Social-Cognitive Determinants of Outside Therapy: A Behavior Change Intervention Among Dutch Mental Health-Care Practitioners

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Abstract

Because of the proposed beneficial effects of green outside spaces on client's as well as practitioner's (mental) health (Houlden et al., 2018; Twohig-Bennett & Jones, 2018) the initiative Groene GGZ [Green Mental Health Care] by NatureForHealth (NFH) and Instituut voor Natuureducatie (IVN) facilitates outside treatment. Interviews with professionals from the field however showed that there are only little practitioners who go outside with their clients yet. Therefore, this research aimed to investigate the underlying psychological processes that lead to a therapist (not) going outside with their client. Additionally, it aimed to develop an evidence-based flyer to increase outside treatment in mental health care practitioners. Two studies were conducted. Study 1 investigated the value of the Social-Cognitive Theory (SCT; Bandura, 1986, 2001) as a framework of the underlying psychological processes and the association between outside treatment and subjective wellbeing. Study 2 tested the effectiveness of the designed flyer. While associations between outside treatment and the SCT variables were found, subjective wellbeing was found not to be associated with outside treatment in Study 1. Study 2 obtained a low sample size and was not able to indicate the effectiveness of the designed flyer. However, the present research is the first to investigate underlying psychological processes that lead to a therapist (not) going outside with their client. Ample directions for future research in the domain of behavior change as well as wellbeing research were highlighted.

Keywords: Mental health-care practitioners, Outside treatment, Social-Cognitive Theory, Behavior change, Wellbeing

Spending time in green outside spaces has beneficial effects on both physical (Twohig-Bennett & Jones, 2018) as well as mental health (Houlden et al., 2018). Studies showed, that 120 minutes of green exposure per week can already yield great benefits for the self-reported wellbeing and health (White et al., 2019). Furthermore, interventions promoting exposure or interaction with nature can prevent mental health issues (Goetzel et al., 2018; Mykletun & Harvey, 2012), as well as aid in the treatment of widespread range of diagnosis like schizophrenia, substance abuse, mood, anxiety, behavioral as well as personality disorder (Annerstedt & Währborg, 2011).Bettmann et al. (2021) showed for example that the more time veterans, suffering from posttraumatic stress disorder, spent outdoors the greater their symptom reduction.

One theory about why the beneficial effects of nature on humans exists, is described in the stress reduction theory (SRT; Ulrich et al., 1991). According to the SRT the automatic and immediate stress-reducing psychophysiological response to natural and vegetation-rich environments is due to an innate predisposition which human process due to their evolutionary development (Hartig et al., 2011; Parsons et al., 1998).

Next to the benefits for clients in mental healthcare, going outside might also have benefits for practitioners. Mental health care practitioners are of especially high vulnerability to occupational stress. They usually describe their work as emotionally very demanding and perceive a great amount of occupational stress (Centraal Bureau voor de Statistiek, 2016).

Evidence shows that Nature-Based Interventions at the workplace can be valuable for mental health and wellbeing of employees of different occupations (Gritzka et al., 2020). Matsunaga et al. (2011) for example showed that already a short time spend in a rooftop forest significantly increased subjective relaxation in healthcare workers. Because of the (mental) health benefits for clients as well as practitioners it seems valuable to incorporate more nature exposure into mental health care treatment.

That is why the initiative Groene GGZ [Green Mental Health Care] by NatureForHealth (NFH) and Instituut voor Natuureducatie (IVN) facilitates outside treatment. They aim to relocate treatment session, which are usually held inside to the outdoors.

However, regardless of the known potential of outside treatment on client's and practitioners' (mental) health, interviews with professionals from the field showed that there are only little practitioners who go outside with their clients yet.

The objective of this research is therefore to investigate the underlying psychological processes that lead to a therapist (not) going outside with their client. Additionally, I aim to develop an evidence-based intervention to increase outside treatment in mental health care practitioners.

