the treatment information of participants and therapist' have been archived in the system. Data includes not only messages, but also a huge amount of hard, quantified data. Examples are the seven-day drinking diary and questionnaires about medication use and daily alcohol use. In addition, it is standard procedure to ask participants to participate in a follow-up questionnaire three and six months after the treatment. Participant permission is achieved when the participant enters Alcoholdebaas.nl the first time.

Treatment analysis has been done in January and February 2013. Treatment messages were derived from the database. The period of January 2009 to December 2011 was chosen to prevent sampling incomplete active treatments. To achieve a heterogeneous sample of therapist' purposive sampling was used. Therapists were sampled independently by a third person to ensure that these fit the overall demographic data of Alcoholdebaas.nl. An overview on therapist demographics is given in table 1. In the following cases therapists were excluded from the sample: 1) the therapist is an intern, 2) the therapist is in his or her first year and receives supervision and 3) the therapist is a franchise worker. Per therapist several participants were available. Per therapist one participant was included. Criteria to include participants were: 1) the treatment started between January 2009 and December 2011 (it is allowed to end after this date), and 2) treatments are complete and finished. After finishing the treatment a file is closed half a year after the last contact. In case of dropout the

Table 1: Demographics data of participating therapist'*

Therapist	Gender	Job Position	Period active	No. of treatments done since employment (from which active)
1	F	Social Welfare worker	Oct. 2008 – current	33(4)
2	F	Social Welfare worker	Oct. 2008 – current	44(7)
3	M	Coach	Sept. 2011 – current	9(7)

*Data derived on January 20th 2013, cross-checked on February 4th 2013.

Table 2: Demographics data for participants treated by the therapists*

Treatment no.	A	B	C
Gender	M	M	F
Age	29	39	44
Education	WO	MBO	HAVO/VWO
Job	Fulltime	Fulltime	Fulltime
First day of contact (yyyy-mm-dd)	18-07-2011	01-06-2011	07-11-2011
Last day of contact (yyyy-mm-dd)	05-04-2012	01-03-2012	09-11-2011
Treatment length in days (weeks)**	194d (38.8w)	301d (60.2w)	264d (52.8w)
No. of participant emails	20	21	19
No. of therapist emails.	31	58	59

*Data derived on January 30th 2013, cross-checked on February 4th 2013

** Measured by the difference between the first and the last contact (the three- and six-month follow-up email excluded), first email is regarded as N=0. Weekends are excluded, every week is counted as 5 days.

file is closed after several reminders. The therapists have different professions, like for example nurses, psychologist but also social workers. They all have received the same three-day training for the system and are all experienced in face to face addiction treatment. Besides that, the therapist have all practiced the complete program with a simulated participant. And have all taken part in an intensive supervision for a period of 3 months. A course of three full days is preferably given in the first three weeks. The content is about the techniques and the structure of- and how to cope with, the program. Two times a year a supplementary training is given. Franchise workers are excluded because they do not get this training and supervision.

Privacy was secured by making every used document anonymous from the very beginning. The therapists names were changed to an alphabetic character or to 'Social Worker' (for example A, B and C). The participant in the treatments was named 'Client' or 'Participant'. Table 2 shows the demographic information about the three participants used in this research. All data used is only retraceable by the researcher Ronald Roskam (RVR) and his companion Tim Ziel (TZ), which both signed a confidentiality treaty.

Treatment Content

Participants of Alcoholdebaas.nl can sign-up for the treatment by reference of physicians, for example general practitioners or psychiatrists. In addition, participants can apply for the online treatment anonymously after getting free anonymous advice. After registration an intake will takes place. Questions asked are, for example, about demographics, reasons why the participants apply, about the substance abuse- and dependence criteria of the DSM-IV and medication use. In the beginning, the contact is more informative and exploring. Later on in the treatment, more CBT aspects are used. For example, by assessing unrealistic non-

supporting thoughts and replace them by realistic supporting thoughts. Sometimes messages from either the therapist or the participant are replied on the same day they were sent. Sometimes, it takes about two to three working days before either one responds. A well-known agreement between the therapist and the participant is that the participant should get a response from the therapist within three working days. The treatment embodies two parts with a total amount of twelve steps, which are the following.

First part

1) The first step is an intake is information gathering. For example, demographic information as age, gender, education, work and the participants objective towards the treatment is gathered. Furthermore, several questions are asked to get a situation overview. An alcohol diary is filled in, information about pharmaceuticals and (possible) prior treatments and food consumption is gathered. This step embodies the fundament regarding information for the whole treatment and is used to compare treatment results with.
2) The second step is an assignment and discussion about the advantages and disadvantages of the alcohol use. The participants think about the three most important advantages and the three most important disadvantages of their alcohol use are. Options are already given within the system. Advantages and disadvantages which are not in the system can be discussed throughout the messages.
3) In the third step the participant starts fill in a complete daily drinking diary to get an actual overview of the alcohol use. This diary is filled in throughout the whole treatment to let the participant get insight in their actual alcohol usage. In addition, the objective is to search for situations and problems which could possibly be an elucidating factor for increased alcohol use.
4) The 'Drinkwijzer' is used in the fourth step. In this assignment the participant can fill in a questionnaire regarding craving in certain situations. Several situations are given and the participant fills in how much craving there is and how often he or she drinks, both on a 3-point Likert scale.
5) In the fifth step an 'in between' measurement is done with several theses, questions about what the participant learned so far, about if the participant wants to continue with the second part and some evaluation questions about the therapist and the system

(for example: which grade would you give to the therapist? Would you recommend this treatment to other people? Do you have any other comments on this treatments?)

Second part

6) In the start of the second part, the objective is discussed. The participant has to create a measurable, feasible and realistic objective. For example, 'I quit per …' and 'I want to drink less, my objective is to: drink a maximum of … per day, a maximum of … per week and I will not drink … days per week'. The participant can fill in a date or a number on the dots. In addition, in this assignment rewards play an important role. The participant is asked to describe how he rewards himself when he succeeds in achieving his goals.
7) In the seventh step behaviors are discussed. Again, several theses are given to the participant so he can think about them. Examples are 'I can quit without help', 'I need help to control my drinking', 'I am tired of the problems which are caused by my alcohol use' and 'I want to get treated for my problems'. Participants can judge these theses' on a 5-point Likert scale (I completely agree to I completely disagree). With this step the participants motivation is discussed.
8) The eighth step is about supporting and non-supporting thoughts. The participants fills in his thoughts and tries to reformulate them in such a way they will support the objective the participant formulated earlier on
9) This step aims to create a connection between thoughts and behavior. The participant is thinking about how he can change his craving. The main question is: 'On moment of craving for alcohol, I can do the following things to feel better: …'. The participant can put his own examples on the dots.
10) In the tenth step the participant tries to formulate reasons for alcohol use. What situations triggers the craving for alcohol? In this part thoughts, feelings and behaviors are discussed. In addition, the participant is asked to formulate what he will do on moments of recidivism and how to go on after that.
11) In the eleventh step the participant formulates a plan of action. What are the risk situations, -thoughts, -feelings, -behaviors and what are the helping thoughts. Questions which already have risen before in the treatment are now compiled in the formulation of precise and tangible actions.

12) This step marks the final stage of the treatment. It's not the true end, since there still remains a bit of contact during half a year after this stage. This contact is especially for gathering follow-up information and provides a possibility for the participant to get help when necessary.

After the treatment, participants can take part in a three- and six month follow-up by filling in similair questions as in the intake. Examples are: 'How do you think of the result you achieved with the treatment?', 'How do you look at your drinking habit, after six weeks?', 'What do you regard as the most educational?' and 'Do you need any help with your alcohol consumption at this point?'. In addition, the same question about pharmaceuticals, adverse events, food consumption and co-use of other drugs are asked. This data can also be used by the therapist to give the participant a final advice, or based on the results, the participant can ask for a final contact. By filling in and discussing homework assignments the treatment progresses.

The system has a lot of standardized content which can be used by the therapist to underpin their conversations in the contact. Most of this standardized content is informative, for example psycho-education about alcohol use and homework explanations. In some cases the standardized messages are almost completely standardized and the therapist only needs to fill in some sentences. In other cases the standardized information only gives an overview of what information should be in the message, or what the therapist at least should address. An example of a standardized message is given in table 3. This example shows the places which the therapist should change with personal data and shows what kind of suggestions are standardized within the system. Note that most of the sentences are standardized, where just a few words have to be modified. Also note that this is one example. The degree of standardization differs throughout the standardized content. For example, psycho-education is standardized completely, but when a therapist responds to prior messages, they can put a lot of personal information in it.

Concept of analysis

In this research concept analysis is used to explore the data for several therapeutic interventions and techniques. In addition, some quantitative data is collected, as seen in table 1 and 2. This research uses a combination between conventional content analysis, directed content analysis and summative content analysis (Hsieh & Shannon, 2009). When using the

Table 3: Example of standardized content of Alcoholdebaas.nl *

Dear **XXX**,

Welcome. My name is **[your name and surname]** and I will be your therapist. In this message I will go into your registration and I will explain the program to you. If you would appreciate an acquaintance by telephone, then you should know it is a possibility. We can make a telephone appointment if you like.

- **When registered with a weird login name**

You have registered under the name **[name of the participant].** If you want to be addressed by a different name, than you can always tell me. To do that, you can send me a message by clicking the button 'Answer' within this message

Response on your intake

I have read the questionnaire you filled in. You filled in that **[respond to question 12 and 39: reason of registration + what are the participants objectives + possible described comments]**

It is great you took the initiative to register and to investigate your alcohol use and eventually possibly change it. I will do my best to support you.

I want to provide you several links (underlined and in orange) about relevant information on our or another website. When you click the link, the information will appear in a new window. It is important that you read this information. To get a clearer picture of you and your situation, I will ask you some additional questions. I will number the links and the questions, so you can response a bit easier to them accordingly.

