Acceptability and impact of an ACT based aftercare treatment for clients suffering from substance abuse

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Abstract

Background: The current study is the first one to combine and an Acceptance and Commitment Therapy (ACT) based approach for substance use disorders (SUD) with the concept of aftercare treatment to prevent relapse after regular treatment. Objective was to investigate the acceptability of the aftercare treatment, as well as to find out whether it was able to maintain and sustain earlier improvements on substance use, craving for substances and participation in society. **Methods:** Participants were eight adults with SUD who recently underwent regular CBT treatment. Interviews over the acceptability and the experienced impact of the aftercare treatment were held. Additional assessments about substance use, craving for substances and participation in society were administered pre- and post-treatment. **Results:** The acceptability of the treatment was overall reported positive. Main point of criticism was an insufficient introduction into the aftercare treatment and a lack of clarity during participation. Relapse was successfully prevented. Craving for substances was maintained and sustained over the course of the treatment. Participation in society tended to improve significantly. **Conclusions:** The ACT based aftercare treatment is considered an effective and appropriate treatment to be applied in the context of SUD. Further research could use larger samples and follow-up assessments in order to underline the present findings.

Samenvatting

Achtergrond: De huidige studie is de eerste die een Acceptance en Commitment Therapy (ACT) gebaseerde benadering voor substance use disorder (SUD) combineert met het concept van nazorg, om terugval na de reguliere behandeling te voorkomen. Het doel van de studie was om uit te vinden of de nazorg behandeling als aanvaardbaar ervaren werd en in staat was om eerdere verbeteringen in middelengebruik, verlangen naar middelen en deelname in de maatschappij te onderhouden. **Methodes**: De deelnemers waren acht volwassenen met SUD, die recentelijk een reguliere behandeling CBT hadden gekregen. Er werden interviews over de aanvaardbaarheid en de effectiviteit van de nazorg behandeling gedaan. Bovendien werd er naar middelengebruik, verlangen naar middelen en deelname in de maatschappij voor en na de behandeling gemeten. **Resultaten**: De aanvaardbaarheid van de nazorg behandeling werd als overwegend positief gerapporteerd. Een punt van kritiek was een onvolledige introductie van de nazorg behandeling en vaagheid tijdens de deelname. Tijdens de behandeling werd terugval succesvol voorkomen en het verlangen naar middelen onderhouden. Deelname in de maatschappij leek zich significant te verbeteren. **Conclusies**: De ACT gebaseerde nazorg behandeling wordt als een effectieve en geschikte behandeling voor SUD gezien. Toekomstig onderzoek zou gebruik kunnen maken van een grotere groep deelnemers en vervolgbeoordelingen om de hierboven genoemde bevindingen te kunnen bevestigen.

In 2015, an estimated quarter billion people of the world population used illicit substances at least once. Mostly used substance was cannabis (183 million), followed by amphetamines & prescription stimulants (37 million), opioids (35 million), ecstasy (22 million), opiates (18 million) and cocaine (17 million) (World Drug report, 2017). Furthermore, in 2010, more than one third of the world population over 15 years of age consumed alcohol in the past year (World Health Organization, 2014). The abuse of substances can end up in substance use disorders (SUD). SUD is a disease described in The Diagnostic and Statistical Manual for Mental Disorders (DSM-V) and is diagnosed, if at least two of the following criteria are met: continuous substance use despite dysfunction in work and social life, craving for the substance, effort and time spend to get the drug and a buildup tolerance of the substance (Malone & Hoffmann, 2016). At this point, anticipated beneficial effects can only be met by repeated substance abuse. To break through this vicious circle can be hard. Even if abstinent for a longer period of time, the developed craving for the substance has the potential to trigger use and relapse again (Childress, Ehrman, Rohsenow, Robbins, & O'Brien, 1993), characterizing SUD as 'chronic relapsing conditions' (Dixon, McNary, & Lehman, 1998). Of all substance abusers worldwide, roughly 29,5 million suffered from SUD in 2015, that is approximately 8,5%. Still, only 1 out of 6 people with SUD is provided with treatment each year (World Drug report, 2017). In the Netherlands, from around 2 million substance abusers, 65.000 underwent treatment in 2015, almost half of them because of alcohol related problems. 17% underwent treatment because of cannabis, 14% because of opiates and 11% because of cocaine (Wisselink, Kuijpers, & Mol, 2015).

Chronic addiction is often associated with comorbid mental health conditions (Kessler, Chiu, Demler, & Walters, 2005). Especially when taken in childhood or adolescence, substances abuse drastically increases the likelihood of organic and psychiatric disorders later in life (Kandel et al., 1997). Negative consequences for the somatic health , like higher mortality and morbidity rates have to be taken into account too. Furthermore, years of addiction are likely to harm social relationships and activities that give life a

meaning or a sense of purpose (McKay, 2016). In addition, problematic substance use has a dramatic negative effect on employment (Henkel, 2011), resulting in a lack of social support, accountability and structure in daily life. Current behavioral treatment approaches for SUD include Cognitive Behavioral Theory (CBT), Contingency Management (CM), Motivational Enhancement Therapy (MET), Motivational Interviewing (MI), Relapse Prevention (RP), Skills Training (ST), 12-step-facilitation (TSF) and Drug Counseling (DC), whereas CBT can be seen as a combination from different techniques, often including other approaches, like MI, ST, RP or CM (Stotts, & Northrup, 2015).

Relapse after the end of treatment remains high. Taking all treatments for SUD and alcohol use disorder into account, less than half of the patients who underwent treatment remain abstinent within the first year and chances for relapse remain high during the first years after treatment (Benishek et al., 2014; Hubbard, Craddock, & Anderson, 2003; Jin, Rourke, Patterson, Taylor, & Grant, 1998; Hunt, Barnett, & Branch, 1971). Following a review of 52 RCT's by Minozzi, Saulle, De Crescendo & Amato (2016), in comparison with no intervention, any psychological intervention for psychostimulant misuse increased abstinence at the end of treatment, increased the longest phase of abstinence, but may not improve or help to stay abstinent for a longer time. Room for improving treatment in the eye of substance abstinence after treatment remains (Lee, An, Lewin, & Twohig, 2015). To maintain and sustain abstinence after the end of primary treatment therefore remains an important topic for further investigation and will be topic of the present study. First, a general picture of existing treatments and their effectiveness at follow-up will be discussed.

