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## Treating Internet Addiction With Cognitive-Behavioral Therapy: A Thematic Analysis of the Experiences of Therapists

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### ABSTRACT

In 2009, one of the major Dutch addiction care organizations initiated a pilot program to explore the possibility of using an existing Cognitive Behavioral Therapy and Motivational Interviewing based treatment program ('Lifestyle Training') to treat internet addiction. The current study evaluates this pilot treatment program by providing a qualitative analysis of the experiences of the therapists with the treatment of 12 self-proclaimed internet addicts. Therapists report that the program, which is ordinarily used for substance dependence and pathological gambling, fits the problem of internet addiction quite well. Interventions mainly focused on controlling and reducing internet use, and involved expanding (real life) social contacts, regaining a proper daily structure, constructive use of free time, and reframing beliefs. Therapists further indicated that the treatment achieved some measure of progress for all of the 12 treated patients, while patients reported satisfaction with the treatment and actual behavioral improvements.

Within Dutch addiction care, there is a growing interest in the treatment of internet addiction. A recent report concluded that while the prevalence is low, each of the ten largest Dutch public addiction treatment organizations is aware of a small, slowly growing group of patients that can be seen as 'internet addicts' (Meerkerk et al. [2009a](#)). Most of these patients experience problems controlling their use of internet pornography or online videogames. Counselors in addiction care are often unaccustomed to the specific needs and problems of people struggling to control internet use, and there are no evidence-based therapy protocols available yet. Thus, within addiction care facilities, there is a need for information and training with regard to internet addiction and a need for evidence-based treatment options to treat these patients.

Internet addiction can be considered “an impulse-control disorder that does not involve, but does share characteristics of, substance dependency” (Tao et al. [2010](#), p. 557). While no consensus on a diagnosis or clinical definition has been reached, the debate on the exact nature of internet addiction is receiving renewed attention in the light of the upcoming major revision of the standard psychiatric manual, DSM-V (APA [2010](#); Block [2008](#); Science [2010](#); Tao et al. [2010](#)). Of special interest is the observation that substance addiction and non-substance addiction may well share the same neurological foundation (Brewer and Potenza [2008](#); Potenza [2006](#)).

Given the implication that we maybe dealing with a new psychiatric disorder, there is a surprising lack of well-documented clinical interventions on internet addiction in the literature. Besides occasional clinical descriptions of patients with internet addiction (Bernardi and Pallanti [2009](#)), only one Australian study utilizing a Chinese sample of internet addicts (Beard and Wolf [2001](#)) provided a full description of a treatment of internet addiction using group Cognitive Behavior Therapy (CBT) in class rooms (Du et al. [2010](#)). When compared to an untreated control group, the group receiving the CBT showed improvements in emotional state, regulation ability, and self-management. In light of the neurological, psychological, and behavioral similarities between internet addiction and traditional addiction problems, it makes sense to explore the feasibility of using slightly modified existing addiction treatment options to accommodate the treatment of internet addiction.

In 2009, one of the major Dutch addiction care (and treatment) organizations, namely Brijder Addiction Care, initiated a pilot program to explore the possibility of using an existing CBT-based oriented treatment program (“Lifestyle Training”) to treat self-proclaimed internet addicts. The Lifestyle Training program focuses specifically on addiction, including pathological gambling. The goal of the current study is to evaluate this pilot treatment. Before studying treatment effectiveness, the first step is to explore the fit of the program to the problems at hand. To this end, the current study focuses on a qualitative analysis of the experiences of therapists. This will form a starting point for determining the characteristics of proper treatment of internet addiction (Tao et al. [2010](#)). The research thus contributes to a better understanding of both the treatment of internet-related emotional, behavioral, and social problems, as well as the clinical presentation of these problems.

## **METHOD**

### **Participants**

A website called ‘internet-under-control’ [[www.internetondercontrole.nl](http://www.internetondercontrole.nl)] was launched in November 2008. The site launch was nationally covered by the mainstream Dutch media. One of the objectives of the website was to recruit a sample of self-proclaimed internet addicts. In order to be included patients had to report an inability to control their internet use. Exclusion criteria were the following: being younger than 18, being suicidal, or not having the mental capacity to actively participate in the therapy.