1) You have mentioned in the intake that you drink about [**number of]** standard glasses alcohol per week. Can you let me know for how long you drink this amount of alcohol? And can you tell me something about this habit?
2) I read that you **work/study/take care of the household**. How is it going **on you work/with your study/with the household**? Does the drinking has an influence on your alcohol use? If yes, what is the influence?
3) Can you tell me something about your leisure activities? Do you have certain interests or hobbies?
4) How do you think of your social contacts with you family, friends and acquaintances? Are you satisfied with it? **[when the participant is 16 or 17 years old, or older and still living at his parents' house]**
5) You filled in that you are **[age]** years old. Are your **parents/caretaker** informed about your registration at this program? What do they think of it?
6) At the registration you have given permission to us for asking a referral letter from your general practitioner. This means that your GP will be informed about your registration at Alcoholdebaas.nl. Have you ever spoken about your alcohol use with your GP? May this be not the case, than it is a good idea to overthink it. From a lot of GP's we hear that they find it pleasant when the patient himself informs about participating in the internet treatment. What do you think of it?

*****ATTENTION, give links and questions numbers accordingly*****

- **Possibly a link: pharmaceuticals/sleep/physical complaints/depression/withdrawal symptoms/pain etc. (note relevant links and spread the offer over the contacts in part 1)**
- **Name personal cases from comments and alarm bells (note alarm bells for yourself)**
- **Other treatment officer? Than send always a the letter 'co-handler' in a separate message + the subsequent text**
- **When daily >10 glasses, always send the GP a message in a separate message + text**
- **When daily alcohol use: ask if participant has alcohol free days**
- **When more than safe use: link: 'You and alcohol/Alcohol and vitamin B1'**
- **When having a partner/children, check and send link.**
- **When less than safe use, link: 'Abstinence, decrease/how much is much? + drinktest.nl'**
- **Make that when copying/pasting that the link is orange in the definitive text.**

* The standardized texts are printed normally, the parts that can be changed by the therapist are bold. When a participant gets a message, he will not see the bold texts. These parts embody instructions or advices about which data should be on a certain place. This standardized text is freely translated in English by the author from the Dutch text in Alcoholdebaas.nl

conventional method the researcher takes an initially blank perspective and will code and categorize what he encounters. The directed approach uses prior research and/or existing theories, which can help focus the research question. Sometimes predetermined codes are used. The summative content analysis *'starts with identifying and quantifying certain words or content in text with the purpose of understanding the contextual use of the words or content'* (Hsieh & Shannon, 2005, p1283). Summative content analysis explores the frequency of therapeutic skills. In this research a model based on prior research and theories is used and changed according to what is encountered. Next to prior research and theories the frequency of therapeutic skills was taken into account to decide which skill is more or less appropriate for Alcoholdebaas.nl. The following steps are taken. Note that the first two steps were taken in the introduction section.

1) In the first step, research about several different therapeutic techniques and aspects, which are deemed important within the therapist-participant relation, are searched non-systematically in the databases of 'Pubmed', 'Sciencedirect' and 'Google Scholar'. Examples of search terms used are 'motivational interviewing; cognitive behavioral therapy; therapeutic alliance; working alliance; relation; aspect; doctor-patient relation; predictive factors; treatment readiness; motivation; therapeutic change; bond; online treatment; web-based; adherence; fidelity; integrity'. A variance of combinations is made to find more information. In addition, via a snowballing technique more literature is found in reference lists.
2) Reviews are read, meta-analyzes are taken in consideration and scales, questionnaires and inventories are thoroughly analyzed for possible concepts which were usable in the subsequent research. In the end, the following literature is used in presenting concepts, definitions and theories which were possible to find in the contacts:
   a. Information on MI, like for example concept of empathy, confrontation and resistance in the Motivational Interviewing Treatment Integrity (MITI) scale and in the Smoking Cessation Counseling Index (SMOCCI) (Moyers et al., 2005; MITI 2.0 in Dutch: Moyers et al., 2006; Piersons et al., 2007; Houwers, Vervoort, Rossem & Kotz, 2013)
   b. Information on the therapeutic alliance. For example, the concepts of agreements, goal setting, transparency and collaboration (Andersson et al., 2012; Eveleigh et al., 2012; Knaevelsrud, 2005; Langhoff et al., 2008). Note that in face-to-face

counseling the structure of the conversation is taken into account. In this web-based treatment analysis of this step is left out, because alcoholdebaas.nl is very structured within its very own design. Although empathy is part of the therapeutic alliance, it is not measured as such, because it is also a part of the MI techniques. Definitions in both conceptualizations do not differ and therefore, empathy is explored as a stand-alone concept.

c. Information on important concepts was found in related, some way similar research of an iCBT in Finland. Examples are therapist self-disclosure, alliance bolstering and deadline flexibility (Paxling et al., 2012).

3) An overview of the concepts, definitions and related theories is given in the LAYD-ACS rating scale with a plus (good) and a minus (not so good: there is room for improvement) value. The LAYD-ACS is regarded as the means of analysis which is spoken of in the 'direction of research'. The LAYD-ACS states a code, the therapeutic behavior, and a clear underpinned definition for both values. To get an a priori inter-raters agreement the LAYD-ACS is used to analyze a pilot treatment. This pilot is a randomly chosen completed treatment, which is not used within the actual data-analysis. Changes are made, such as additional information to explore the therapeutic alliance (for example, therapist transparency was initially not included in the book). During the process, new codes were created, deleted or codes were changes. For example, two codes were given about the collaboration between therapist and participant. During the process the resemblance between those codes is discovered. Thus, the codes were collapsed. Another example is the creation of the code 'agreement'. As part of the therapeutic alliance the therapist makes promises and deals with the participant. This topic could not be coded as another, existing code, and thus, a new code was created.
4) To increase content validity an expert view is given on the LAYD-ACS by a treatment supervisor and coordinator of Alcoholdebaas.nl. In addition, the expert had a big role in the development of Alcoholdebaas.nl and is greatly experienced in web-based treatment, as well in face-to-face counseling. Based on the expert's view, slight changes were made. These changes included sharpening the definitions.
5) The codes of the LAYD-ACS are converted to Atlas Ti 6.2.28 (©ATLAS.ti Scientific Software Development GmbH).
6) Two persons (Ronald Roskam & Tim Ziel) have read, and coded the treatment messages separately from each other by means of the LAYD-ACS created in earlier

steps. Standardized texts are coded the same as any other texts which are provided by the therapist, because they are part of the messages the therapist writes, and thus, are a certain way of therapist treatment fidelity. Treatment codes are discussed a posteriori to gain an inter-rater consensus. Slight changes have been made to both the codes and the instrument. For example, next to the 'agreement' code another extra code is added: boundaries, realism and limits. This code embodies the therapist lines which keep every step realistic. A participant can make an amazing improvement, but should always beware of a relapse. Also codes about autonomy and asking permission have been mixed up several times. To prevent this any further, definitions are sharpened and examples are added to the LAYD-ACS.

7) For code analyzes, all the codes are compiled into a quote book and all doubles are unified. Sometimes a sentence is used in two or all treatments. It is highly possible that these are standardized texts which can be used in the system. The table in the results section on page 27 described all codes, the subsequent paragraphs with the description of all codes described the unified numbers.
8) Next to the LAYD-ACS, some quantitative information is gathered in a checklist to give an overview of the treatment. This is found in table 1 and 2. One additional variable found in table 5 in the results section is measured with a three-point Likert scale: a subjective measure or subjective impression by the rater of the connection between the therapist and participant. Does the therapist connect with the participant (thus, reacts on information the participant gives, coded as 1) or is the therapist talking about completely something else (coded as 3)? Code 2 is given when the therapist shows a bit of both.

Results

Table 4: An overview of how many times a certain code is given, per treatment and the total amounts.

Concepts	Code	Plus					Minus					Total	
		A*	B*	C*	Total		A*	B*	C*	Total			
Motivational Interviewing		157	231	261	649	***36,06%***	64	85	81	230	***64,97%***	879	***40,81%***
Support & endorsement	TBO	82	114	143	339	18,83%	18	14	17	49	13,84%	388	18,01%
Consent & non-committal	TTV	49	88	89	226	12,56%	39	51	50	140	39,55%	366	16,99%
Motivating	TMO	0	3	3	6	0,33%	0	0	3	3	0,85%	9	0,42%
Summarize	TSV	3	3	6	12	0,67%	1	1	0	2	0,56%	14	0,65%
Autonomy	TAU	23	20	13	56	3,11%	6	8	11	25	7,06%	81	3,76%
Confrontation	TCC	0	3	7	10	0,56%	0	2	0	2	0,56%	12	0,56%
Resistance	TWS	0	0	0	0	0,00%	0	9	0	9	2,54%	9	0,42%
Therapeutic Alliance		90	136	115	341	***18,94%***	10	5	3	18	***5,08%***	359	***16,67%***
Mutual trust and partnering	AWV	3	4	2	9	0,50%	0	0	0	0	0,00%	9	0,42%
Alliance Bolstering	ASB	11	15	14	40	2,22%	2	0	1	3	0,85%	43	2,00%
Transparancy	ATR	40	83	73	196	10,89%	1	1	0	2	0,56%	198	9,19%
Objectives	ADO	4	3	5	12	0,67%	6	4	2	12	3,39%	24	1,11%
Agreements	AAA	35	31	21	87	4,83%	1	0	0	1	0,28%	88	4,09%
Reflection		4	2	49	55	***3,06%***	6	11	8	25	***7,06%***	80	***3,71%***
Empathy	EMP	3	0	17	20	1,11%	6	10	6	22	6,21%	42	1,95%
Reflective listening	RL	1	2	32	35	1,94%	0	1	2	3	0,85%	38	1,76%
Informing		116	111	149	376	***20,89%***	12	16	16	44	***12,43%***	420	***19,50%***
Feedback on questionnaires, test results and information given in earlier messages	IFT	49	43	61	153	8,50%	10	13	12	35	9,89%	188	8,73%
Feedback or information from other sources than the participant	IPF	0	2	0	2	0,11%	0	2	0	2	0,56%	4	0,19%
Information and explanations about the Alcoholdebaas.nl.	IUC	30	37	50	117	6,50%	1	0	2	3	0,85%	120	5,57%
Psycho-education and other information	OIV	37	29	38	104	5,78%	1	1	2	4	1,13%	108	5,01%
Other techniques		26	27	24	77	***4,28%***	2	1	1	4	***1,13%***	81	***3,76%***
Deadline Flexibility	DF	0	1	2	3	0,17%	0	0	0	0	0,00%	3	0,14%
Showing interest	IT	13	14	4	31	1,72%	1	0	0	1	0,28%	32	1,49%
Self-disclosure	OH	0	0	0	0	0,00%	0	0	0	0	0,00%	0	0,00%
Limitations, boundaries & realism	HRB	13	12	18	43	2,39%	1	1	1	3	0,85%	46	2,14%
Questions		63	115	121	299	***16,61%***	5	17	11	33	***9,32%***	332	***15,41%***
Open Questions	OV	22	52	42	116	6,44%	1	1	0	2	0,56%	118	5,48%
Closed Questions	GV	41	63	79	183	10,17%	4	16	11	31	8,76%	214	9,94%
Total amount of codes per value		459	622	719	1800	***83.57%***	99	135	120	354	***16.43%***	2154	***100%***