To obtain those objectives I designed two studies. Study 1 investigated the underlying psychological processes of outside treatment in a cross-sectional[1] manner while the longitudinal Study 2 aimed to increase the percentage of outside treatment in mental health care institutions with a flyer designed specifically for this purpose. Due to time constraints, the two studies were not conducted sequentially but at the same time. Therefore, the hypotheses of Study 2 are not based on the findings of Study 1.

Study 1

Since outside treatment is a relatively new trend, according to my knowledge, there are no empirical studies yet investigating the underlying psychological processes of outside treatment in practitioners. Because of the lack of literature, I conducted nine qualitative interviews with professionals and stakeholders from the field. A description of the people

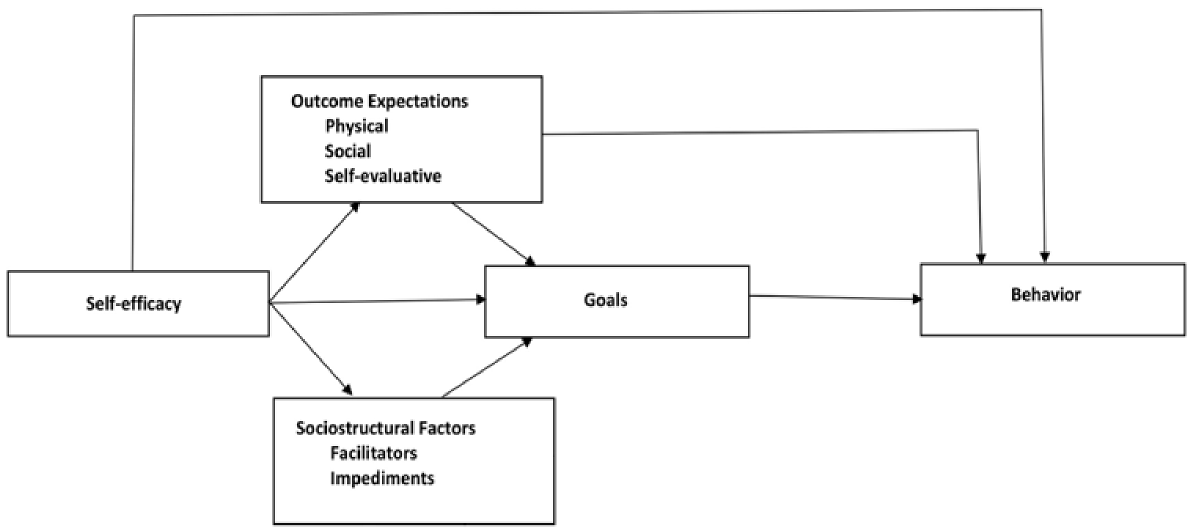
[1] I conducted Study 1 because I expected a small response for Study 2. Unfortunately, I also obtained a small response rate for Study 1. Additionally, only the minority of participants filled in the post-measurement in Study 2 which made them unsuitable for analysis. I therefore decided to add all participants who participated in the pre-measurement of Study 2 to the data set for analysis of Study 1 as both studies contained the same questionnaire. This provided me with a bigger sample size and the available data from participants participating only in the first measurement of Study 2 was not lost.

interviewed is provided in the supplemental material. The interviews formed a beginning for the literature search.

During the interviews several factors related to the Social-Cognitive Theory (SCT; Bandura, 1986, 2001) were detected in the argumentation of why practitioners are (not) going outside for outside treatment. The SCT is a prominent model explaining health behaviors (Bandura, 1986, 2001). It states that health behavior is influenced by social determinants as well as by cognition i.e., thought processes. Further, it proposes that personal and environmental factors influence human behavior as well as each other. For a graphical visualization of the SCT as proposed by Bandura see Figure 1 (Bandura, 1986).

Figure 1

Structural model as proposed in Bandura's social cognitive theory (1986).



Despite some critique the SCT forms the basis of a vast body of literature and has thereby overall proven its value for explaining health behavior in varying samples (Beauchamp et al., 2019). In the following I will relate previous findings on the SCT to the results of my qualitative interviews.