The website offered both a brief online self-test for internet addiction based on the Compulsive Internet Use Scale (Meerkerk et al. [2009b](#)) and a link to an intake form for those interested in actual treatment. The brief online self-test offered on the website was completed by almost 2,000 individuals over the course of a year—indicating a group of interested individuals (or their families) found their way to the site. A relatively small group of 17 people filled out the actual full intake form for

the (free) pilot treatment program. While all 17 people were approached, five of them did not enter the treatment program due to the following reasons: two could not be reached by mail or phone, one mistakenly thought the treatment would be internet-based, one had already agreed on rules about internet use with his wife, and one person had enrolled in another treatment program.

Thus, 12 people started the treatment program. Each patient was assigned to one of the five participating therapists. The group of therapists consisted of one male junior psychologist, one female junior psychologist, two female social workers (counselors), and one female senior clinical psychologist/psychotherapist. All of the therapists had multiple years of experience in the treatment of addiction problems using the Lifestyle Training program (see: Treatment section), and had completed obligatory courses in Cognitive Behavioral Therapy (CBT) and Motivational Interviewing (MI), as well as on-the-job training in Lifestyle Training programs. Additionally, they were subject to supervision by the senior therapist who is qualified to supervise both CBT and MI and has an extensive track record with regards to this type of therapy.

These patients were fully informed about the treatment program and the parallel scientific study before participating and signed a consent form to that effect. As the evaluation of the treatment was non-invasive, utilized secondary sources (no direct patient contact), and focused on the experiences of therapists with both the patients and therapy process, no permission from the medical-ethical board was required under applicable law. Permission for the study was obtained from the board of directors of the addiction care institute where the trial was held and the procedure was checked by the head of research at the institution.

### **Treatment: A Manual Based CBT**

The current study utilizes the standard ‘Lifestyle Training’ program, a manual based treatment program (De Wildt [2000](#), [2010](#), p. 50; Oudejans [2009](#), p. 45). The therapy combines Cognitive Behavioral Therapy (CBT) and Motivational Interviewing or MI (Miller and Rollnick [2002](#); Rollnick and Allison [2004](#)). It focuses on eliciting and strengthening motivation to change, choosing a treatment goal, gaining self control, relapse prevention, and the training of coping skills (Marlatt and Donovan [2005](#); Monti [2002](#)). The program consists of 10 outpatient sessions of 45 min, 7 of which preferably take place within a period of 10 weeks, the remaining 3, if necessary, within a period of 3 months. For each session the original treatment manual (De Wildt [2000](#)) provides recommendations for interventions and homework. Sessions follow a fixed format: introduction, evaluation of current status, discussing homework, explaining the theme of the day, practicing a skill, receiving homework, and finally closing the session. The various interventions per session are summarized below in Table [1](#).

### **[TABLE 1]**

#### **Procedure**

Data were collected during three stages of the treatment process. Before treatment, patients filled out an application form, and an intake questionnaire after being accepted for the treatment. During the treatment, therapists filled out extensive, semi-structured reports per session. Additionally, one case-review meeting with all therapists and researchers was organized by the researchers halfway through the

treatment. After finishing treatment, an exit questionnaire was filled out by the patients, and a final case-review meeting was organized and attended by all therapists and the researchers. Please note that while data was collected from patients, the therapists' session reports and the case review meeting minutes were the main data source and provided the central data. The following Table 2 summarizes the various data sources utilized in the process.

[TABLE 2]

**Data Sources**

*Session Reports*

The therapists maintained written records of their sessions by following a semi-structured session report format provided by the researchers. The questions in this format dealt with the session theme, session goals, interventions, achieved results, planned actions for the following sessions, specific focus for the next session, the perceived fit of the treatment to the specific problems of the patient, and ideas for improvement.

*Case Review Meeting Minutes*

Two evaluating meetings were held, one halfway through the pilot treatment program and one at its conclusion. During these meetings, attended by the treating therapists and led by two researchers, all participating patients were reviewed and the fit of the treatment was discussed. The researchers wrote detailed minutes, which were checked for accuracy by the head therapist.