** The A, B and C are referring to the three treatments used.*

Quantitative data

After creating, changing and reworking the LAYD-ACS during the process, 24 categories were taken into account, 23 were recognized as applied in the treatments used. Some categories showed a small amount of codes (for example deadline flexibility) and others large numbers (support & endorsement). A total amount of 2154 codes was found in the three treatments. Table 4 gives an overview of all codes and how often either one of their values (plus or minus) is found. Note that 84% is graded as a plus, and 16% is graded as a minus. Minus indicates that there is room for improvement. Every category, starting from the top of table 4 to the bottom, will be explained. Every code has both a plus (well-performed counseling technique) and a minus (technique needs adjustment) value and will be subsequently described. The definitions given are those which are tailored to Alcoholdebaas.nl through the process. Note that there is no CBT category. This is a result of the differentiation made before that MI is a mindset which can be used by a therapist. The CBT elements were found specifically in several assignments. Since this research aims to explore therapist treatment fidelity, it is aimed at the discussion about the assignment (which is more MI), not the assignment itself (which is CBT).

The following is described: 1) the techniques of MI, 2) the therapeutic alliance, 3) the reflection techniques, 4) techniques about giving information, 5) other techniques and 6) about open and closed questions. The results section is closed by 7) a subjective assessment about the connection between the participant and the therapist.

Techniques of motivational interviewing

SUPPORT & ENDORSEMENT - The first and most dominant technique found is the support and endorsement code. The plus value of the code is defined as '*To say positive things or give compliments. This code also comments on the strong aspects and diverse possibilities of the participant. Beneficial behavior is endorsed.*' Sometimes, sentences are standardized text. Although standardized text were be found in sometimes two or even three treatments, the sentence was counted as one, to focus on the sentences written or changes by the therapist himself. After removing the standardized content, from the initial 388, 235 distinct sentences were left. The concepts found within this code are not only positive comments *("You can be proud of that."* Treatment 1), but also acceptance *("It's okay when you pick up your treatment again at May 7."* Treatment 3) and best wishes *("I wish you all the best for now and in the*

future." Treatment 2). Comments are stimulating *("It's very brave and powerful that you are lowering your alcohol use in such a difficult period."* Treatment 3) and supporting *("I think you are doing this incredibly well!" Treatment 3).*

On the contrary, 49 sentences were given a minus value, from which 39 sentences were distinctive. This value is defined as *'Mention something, but not giving it a positive, complimenting value. In the most extreme cases a value judgment is made by the therapist.'* In this value assumptions are made *("It is not very tough and does not cost a lot of discipline"* Treatment 1,2 & 3). In addition, the therapist makes either big *("Of course you can do something about it yourself."* Treatment 1 & 2) or small value judgment in regard to the participant's action or views *("Because of the doubts on your targets."* Treatment 2). These sentences could all be questioned *("It is only logical there are benefits of drinking, because if there were only disadvantages we would not do it."* Treatment 1,2 & 3).

CONSENT & NON-COMMITTAL – Another dominant code, which accounts for 17% of all codes, is the consent & non-committal code. Of the total amount of 226 plus codes 156 sentences were identified as different. This plus value is defined as *'To ask for permission to give advice and/or information the participant already knows. Consent means that the participant directly asks for information or advice and the therapist answers. Indirect forms of consent can happen when the therapist gives the offer to reject the information or advice. This code is not limited to information and advice alone, but also embodies codes which let the participant choose or give him freedom of choice.'* This category is all about freedom of choice for the participant. The way the participant can follow his own plans and values. For example, offers are given by the therapist because he finds them relevant, the participant does not have to take the offer, but is free to choose *("If you like a notification message, then you can use the option 'message notifications', which you can find on the login page. If you don't want this, we advise to note down the dates in your planning so you know when to log in again."* Treatment 1). Another example is that the therapist offers his help several times if the participant has any questions *("If you have any questions, feel free to ask them."* Treatment 1). Sometimes the therapist gives psycho-education unasked. Although it is unasked, this can be done in a non-committal way *("Possibly this text helps to look critical, but nuanced to yourself in that way."* Treatment 3).

The minus value of consent & non-committal incorporates almost 40% of all minus codes, which makes it by far, the most dominant minus code. Of the 140 sentences, 100 sentences

were identified as distinct. This is defined as *'By giving suggestions, solutions or actions without consent of the participant. Words and sentences like 'you should', 'why don't you...', 'try', 'imagine that', 'what do you think of' and 'you can' are used a lot in this context. Not, like with autonomy, how the therapist would do it, but how the participant should do it, according to the therapist. Remark: the code is different when the interviewer gets permission first (direct or indirect) for giving advice.'* This code is characterized by a highly directive way of speaking *("In the meantime, keep registering"* Treatment 2). Although therapist intentions can be good, it is not about what the participant can do, but what he should do *("Naturally you need to take action in time, if for what reason, it is not going well with you."* Treatment 1) The participant does not have any room to do something else *("It is very important to eat meals regularly (3 times a day)"* Treatment 2), or to do something he himself wants to do.

MOTIVATING – Motivation is not a topic where a lot is said about. With six plus and three minus sentences, this code accounts for barely 0.4% of the total amount of codes. Motivation is defined as *'The therapist talks about the participants motivation. The therapist tries to create a state of ambivalence (a state of conflicting emotions about behavioral change). The consequence is that the participant is stimulated to think about his own motivation.'* When talking about motivation, therapists go into detail and ask for reasons why the alcohol use should be changed *("You wrote that your boss wants you to do this treatment. Do you want to do this treatment? Are you sufficiently motivated? What was the reason you dropped out last time?"* Treatment 2).

On the contrary, the minus code, which is defined as *'The therapist does not discuss the participants motivation. The motivation of the participant is not mentioned or not completely discussed. The therapist asks, for example, about motivation, but does not discuss it.'* does not go into detail (*"I understand from your message of yesterday, that you were in an interpersonal conflict about if you wanted to continue with this treatment. I hope this start of the internet treatment will convince you to do so."* Treatment 3). The therapist only mentions the motivation and does not asks about it *("You mentioned that this is a motivation for you to decrease your alcohol use."* Treatment 3).

SUMMARIZE – 14 summaries were found, from which 12 were coded as a plus. The plus value is defined as *'A complete summary is given. The summary embodies sufficient details about content, agreements and other important elements in the consult. Sometimes, a summary can embody just a few sentences, but still functional.'* A summary captures and

recalls the most important topics which are discussed prior to the summary *("Your job ends and it is replaced by a lot of uncertainty about how to arrange welfare and finding other work. And on top of that, when you are still taking care of three children and the contact with your partner which results in stress regularly (next to the romantic moment you described in your moment description)."* Treatment 3).

The minus value is defined as *'When there is no summary, or a limited one (aims at only one topic), or an incomplete summary (misses important aspects).'* A summary is given shallow, without going in detail and recalling important data *("I can recall that we talked about this last year too."* Treatment 2).

AUTONOMY – With 81 sentences autonomy almost accounts for 4% of all codes. The plus value of autonomy is defined as *'The participant has freedom, choice, autonomy and the possibility to decide. Therapists can accept that there are participants who do not want to change. Therapist who strife for high participant autonomy invest in specific behavioral changes. They do not manipulate something in a certain direction, but look at the long term, to change participants in the future. The therapist shows understanding that change should come from the participant itself and that it should not be forced upon.* ***Remark:*** *The difference with consent and non-committal is that this code is all about the stimulating the participant to do it by himself.'* From the 56 plus codes, 35 distinct sentences were found. Autonomy is endorsed *("You of course make the choice by yourself if you are going to do the assignment and if you want to decrease or quit your alcohol use." Treatment 1,2 & 3)* and the therapist' stresses the 'you' towards the participant *("Therefore, you will make, with help of the assignment 'formulate objective', a concrete and realistic plan."* Treatment 1,2 & 3).