Self-Efficacy

According to the SCT, self-efficacy, which Bandura (1997) defines as an individual's belief in their own abilities to perform a certain behavior, is the central determinant of behavior (Bandura, 2004). This has also been supported by ample research. (Bauman et al., 2012; Zhang et al., 2019). People are more likely to be perform a health behavior if they believe that they have the capability to do so.

Several interviewees mentioned they lack the confidence to provide good treatment outside. Directors of treatment affairs added that in their experience practitioners often do not learn outside treatment in their regular education which leads them to lack confidence. I therefore propose that self-efficacy is a central factor in explaining outside treatment of mental health care practitioners. Specifically, I hypothesize that the more practitioners believe they are capable of providing treatment outside, the more often they do it.

Goal/ Self-regulation

The SCT proposes that self-efficacy not only predicts health behavior, but also the goals one sets regarding it (Bandura, 2004). SCT additionally states that goals mediate the effect of self-efficacy and behavior: The higher the self-efficacy beliefs the more likely one will set goals.

However, according to Bandura (1997) setting goals is not enough to obtain them. Therefore, in the literature the goal construct is often conceptualized as self-regulation which not only includes goal setting, but also planning and monitoring one's process regarding the goals. A meta-analysis found self-regulation to be consistently associated with the health behavior physical activity in the included models (Young et al., 2014). In the present thesis the goal construct is therefore also conceptualized as self-regulation.

A director of treatment affairs mentioned that she does not have the impression that practitioners in her facility show interest in making plans regarding outside treatment. In line with the SCT I therefore expect that the more self-efficacious practitioners are, the more self-regulatory behavior (i.e., setting goals, planning, self-monitoring and problem solving) they will perform and the more likely they will obtain the goal namely, treatment outside.

Outcome Expectations

According to the SCT, self-efficacy's effect on goals is additionally proposed to be partially mediated by outcome expectations (Bandura, 1986). Bandura (2004) defines outcome expectations as the physical, social or self-evaluative outcomes people expect when performing a certain behavior. The SCT proposes that when people feel more self-efficacious, they expect more beneficial outcomes of a behavior, which then again leads to more self-regulation. Additionally, outcome expectations are also stated to have a direct effect on behavior. Therefore, people who envision greater outcomes are more likely to perform a behavior (Bandura, 1986).

The association between self-efficacy, outcome expectation and for example physical activity is well documented (Beauchamp et al., 2019). Although, meta-analyses and reviews showed outcome expectations to be less consistently associated with PA than self-regulation and self-efficacy they still see value in including outcome expectation (Beauchamp et al., 2019; Young et al., 2014).

Several interviewees indicated that practitioners who go outside are usually aware of the beneficial value of nature for themselves. An active therapist who also educates other therapists about outside treatment additionally mentioned that practitioners have a lot of time pressure and seem to expect that going outside would lead to more stress. Additionally, some appear to be afraid that outside treatment might pose several risks. Thus, the outcomes, practitioners expect of outside treatment, seem to be associated with the frequency of outside treatment.

In line with the SCT, I therefore expect that the more positive the practitioners expect the outcomes of outside treatment to be for the client, the treatment and themselves, the more likely they will engage in it. Additionally, I expect that the more self-efficacious a practitioner is, the greater their expected outcomes and the more likely they will engage in self-regulatory behavior.

Socio-Structural Factors

According to SCT, self-efficacy's effect on behavior is, next to outcome expectations and self-regulation, also mediated by socio-structural factors. Bandura describes them as facilitators and barriers to health behavior (2004). He proposes that people higher in self-efficacy have greater attention for cues or people in their environment that might help them attain their goals.

As with outcome expectations, although less consistently associated in the literature with health behavior than self-regulation and self-efficacy, meta-analysis and review still see the value of including socio-structural factors (Beauchamp et al., 2019; Young et al., 2014).

Barriers

Barriers are those factors surrounding health behavior that hinder it. According to the SCT, the higher one perceives the barriers the less likely they will perform the health behavior.