*Questionnaires*

The questionnaires contained various scales, aimed at measuring internet addiction, time spent online and self-reported confidence about prevention of lapse. The Compulsive Internet Use Scale (Meerkerk et al. 2009b; Meerkerk 2007) was used to measure internet addiction. Time spent on the internet (online) was explored through a question which, for the last week, asked patients to indicate how many hours they used the internet per day. Finally, the Brief Situational Confidence questionnaire (BSCQ) was modified to refer to internet and utilized to assess the patients' confidence to resist the temptation to start using the internet again in various situations (Breslin et al. 2000). Please note that the questionnaire data is utilized purely as supportive information, the main focus in analyses is placed on the therapists experiences, derived from session reports and case review minutes.

*Data Analysis*

The qualitative, written data (group meeting minutes, session reports for the full treatment of each of the 12 patient (multiple sessions), and the qualitative parts of the intake/exit questionnaires) were processed and structured in a database using the QSR Nvivo software for qualitative analysis. As the goal of the study is not to construct new theory, but rather to describe the collected information in an accessible format, a thematic analysis was performed (Braun and Clarke 2006; Hussain and Griffiths 2009). Thematic analysis aims to identify themes within qualitative data. As

such, it can summarize the actual data in more condensed form, while generating themes and subthemes from the data.

The current study utilized an iterative process for data coding which resembles the approach utilized by Hussain and Griffiths (2009). First, three patients (#11, #01, #07) treated by three different therapists were coded using a free approach. Subsequently a preliminary overall coding scheme was developed. All 12 patients (session reports and intake/exit questionnaires) and the session-minutes were coded according to this scheme in the QSR Nvivo software. The subthemes were given final definitions and structure by condensing the coded text for each theme to several pages of summarized text. The second author checked this reduction process. This text was the foundation for the reported result, which were member-checked by mailing them back to the therapists for comments (Erlandson et al. 1993).

### *Attrition*

Five out of 12 exit questionnaire results are missing. This is the result of three patients aborting the treatment, one patient switching to a more intensive form of psychotherapy, and one patient not returning the questionnaire by mail. One of the three patients who aborted treatment quit after two sessions because he did not see a need for treatment himself; he had joined largely due to social pressure. Two patients quit just before the end of the program—one patient stopped treatment after his girlfriend found out he was cheating on her and the other patient quit after experiencing a deterioration of his depressive symptoms. According to the treating therapists, both patients had previously shown improvement in their control over internet behavior.

## **RESULTS**

The thematic analysis yielded two main themes: the patient observations by the therapists, supported by patient self-report questionnaire data, and secondly the therapists' perspective on the fit of the treatment. The patient observations are divided into three general subthemes: observations of actual problematic behavior, the function of the behavior for the patient, and the reported consequences of the behavior. Having established a descriptive background of the various patients, the second, main theme focuses on the experiences of the therapists with the actual treatment of the problems. For this theme (treatment), the core components of the Lifestyle Training treatment protocol are utilized as subthemes, with the addition of discussing the overall treatment process.

### **Patient Observations: A Brief Summary of Self-Report Patient Data**

Table 3 provides an overview of the collected data for the various participants. In order to preserve privacy, all patients received an alias and a unique identification number. Given the sample size, no statistical testing was done; scale results serve as an indicator of individual, self-reported change. Note that all patients who finished the treatment report an increase in Situational Confidence and a decrease in Internet Addiction (CIUS). The change in the amount of days spent on the internet in the last week fluctuates: some patients report an increase (Mark, #06), some show stability (Robert, #02; Joseph, #04), and the rest show a drop in days spent. Finally, the reported hours of internet per week have decreased for virtually all patients except

Joseph (#04), who was not spending a lot of time on the internet to begin with (1 h per day, now spends 2 h per day).

### [TABLE 3]

Note that the number of hours per day for some patients (Richard, #07; Joseph, #04) is low, even at the start of the treatment. The first explanation for this finding is that some activities—such as paid webcam sex sites—can be experienced as problematic without taking up large amounts of time, due to high costs and shame. Most of the patients that report a low number of hours per day consume online erotica, as can be seen in the table. Secondly, the self-reported hours provide an underestimation for at least some patients, as patients lose themselves in their internet use and forget the time. Robert (#02), for example, claimed to spend 3 to 4 h per day on the internet during intake, while after registering his behavior it turned out to be twice that amount. Thirdly, the head therapist reports that many patients had reduced their use before the treatment, but started the treatment as they experienced how difficult this was to maintain.