Dutra and colleagues (2008) pointed out in their meta-analysis that psychosocial treatments in general overall provide moderate effect-sizes for SUD's, whereas abstinence rates remain high. CBT in combination with CM yielded the highest effect sizes (d=1.02), followed by CM alone, with moderate to high effect sizes (d=0.58), RP (d=0.32) and finally CBT alone (d=0.28). Abstinence rates in all active treatment conditions were 31%, compared to 13% in control conditions. Although CBT in combination with CM yielded the largest effect sizes, only 26,5% remained abstinent at post-treatment. A meta-analysis by Magil & Ray (2009) including 53 controlled trials of CBT for alcohol or substance use disorders found a small significant treatment effect (g = 0.15). This effect further diminished at 9 and 12

month follow-up (g = 0.12; g = 0.09). A review by Gates, Sabioni, Copeland, Le Foll & Gowing (2016) concluded, that treatments with more than four sessions each month on the combination of CBT and MET, together with abstinence based incentives was the most consistently supported treatments for patients suffering from cannabis use disorder. However, no intervention was consistently effective at 9-month follow-up or later. In line with other treatments for SUD, abstinence rates were relatively low, with around 25% at the latest follow-up. According to studies by Budney, Higgins, Radonovich & Novy (2000) and Carrol et al. (2006; 2012) regarding the abstinence durations achieved by participants after treatment, approximately one month was attained before initial relapse. A review by Klimas and colleagues (2014) about alcohol treatments could not come to firm conclusions because of an overall low-quality of the reviewed studies. Only one study with abstinence rates was included, where at one year follow-up, all of the 41 participants had a relapse. Sundström and colleagues (2017) refer to CBT as the most robust psychological treatment for alcohol use disorder, as derived from their pilot study of 13 participants. They reported an effect size of d=.76 (pre-post), which even increased to d=.79 at 3 month follow-up.

The acceptability of CBT in the context of SUD seems sufficient. According to research conducted by Brewer and colleagues (2009), participants in the CBT condition rated the treatment as highly satisfactory. A case study by Osilla, Hepner, Munoz, Woo, & Watkins (2009) came to a similar conclusion, stating that an integrated CBT treatment for SUD and depression was highly accepted by the participants. In contrast, McKay (2016) pointed out that CBT treatments do not devote enough time for increasing rewarding and enriching activities during recovery, resulting in a reduction of acceptability. As SUD patients get taught to cope with stressors without giving in to substance use, the emphasis inside CBT is on taking away *„something that has been of considerable importance to the individual“* (McKay, 2016, p. 752). An approach focusing more on motivational factors and enriching activities could therefore improve the acceptability of SUD treatment and eventually result in a higher effect-sizes.

Acceptance and Commitment Therapy (ACT) has been utilized for treatment in the context SUD, promoting mental health (Lee et al., 2015). ACT belongs, like CBT, to the family of behavioral therapies (Hayes, Strosahl, & Wilson, 1999; Herbert, & Forman 2012).

The focus inside ACT is not on a reduction of symptoms, but on the concepts of acceptance and mindfulness, as well as a shift towards chosen values. It is a solution orientation rather than a cause orientation (Esser, 2012). ACT treatments for SUD concentrate on accepting thoughts and feelings, instead of turning to alcohol or substance use again. On the basis of new values, ACT emphasizes a creation of a meaningful and rewarding lifestyle that is no longer compatible with substance use (Lee et al. 2015). Additionally, ACT targets comorbid psychological problems associated with SUD, like depression or anxiety (Peterson, & Zettle, 2010). The base of evidence of ACT treatments for SUD is relatively small, but promising. According to Stotts & Northrup (2015) review, acceptance and mindfulness strategies in patients with SUD have *"uniformly been met with high enthusiasm"* (p.80). As Lee and colleagues (2015) pointed out in their meta-analysis of 10 RCT's, the results provide evidence *"that ACT is likely at least as efficacious as active treatment comparisons [including CBT]"* (p.5). Looking at different substances separately, Twohig, Shoenberger and Hayes (2007) concluded that ACT is efficacious in cannabis use disorders. Concerning alcohol dependence, ACT treatments have also been shown to be effective (Luciano, Gómez, Hernández, & Cabello, 2001; Peterson, & Zettle, 2009). A study by Smout and colleagues (2010) found no significant differences between CBT and ACT treatment in 104 patients suffering from methamphetamine use disorders. Concerning abstinence at follow-up, three RCT's demonstrated small to medium effect sizes in favor of ACT over active comparison conditions. Most importantly, abstinence at follow-up was better maintained in the ACT condition compared to other active conditions, as revealed in small to medium effect sizes. A small, but nonsignificant effect size was found favoring ACT over CBT at follow-up. Lanza, García, Lamellas and González-Menéndez (2014) compared CBT and ACT in a sample of 50 women suffering from SUD. At post-treatment, CBT was more effective in reducing anxiety sensitivity than ACT. However, ACT was more effective in reducing drug use and improving mental health than CBT at a 6-month follow-up. According to a study by González-Menéndez, Fernández, Rodríguez and Villagrá (2014), ACT and CBT showed a significant increase in abstinence rates in a population of female prisoners with SUD. However, in the ACT condition, abstinence rates at every assessment moment (post-treatment, six, 12 and 18 months) were significantly higher than in the CBT condition, suggesting that ACT helped to

maintain and build upon previously gains more effectively than CBT. Several other studies reported similar results (e.g. Lanza & González-Menéndez, 2013; Luoma, Kohlenberg, Hayes and Fletcher, 2012). Summing up the base of evidence, ACT seems to sustain and maintain accomplished improvements on substance use longer and prevent relapse more effectively than CBT. Therefore, ACT could be especially suitable in the form of an aftercare treatment.

Inside aftercare, the goal is to further consolidate or even improve the achievements from primary treatment, while preparing for increasing autonomy and self-help. Blodgett, Maisel, Fuh, Wilbourne, & Finney (2014) reported a small effect size favoring continuing care in comparison with a control group in their review of 33 controlled trials, concluding that *"continuing care has a positive, although limited, impact on substance use outcomes"* (p. 8). Duration and intensity of the treatment were hereby not significantly associated with the effect of the treatment. Taking a closer look at the meta analytic review by Blodgett and colleagues (2014), a small significant positive effect favoring continuing care over a control condition was found. This effect further improved towards later follow-up points. An ACT based aftercare approach for SUD, called Mindfulness Based Relapse Prevention (MBRP) yielded significant acceptability rates, improvement on substance use and decrease on craving compared to a TAU condition (Bowen et al., 2009).

As studies of aftercare treatments on the basis of ACT are lacking, more research is needed to further improve treatment for SUD. Taking the effectiveness of regular ACT treatments, the promising results at follow-up measures and the positive indications of aftercare into account, a combination of them might pose an answer to the current limitation of primary treatment not being able to maintain and sustain accomplished achievements over time. The acceptability of an AT aftercare treatment also plays an important role, as any treatment with a low acceptability will eventually result in low effectiveness and high drop out rates. Therefore, measure of participants acceptability of the ACT treatment will be taken into account as well. The present study additionally investigates in participants experiences with the ACT aftercare treatment. These experiences will include general impressions and the experienced impact of the ACT aftercare treatment. Moreover, basic outcomes like substance use and craving for substances will be measured. Furthermore, it is chosen to measure possible changes regarding participation in society. This measure includes relations with

others as well as basic limitations, like limitations in daily activities and belief. As their outcomes are strongly influenced by SUD, a reported change could therefore be an indication of a possible impact of the aftercare treatment (McKay, 2016 & Henkel, 2011).