Although coordinators of the Groene GGZ initiative say outside treatment is mostly attainable, practitioners mention for example the lack of protocols for outside treatment, rain or the challenge of taking notes outside as barriers. It is therefore expected that the higher practitioners perceive those barriers, the less likely they will engage in outside treatment. Additionally, the more self-efficacy a practitioner possesses, the less barriers they will perceive, and the more likely they will engage in outside treatment.

Facilitators

In contrast to barriers, facilitators facilitate health behavior. Based on the interviews, I chose institutional support, perceived environment, and social norms as facilitators for outside treatment.

Institutional support means the support a practitioner perceives from the institution they are working for with regards to outside treatment. Institutional support was adjusted from the concept of social support, which Young et al. (2014) called one of the most studied facilitators of physical activity in their review. Studies show that social support indeed mediated the relationship between self-efficacy and self-regulation (e.g Ayotte et al., 2010). I therefore expect that practitioners who have more self-efficacy engage in more self-regulatory behavior to the extent that they perceive more institutional support.

Perceived environment here is defined as the degree to which a practitioner perceives their work environment as inviting for outside treatment. Young et al. (2014) also classified the environment as one of the most studied facilitators. I therefore expect that practitioners who have more self-efficacy engage in more self-regulatory behavior to the extent that they perceive their environment as more suitable to outside treatment.

Social norm here means the extent to which a practitioner believes that other practitioners are treating outside. Luszczynska and Schwarzer (2005) stressed the importance of social norms as a facilitator within the SCT framework when predicting health behavior. I therefore expect that practitioners who have more self-efficacy engage in more self-regulatory behavior partly to the extent that they perceive a greater social norm to do so.

To summarize, as outside treatment aims at increasing the (mental) health of practitioners and their clients, outside treatment can be considered a health behavior. Together with the discussed statements from the interviews, the SCT seems like a valuable framework in explaining and predicting outside treatment. Consequentially, the question Study 1 aims to investigate is: What is the value of the SCT in explaining why mental health-care practitioners are (not) going outside with clients for treatment sessions.

Inspired by the discussed interviews with professionals and stakeholders from the field, based on the SCT (Bandura, 1986) and in line with the discussed research I expect the following. 1) Practitioners who had more often been outside with their clients within the last two weeks also show more self-regulatory behavior, have more self-efficacy, greater outcome expectations, perceive more support from their employer, a greater social norm, the environment as more suitable and less barriers with respect to outside treatment and have a greater subjective wellbeing. I further expect that 2) self-regulation partially mediates the association between self-efficacy and outside treatment and that 3) outcome expectations, barriers, and facilitators partially mediate self-efficacy's association with self-regulation.

Methods

Participants and design

The study was a cross-sectional questionnaire study. Ethical approval got obtained from the Ethics Committee Social Science at the university before starting data collection. Participants were recruited via the network and social media of the initiative Groene GGZ and affiliated organizations as well as mental health-care institutions.

An a priori power analysis using G*Power (Faul et al., 2009) showed that in order to find a medium effect with an alpha of .05 and a power of .80, when testing the first hypothesis with a Pearson's correlation, a sample size of 82 would be necessary. Due to a lack of literature the effect size was estimated based on literature on the association of the SCT with other health behaviors like physical activity (Young et al., 2014).

60 mental health-care practitioners[2] between 24- and 64-year-old (M = 44.25; five missing) were included in the sample for analysis of which 82.5% identified as woman and 17.5% as man (three missing). Participants worked between half a year and 32 years practitioners spanning (M = 12.82; three missing). Nine percent of participants worked as physicians, 71% as psychologist, 16% as nurses and four percent as orthopedagogues(four missing). For a summary of the Dutch jobs see the supplemental material. 86% of participants worked in a mental health-care institution, 8% had their own practice, 4 percent did both and

[2] The 60 participants are combined participants from Study 1 (27) and Study 2 (33).

2 percent worked in a hospital. Practitioners were included for analysis when they were active in the mental health care system and filled in the questionnaire sufficiently. That means a score for outside treatment and at least one other scale.