### **Patient Observations: A Summary of Therapists' Reports**

Please note that the following patient observations are written from the patients' perspective for sake of narrative flow, but that all observations originate from the treating therapists.

### **Problematic Behavior: Long Hours, Hoarding and Sorting**

The problematic behavior involved a wide variety of internet applications. As noted in Table 3, erotica, forums, web-surfing, online games, blogging and social networking were all mentioned. During the interviews, one patient (Jeff, #11) even identified e-mailing as problematic. He received a wide variety of mostly useless information by email which he felt obligated to follow up. This behavior ended up costing significant amounts of time and led to considerable stress for the patient. In practice, the behavior involved using various applications, but collecting (or hoarding) of porn, photos, and other files was also frequently reported. Also, some patients spent considerable time on organizing and sorting material on their computers. Lex (#05) described his behavior as 'associative internet use', starting at one point on a useful website and moving to loosely related subjects. While most of the patients indicated having problems controlling their internet use at home, Mark (#06) reported major problems avoiding websites at work and spent up to 4 h a day on the internet at work. This time was spent on the retrieval of prices for software and photography equipment, but mostly on large web forums. He repeatedly checked his personal mail at work (up to four times per hour). He felt uncomfortable with this behavior because it interfered with his regular work and he was afraid of getting caught. Two of the patients reported that a change of context can be helpful in avoiding the behavior. Once they are on vacation, there is no problem in being without internet access. To illustrate the various problems that patients experience, three brief case descriptions are presented for Jane, Joseph, and David in Table 4. The examples demonstrate that the problems often also have a historical context for the patients: Jane was chatting before the internet was available (to her), Joseph was already calling sex lines at the age of 13, and David has always been interested in fixing computers.

[TABLE 4]

### **Function of Internet Use: Escapism Entangled With Comorbid Problems**

Almost invariably, the various patients suffer from psychological problems; fear, compulsions, depressive symptoms, attention and concentration problems, and a lack of self-confidence were all mentioned. In some cases these complaints were severe enough to warrant suspicion of an actual clinical diagnosis. Three patients (Lex #05, Luke #09, and James #01) were thought to have some form of ADHD in the current treatment. Steven (#12) has received a diagnosis (so he says) for paranoid personality disorder in the past. Luke (#09) experiences some problems that resemble dissociation from reality (reliving video footage) and compulsive behavior. One patient (Joseph, #04) suffers from a sex addiction, while three other patients also report problems with sexual behavior (Luke, #09; Richard, #07; and James #01). Several patients indicate thinking they are sensitive to addiction as they drink, smoke, gamble, or use cannabis (#03, #09, #11, #12).

These problems are strongly entangled with the function of internet use. Obviously the internet can be seen purely as the means to an end, for example for Joseph (#04), who utilizes the internet to satisfy his urge to see erotic stimuli. The motive of escapism, or procrastination, is more subtle. Steven (#12) summarizes this motive as follows: “The computer controls my life. I’m not getting around to doing anything. Problems are not getting handled. And in order not to think about that you crawl

back behind the computer [Open image in new window](#)”. Escape can also be interpreted more broadly; as some patients actually lack meaningful alternative behavior, they return to internet use. Thus, one could argue that for some patients, another, underlying problem is the cause of the behavior, and internet use is merely the tool to fulfill a need—be it for sex, social contact, or escape.

But not all motives are negative in nature. Firstly, internet use is fun and provides psychological rewards. Using the internet provides a variety of short term benefits, such as relaxation, inspiration, satisfying curiosity, keeping up with the news, and being entertained. One patient compares watching porn to driving his car, as both constitute a moment of private time, a moment for himself. But while the internet provides a variety of functions, the current group of patients has self-admitted problems controlling use; the treatment focused on the negative consequences involved in the behavior, which are now discussed.

### **Consequences: Missed Opportunities ‘in Real Life’**

The reported consequences of internet addiction tend to be the result of a severely unbalanced lifestyle. The extreme amounts of time spent on one type of behavior reflect on the relationship with others and translate to missed opportunities ‘in real life’—both in a lack of (social) skill development and the lack of real world (offline) performance. The one-sided lifestyle often translates to a disturbed daily structure. For Jane (#08), the behavior translated in serious weight gain and physical self-neglect, perhaps fueling her desire to avoid real life contacts with others. The neglect also seriously impacts her real-world relationships.