In contrary, the participant is not in the spotlight with the minus value. 19 codes were identified as distinct. This is defined as *'Therapists with a low autonomy have a difficulty to accept that participants possibly choose to avoid or slower the change, or maybe decide to change on an unusual way. Therapist' stress a feeling of urgency to change, by giving orders, commands or commitments. The language of the therapist is very committing. The therapists own opinion is given without stressing the autonomy of the participant.* ***Remark:*** *The difference with consent and non-committal is that this code is all about what the therapist should do, not the participant.'* This code is about what the therapist thinks (*"It think it would be good to face the bad side of your blunder."* Treatment 3) or would have done (*"I would try to take it step by step and lay the thought 'no future' next to you."* Treatment 3) or wants *("I*

want to stop for a moment at this point. You cannot change a situation afterwards. So, your risk situations, you cannot do much about that. On the contrary, you can be alert on it: know what your difficulties are." Treatment 1,2 & 3).

CONFRONTATION – With 12 sentences confrontation account for 0.55% of all codes. Confrontation is defined as *'The confrontation is functional and usable. The confrontation has the purpose to create insight about a certain area or certain discrepancies. No judgment is given. The aim is to enlighten the participant with new insights which are usable for the following treatment steps.'* In confronting sentences discrepancies are stressed, either constructive *("Now I think you can definitely be proud on the fact you are achieving your goals, and independent of how distressing your situation is, to take full care of your children and to keep a safe environment for them and yourself. But to accuse yourself of not being happy, that does not make you happier of course!"* Treatment 3) or more triggering *("I understood from you that it is very important for you to follow the complete treatment. There are really things which are depending on it. Your boss wants you to do this treatment and you do not have your driver's license back. Where is your priority?"* Treatment 2).

The minus value of confrontation is defined as '*The confrontation aims to hurt, correct, embarrass or blame the participant. Rejection or a negative judgment is central.*' In contrary of the plus value of confrontation insight is not the aim. Confrontation here is aimed to hurt or give a rejection *("It was a close call or I would have locked your file today."* Treatment 2).

RESISTANCE – Resistance encompasses 9 sentences which were al found in treatment 2 and were all valued as a minus. The positive value is defined as '*The therapist is open-minded in regard to the participant, does not give own opinions, does not use arguments why something is good or bad, does not judge and does not seek for resistance. For example, by floating with statements of the participant and through asking new question with the aim to make the uttered negativeness more constructive.'* but was not found in the three treatments.

On the contrary, the negative value of resistance is found more often. This is defined as *'The therapist interrupts and counters the participant, tells his own story and goes in depth. On moment of discussion or friction, the therapist does not make this known. The therapist seeks out for the fight/wrestling.'* While coding the second treatment both coders noticed an that the therapist became irritated during the process and thus, the code resistance was given. Instead of preventing or speaking about the confrontation and make it more constructive, the

therapist' seemed to be creating resistance by sending assignments again *("I had indeed once received the 'drinkwijzer' from you, but I have had send you this once again. Read the message 'What are your risk moments' from the 21st of February again. The aim of the 'drinkwijzer' assignment and getting insight into your alcohol use habits are extensively described there."* Treatment 2), or by more or less blaming the participant in such a way the therapist is showing resistance *("You do not fill in real thought and most of the times you keep the behavior part open."* Treatment 2).

Therapeutic Alliance

MUTUAL TRUST & PARTNERING – Nine sentences were found which led to six individual sentences. These codes describe *'The pronunciation of mutual trust by both the participant and the therapist, having a safe feeling and pronounced trust. The therapist stresses the trust in the 'You' format.'* Trust can be described either as trust from the therapist ("*I have trust that it can bring you a lot.*" Treatment 3) or a caring word from the therapist that the participant can trust himself ("*You have made a very good start and you can trust that you have the capacity to achieve your targets."* Treatment 2).

The minus value, defined as *'There is spoken about trust, but reasons for trust are left out. The therapist states his trust in the 'I' format.'* has not been found in the treatments used.

ALLIANCE BOLSTERING – From the 43 sentences found, 23 individual plus values and two individual minus values were found, accounting for 2% of all codes. The plus value is defined as *'Stressing the collaboration. The participant does not have to do it alone. The therapist pronounces that he is there to support.'* Support can be expressed by the therapist (*"I will do my best to support you the best I can."* Treatment 1), showing that the participant does not have to achieve his targets alone *("'The best steersman are ashore' as could be said, but I especially hope to support you with the slogan 'two know more than one'!"* Treatment 3). The bond or the collaboration itself can also be stressed *("I hope to walk together with you through this treatment successfully."* Treatment 3).

The minus value for alliance bolstering embodies two individual codes and is defined as *'Stressing that the participant has to do it alone. Support is not or minimally given. In contrary to the autonomy the participant here is more 'lost' and 'alone', than 'autonomous'.'* It

is more about the therapist, than about the participant *("In our next contact I would like to get a broader view on the different situation where you crave for alcohol."* Treatment 1 & 3).

TRANSPARANCY – A total amount of 198 sentences, from which 196 were valued plus, is found for transparency. Transparency is defined as *'The therapist informs the participant when information about him is shared with others, when he, for example, consults his colleagues. Also, all other activities in regard to the participant are shared.* ***Remark:*** *another part of transparency is when the participants get informed about therapist sickness, vacation or when the therapist makes excuses.'* 128 individual codes were identified. Main topics within this code are information about a therapeutic team *("Naturally only employers of our internet treatment team have insight in our messages."* Treatment 1,2 & 3), about a therapist who became sick *("Due to sickness [XXXX] cannot send messages today. It is unsure how long this is going to take. Maybe he is recovered by Friday, otherwise it will be next week […]"* Treatment 1, 2 & 3) or went, or is planning to go, on vacation (*"Via this way, I would like to let you know that I will soon be absent due to my vacation. After next week I have a holiday of three weeks. I will be absent from Monday the 1st of August until Friday the 19th of August. In this period you will not receive any messages or assignments."* Treatment 2). A fourth option is the therapist who makes excuses for not responding within the three days agreement *("First things thirst, I would like to apologize that you did not get a message from me last week. The reason was a day off and indeed- a few days of illness this week."* Treatment 3).

Only one distinct code is defined as a minus value: *'The therapist is vague in transparency. It is not clear if consults have taken place, what is spoken of, or if there have been other consults about the participant.'* The therapist is not completely transparent with regard to the follow-up questionnaire *("By means of effectiveness research of Alcoholdebaas.nl, I would like to send you the subjoined questionnaire and ask you to send it back to me. The data from these questionnaires are of great importance to us."* Treatment 1 & 2). It remains unknown how the participant benefits from filling in the questionnaire. In addition, nothing seems to be done with the questionnaire, which means filling it in is only a 'cost'. No reason is giving about why the participants should fill in the questionnaire. Thus, it lacks transparancy.

OBJECTIVES – Twelve individual sentences were found for the positive value of objectives *'The therapist reflects with the participant on the targets the participant formulated.'*. The therapist should give feedback on the objective, or at least say something about the strength

and weaknesses of the formulated objective *("Your objective is very clear and tangible. That's good. By this way you make it very clear for yourself what you want to achieve. No vague plans, but a tangible, workable and measurable objective."* Treatment 1,2 & 3).

A minus code is given for 10 distinct sentences when *'The therapist targets which were mentioned before, but does not go into depth in it, does not discuss them, or is vague in discussion.'* The therapist remains shallow and does not go in depth in regard to the objective *("As an objective you formulated that you want to decrease your drinking. Good that you registered again, that you took the initiative to explore you alcohol use and maybe change it.'* Treatment 2).

AGREEMENTS – This code is about agreements and promises and encompasses 88 codes, which accounts for more than 4% of all codes. This code is defined as *'The therapist discusses and stresses agreement he wants to make with the participant. The therapist makes promises about upcoming advices and keeps his promises.'* The therapist can either make an agreement *("Usually I will send you a message on Wednesday were I go into your registration, possible moment descriptions and messages."* Treatment 1), or make promises *("You can expect a message from me again by next Monday. See you then!"* Treatment 2).

One sentence codes a negative agreement, which is defined as '*The therapist does not make any agreements and does not talk about agreements. When spoken about agreement they are irrelevant or inconsistent.'* The agreement is irrelevant, inconsistent, or simply not fulfilled *("Unfortunately I cannot respond, as agreed on, within the three days on you intake and intake questionnaire."* Treatment 1).

Reflection

EMPATHY – Empathy is defined as '*The degree in which the therapist understands, or tries to understand the perspective of the participant. In contrary to reflective listening, here it is especially about understanding, imagining and justifying of mentioned emotions*.' 42 codes were found, from which more than half (23) are from treatment 3. The therapist tries to understand the participant (*"I can imagine that it gives a lot of satisfaction to work at such a research project."* Treatment 1), tries to feel what the participant is feeling *("In addition, there is that horrible situation of grievous bodily harm of your sister."* Treatment 3) or to justify the emotions of the participant *("Conceivable that you neglect that once in a while and*

that you are not waiting for criticism. I can imagine that it feels like air being squeezed out." Treatment 3).

The minus value of empathy encompasses 22 sentences and is defined as *'The therapist tries to understand the participant, but remains shallow or does not stick with it. The therapist, for example, does not mentions feelings of the participant, but does mention he understand him.'* An example is that the therapist goes in depth into a practical problem, but does not go in depth into how it feels for the participant ("*How unfortunate that your computer broke. In current time you are completely disabled. But, buying a computer is of course nice too. At least* …." Treatment 1) or that the therapist generalizes an advice which he does not connect to the participant ("*They are used to buy or undertake something for themselves. You can decide to connect it to achieving your objective*." Treatment 1&2).