Procedure and materials

The survey was administered online using Qualtrics (2005) and took ten minutes to complete. After signing an informed consent, participants filled in their age, gender identity, and questions related to their work. Afterwards on a 100-point scale (0= Never, 100= all the time) they indicated “In what percentage of treatment sessions in the last two weeks have you been outside with a client?”, followed by questions about their self-regulation, self-efficacy beliefs, outcome expectations, perceived barriers, socio-structural factors and subjective well-being. At the end participants were thanked for the contribution. Participants received no reimbursement.

Although using not-validated questionnaires can significantly undermine the validity of measurements, due to a lack of validated questionnaires tailored to outside treatment behavior of mental health care practitioners most questionnaires are inspired by the literature on other health behaviors and needed to be at least adjusted to some extent. Usually, the health behavior like exercise was replaced by outside treatment. For the full questionnaire see the supplementary material.

Self-Regulation. Self-regulation was measured using the Exercise Goal-Setting Scale (EGS; Rovniak et al., 2002). Items were translated to Dutch and adjusted by replacing exercise through outside treatment. On a 5-point scale (1 = never, 5 = very often) participants rated their self-regulation on ten items like “I usually achieve the goals I set for myself regarding outdoor treatment. Higher scores meant more self-regulation. Cronbach's alpha was .96.

Self-Efficacy. According to Bandura (2006) there is no one way to measure self-efficacy as the beliefs of one’s capability to perform a certain behavior is behavior specific.

According to Bandura's guide and examples for constructing self-efficacy scales I designed a 6-item scale (α = .89) measuring the self-efficacy beliefs of practitioners regarding outside treatment. Participants rated their confidence to perform the following activities at this time on a 100-point scale (0= Not at all confident, 100= completely confident). Items ranged from more general "Being outside for part or all of a treatment session with a client" to more specific self-efficacy "Ensure safety of myself and the client when walking outside during a treatment session." Higher scores meant more self-efficacy. Cronbach's alpha was .84.

Outcome Expectations. The present scale was inspired by the outcome expectation scale of (Dewar et al., 2012). On a six-point Likert scale (1= Completely disagree, 6= Completely agree) seven items (α = .89) were asked about practitioner's outcome expectation regarding outside treatment. Items were about outcomes for the client like "Outside treatment benefits the treatment", but also about personal outcomes for the practitioner like "Outside treatment is good for me (stress, vitality, mood)". Higher scores meant more positive outcome expectations. Cronbach's alpha was .86.

Socio-Structural Factors. Dishman's et al. (2010) perceived barriers scale served as an inspiration. On a 5-point Likert scale (1= Never, 5= Very often) practitioners indicated how often nine barriers like "It is raining, cold or windy" usually prevent them from going outside with a client for a treatment session. Higher scores meant more perceived barriers. After deleting one item ("I don't know how to declare a treatment session outside") Cronbach's alpha was .72.

Social support ("I experience support from my employer regarding outside treatment"), descriptive norm ("Other therapists in the mental health care system treat outside") and perceived environment ("The environment surrounding my workplace encourages outside treatment") were measured using single-items on a 100-point scale (0= Completely disagree, 100= Completely agree).

Subjective Well-being. I included the Dutch version (Ikink et al., 2012) of the shortened Warwick-Edinburgh Mental Well-being Scale (SWEMWBS; Stewart-Brown et al., 2009) to measure subjective well-being. Seven positively formulated items (e.g. “I've been feeling relaxed”) asked practitioners to describe their subjective wellbeing on a 5-point scale (1 = none of the time to 5 = all the time). Higher scores meant more subjective wellbeing. Cronbach's alpha was .76.

Data analysis

Data was processed and analyzed using IBM SPSS Statistics Version 25.0 (2017). One participant stated to be 17 years old while also stating working experience of 15 years as a psychologist in a hospital. Because of unlikeliness the age was set as a missing value. After recoding item three of outcome expectations the scales for the variables were computed. The assumptions of homoscedasticity and multicollinearity were met. Linearity and normality were not met due to influential cases which were identified with Cook’s Distance. The influential cases were mainly the few participants that did regularly go outside with their clients. Therefore, they were not seen as improbable scores.