Besides time, two other patients report that internet porn can cost significant amounts of money—especially in the case of webcam girl chat sites, which Joseph (#04) and Richard (#07) frequently visit. Shame also plays a role in the behavior—shame about watching porn, but also about not having a job (at a certain age), about not having

life sorted out, and about a lack of real life performance. This translates to an overall low self-esteem for most of the patients, something that is often accompanied by depressive thoughts, as their current lifestyle does not fit the self-image.

For those patients with a romantic relationship, the partner often complains about the internet use, causing both stress and arguments. The social circle also decreases in size due to the behavior—or moves almost exclusively to internet. On the other hand, the social network can also provide some support, such as in the case of Jeff (#11), whose immediate family and friends encouraged him to seek out the current treatment and change his behavior.

In summary, the (longer term) consequences of the internet addiction problems are mostly negative. Patients spend excessive amounts of time, money or both on the internet. In some cases, patients stop caring for themselves and suffer decreased performance in the ‘real world’, develop problems with social relationships, or suffer psychologically (low self-esteem, depressive thoughts) as a result of their inability to control internet use.

## THE THERAPISTS’ PERSPECTIVE ON TREATMENT

### **Establishing a Starting Point: Monitoring Use Seems Beneficial**

Three techniques are used to establish a starting point for treatment (see Table 1), but not all techniques seem equally effective when treating internet addiction. Firstly, the treating therapists are divided over the applicability of the *disadvantage/advantages balance* exercise, as it is most beneficial for people still contemplating change. In this case, most patients are already motivated to change. On the other hand, it does seem beneficial for patients to write out the (long-term) disadvantages of behavior, which are more easily downplayed in conversation. As such, it can provide a useful starting point for employing Motivational Interviewing techniques.

*Monitoring use* is another important technique, and a continuous part of the treatment procedure. It serves a dual purpose: firstly the patient gains insight in his or her internet behavior, and secondly it serves as a reminder of progress (or lack of progress) for the patients. Thus, all patients keep a diary to monitor their use during the course of the treatment. Treating therapists indicate that monitoring use is effective for internet addiction. Thirdly, the *functional analysis* (FA) aims to identify antecedents (risk factors) for the behavior, the actual behavior, and its consequences. The therapists consider the FA technique usable with regard to internet addiction, but indicate that the behavioral sequence can be attended to without using the full, time-consuming FA-form, since risk factors and consequences were clarified and attended to from the beginning of treatment.

### **Setting Goals for the Treatment: Gaining Control, Reducing Use, and Learning to Fill Free Time**

All of the patients share the same global goal: they want to regain control over their internet use. For most of the patients internet use has become a strong habit that either fills up a lot of free time (and for one patient, his time at work) or has other negative effects. Thus, the main goal for most patients is to reduce the amount of time spent on their favorite internet application. Among the therapists, one of the main issues with regards to goal setting was the matter of ‘abstinence’ versus controlled use. As internet use is a necessary component of day-to-day life, most

patients aimed to achieve a reduction of use or abstinence from their problematic application; full abstinence from internet use was not the goal.

If patients are successful in reducing time on the internet, a large amount of time immediately opens up for the patient, which leads to a second treatment goal: learning to satisfactorily spend and structure free time in order to avoid getting bored and relapsing into heavy internet use. This goal involves finding new activities that do not involve the internet and have more constructive payoffs in terms of combating loneliness and the other consequences of an unbalanced lifestyle (dancing lessons, restarting an old sport). For some patients this also means that they need to improve their social skills in order to deal with new social encounters and contacts in 'real life'.

As noted before, time spent internet use was not actually the main problem for some patients. In those cases, alternative goals were set by the therapists. Examples are Richard (#07), who aims to spend less money on webcam sex sites, and James (#01), who is dealing with tension in his relationship. In practice this meant that for some patients, the therapy focus sometimes switched from controlling internet use to, for example, relationship counseling.

### **Planning Change: Patients Are Inventive in Self-Control but Abstinence is Undesirable**

The therapists indicate the patients are inventive in coming up with measures to control their own behavior. Examples include: deciding what to do before actually turning on the computer, removing automated notifications of new mail, dividing mail into groups and not answering irrelevant mail, posting do-not-disturb messages on social networking sites, using a laptop instead of a computer (this is more uncomfortable over time), blocking the credit card, and tracking time spent on the behavior using a stopwatch. One patient removed the power cable from the computer after using it and handed it to his girlfriend to help him control his behavior. However, for many patients the best intervention seems to be the simple act of monitoring use.