REFLECTIVE LISTENING – With 38 sentences this therapeutic behavior account for almost 4% of all codes. Al were distinct. Reflective listening is defined as '*A short comment in which feelings are noticed with the participant, described. Not only the story of the participant is mentioned, but especially, what the participant means with the story. In contrary to empathy, this code is more about subjective impression of the therapist.'* 32 codes were identified as a plus. Sometimes the therapist takes a more summarizing perspective, in such a way, that how he described it, is not actually said by the participant *("You are feeling good, are experiencing more self-confidence and you are satisfied with the achieved results. Well done!"* Treatment 2). Another way is more descriptive in sense what the therapist is noticing which aspects play an important role *("I notice that you do not feel like you are respected in all the efforts you take."* Treatment 3) or about something that seems to happen, according to the therapist (*"When reading your messages it almost seems that you are blaming yourself that carrying on your decreased alcohol use did not work out."* Treatment 3).

The minus value is defined as *'The therapist does not mention the feelings of the participant or described his impression insufficient or is completely wrong with his assessment'* and embodies three codes. The therapist does not try to feel along with the participant *("I can grasp the fact that you do not have a craving moment and that you find the drinkwijzer strange. That can be."* Treatment 2) or assumptions with the intend to reflect on the participants feelings *("Naturally , this evokes several things. I do want to say that you are doing very well up to now, definitely, when you think about that you decreased your alcohol use, considering the distressing situations."* Treatment 3).

Giving information

FEEDBACK ON QUESTIONAIRRES, TESTRESULTS AND INFORMATION GIVEN IN EARLIER MESSAGES – 137 individual sentences were identified as *'Responses are given on the content of, for example, test results, questionnaires, assignments, the alcohol diary and or prior responses'*. Responses can be for example on prior responses *("Last time you mentioned that you have troubles with hormonal induced mood changings. I wondered if you talked about this with the general practitioner, for example, if some pharmaceuticals could lighten this."* Treatment 3), on test results *("You described which thoughts you experience right before you get craving and/or you are drinking. You wrote some clever thought there: [thoughts]"* Treatment 1 & 2) and on the alcohol diary *("You have drank about 20 standard units of alcohol per week. You recently brought that back to two units a day (14 per week) since your registration."* Treatment 3).

The minus value, which embodies 29 individual codes, is defined as *'Results of test, questionnaires, assignment and/or the alcohol diary are mentioned, but not elaborate in depth. There is no explanation on the results, in order that the participant does not understand or grasps the results to full extend.'*. The therapist responds very shallow *("I have read that you work."* Treatment 1) and does not go into depth *("Thank you for your registration. I have looked at your intake and you are a suitable candidate to start with the web-based treatment Alcoholdebaas.nl"* Treatment 1, 2 & 3).

FEEDBACK OR INFORMATION FROM OTHER SOURCES THAN THE PARTICIPANT – *'Giving feedback which the therapist received through another source than the participant. The therapist refers to the source, for example, information which is retrieved through the general practitioner, or a reference via the system, for example, the electronic client file.'* This code encompasses two plus and two minus values. An example is about a participant who participated earlier once *("Last time you came until step 2."* Treatment 2). Although the source was not mentioned in this treatment before, as in the minus value the context noted that the source is known. The minus value is defined as '*Giving feedback which the therapist got through another source than the participant. The therapist does not refer to the source, for example, USER.*'. In this specific case the participant got the same therapist as the first time, and thus, the source of the information is known, but still, it is not mentioned.

INFORMATION AND EXPLANATIONS ABOUT ALCOHOLDEBAAS.NL – 70 individual sentences were identified for '*Clear explanations of assignments, questionnaires, treatment steps and system aspects which belong to alcoholdoldebaas.nl.'* This can be a reference to a website *("You can look on the website with [heading], if you would like more information about the choice you have made."* Treatment 1), it can be a clear explanation about how a certain part of the treatment works *("In that case it is the goal that you are registering your alcohol use daily in a work-book and put the registration in the system, when you have the chance. Next to that, you can make the assignments in a work book to, so you can copy it to the system when you have time. Via this way, you will not run behind too much and you do not have to do everything at once when you are home again."* Treatment 2).

The minus value is defined as *'Explaining the assignments, questionnaires or the system insufficients or incomprehensibles.'* and embodies three distinctive codes. The context is importance here, since the sentence needs to connect with prior and following information ("*You can find the assignment for this 'the Drinkwijzer' below, were you can check situations where you are craving for a drink."* Treatment 3). Note that this sentence is primarily good, but the context states it did not belong there at that moment, and thus, it is regarded as a minus value.

PSYCHO-EDUCATION AND OTHER INFORMATION – 108 pieces of information were coded as psycho-education or other information. This code is defined as *'Information like psycho-education which connects with the participant. Examples are the degree of alcohol use, the loneliness and other relevant and interesting topics.'* 74 distinct sentences are identified. The core of this code is that the therapist provides information *("The risk exists (like I wrote before) that if alcohol drops out as a tool to relax, that it would be tempting to use more from a sedating pharmaceutical like Alprazolam."* Treatment 1,2 & 3).

Four codes were identified as a minus value for psycho-education and other information, this is defined as *'Information about psycho-education which does not fit the participant with regard to the content.'* The minus value is especially aimed at non-connecting information. This is because most psycho-education is standardized. Although the content of the psycho-education is very good, the question of the researcher remains if the participant has a need for certain topics. This remains a subjective perspective of the researcher, because it is unclear in the treatment if the participant really has a need for certain topics or not *("A very practical help with stopping your thoughts about drinking, when you want to do something else is the*

thought stop. The thought stop is easy to use and effective. It works as an emergency brake. […]" Treatment 1, 2 & 3). Another minus is that the therapist entered information, possibly by mistake, he only should read in the system, and should use to formulate sentences for it's one *("Do ONLY send the following text to RCT clients."* Treatment 3).

Other techniques

DEADLINE FLEXIBILITY – Three sentences were identified as *'Therapist behavior which is lenient in regard to deadlines of assignment/giving extra time to work on a specific module.'* Deadline flexibility is all about flexibility with deadlines and gives the participant freedom of choice with regard to deadlines (*"Just take all the time you need for the assignment 'different thinking'"* Treatment 3).

The minus value for deadline flexibility is about inflexibility and is defined as *'The therapist retains the deadline and settles the score with the participant when this deadline is not achieved. The therapist accuses the participant.'* No sentences were coded as such.

SHOWING INTEREST – 32 codes were identified as *'Written text which is not specifically aimed at the treatment, but has the objective to show an interest in the life of the participant. The interest is not related to the treatment per se, but is functional within the contact.'* The therapist can show interest in several kinds of topics. For example, a therapist can ask about the participants weekend *("Did you have a nice weekend?"* Treatment 2), or about practical problems which are encountered *("Is your computer virus free again?"* Treatment 3), or about the participants work. *("How is it going with your work? Does the research progress a little? And do you have any nice vacation or a trip in prospect? Or does everything needs to fall back for science?"* Treatment 1).

One code is identified as a minus value, which is defined as *'To dwell on the interest on other topics, with the consequence that the focus of the treatment is lost.'* The therapist takes the center stage with regard non-related topics ("*Yes, I had a great vacation, thank you. I have been to Croatie and Bosnia-Herzegovina. The weather was beautiful and I saw a lot and a lot of things. It is delicious that it is such a good after summer weather here."* Treatment 1).

SELF-DISCLOSURE – Neither a plus nor a minus value has been found within the three treatments used. The positive value of self-disclosure is defined as '*Therapist behavior which describes circumstances in the life of the therapist which are similar to conditions in the life*

of the participant.' The minus value is defined as '*To dwell on situations in the life of the therapist, with the consequence that the life of the therapist becomes central. This in expense of the participants' situation.*'. It should be noted that this code is kept in the LAYD-ACS, because the expert recognized the definition as a possible therapeutic skill.

LIMITATIONS, BOUNDARIES & REALISM – From the 43 sentences identified, 28 distinctive sentences were identified as a plus value. The plus value is defined as '*Indicating limits which should not be overridden. Highlighting the participant that his frontier is not clear or that a certain treatment step is not feasible or realistic. That what the participant want, should be doable with regard to the circumstances and the time. This code also embodies the assessment of unreal thoughts.'* Discrepancies can be given more informative *("A drinking habit is a learned habit. Although it will take quite some time and energy, you can unlearn it."* Treatment 3), making aspects more realistic ("*You can't predict all risk, but you don't have to.*" Treatment 1, 2 & 3) or more stressing on the active role of the participant *("Change will not occur spontaneously, you need to do it actively."* Treatment 1, 2 & 3).

The minus value encompasses one example which takes the edge of prior statements. This value is defined as *'Limits are not reported nor discussed. The therapist does handle limits , situations or behavior insufficiently in terms of feasibility and realism. The therapist takes the edge of (prior) statements and/or realistic utterances.'* Although prior information can be very positive, the whole statement can be invalidated by one quote ("*Naturally, this is just an example."* Treatment 1, 2 & 3).

Questions

OPEN QUESTIONS – Open questions are defined as *'An open question is coded as the therapist ask a question which has a broad range of possible answers. The questions should lead to information, should possibly invite to utter the participants perspective or encourages self-exploration. The open question gives a possibility for better insight. However, it should be functional and should set onset for treatment continuation. It calls to an in depth meaning of the participant.'* From the total amount of 108 codes 73 distinct codes were found. Open questions are typically started with 'how' *("How much did you drink before?"* Treatment 1), with 'where' *("Where lies your priority?"* Treatment 2) and with 'which' *("Which thoughts did you have at that point?"* Treatment 3). The open questions should typically encompass

open-endings *("To what extent does your alcohol use exerts any influence on your contact, and the care for your children?"* Treatment 3).