Research questions

The present study investigates the following research questions:

1. How do clients experience the acceptability of an ACT based aftercare treatment for SUD?
2. What changes in *substance use*, *craving for substances* and *participation in society* do clients report after an ACT based aftercare treatment?

It is expected that the participants experience the treatment as acceptable and report recommendations for further adjustments of the treatment. Furthermore, it is expected that substance use, craving for substances and participation in society will be either maintained or further improved over the period of the treatment.

Methods

Design

Before starting the treatment, the researchers got permission by the Ethical Committee of the University Of Twente. A mixed methods design was used, combining semi-structured interviews about participants' experiences with the program and estimated substance use, craving and participation in society, as well as a questionnaire about substance use, craving for substances and participation in society shortly before (t0) and after (t1) the program. It has to be noted that an additional researcher investigated other aspects of the program Living to the Fullest, which were not part of this study.

Participants

Eleven adult people who previously underwent regular CBT treatment for SUD at *Tactus Addiction Treatment* started the aftercare treatment in March 2017. Seven clients finished

pre- and post measures, six clients participated in the interview. Mean age of all clients was 47,6 years, most clients were male (73%). A convenience sample was used to recruit people for the treatment. All clients were asked if they were interested in an additional aftercare treatment. To be included in the study, participants had to be 18 years old at least and fluidly speaking Dutch, as the program was offered in the Netherlands. An exclusion criteria were undergoing additional treatment beside the present one. Participants started the program *Living to the Fullest* end of march 2017. Eight clients were suffering from alcohol abuse, one from cannabis abuse, one from a gambling disorder and one from a gaming disorder. As the symptoms of alcohol use disorder, gaming disorder and gambling disorder are comparable to the symptoms of SUD, all clients will be referred to as suffering from SUD in the following. All clients were also asked to fill in a questionnaire before and after the treatment, as well as an interview afterwards. Eight clients were included in the present study, as they either took part in the interview, the questionnaire, or both. Three alcohol abusers were already abstinent starting the aftercare treatment, as well as the client suffering from stimulantia abuse.

Table 1: Descriptives of the participants

Participant number	**Primary addiction**	**Gender**	**Age**	**Group**	**Participation interview**	**Participation questionnaires**
1	alcohol	female	41	Zwolle	yes	yes
2	alcohol	male	54	Zwolle	yes	yes
3	cannabis	female	43	Kampen	yes	yes
4	gaming	male	26	Zwolle	yes	no
5	alcohol	male	56	Kampen	yes	yes
6	alcohol	male	61	Zwolle	yes	yes
7	alcohol	male	41	Kampen	no	yes
8	gambling	male	58	Zwolle	no	yes
9*	alcohol	female	43	Zwolle	no	no
10*	alcohol	male	58	Zwolle	no	no
11*	alcohol	male	43	Zwolle	no	no

* Participant excluded from the present study

Treatment

Living to the Fullest is a small-group program developed on the basis of ACT. It is separated into three sections, each three weeks long: *Introduction: What is Living to the Fullest?*, *Resources from Living to the Fullest* and *Living to the Fullest in practice*. Every section consisted of other people's experiences, psycho educational aspects as well as various exercises on positive emotions, discovering and using strengths, optimism, self-compassion, resilience, positive relations and positive spiritual relations. The first phase of the program was about what Living to the Fullest generally means. The participants collected failed strategies they had already tried to alleviate the problems. Other components consisted of first mindfulness exercises and other ways to delay or even break through automatic reaction patterns regarding drug abuse. The second phase of the program was about resources and concentrated on alternative ways of coping with drug related problems and suffering. Acceptance of unpleasant experiences and cognitive diffusion were the main topics of this phase. Participants learned to identify unpleasant experiences or thoughts. They practiced strategies to cope in more effective ways, so that they determined one's life not as much. The third phase was all about searching, finding and using personally important values. Current values were tested on their durability and, if necessary, adjusted or even rejected. Instead, personally important values got explored and identified. These new values then set the starting point for alternative behavior regarding drug abuse and related problems (Bohlmeijer, 2009).

Procedure

In the beginning, participants were organized in small groups at a Tactus addiction care location in The Netherlands and introduced to their group trainers. Informed consent forms were handed out to the participants, consisting of content and goals of the treatment. Participants were then informed by their trainers that they were given several questionnaires, partly standard questionnaires of Tactus, as well as additional questionnaires, that were of special interest for the researchers. All questionnaires were filled in with pen-and-paper. Participants were informed that there were no right or wrong answers to any of the given questions, but that they aimed personal opinions and beliefs. After filling in the

questionnaires, participants were ready to start the nine week program. They followed the regular set up of nine sessions during a period of nine weeks at either the Tactus location Zwolle or the Tactus location Kampen. Each group was accompanied by a trainer, both trainers were qualified in leading ACT based interventions. One was a psychologist, the other one an ACT-trainer. Shortly after the program, participants filled out the same questionnaires as before the program, as well as an additional questionnaires about their experiences. Lastly, participants were invited to give an interview about their personal opinions and experiences of the program. Audio of the interviews were recorded. Interviews were either conducted at the corresponding location of their treatment, at their home, or via telephone, regarding their personal preference. Also, participants were informed that the information from the interviews was used for evaluation of the program.

Measures

The Interview. A semi-structured interview about the general experiences of the treatment was held with 6 participants after completing the program (*Appendix A*). Goal of the interview was to gain a deeper understanding of the participants opinions and experiences with the program. The interview consisted of two main parts aiming at participants general experiences (part A), as well as the experienced impact of the treatment on substance use, craving and participation in society (part B). Part A asked for participants expectations, experiences and impressions in general, the added value compared to primary treatment, experiences with certain sessions and exercises, helpful and unhelpful parts, the workload of the treatment, working in a group setting and suggestions for improvement. Part B concentrated on a change in substance use and what parts of the treatment contributed to that, to what extent craving changed in frequency or form, and if anything changed in relationships with others, in activities during the day and belief (participation in society).

The interview guide was developed by a five-phase framework of Kallio, Pietilä, Johnson and Kangasniemi (2016). In the first phase, the researchers investigated, whether the method of using a semi-structured interview is indeed suitable for answering the research questions. In the second phase, a literature review was carried out on how other studies used semi-structured interviews in the context of SUD. In the third phase, an interview guide was

formulated, followed by a pretest in the fourth phase. The final version was then tested on another researcher with sufficient knowledge on SUD to take in the role of a patient suffering from it. Based on these findings, last adjustments were made.