An interesting approach used by some of the therapists was to implement one internet-free day, as a way for the patient to get used to the idea of filling free time with other activities than internet use. Unfortunately patients were less happy about this approach (which might well be considered symptomatic of their problems). Two of them even refused to try this option. Finally, therapists note that most of the patients are somewhat overconfident in setting goals, which they often have to adjust during treatment because they turn out to be unobtainable. The main cause for this is the fact that internet use is more necessary for day-to-day functioning than patients initially assume.

### **Lapse and Relapse Prevention: Many Similarities With Substance Addiction**

Much like in standard addiction therapy, lapse—and relapse—is to be expected and indeed happened. While controlled use is often the goal, in practice this goal is often harder to reach than total abstinence. Therapists dealt with lapse by normalizing the behavior, and discussing the situation in which the lapse happened (Marlatt and Donovan 2005). Depressive feelings seem to be a risk factor for lapse, as well as being alone, lack of structure in the day, and being tired. Interesting is the regularly observed transference of the problem to other applications during treatment. For example, Jeff (#11) found that his mail traffic strongly increased after quitting social

networking sites, while Mark (#06) started writing in Word on non-work related topics after his internet got disconnected.

Therapists note the surprising similarity of dealing with wanting-to-use (craving) in this therapy compared to regular addictions. Several techniques were reported to be helpful avoiding lapse: finding distractions (including: leaving the house), using an alarm clock to time use, and not automatically starting the webcam with the computer. The most extreme technique is actually removing the computer (or the internet), which seems to work well. Note that these techniques merely assist the patient in making the change—without solving the underlying problem (such as the lack of alternative behavior or the lack of meaningful activities), these techniques alone are not enough.

### **Treatment: Therapists Appreciate the Program, but Regular Case Reviews are Needed**

The treatment lasted five to ten sessions. Sessions in the Lifestyle Training protocol last 45 min, which is the default session length in the Netherlands. For one patient the treatment took up 17 sessions because the internet was disconnected and later reconnected at work, which required extra guidance according to the treating therapist. The senior therapist suggested that, had there been more patient evaluations, this patient would probably have been tested for Obsessive Compulsive Disorder and been referred to a specialist to treat his OCD. Regular case reviews, in which a therapist discusses his or her patients with colleagues, could have prevented this. Given the diversity of the problems encountered with patients, regular case reviews seem necessary, especially for non-psychologists.

Therapists remark that the necessity of the optional sessions (sessions 7 through 10) varies: for some patients they are helpful, for others not so much. Some of the optional topics were included earlier in the treatment regularly: expanding the social network and managing free time were important topics. While patients are happy with the treatment program, therapists indicate more time in the (45 min) introduction session would have been practical. This would help patient and therapist to get to know another and establish the type of internet activities and behavior involved in the problems. This is partly a result of the internet-based intake procedure; which meant that the therapist and patient met face to face for the first time in the first session: a separate intake session with face to face contact should be beneficial. Nonetheless, most of the patients achieved a reduction of their internet use and reported satisfaction with the treatment.

### **DISCUSSION**

Therapists report that the combined Cognitive Behavioral Treatment and Motivational Interviewing program 'Lifestyle Training', which is ordinarily used for substance dependence and pathological gambling, fits the problem of internet addiction quite well. Interventions focused at controlling and reducing internet use, and involved expanding (real life) social contacts, regaining a proper daily structure, constructive use of free time, and reframing beliefs. Therapists further indicated that the treatment achieved some measure of progress for all of the 12 treated patients, while patients reported satisfaction with the treatment and improvements in actual behavior.

The 12 patients who volunteered for the pilot treatment all reported suffering from internet addiction—i.e. they had problems controlling their behavior on the internet.

However, the patient group was quite diverse in practice. Actual internet use involved a wide variety of applications, including erotica, forums, web-surfing, online games, blogging, social networking, and even email. Most of the patients suffered from comorbid psychological problems, which were often related to the internet behavior.