The minus value is defined as *'An open question which is correct, or not entirely correct, but which is not functional. It does not fit the context or does not have an added value. The open question goes into irrelevant topics or the question does not connect with the story of the participant.'* The minus value encompasses questions which do not fit the context. These questions are typically good, but are asked at the wrong time, the wrong moment or do not have an added value. Only two sentences were coded as a minus value, showing assumptions *("Does everything go to plan or do you encounter a lot of obstacles?"* Treatment 1)

CLOSED QUESTIONS – A total amount of 214 closed questions are found, which account for almost 10% of all codes. 155 individual plus and 24 distinct minus values were identified. The closed question is defined as '*This code is used when the therapist asks a question which can only be answered with 'yes' or 'no', or when there are limited answer possibilities (for example, year or hard data.) The questions need to be functional and should set onset for treatment continuation. In addition, this question can be functional in combination with a prior or following open or closed question.*' Only a short amount of answers can be given, like for example yes or no *("Are you anxious often?"* Treatment 2), formulated with 'can you' *("Can you write something about that?"* Treatment 3) or within a limited frame of answer possibilities *("With which reasons did you convinced yourself at that moment."* Treatment 1 & 3).

The minus value is defined as '*This code is used when the therapist asks a question which can only be answered with 'yes' or 'no', or when there are limited answer possibilities (for example, year or hard data.) However, the closed question is not functional, does not fit the context or does not have an added value. It feels like a checklist.'* This code is heavily context dependent and therefore more subjective to the researcher *("Do you have any interests or hobbies?"* Treatment 1, 2 & 3).

Connection

A subjective measurement is performed to indicate if messages between the therapist and the participant connect with each other. The main criteria here are if the therapist goes into important details mentioned by the participant in prior messages. Important details can be for

Table 5: Data about the connection between the participant and the therapist

	No. of therapist messages	**Strong***	**Moderate****	**Weak*****
Treatment A	31	28	0	3
Treatment B	58	55	2	1
Treatment C	59	58	1	0

* The therapist connects with the participant and responds on prior information accurately.

** The therapist does respond on prior information a little, but also addresses completely different information.

*** The therapist talks about something completely different with regard to prior information.

example the death of a family member, problems at work or a consult with a psychiatrist. Table 5 shows that most of the messages are coded with a 1.

One example of a medium connection is found in treatment 2. The participant is telling about his work abroad and his alcohol use. The therapist starts to discuss how the participant sees the future, which fitted according to both researchers. Suddenly the therapist starts about relationships and partners. Up until this point in the treatment this was no issue at all. The participant even mentioned that he did not want any relationships. Both researchers agreed that this message did not quit fit, because the participant was discussing completely different topics.

Discussion

The aim of this research is to lay an extensive fundament for creating the a pilot version of the therapist treatment fidelity rating scale: the LAYD-ACS (Look at you drinking – Adherence & Competence Scale). The main research question was: 'How can therapist treatment adherence and competence be assessed in the web-based treatment Alcoholdebaas.nl?' Literature was explored for relevant theories and these theories were applied to de online message. The research questions will be answered subsequently. Note that the second paragraph goes in depth in the most notable categories found. Furthermore, research limitations, suggestions for further research, suggestions about improvements for clinical practice and a conclusion is described

Therapist treatment fidelity

From the 23 counseling techniques that were coded in three full treatments, a total of 2154 codes were assigned to the corpus. A total of 2154 (mean = 718 codes per treatment) counseling techniques were found. When comparing to the research of Paxling et al. (2012), who found 1595 codes in 44 treatments (mean = 36.7 codes per treatment), this research found, when comparing means, almost 20 times as much codes per treatment. This research found 23 different categories, were Paxling et al. (2012) found eighth, which is almost three times as much categories. This could be explained either by a higher level of precision or a longer treatment length. The iCBT module of Paxling et al. (2012) had eight modules, were Alcoholdebaas.nl has twelve. Paxling et al. (2012) do not state how long their treatment is, but this research already stated that all of the used treatments were all longer than the intended three months. Were the normal length is approximately twelve weeks, the mean treatment duration of the treatments used is 50.6 weeks, which is 4,3 times longer than the intended 12 weeks. It is highly possible that this longer treatment duration resulted in a higher number of messages which in itself resulted in a higher number of codes. With the differences between Paxling et al. (2012) and this research in mind this research is regarded as more detailed.

About 86% of the counseling techniques could be qualified as well performed whereas only 14% was qualified as techniques were adjustments is needed. These results imply that the therapist treatment adherence and competence is very good in the three treatments assessed. Therapist fidelity has been measured before, but, to the authors best knowledge, this has not yet been measured in a web-based treatment. Resko et al. (2012) used the Global Rating of

Motivational Interviewing Therapist scale (GROMIT; Moyer, 2004) to assess therapist adherence and -competence to the treatment protocols. Although the GROMIT is not as extensive as the LAYD-ACS, it is validated and thus usable for face-to-face treatment to assess therapist competencies. The higher the score on the GROMIT the higher the scores on therapist adherence and competence in a web-based treatment. This research is in line with Madson & Campbell (2006) who state that for an intervention to work, it should be brought with fidelity and skill. In these researches a rating scale is used in face to face treatments with their respective results. The results of this research are not comparable, since the focus is on online, not on face to face treatments.

The results indicate that, in case of the three treatment of Alcoholdebaas.nl, the therapist do bring the treatment with a certain amount of fidelity and skill. As for third aspect of therapist treatment fidelity, the treatment differentiation, a few differences were encountered. Treatment differention was the degree to which comparative treatment approaches differ from each other in practice (Hogue & Dauber, 2013). Since no comparable researches are available no comparison could be made. Only a within-treatment comparison could be taken as a focal point.

Therefore, it is interesting to see that, independent of treatment length and number of messages, the number of counseling techniques which should is adjusted is roughly equal amongst all three treatments. On the contrary, the number of well performed counseling techniques has been found was way less in treatment A and was higher in B and C. One explanation is found in the standardized sentences, which are roughly the same amount for each treatment. From the 388 standard sentences, 235 distinct codes were left after removing doubles. In treatment B, the participant continuously responded late which resulted in several reminders, which were all coded the same and thus, increased the total amount of codes. The high rates in treatment C can possibly be explained by the more rooted and intensive problems the participant has been facing during the treatment. The high rate is explained by the fact the therapist seems to have the urge to endorse more and give more support. Alcoholdebaas.nl is specifically aimed at drinking problems, not at the suicidal and depressive symptoms the participants was showing. It is possible that the urge for more endorsement was higher in treatment C. Therefore, the therapist decided to change from online tot face to face treatment. Thus, the interaction between participant and therapist seems important and it seems that the way the therapist responds depends on the information the participant is giving. The three

therapist not only differ in their way how they bring the treatment, but also the participants differ in their way of using the treatment. This may imply that differences between for example A,B and C will always exist. Even when the analysis would be continued until Z, differences will always remain and thus, a focus on the specific cases should be taken to explain the differences.

Therapeutic skills

The first sub research question was defined as 'Which therapeutic skills are relevant when assessing a web-based treatment?' As shown in the result section there are quite some concepts found which are related to concept of MI, the therapeutic alliance and other. This suggests an eclectic approach from therapist perspective, an approach wherein the therapist tries to integrate the best ideas of different theories or methods. The fact that every counseling technique was somehow codable within the 23 categories means that the therapists of Alcoholdebaas.nl are working according to scientifically proven methods. The most important aspects which were relevant and applied in Alcoholdebaas.nl are discussed in the subsequent paragraphs.

The most dominant skill found is the concept of 'support and endorsement'. During the development stage of the LAYD-ACS the expert already told he, as a trainer of new employees, always stresses support and endorsement. Every trainee is learned to be as supportive and endorsing as possible which could explain the high rates. The high rates are also in line with the findings of Paxling et al. (2012). Their majority of codes concerned task reinforcement and self-efficacy shaping. Both can be regarded as a *'positive reinforcement for progress and independence in relation to the treatment content'* (Paxling et al., 2012, p5) which corresponds with the definitions used in this research.

The 'consent & non-committal' code is the second dominant counseling technique. Although this code embodies twice as much techniques when comparing the well performed skills and the skills were adjustment is needed, the latter still accounts for 40% of all the sentences which needs adjustment. A reason for this could be that a web-based treatment is not suited for a therapist to first ask the participant if he wants information. It suits better to just give it, and leave it to the participant if he uses it. It could be imagined that if the therapist asks permission for every piece of information the treatment length would be enormous and a vast increase will be seen in the number of messages. With the information in mind that the

treatments used were 4.3 times longer than intended and the prediction that when permission is asked for every piece of information it is expected that online treatments will be longer and longer. On the contrary, it is possible that because of the straightforward style that the treatment length has increased too. No literature is available if a more straightforward style is better or worse than a style wherein permission is asked frequently. It is expected that by using a more straightforward writing style the therapists prevent that the treatment length increases, but, more research on this topic is needed.

The counseling technique 'motivation' is not seen very often. It is even part of the name of the overarching technique, namely: motivational interviewing. It is deemed very important by several authors, although some prefer the word change talk (Miller & Rose, 2009) over evocation (Moyers et al., 2005). Change talk is defined as *'causing clients to verbalize arguments for change'* (Miller & Rollnick, 2002). It very much relates to motivation. A possible reason for this is that this construct is spread throughout other constructs. The 'boundaries, limits and realism' code does not primarily addresses the motivation, but uses contradictions to evoke motivation. In addition, the 'motivation' definition is aimed on sentences of the therapist which were specifically about motivation. Change talk could have found place, but is a concept that has to happen from the participant himself. Although, it seems likely that the therapists can initiate change talk. Change talk itself is only mentioned by the participants itself. The question is, what sentence, word or action of the therapist initiates change talk and initiates a conversation about the motivation of the participant. In this research, the focus was on motivation, not on the sentences which could initiate motivation, but on sentences about motivation. One could argue on this point if the definition was the right definition from the beginning. Future research can shed light on this. Either way, motivation is still not seen very which suggests that improvements are necessary on this concept.