Substance use, Craving for substances & participation in society. Three sub scales of the *Measurements in the Addictions for Triage and Evaluation* (MATE*)* were used to measure substance use, craving and participation in society. The MATE is a standard test battery used at Tactus which aims at measuring all relevant concepts concerning drug use and drug abuse (Schippers, Broekman, Buchholz, Koeter & van den Brink, 2010). Substance use was measured using the first module of the MATE. All substances from the *Composite International Diagnostic Interview* (CIDI) from the WHO were asked for in this module. 20 questions aimed at substance use during lifetime and substance use during the last 30 days. Lifetime substance use questions could be answered on a Likert scale ranging from 0 (never) to 6 (longer than 20 years), substance use questions during the last 30 days on a Likert scale ranging from 1 (not at all) to 6 (every day) (Schippers et al., 2010). The CIDI has been tested in a review by Andrews & Peters (1998), who reported an overall excellent inter-rater reliability, a good to excellent test-retest reliability, as well as a good validity. Craving for substances was measured using module 9 (SQ1.1) of the MATE. To access the persons craving for his or her primary problem substance the previous seven days, five questions of the *Obsessive Compulsive Drinking Scale* (OCDS) were used. These questions are universal and can be used for other substances than alcohol respectively (Schippers, Broekman, & Buchholz, 2011). Questions can be answers on a Likert scale ranging from 0 to 4, with a higher score indicating more craving, respectively. According to Moak, Anton and Latham (1998), the OCDS has been widely tested being a valid and reliable self-rating questionnaire. Participation in society is measured with module 7 (S7.1) of the MATE also called MATE-ICN (ICF-Coreset and Need for care). 19 questions determine the persons degree of limitation to actively participate in society. Furthermore, it identifies environmental factors that affect participation and need for care. The MATE-ICN is based on international Classification of Functioning, Disability and Health (ICF) (Schippers et al., 2011). Answers can be indicated on a Likert scale ranging from 0 (no problems/ does not apply) to 4 (constant

difficulties or serious problems). A higher score therefore indicates more limitations in participating in society. According to Buchholz and colleagues (2010), the MATE-ICN is a sufficient reliable, feasible and valid tool in the treatment of SUD.

Analysis

The interviews were recorded, transcribed and finally embedded inside a coding software, in order to allow a comparison between and inside each interview. This procedure happened with the coding program *ATLAS.ti*, version 1.0.50 (282). ATLAS.ti allows an organization of various codes along previously specified topics. All personal information was anonymized to guarantee privacy of the participants. The *Framework Method* was used to code the interviews, which works via inductive analysis to identify differences and similarities inside qualitative data in order to describe a phenomenon (Gale, Heath, Cameron, Rashid, & Redwood, 2013). First, the interviews were roughly examined in order to get a first impression of the content. Then, statements from two interviews were analyzed and formed into codes (open coding). In the next step, these codes were categorized into several themes (or categories) based on their similarity (axial coding). Then, the statements inside the remaining interviews were assigned to the previously established codes. The resulting coding scheme can be found in *Appendix B*. Any statement that did not fit in the established code scheme was dismissed, as it had no additional value for the present research.

Concerning the effect of the program on the concepts of substance use, craving and participation in society, the corresponding questionnaires were analyzed with the *Statistical Program for Social Sciences* (SPSS), version 24. First, preliminary calculations (recoding of negative formulated items) and the means and standard deviations of each questionnaire were calculated. Then, it was calculated if the data of the sub scales substance use, craving for substances and participation in society were normally distributed. This was done with a Shapiro-Wilk Test, a test specifically suitable for small samples. The nul hypothesis of the Shapiro-Wilk Test states, that the data is normally distributed. A non-significant result ($p > 0.05$) therefore speaks for the data being normally distributed. Parametrical data was further analyzed using the paired sample T-test in order to find an effect of the treatment on the

corresponding sub scales. Non-parametrical data was further analyzed using the Wilcoxon Signed Ranks Test.

Results

Acceptability

Overall impression of the treatment. Comments regarding the overall impression of the treatment were mainly positive, with some negative exceptions. From six respondents in total, three were exclusively positive, while two reported both positive and negative impressions and one remained predominantly negative. Respondents 1, 2, and 3 were just positive about the treatment: *"I think, it [the treatment] just follows a nice structure, everything just fits perfectly"* (respondent 2), "*It was a very nice treatment to follow"* (respondent 3), or "*I gained so much, and this was simply what the treatment did"* (respondent 1). In contrast, two respondents described having a more difficult time not dropping out: "*Halfway into the treatment, I could not take it anymore and just went home"* (respondent 5), "*If it gets even more vague, I'm off next week"* (respondent 6). Still, respondent 5 could also describe warm feelings regarding his experiences: "*I think that the treatment works good overall"*, whereas respondent 6 remained mainly negative. Respondent 4 also tended to evaluate the treatment rather negative than positive, but also provides an explanation why he could not profit from it: "*Overall, it is not a bad treatment, it just would not fit to my lifestyle at this moment"* Some statements were made about the treatment providing help in daily life: "*It's a treatment that helps people to get through difficult times in daily life, to endure them"* (respondent 1), or: "*You acquire guides on how to train yourself getting in control of unwanted thoughts and desires"* (respondent 2). For respondents 4 and 6, the intervention was experienced being too vague. Respondent 4 could not profit from the concept of accepting unwanted thoughts and feelings, as he stated that accepting is something to approach over a longer period of time. Respondent 6 mentioned the treatment being more vague than previously expected. But, according to him, this was not due to an insufficient introduction to the treatment by the trainers. However, Respondents 4 and 5 complained

about an insufficient introduction into the treatments content: "*Maybe some more explanation about the form [of the treatment]"* (respondent 5).

Added value compared to primary treatment. Overall, most respondents appreciated the aftercare treatment and considered it of added value. Three respondents especially pointed out that the aftercare treatment focused more on the person as a whole instead of the addiction alone: "*The intervention has actually not much to do with usage at all, but rather who you are, what you are and what you stand for"* (respondent 3). Respondent 5 underlines this approach, stating that during primary treatment one did not learn how to keep staying away from alcohol. However, this was accomplished by working on himself during aftercare treatment. Two respondents pointed out the added value of mindfulness components inside the aftercare treatment, as they missed them during primary treatment.

Time investment. Concerning the length of the treatment, four respondents considered it being too short. "*Mindfulness could work for me on the long term. Now, I rather found it difficult to see a result of how I am doing"* (respondent 4). Respondent 1 also pointed out that especially heavily addicted people could profit from a longer treatment. Respondent 2 suggested to add a period of meetings every two weeks after the first nine weekly meetings.