Several aspects of the treatment were reported to be particularly effective for treating internet addiction. Firstly, monitoring internet use with a diary helped greatly to establish a starting point for change and give patients a realistic idea of the amount of time (or money) they were spending online. Secondly, the patients were inventive in self-control measures. These measures might be helpful for future treatment. Thirdly, exercises aimed at finding alternative ways to spend leisure time and expanding the social network were important after reducing use. Finally, established techniques for preventing (re)lapse into the internet behavior—such as structuring free time—seem to work well.

Some points of the therapy could benefit from adjustment to better fit the specific problems. Firstly, it is not clear if ten full sessions are necessary for treatment, as some therapists report that the most useful topics of the last three optional sessions (social network, dealing with free time) are included in the treatment earlier on out of necessity. Also, it is important for therapists to be up to date on technology and specific internet applications, as this considerably helps create a basis for understanding the behavior, which is appreciated by patients. With regard to goal setting, therapists sometimes encourage abstinence (even for just 1 day per week), which did not suit most of the patients early on in the treatment. Thus, building contacts and activities in the 'real world' while concurrently treating internet problems is crucial. A complicating factor is the fact that the internet is necessary for day-to-day life. This means that full abstinence is not an option, while controlled use is often difficult as losing track of time is one of the symptoms of internet addiction to begin with.

Results fit with recently published findings which demonstrate that applying a CBT approach to internet addiction can show positive results (Du et al. 2010). Also, the pattern of escalation of the internet use reported by several patients fits well with Caplan's (2003) theory of preference for online social interaction—patients, such as Jane, with low psychosocial health preferred online interaction, which in turn led to more negative outcomes. Given the diversity of patient group and relatively high incidence of comorbid psychological pathology, we should ask ourselves if we are not dealing with a variety of problems that are by-chance clustered as 'internet addiction' simply because the internet is becoming the dominant medium of this age. This finding fits well with Wood's observation that the majority of cases of video game addiction can just as well be explained from another, underlying pathology (Wood 2008).

The current study has several limitations. The first, and foremost, is that the study deals with self-reported information by treating therapists on the level of process evaluation. Further research is required to establish treatment effects. Secondly, both patients and therapist in the current study were particularly motivated to participate—patients had nothing to lose as treatment was free of charge, while therapists volunteered for this pilot treatment out of curiosity and personal affinity with the subject. If the treatment becomes more common, this initial enthusiasm might diminish, which may affect the treatment process. Thirdly, the act of observing

changes the observed: both patients and therapists were aware that the study was being evaluated, and several extra steps were involved for both the therapist (session reports) and the patient, who had extra questionnaires to fill out—this might have a therapeutic effect in and by itself, as it gets patients thinking about their behavior. Finally, while per-session reports were kept by the treating therapist and sufficed for the current study, future studies might benefit from looking at the specific treatment session components to obtain even richer information.

In conclusion, treating therapists agree that a manual-based Cognitive Behavioral Therapy (CBT) and Motivational Interviewing (MI) treatment program, such as the 'Lifestyle Training' program, can be suitable for treating internet addiction. Patients reported less internet addiction, an increased ability to control behavior, and spending less time on the internet after treatment. Given the favorable first impression of this kind of treatment, future research should aim to execute this type of treatment for internet addiction in a larger, and more controlled setting (randomized controlled trial), perhaps in comparison to other treatment options. This would provide information on measurable effects of the treatment, which is necessary for a wide-scale implementation of the treatment program.

## NOTES

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Authors have no conflict of interest. Authors have full control of the primary data, which are available to review if requested.

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## TABLES

**Table 1**

Overview of the Lifestyle Training program, applied techniques per session

#	Session overview
1	Introduction and getting acquainted. Introduction of homework, for second session: keeping a diary of use and summarizing the disadvantages/advantages of the problematic behavior and the absence thereof in a balance sheet.
2	Setting treatment goals, based on the homework. Patient is asked to invite a supporting person to join the third treatment session.
3	Functional analysis (FA) of the behavior. Homework includes completing the functional analysis and continuing the diary.
4	Craving: discussing and training several cognitive and behavioral techniques for dealing with craving. Homework includes keeping track of experiences with (successful or failed) application of these techniques.
5	Social pressure to use: discussing and role-playing refusing skills. Homework includes practicing this skill.
6	Dealing with relapse and developing an emergency plan. Homework includes finishing the emergency plan, and once again inviting the supporting person to join the next (evaluation) session.
7	Evaluation of treatment goals, preferably in the presence of a significant other.
8,9,10	Optional themes like managing free time, dealing with group pressure, enhancing the social network, social skills, relaxation skills, dealing with a depressive mood or anger, problem solving skills.