Both 'confrontation' and 'resistance' techniques are not seen very often. Were resistance is more a state of the participant, confrontation addresses a more therapeutic skill. Resistance is found only in treatment B and only as a negative value. On the contrary, confrontation is found both treatment B and C, but only positive. Although the definition differs, the negative value of confrontation could also raise resistance and the positive definition of resistance could also relate to the well performed techniques of confrontation. Although resistance embodies a subjective feeling from either the participant or the therapist, it is given because

both raters felt like resistance was present while reading this part of the treatment. The therapist simply repeated the same text, while the participant already said he did not understand it. Sending the text again will probably not change the understanding of the participant. It is suggested here that these codes are better of integrated in, for example, a 3-point Likert scale or a gliding scale, because both concepts touch upon the same topic. It is unknown if 'confrontation' and 'resistance' will be found when analyzing a larger amount of treatments.

'Empathy' is deemed as one of the main therapeutic skills in MI (Miller & Rose, 2009). Although it is deemed important, empathy only accounts for 2% of all codes. For such an important working mechanism, one would expect that it would happen a lot more in the treatments. Another thing about empathy, is that it happened for almost 50% in treatment C, which is as much as treatment A and B together. Not only treatment C differs from the other two in being a dropout, the participant also has more psychological and social problems to face. One could discuss that empathy is, similar to 'support and endorsement', used more in reaction to the problems, rather than used proactive. No research has been found with information about the role of empathy in online treatments, but Davis (2009) stresses that empathy plays a vital role in the basic need of participants to get understood. A possible hypothesis is that the straightforward writing style of the therapist is at the expensive of 'empathy'. The more straightforward the style becomes, the less empathy is used. This has yet to be researched, since no research is available.

'Transparency' is used a lot throughout the messages. Except for one technique, almost all 200 sentences of transparency were coded positively. While reading through the coded sentences both researchers noted that there is a lot of standardized text here. It seems that it is very standard to always mention when the therapist is available again. In addition, the messages about the therapist being sick, the intake and the follow-up messages are all standardized. By integrating several pieces of information in standardized messages, it is believed that the transparency is heavily guaranteed. A slightly similar code to transparency is the 'self-disclosure' of the therapist. The difference is found in that self-disclosure is more about situations the therapist experienced, where transparency is more about practical things, such as the days when the therapist is online. The code was not found in the three treatments used. Although it seems logical to remove this code when it is not applied, it conflicts with the expert opinion. The reason why this code is kept within the system is because the expert

stressed self-disclosure does happen, although he also underlined it is not done very often. In agreement with the expert opinion, it is expected that an analysis of more treatments will result in a quotes of 'self-disclosure', and if not, it can be removed or combined with another category subsequently.

'Summaries' are not found very often. A possible explanation for this is the structure of the web-based treatment. Because all information is kept available throughout the whole treatment both the therapist and the participant can look back at information given earlier. Summaries are often given to recapitulate on the prior information in a conversation where there is not such a possibility (besides the patient file) to read information back.

'Feedback on questionnaires, test results and information given in earlier messages' is given a lot, both as well-performed techniques and techniques were adjustment is needed. This could be explained by the fact that a lot of the standardized content states that the therapist should respond on certain topics. As seen at the bottom in table 3 on page 23 a lot of suggestions for response are given. A lot of the counseling skills were adjustment is needed are explained by the high rate of standardized content which is formulated prior to an in-depth question. This is done mostly because no value has been given to the formulated content. Why ask the question 'What do you think about that?' after mentioning that the participants eats 14 meals a week. The therapist can at least argument why he wants to know more about it, by giving a value to the '14' (is it low, high, could it be a problem)

With regard to the second question ('Which therapeutic skills are applied in Alcoholdebaas.nl?') questions rise on the concept of deadline flexibility. Although it can be seen as a distinct concept, which is also done in Paxling et al. (2012) it remains, according to the researchers discussions, very close to the 'Consent & Non-Committal' code. Since this last code was not available in Paxling et al. (2012) it is likely that, when using this code on Paxling et al.'s (2012) data, that it embodies a lot of sentences. It is advised to overthink both concepts again after a larger sample is taken for assessing therapist adherence and -competence. It is likely they both address the same topic and thus, it is suggested to integrate the code 'Deadline Flexibility' with the 'Consent & Non-Committal' code.

The therapeutic function of codes

While looking at the code 'showing interest' one could argue if showing interest could really be marked as well performed or as a skill were adjustments are necessary. Examples which are coded as sentences were adjustments are needed, do not have to be wrong per se. For example, the therapist elaborates on his own vacation. Although both raters agreed on this code, one can argue if this information increases the therapeutic alliance, instead of lessening it. Ackerman & Hilsenroth (2003) state that it is one of many parts of the therapeutic alliance. This not only accounts for 'showing interest' but also for other codes. Both raters experienced that, because the motivation of the therapist for several interventions is unknown, it is not always clear with what intention the therapist uses a specific therapeutic skill. The raters could only see what is written, not what is thought. As a result, although may fit the definitions perfectly, codes may be given a plus or a minus when the therapist used a certain intervention on purpose. It is suggested when using the LAYD-ACS to assess if the therapeutic skill is functional or not by discussion.

The connection

Besides the search for related and applied therapeutic skills an assessment of the connection between the therapist and the participant has been made. This research showed that the connection between both is very strong. Although this assessment is highly subjective, this research can state the fact that the therapist goes into former details a lot. It can be stated that the therapist stays close to the topics discussed and does not suddenly, for example, talks about unrelated topics like a brand new car of the weather.

Research limitations

A limitation of this research is the limited experience of both researchers in mental health care, in specific, in skills used in psychotherapies, like for example MI. Although RVR has (limited) working experience in the mental health care, TZ could only ground himself on literature and discussed cases. Both gave their very best into analyzing the data as conscientious as they could. In addition, definitions and skills were discussed with an expert.

Within psychotherapy and web-based treatments all analyzed concepts are integrated into one therapeutic play. Sentences were coded as distinct as possible, but, because of the integrated character, sometimes sentences were coded double (getting two, or sometimes more different

codes for the same sentence). Thus, clear distinctions were not always possible to be made. Where, for example, one researcher chose the code 'Summary' the other choose 'Feedback on questionnaires, test results and information given in earlier messages'. Although these differences were reduced enormously by the inter-rater coding, there is still a small chance that some codes or sentences are sub- optimally coded.

During the process we encountered that it is not possible to code all minus codes. Some definitions suggest that some therapeutic interventions were lacking, but some also suggest that, for example, 'Support & Endorsement' should have been used at some point, but was not. It shows that the skills which are used by the therapist seem dependent on the message the participant sends. Therefore, the difficulty of coding from a third person perspective lies in the discussion of an objective- versus a subjective way of analyzing. During analysis it is tried to rate the used interventions, but when it is not used, the raters subjective feeling and knowledge of the literature told them that at some point, a specific intervention should have been used. Although every code is discussed between the two raters to rate as objective as possible, it means that this research embodies a certain amount of subjective coding.

The current research has been limited to three treatments due to time limitations. Although the number of counseling techniques found is large, the number of treatments is not sufficient. More treatments should be analyzed to gain more reliability and ensure the instrumental validity. This research assumed that, for example, the code of self-disclosure could be found in a larger sample. Although neither a plus nor a minus is found within this research, the expert recognized the definition and thought the code would be used. That, in the end, the code is not used may be due to the small sample. It is suggested to analyze more treatments to be able to make a decent comparison between the different therapists. It is also suggested to analyze more treatments per therapist to correct for therapist specific skills. No specific sample sizes are mentioned in the literature (Trotter, 2012). Bernard (2011, described in: Trotter II, 2012, p399) mentions that '*the ideal standard for qualitative sample size is to interview to redundancy*'. It means that research should be repeated until all concepts show up several times. Other advice to interview to saturation, which is a point were all concepts have been explored in detail and no new concepts were found in the subsequent interviews (Schensul & LeCompte, 2010 in Trotter II, 2012).

Next to general limitations of this research, the LAYD-ACS has limitations of its own. One limitation is the dichotomous way of measuring therapist adherence and -competence. Both

raters were sometimes forced to put a certain counseling skill in a plus or a minus, although they did not agree fully. By using a dichotomous system the information is coded as either good (well-performed) or bad (needs adjustment). There is no room in between. Therefore, it should be taken in consideration that several codes are good, yet coded as a minus. Those codes are not per se bad, but could be improved. Thus, they are coded suboptimal. The same goes for the plus value. Not all sentences which are labeled as a plus were per se the best, but they simply fitted better with the plus, than with the minus. In that way, every sentence was coded in one of the two categories, even when they did fit more in a gray area, than in the dichotomous model.

Suggestions for future research

Although the LAYD-ACS lays an extensive fundament to search for therapeutic skills in a web-based treatment the rating scale is, with 23 different skills, very large. The experience of the raters is that they both needed more than ten hours per treatment to analyze the sentences according the 23 categories and the total amount of 46 definitions. This means the current LAYD-ACS is highly time- and energy consuming. Time, of which is likely that it isn't available to the therapist. To achieve a self-control and self-learning approach for the therapist an easier way to analyze the treatments should be available. When taking a refreshment course it should be easy and take a short amount of time to analyze. Since this research aimed to take a broader, explorative and all-including approach, it is adviced to take on this research and narrow al the findings in a more easier and manageable instrument.