Homework. A majority of the comments about the amount of homework were positive, while suggestions for improvements were also mentioned. "*It was not too much, 15 minutes and it's done"* (respondent 6), or: "*I wouldn't need more, but certainly not less as well"* (respondent 1). Respondent 4 complained about the amount being to much, but also explained to had difficulties finding free time in his full agenda. Respondent 6 referred to the homework as being too vague: "*Some parts leaned towards fiction, mostly because of the many metaphors"*. Respondent 3 wished that the importance of doing the homework had been stressed out more. Respondents 2 and 3 wished for more extensive discussion of the homework.

Group and trainer. Except few exceptions, comments about group support and support from the trainer were positive. Clients could also agree on an average group size of 5 to 6 people. Comments about group support were mainly about a safe surrounding to express themselves and acceptance inside the group: "*Such an open sphere, we could express ourselves at all times"* (respondent 5) to "*It was nice to find similarities in our problems"* (respondent 6). One respondent wished get even closer with other group members, but could also gain from the group support as it was. Negative comments were about a missing connection to other group members due to different life issues or big age differences. Respondent 5 wished for similar SUD's inside the group, while respondent 6 stated to profit from a broader variety of SUD's. Similar were the statements regarding the trainers: five out of six respondents pointed out the excellent support and expertise of the them: "*The trainer was tailored for this role. […], I could totally follow the way she did things. That really helped"* (respondent 5), or: "*Nice women. They are made for this discipline"* (respondent 4). Concerning the size of the group, most respondents could arrange themselves with around 5 to 6 members. Therefore, members of the smaller group in Kampen indicated the group being too small, whereas members of the group in Zwolle were satisfied with the size.

Helpful parts. Asking participants about helpful parts, a vast majority of the comments referred to mindfulness and acceptance. These seemed to made an important part of the treatment, as participants reported to have successfully applied them in different contexts. Parts about ones values in life were especially approved as well, among several other exercises. Positive comments about mindfulness exercises ranged from "*The mindfulness exercises gave it the finishing touch. It just worked"* (respondent 1), over "*after 20 minutes into mindfulness, I got the answers to my questions"* (respondent 3) to "*They started with the mindfulness exercises. It got an alternative to [my] medicine"* (respondent 6). Only respondent 4 remained uncertain, stating that it helped him to relax on the one hand, but did not suit him on the other: "*Mindfulness in this form doesn't fit me"*. All six respondents reported a certain insight or awareness gained through the treatment. Insights mostly referred to certain maladaptive behavior, that was uncovered: "*To get really aware, what I'm I doing here? Does this make me happy? And if you realize this, it's only the choice to just go on or*

not" (respondent 1), "*I now realized that […] you have to care for yourself first. And that came forward during treatment"* (respondent 5), or "*handle things more aware and eat more aware!"* (respondent 2). Four respondents explained that they learned to pay attention to their body: "*It is to learn to pay attention to your body, to listen toto your body and to get in contact with your breathing"* (respondent 5). Respondents 2 and 6 also pointed out the importance of learning to control breathing. In addition, five respondents in stated that they learned how to control their thoughts and behavior thanks to accepting them. Comments of such kind were: "*You know how to cope with bad situations or cravings, just to cope with them in a relaxed way, you can bend them and make them disappear"* (respondent 1), or "*[if you accept your thoughts], they disappear"* (respondent 6). Several times, respondents mentioned to be gentle to themselves: "*What this program teaches you, is to be gentle and loving to yourself, with al your stupid and weird things, […] that is very valuable"* (respondent 1), or: "*Its nice to think of yourself as a friendly person"* (respondent 3). Respondent 5 also reported that he derived a broader view of vision throughout the treatment. Parts about ones values in life were generally approved as well: "*That helped me especially in the beginning. I learned to make a difference between what I want and what I don't want"* (respondent 2), or: "*That offers you a future perspective, to have values in your life"* (respondent 5). Regarding certain exercises, respondent 3 especially pointed out two of them: the backpack exercise (*"What a nice metaphor!"*) and the mountain meditation (*"The mountain meditation mad me strong. I liked the exercise a lot"*). Respondent 6 disliked the roll games: "*They should take it out and don't ever bring it back"*, while respondent 5 appreciated the waterfall metaphor.

Suggestions. Suggestions mainly aimed at the organization of the surroundings of treatment. As mentioned earlier, respondents 4 and 5 complained about an insufficient elucidation, therefore wished for a better explanation of the treatments content by the trainers before starting it. Respondent 2 had the feeling that the importance of keeping up the treatment did not get stressed enough to the members, as too many did not show up on several meetings without giving serious reasons. Respondent 1 wished that no new members would have been allowed to join after the beginning of the treatment. Another suggestion

mentioned by two respondents was about difficult terms in the book: "*I think, the explanations could have been better"* (respondent 4), or: "*The book is sometimes hard to grasp. I don't know some of the terms […] and you ask yourself, what are they asking and what do they want from you?"* (respondent 5).

Impact

Substance use. Relapse was successfully prevented in 6 participants. One participant even indicated a slight improvement, while another participant had a relapse during treatment (*table 2*). Respondent 2 reported that he now drinks alcohol when he feels the desire, but stopped drinking as a habit. Respondent 3 reported to be at ease with her cannabis use thanks to the treatment. According to her questionnaire answers, she still uses five to six times a week. Respondent 4 reported to use less, whereas during treatment, respondent 6 had a relapse after several months of abstinence. Still, he stated that other reasons than the treatment were responsible for this relapse. According to his answers on the questionnaire, he now drinks one to two times a week. The overall picture of the interviews is consistent with the quantitative analysis from the questionnaires. A paired sample T-test revealed no statistically significant differences between pre- and post-measure (Substance use$_{t(total)}$ = -.90; p = .40).

Table 2: Substance use in the last 30 days per participant

	Substance use before treatment*	Substance use after treatment*
Participant 1	0	0
Participant 2	2	2
Participant 3	5	5
Participant 4	0	-
Participant 5	0	0
Participant 6	2	3
Participant 7	0	0
Participant 8	1	0

* Scores range from 0 to 6, with a higher score indicating more substance use during the last 30 days

Craving for substances. Overall, the scores indicate a relatively low craving for substances without significant deteriorations or improvements over the course of treatment (*table 3*). Respondent 5 reported a decrease in craving, because: "*you start to feel more comfortable in your own skin"*. On the one hand, this picture is not consistent with his answers on the questionnaire, where he indicated a rise in craving for substances from 2 to 4. On the other hand, both scores remain rather low, indicating only a very weak overall craving for alcohol. Respondent 2 reported to have gained more control over his craving, a picture consistent with his answers on the questionnaire. Respondents 1 and 4 stated to have no craving at all. Respondents 3 and 6 report that the treatment did not change their level of craving for substances at all. Interestingly, these two participants also scored the highest on both pre- and post-measure among all participants. Still, a small improvement was found in participant 3, decreasing from 14 to 11. Four respondents indicated that *fighting* their craving got easier thanks to the treatment: "*Its just easier. You get to know your thoughts. And that makes it a lot easier. That really helped in this case"* (respondent 3). Respondent 5 reported to have gained more control over his craving, which in turn made it easier to fight against it. Respondent 6 in turn had the feeling that fighting the craving got permanently harder. Taking a look at the quantitative analysis, a Wilcoxon Signed Ranks Test was conducted to find out whether there is a statistically significant difference between pre- and post-measure. Consistent with the answers of the interviews, no statistically significant differences were found between pre- and post-measure (Z_{total} = -1.13; p = .26). Testing for differences for each group separately, neither Zwolle nor Kampen derived at statistically significant differences between pre- and post-measure (Z_{Kampen} = -.82; p = .41 | Z_{Zwolle} = -1.00; p = .32).