Overview of patients participating in the pilot treatment

					Session reports	Treatment	Internet addiction		Situational confidence		Internet use in the last week			
							(CIUS) <sup>a</sup>		(BSCQ) <sup>b</sup>		Days per week		Hours per day	
#	Alias <sup>c</sup>	Gender	Age	Problematic behavior			Intake	Exit	Intake	Exit	Intake	Exit	Intake	Exit
01	James	Male	49	Online erotica	7	Completed	3.9	3.3	6.0	8.0	7.0	5.0	2.9	2.8
02	Robert	Male	27	Forums and profile sites	8	Completed	3.7	2.2	5.0	7.0	7.0	7.0	3.1	0.9
03	William	Male	27	Social networking	10	Completed	3.6	2.0	4.5	8.1	6.0	2.0	1.8	0.5
04	Joseph	Male	22	Online erotica	6	Completed	3.4	2.7	3.6	6.9	6.0	6.0	1.0	1.9
05	Lex	Male	20	Web Surfing	8	Completed	3.4	2.2	4.3	9.0	7.0	4.0	6.3	0.9
06	Mark	Male	47	Surfing, forums	17	Completed	3.1	2.6	6.8	9.4	6.0	7.0	2.1	1.3
07	Richard	Male	62	Online erotica	8	Completed	3.1	2.6	5.5	8.9	5.0	2.0	0.9	0.3
08	Jane	Female	27	Online communication	5	Completed	3.9		6.3		7.0		4.3	
09	Luke	Male	38	Blogging, porn/erotica	4	Switched	4.1		4.6		7.0		2.9	
10	David	Male	37	Online games	8	Aborted	4.0		7.0		7.0		4.5	
11	Jeff	Male	28	Social networking	8	Aborted	2.8		8.9		7.0		2.4	
12	Steven	Male	25	Blogging	2	Aborted	3.8		4.9		7.0		5.0	

<sup>a</sup>Scores on the CIUS indicates the frequency of experiencing specific complaints, ranging from 1 (never) to 5 (very often). The average score over all 14 items is reported, as intended by (Meerkerk et al. [2009b](#); Meerkerk [2007](#))

<sup>b</sup>Scores on the BSCQ range from 1 through 10. Average values are reported

<sup>c</sup>Note that no real names are used in the current report, the given names are aliases

Table 4: Some case study examples of problematic behavior

<b>Example</b>	
Jane	For Jane (#08), the behavior started when she got home from her part time job. She reports turning on her Personal Computer immediately after she got home. Dinner for her often consisted a premade dinner or junkfood. For her, the main problem was Live Messenger (an instant messenger chat program, previously known as MSN). She has a large group of social contacts through the internet, most of whom she met through chat boxes. When she was living with her parents she already chatted a lot, through television chat boxes. As the bills stacked up her parents revoked her internet access. When flat fee internet was introduced she returned to chatting several hours a day. Outside the virtual world she does not have friends—nor does she want to have them. She likes the distance of online contacts: when she is not in the mood to respond, she does not have to respond. She spends most of the time between 8 pm and 1 am behind the computer.
Joseph	For Joseph (#04) the behavior seems to be an extension of lifelong problems controlling sexual behavior. He started weekly calls to sex lines at the age of 13, got caught by his parents. Later he started using internet sex sites. First free ones, later paid sites (credit cards and phone connections). Currently he watches sex sites in the bathroom at work (using a mobile phone), and has alienated several female friends by asking them to perform sexual acts over the webcam.
David	David (#10) has been using computers since he was 11 years old. He has always been interested in fixing and improving computers. Firstly he only used the computer for typing letters, sending an email and playing games. He then moved on to (online) first person shooting games, such as Gears of War, Left for Death, and Crysis. Especially multiplayer games are ‘very seductive’ according to him. He started eating earlier and earlier to spend more time on the computer, started eating behind the computer and finally the gaming started to influence his sleeping patterns.