One way to make the LAYD-ACS more manageable is to reduce the number of categories. A research with more than three treatments should give more insight in which categories can be combined or can be left out. As discussed earlier on the 'consent-and-committal' code and the 'deadline flexibility' for example embody roughly the same topic. When reflecting on table 4 several categories were found one, two or maybe ten times, which is relatively low in comparison with the for example 'support and endorsement' category (339 codes). Though the category 'motivating' has only be found 9 times totally, it is theoretically important and should be kept in further development. The category 'Feedback or information from other sources than the participant' has been found 4 times totally. The function of this category can be discussed. Is the difference from categories such as 'Information and explanations about the Alcoholdebaas.nl.' and 'Feedback on questionnaires, test results and information given in earlier messages' large enough for its own category. It depends on the interest in knowing if

the therapist used other sources than the sources related to Alcoholdebaas.nl. Otherwise, it is suggested to integrate this categories in the other 'informing' categories, since it covers psycho-education and feedback on test results. The same goes for the category 'self-disclosure'. It has not been found in the sample used, but the expert said it does happen, although not so often. How large is the difference between 'transparency' and 'self-disclosure'. The difference lies in giving personal cases or information (self-disclosure) or being transparent in the therapist actions. It is suggested to combine these two categories.

Another possibility for improvement of the LAYD-ACS is a more flexible way to rate. It is likely that the dichotomous way of measuring therapist fidelity will put a strain on the research. A two-way of measuring results in a difficulty to explore the gray area between black and white. For example, instead of a dichotomous way of measuring therapist fidelity, for some constructs a three or five-point Likert scale can work better. If three of five possibilities should be used in a Likert scale is not clear from this researches point of view. What is important is that every possibility has its own clear definition with a focus on the difference between the possibilities. In this research the plus and the minus code has its own definition which made it easier to make a distinction when coding sentences. When using a, for example, plus/minus (+/-) it should contribute to the coding in a way that it is different and functional.

In this research it is tried to search for elements of therapeutic alliance by means of qualities research. Known beforehand both researchers tried to find sentences which are linked with, for example, alliance bolstering or mutual trust and partnering. However, over the last years it has not been a very usual method. Several researches used a rating scales by both the therapist and the participant (for example the working alliance inventory (WAI), Resko et al., 2012), and sometimes a third person too, to seek for subjective comments by all parties on the therapeutic alliance. Due to limited time and limited possibilities to build in questionnaires into Alcoholdebaas.nl this research chose for a more explorative turn to therapeutic alliance. Suggested is, in future research to find a way to test for the therapeutic alliance by means of a valid and reliable rating scale in Alcoholdebaas.nl. This would give a lot of insight about how the therapeutic alliance is experienced by both the therapist and the participant.

Alcoholdebaas.nl was the first web-based treatment that was created at Tactus Addiction Treatment. Over the years Alcoholdebaas.nl showed such good effectiveness rates (Postel et al., 2010) that Tactus Addiction Treatment chose to broaden their scope. Instead of having

only a web-based treatment Tactus Addiction Treatment expanded their web-based treatment to several other addictions than alcohol. An example is Benzodebaas.nl, a web-based treatment specifically made for decreasing the use of benzodiazepines, an addictive, sedative pharmaceutical. In addition, Tactus launched Etendebaas.nl, another form of the web-based treatment, but then for food addiction. Although all these different web-based treatments seem promising, a lot of them are still in development or just implemented. The current research is, at this moment, limited to Alcoholdebaas.nl. Future research can assess the generalizability of the LAYD-ACS in testing it on the other treatments.

As for therapist treatment fidelity, this research was the first to assess therapist treatment fidelity in a web-based treatment. Current experiences with the LAYD-ACS are good, but is, as said, limited. More research is necessary within the field of web-based treatment. Questions are: were the steps taken in this research the best way this research could be performed? Can therapist treatment fidelity be measured in other web-based treatments? How does a rating scale like the LAYD-ACS work out in practice? Further research is necessary on the usability of the LAYD-ACS, reliability (by using a more critical reliability measure) and the therapist experiences with such a rating scale. This can be done by, for example, organizing focus groups, doing test-retest research and doing interviews with therapists.

The topic of a straightforward or a more permission asking style has been mentioned shortly. This topic seems to be a very new and unknown topic in the field of guided online treatments. It is hypothesized that a less straightforward, frequently asking permission, writing style could be a reason that the treatment length is larger than intended. It is probably not the only factor which influences the treatment length, but could be a possible contributor. In addition, this research hypothesized that there could be a possible relation between the writing style and the frequency of the therapeutic skill 'Empathy'. Both hypotheses are based on a gut feeling on the one hand, and therapist experience on the other. Unfortunately, no research has been done neither the writing style in online treatments nor the relation with empathy. It is strongly advised to explore this field to either increase the use of 'empathy' in Alcoholdebaas.nl and to reduce treatment lengths.

Suggestions for improvement and implementation

Based on the preceding results and discussion this research suggests that the following aspects of Alcoholdebaas.nl could be improved. These aspects can possibly contribute to a decrease

of minus values and an improvement in therapeutic fidelity to the treatment protocols and therapist skills.

Richards & Viganó (2013) stress in their systematic review that alarming issues of noncompliance to the treatment protocols and a lack of specialized training for the therapists were found . This LAYD-ACS is an answer to increase the therapist treatment adherence and competence of therapist in Alcoholdebaas.nl. The sentences found can be used in specialized training for new and experienced employees. A huge mass of qualitative data was derived which can be used as examples. The quotes can be used to explain the therapeutic skills, to address the treatment protocols, to practice analyzing each other's messages on the skills used and to discuss about how to improve the skills used. The LAYD-ACS is a tool that can be used by employees to critically look at their own, or others work to learn. Not primarily to find minus values in their messages, but to gain more insight in how they write messages and to gain more insights in when and where they use what therapeutic skills. Second, this insight can be used to improve their own working proficiency.

Although it is one of the main concepts of MI, empathy is not found very often. Wynn & Wynn (2006) underline that the importance of empathy has been proven several times, but there is a lack of material that demonstrates how it works. Currently, not one peer-reviewed publication is found that addresses empathy in an online treatment. Davis (2009, p78) stresses that 'In *all forms of health care empathy plays a vital role in the establishment of a healthy provider–patient relationship. Provider empathy fulfills the patient's basic human need to be understood and potentially impacts therapeutic effectiveness.*' It means that the therapeutic effectiveness benefits from the use of empathy. With the results and importance of empathy in face to face research in mind (Ackerman & Hilsenroth, 2003; Campbell et al., 2013), it is suggested that empathy should be more applied within the treatment.

As discussed before in this research, the concept of motivation should be improved. With the question in mind what initiates change talk and which thing which sentence or which action starts proceedings about motivation. In addition, one can argue about the 40% of minus values of the 'consent- of committal code'. With the lack of literature on the use of either a straightforward or more 'getting-permission' way the question raises what is really better to increase the plus values on this concepts. At this point, the therapists can only rely on their

experiences to do best. It is advised that therapist tailor their skills as much to the participants as possible.

The difficulty with these and other concepts is that the question remains if these concepts really should be done more often or not. More research is necessary to underpin this. It is suggested that the opinion of the participant should be integrated in this argument. The current research predominantly focused on the texts of the therapist messages. The opinion of the participant has been left out. It is mentioned that there is a possibility that there was a higher need for 'empathy' and 'support and endorsement' in therapist C. But is it necessary? An assessment of the clinical aspect in form of the participant's opinion is needed. A qualitative method like for example a structured interview or a focus group is suggested or questions can be added to the system structurally.

When researched extensively and tailored to the specific intervention the LAYD-ACS can be used for other treatment programs like the benzodiazepine- or food addiction program. Though, the LAYD-ACS is specifically designed for Alcoholdebaas.nl, the latter one was the foundation for the benzodiazepine- and food addiction program. Thus, it is very likely that all these online interventions are quite similar and thus, the LAYD-ACS can be used in other online interventions. Though the results should be viewed in light of the other treatments, while keeping in mind that the LAYD-ACS is not tailored to those other online treatments.

Conclusion

Through explorative, qualitative research insight has been given into the content of Alcoholdebaas.nl. Although more research is necessary, treatment fidelity in Alcoholdebaas.nl is very high. Treatment fidelity is relevant, because the more therapists utilize existing, and scientifically proven methods, the more the participant benefits from the methods working mechanisms. A first step is made in creating a validated tool for analyzing a web-based treatment such as Alcoholdebaas.nl. To the authors best knowledge this is the first research which assessed therapist fidelity extensively in a web-based treatment. Although the tool should be validated with a larger sample, it showed to be effective in analyzing and assessing several counseling techniques. The LAYD-ACS can primarily be used to let therapists gain insight in their own working proficiency and supports them to develop their own therapeutic skills. This research implicates that online treatments are not only effective,

but that therapists also utilize skills which are mostly seen in face-to-face research, like empathy, summaries and a therapeutic alliance.

Conflict of interest

This is a student's master thesis. The author (RVR) got European Credit's (EC, curriculum points) for doing this research. No further conflicts are declared.

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About the Author

Ronald is an undergraduate of the master in Psychology and the master of Health Sciences at the University of Twente. After completing a Bachelor of Nursing, with an additional certificate for specializing in addiction treatment, he applied at the University of Twente in 2010 to initiate a progressive work- and study combination. With more than 1.5 years of internship in several sectors (medium care cardiology, detoxification and diagnosis in addiction treatment, neuropsychiatry, geriatrics) he developed himself as a very broad basic Nurse. Since then, he worked several days a month at a psychiatric clinic to sustain his practical experience and to develop the on-the-floor aspect of working with the target groups.

For his theoretical support Ronald chose two masters at the University of Twente, so he can broaden himself in the direction of mental health care (Master of Psychology, Mental Health Promotion) and in the more governance (regulation, evaluation and health economics) side of health care (Master of Health Sciences, Health Technology Assessment). To broaden himself in the research area Ronald joined the Centre of eHealth Research and Disease Management (CeHRes) in several projects with regard to a systematic research, transcriptions and qualitative research.

This qualitative study at Tactus Addiction Treatment is the final master assignment of his Psychology Master. Graduation of his master of Psychology takes place at august 27th, 2013. The graduation of his master of Health Sciences is expected in January/February 2014.

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