Table 3: Craving for substances per participant

	Craving before treatment*	Craving after treatment*
Participant 1	4	4
Participant 2	6	4
Participant 3	14	11
Participant 4	3	-
Participant 5	2	4
Participant 6	13	13
Participant 7	5	5
Participant 8	6	4

* Scores range from 0 to 20, with a higher score indicating more craving for substances

Participation in society. Participation in society, including relationships with others and basic limitations, tended to improve throughout the treatment (*table 4*). While several respondents reported individual improvements, statistical tests remained insignificant. Two respondents indicated a positive change regarding relationships with others: "*You get more happy, you talk much easier, you get in contact easier, everything runs somehow easier"* (respondent 2), and: "*I can go to commissions again and I even want to stay open for taking a role in the commission, politics or school for example"* (respondent 5). This picture is partly consistent with the answers on the questionnaires. Participant 5 already indicated not having limitations in relations with others at all; his score did not change throughout the treatment. Respondent 2 showed a small decrease in limitations in relations with others. Interestingly, two respondents highlight that a change in relations with others predominantly occurred because of a change in themselves: "*I was thinking of that [change in relations], because I change. […] Everyone following the treatment changes and gets more relaxed and happy"* (respondent 1) and: "*It is myself that changed [in relations with others]"* (respondent 3). An increase in the limitations of participant 3 could be explained through a situation with her foster daughter: "*[…] my foster daughter confronted me [during the treatment] that she can't have it when everything works out fine the one moment, before I let everything loose on*

the other, […] she just cant stand that. One of the things I realized thanks to the treatment". Respondent 6 did not mention a change in relations during the interview, whereas his limitation score drastically decreased from 8 to 1. Taking a look at the part about limitations in relationships from a quantitative viewpoint, no statistically significant differences were found ($MATE\text{-}ICF_{t(Relationships)} = 1.58$; $p = 0.16$).

Concerning basic limitations, five respondents reported a positive change: "*I get more active. You can recognize it as I am the first one getting out of bed. Now, I'm awake on time, I get more things done and you get more energy"* (respondent 2), or: "*Thanks to Live to the Fullest, I found out that I want to work with foster children again. When she [foster child] is out of the house, I want to adopt two new ones"* (respondent 3). Other comments were made about the way of doing things: "*I did not start any new things, but I changed the way I do things"* (respondent 6). This comment aimed at preventing behavior, that previously lead to buying alcohol. Respondent 2 stated to eat less, more regular, more healthy and more aware. Respondent 5 reported an improvement in his belief to God. "*At that time [before the intervention], it [belief] was just less. Now, it keeps coming back again"*. This also happened through loving himself, which in turn made the love towards God possible again.

In contrast to the mainly positive comments made during the interviews, no statistically significant difference were found regarding the sub scale basic limitations ($MATE\text{-}ICF_{t(Basic)} = 0.00$; $p = 1.00$). However, taking all 19 questions of the overarching scale participation in society into account, a paired sample T-test approached a statistically significant difference between pre- and post-measure ($MATE\text{-}ICF_t = 2.34$; $p = 0.06$). An individual improvement participation in society scores could be found in five out of seven participants. Taking a differentiated look at the groups in Zwolle (N=4) and Kampen (N=3) apart from each other, no statistically significant differences were found in either of the groups ($MATE\text{-}ICF_{t(Zwolle)} = 1.10$; $p = 0.14$ | $MATE\text{-}ICF_{t(Kampen)} = 1.97$; $p = 0.39$).

Table 4: *Participation in society* and sub scales *limitations in relationships* and *basic limitations* per participant

	Participation in society*		Limitations in relationships**		Basic limitations***	
	pre	post	pre	post	pre	post
Participant 1	0	0	0	0	0	0
Participant 2	13	9	6	5	1	1
Participant 3	14	13	2	5	5	8
Participant 4	13	-	4	-	3	-
Participant 5	2	2	0	0	0	0
Participant 6	22	7	8	1	3	4
Participant 7	32	17	13	8	3	1
Participant 8	24	18	8	3	5	3

* Participation in society scores range from 0 to 76, with a higher score indicating more limitations.
** Limitations in relationships scores range from 0 to 20, with a higher score indicating more limitations.
*** Basic limitations scores range from 0 to 32, with a higher score indicating more limitations.

Summing up the results, most participants derived at positive conclusions over the acceptability, while substance use, craving for substances and participation were maintained. General impressions of the treatment remained mixed. While some respondents had exclusively positive impressions, others complained about an insufficient introduction into the treatment itself and experienced it as too vague. Several respondents pointed out an added value compared to primary treatment. The length of the treatment was generally experienced too short. Homework exercises were generally appreciated, nevertheless, the wish for a more extensive discussion during the sessions was also expressed. Regarding helpful parts and exercises, the majority of comments were about acceptance, mindfulness and life values making out important parts of the treatment. The support by group and trainer was generally reported positive, as well as a group size of approximately five to six people. Suggestions among other things aimed at a more precise introduction into the treatment and more clarity during treatment, as well as a better explanation of difficult terms in the book. Furthermore, the treatment managed to prevent relapse in most cases, and maintained and sustained

carving for substances and participation in society over the course of the treatment. All statistical tests derived at non-significant differences between pre- and post-measure. In line with several reports about individual improvements, participation in society approached a statistically significant improvement between pre- and post-measure.

Discussion

This study sought to evaluate the acceptability of an ACT based aftercare treatment following regular CBT counseling treatment, as well as the treatments ability to prevent relapse and sustain and maintain previous improvements on craving for substances and participation in society. The study investigated two research questions: How did clients experience the acceptability of an ACT based aftercare treatment? And what changes in substance use, craving for substances and participation in society did clients report?

Concluding from the results, the treatment was mainly experienced being acceptable and successful in preventing relapse and maintaining craving for substances and participation in society. Most clients derived at positive conclusions, considered the treatment of added value compared to primary treatment and could profit from the treatments content, especially mindfulness, acceptance and life values. Less appreciated were an insufficient introduction into the treatment, as well as the treatment described being too vague. Suggestions therefore mainly aimed at a more precise introduction into the treatment and more clarity inside the treatment. Statistical tests concerning substance use, craving for substances and participation in society derived at non-significant differences between pre- and post-measure, indicating a maintenance of all measures over the course of treatment. Noteworthy, participation in society approached a significant improvement.

Taking a closer look at the clients reports of the treatments acceptability, the results go along with previous expectations. The majority of participants could follow the treatments structure without problems. Moreover, several ACT core principles inside the treatment were evaluated being beneficial and important, which means an additional value in regard to the primary treatment. As participants reported to have learned new ways in how to cope with

SUD, the aftercare treatment therefore seemed to have made a useful addition to the regular care plan for SUD, normally consisting of CBT counseling treatment alone. Nevertheless, some participants also complained about an insufficient introduction into the treatment. These went along with the treatments structure and content being experienced too vague. This might be due to the nature of ACT itself. One core principle is mindfulness, a concept often confused with religiously motivated meditation or even yoga, as one respondent mentioned. Consequently, even after introducing the treatment, several participants remained uncertain of what to expect. As an ACT based approach for SUD was new to most of the participants, the result of experiencing the first few session too vague by some participants seems understandable as well. Participants who had problems finding into the treatment also tended to report it being too short in total and indicated to need more time to get used to the mechanisms. In contrast, participants who had already experiences with mindfulness, resulting in the treatment being accepted from the beginning.

The present findings add to previous research over the acceptability of ACT. An ACT based primary treatment for sustaining opiate abstinence by Stotts et al. (2013) was well received and feasible by the participants. The acceptability of the intervention was indicated as overall satisfactory. According to a feasibility study of ACT for emotional dysfunction following psychosis, the treatment and its core principles appeared to be highly acceptable as well (White et al. 2011).

Examining the treatments effects on substance use, craving for substances and participation in society, all measures have been maintained and sustained. Regarding substance use, this means a success of the treatment, as the vast majority of cases had no relapse because they either maintained at a low level of substance use, or even remained abstinent at all. Craving for substances was successfully maintained throughout the treatment as well. Despite no significant improvements from the statistical analysis, participants reported to have experienced less craving and were less bothered by their craving due to learned coping mechanisms. Taking this into consideration, the treatment seems to have improved the maladaptive effects of craving on the participants. Still, despite the treatments goal to prevent relapse, and not a further reducement of substance use or craving for substances, a possibility remained that a significant improvement would have occurred

anyway. An example for a reduction in substance use might be the ongoing engagement in treating SUD, albeit through a different approach. A possible explanation for a lack of further improvement on substance use and craving for substances during the aftercare treatment could be recent improvements inside primary treatment. To have successfully improved on substance use and craving for substances during primary treatment therefore makes it harder to achieve additional reduction inside aftercare. Assuming that, maintaining and sustaining previous results can be seen as a successful achievement of the aftercare treatment. Noteworthy, participation in society showed a trend towards a significant improvement and the majority of respondents indicated personal improvements. Taking the results from the interviews into account, the aftercare treatment appears to be successful in improving participation in society. An alternative explanation for the pronounced trend towards a significant improvement on participation might be the surroundings of the aftercare treatment itself. Participants came together in small groups to share and discuss intimate topics with each other. This, albeit in an isolated environment, causes additional engagement in interpersonal contact and social support. This effect however cannot be ascribed to the present treatment alone, but rather to group based treatments in general. Moreover, taking a closer look into the interviews and questionnaires, mainly relations outside the treatment group were described getting better and more intimate (e.g. family and friends). It therefore seems reasonable to assume that the topics of the aftercare treatment itself were responsible for a trend towards improvement on participation in society rather than the group cohesion.

The present results complement previous research over the impact of ACT and aftercare on SUD. For example, a study by Bowen et al. (2009) using MBRP for promoting abstinence in a population of opiate users achieved sufficient acceptability rates and a decrease in substance use and craving for substances compared to TAU. However, comparability of these two studies, albeit of similar nature, is limited, as inside Bowen's et al. study, MBRP was offered as primary treatment, making a decrease in substance use and craving for substances a primary goal. Consequently, to have sufficiently improved on substance use and craving for substances in primary treatment makes it harder to achieve additional improvements inside aftercare. But, assuming that an improvement on the topics mentioned above already occurred in primary treatment, maintaining and sustaining them

over time seems a fully sufficient desirable goal. Regarding the improvement on participation in society, McKay (2016) mentioned compatible factors in his research about treating SUD that seem to support the present results. He stressed the importance of increasing the rewarding and enriching activities inside treatment, because *"years of addiction may have led to an erosion of healthy social relationships and decline in activities that give life meaning and provide a sense of purpose"* (p.752). As enriching and rewarding activities are also a part of ACT, including the present aftercare treatment, they might provide another possible explanation for the improvement in participation in society.

Limitations

The current study also has several limitations. One is a lack of follow-up assessment. It would have been of great interest to find out whether an aftercare treatment based on ACT not only has the capacity to maintain, sustain or improve recent achievements over the course of the treatment, but in the long term as well. Several studies and reviews favored ACT over other active treatment conditions in maintaining abstinence at follow-up (Lanza et al., 2014; Lanza et al., 2013; González-Menéndez et al., 2014; Luoma et al., 2012). Furthermore, several aftercare treatments have been shown to decrease substance use and craving as well (Blodgett et al., 2014; Bowen et al., 2009). A certain possibility remains that the aftercare treatment only delayed relapse and a return to old, maladaptive behavior. Despite this limitation, the evaluation of prior research suggests the opposite, namely that indicated improvements are likely to be maintained beyond the length of treatment.

Several methodological limitations of the evaluation have to be addressed as well. More clients following the treatment and more participants taking part in the evaluation would have been desirable. For example, the overall number of clients taking part in the interviews remained relatively low compared to all clients who started the treatment. Despite encouraging most clients for the importance of taking part in the interviews, around half of them did not follow this invitation. Another reason for the lack of interviews was early drop out due to private issues (e.g. accident or relocation). As a result, there was no necessity of conducting an interview about form and content of the treatment, as these clients took part in not more than one session. Drop out in general also led to a quantitative analysis with only

seven participants. However, statistical tests suitable for small sample sizes were chosen to counteract this limitation. One of the two interviewers was not native Dutch speaking, resulting in some language barriers during the interviews. During the coding of the interviews, some limitations with the previously developed coding scheme were discovered. The mindfulness category mixed up the general, overarching nature of mindfulness with specific mindfulness exercises. Also, reports about ones values could only be categorized in a code regarding a specific exercise. General statements about a change in ones values could therefore not be assigned to a corresponding code.

Implications

As the present ACT based aftercare treatment maintained or even improved achievements from primary treatment, a study with more participants and long term follow-up is now needed to further back up and generalize the present findings. Follow-up assessments could be conducted up to 18 months post-treatment, as abstinence rates might even further improve during this period (Smout et al., 2010; González-Menéndez, Fernández, Rodríguez and Villagrá, 2014; Lanza & González-Menéndez, 2013; Luoma, Kohlenberg, Hayes and Fletcher, 2012). Furthermore, research could also investigate other treatment approaches and combinations of primary and aftercare treatment. The present study chose for a combination of regular CBT counseling treatment followed by an ACT based aftercare treatment. Other combinations could be able to even further improve the effectivity of treating SUD. Still, a combination of CBT and ACT seems reasonable due to the possibility of learning skills from both approaches.

Several clinically relevant implications can be derived from this research as well. The present study suggests that ACT based aftercare treatments might be capable of maintaining, sustaining or even improving earlier achievements from primary treatment. ACT based aftercare treatments might therefore pose an answer to the common SUD problems of treatments not being able to provide long lasting improvements. The researcher therefore strongly suggests for people and institutions to integrate additional aftercare treatments based on ACT into their care plan for treating patients suffering from SUD. Regarding the present aftercare treatment, several recommendations over form and content should be taken into

consideration for the improvement of further versions. First of all, the treatment should be introduced more precisely to prevent misunderstandings in the participants expectations. This especially means to introduce the concept of mindfulness in greater detail to prevent confusions. A better introduction could also improve the experienced clarity during treatment, an additional point mentioned by the participants. Concerning homework, a more extensive discussion during the sessions should be taken into consideration. Lastly, difficult terms inside the exercise book could be explained in more detail as well.

Conclusions

In conclusion, this study has shown the acceptability of an ACT based aftercare treatment for SUD, and provides support of the treatment being successful in maintaining, sustaining or even improving substance use, craving for substances and participation in society throughout the length of treatment. The idea of combining an ACT based approach with aftercare has shown to be a promising approach in posing an answer to the current limitations of treating SUD.

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Appendices

Appendix A – Interview questions

Part A: Questions on the experiences with the treatment

1. What were your experiences with Voluit Leven?
   - What did you learn from it?
   - Was it different than usual/ primary treatment?
2. Did you have experiences with ACT treatments before?
3. Did the treatment meet your expectations?
4. If we take a look at the different parts of the treatment, what stayed in your mind the most? Can you describe why?
5. How did you experience the mindfulness exercises? Did they benefit you?
6. How did you experience the part in which you had to think about your values and live according to those? Did this benefit you?
7. Which session was specifically helpful to you? Why?
   - Which one was less helpful? Why?
   - Was there a specific assignment that was helpful? Why?
   - Was there a specific assignment that was less helpful? Why?
   - Did you think the sessions fit together? Why?
8. How did you experience the workload?
   - What did you think of the amount of sessions?
   - What did you think of the amount of homework?
9. How did you experience working in a group setting?
   - How was the support from group members?
   - How was the support from trainers?
10. How did the treatment help you to better deal with your complaints?
11. What do you think of the fact that the treatment was offered as after-care?
    - Was there an added value to the primary/ usual treatment? Why?
    - Was there an added value when it comes to addiction care?
12. What is a strong point and weak point of the treatment? Why?
13. Do you have any suggestions for improving the treatment?

Part B: The impact of the treatment on substance use, craving for substances and participation in society

14. In which way did this treatment work to reduce your complaints?
    - Which complaints changed?
    - In what way did they change?
    - What part of the treatment was helpful in this?
    - Which part was less helpful in this?

15. How did the treatment change your substance use?
    - Which parts of the treatment contributed to that?

16. How did the treatment change your craving for substances?
    - During the treatment
    - since the end of the treatment

17. How did you experience the frequency of your thoughts, ideas, impulses or pictures regarding the substance?
    - Which parts of the treatment contributed to that?

18. Did it get easier or harder to fight these craving related thoughts, ideas, impulses or pictures?
    - Which parts of the treatment contributed to that?

19. Has anything changed in your relations with others during the last weeks?
    - family, friends, work etc.
    - What role did the treatment play in this?

20. Has anything changed in your activities during the day?
    - free time, religion/spirituality etc.
    - What role did the treatment play in this?

21. Has anything changed in the way you live and take care of yourself?
    - living, household, self care, self-protection, food care, health care etc.
    - What role did the treatment play in this?

Appendix B – Coding scheme

Table 5: *Coding scheme, part 1*

Algemene indruk	**Meerwaarde tov. reguliere behandeling**	**Onderdelen, opdrachten en sessies**	**Tijdsinvestering**	**Huiswerk**	**Groep en trainer**	**Mindfulness**
Positief/ negatief	Mindfulness niet in reguliere behandeling	Bergmeditatie	Interventie lengte	Huiswerk beter bespreken	Steun groep	Aandacht op lichaam
Aanbevelen aan anderen	Meer focus op persoon als geheel	Metafoor waterval	Sessie lengte	Huiswerk hoeveelheid goed	steun trainer	Ademhaling controleren
Tool Handvat		Psycho-educatie	Tijdinvestering	Meer nadruk op huiswerk doen	Groepsgrootte	bewustwording/ inzicht
Maakt zelfbewuster		Rugzak oefening		Te moeilijke tekst	Zelfde verslavingen in een groep	reflectie
Zweverig		Taai		Stem CD niet plezierig	Groepen gemixed doen qua geslacht	Gedachten observeren
skeptisch		Waarden		huiswerk	Verandering in groepsgenoten	Waardevol (Mindfulness)
leerzaam		Rollenspellen				Leven in het hier en nu
		Lijst voors en tegens				
		Oefeningen zweverig				

Table 6: *Coding scheme, part 2*

Acceptatie	**Gebruik**	**Trek**	**Welbevinden**	**Depressie**	**Relaties met anderen**	**Dagelijkse activiteiten**	**Suggesties en verbeterpunten**
Gedachten / gedrag leren controleren	Gebruik	Trek	Gevoelens van geluk	Depressieve klachten	Relaties	Dagelijkse activiteiten	Begrippen in boek beter uitleggen
Gezichtsveld breder		Trek bestrijden	Meer rust	slapen		eten	geen nieuwe leden toelaten
Grens kunnen trekken		Trek gerelateerde gedachten, impulsen of beelden	verbondenheid			Religie/ spiritualiteit	Nadruk les blijven volgen/ volhouden
Mild voor jezelf zijn			Welbevinden			Voor jezelf zorgen	Interventie beter uitleggen
Nee kunnen zeggen							Suggestie anders
Toegenomen acceptatie							