Because of the violation of normality, I tested the first hypothesis with a non-parametric Spearman’s rho, and I ran the second and third hypotheses once with and once without the influential cases. To test whether 2) self-regulation partially mediates the association between self-efficacy and outside treatment and whether 3) outcome expectations and barriers partially mediate self-efficacy’s association with self-regulation two mediation analyses were performed using the SPSS macro PROCESS model four with 20000 bootstrap samples (Hayes, 2013). The cases-to-independent variables ratio for regression analysis is advised to not be less than 5:1 (Abrams, 2007). A partially mediation of the facilitators (institutional support, social norm, perceived environment) was therefore not tested. Although still not ideal (20:1), without the facilitators I obtained a cases-to-independent variables ratio of 15:1.

Results

To test the association between outside treatment and the SCT variables as well as subjective well-being I performed a Spearman's rho. Results indicated that outside treatment was positively correlated with self-regulation r (60) = .51, $p < .001$, self-efficacy r (60) = .54, $p < .001$, outcome expectations r (58) = .60, $p < .001$, institutional support r (50) = .34, $p = .017$, social norms r (54) = .47, $p < .001$, perceived environment r (55) = .42, $p = .002$ and negatively correlated with barriers r (57) = -.52, $p < .001$, but not correlated with subjective well-being r (57) = .04, $p = .794$. The complete correlation table can be found in the supplemental material.

To test whether self-efficacy's association with outside treatment is partially mediated by self- regulation a mediation analysis was performed, controlling for work experience of a practitioner, in years. The results indicated a significant indirect association of self-efficacy on outside treatment through self-regulation β = 0.14, 95% CI [0.03, 0.28] as well as a significant direct association of self-efficacy on outside treatment β = 0.32, 95% CI [0.08, 0.51], $p = .009$. A visual representation of the model including beta weights can be seen in

Figure 1

Model of Self-Efficacy Associated with Outside Treatment, Mediated by Self-Regulation

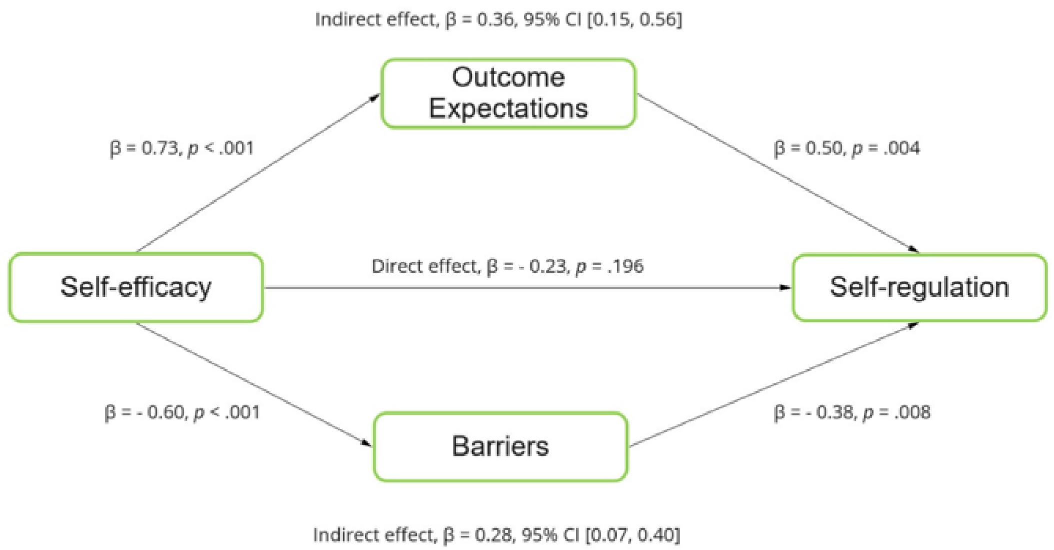
Note. This figure shows beta weights found in a mediation analysis when controlled for working experience in years.

Figure 1. Without the influential cases the indirect association of self-efficacy was no longer significant. The results can be found in the supplemental material.

To test whether self-efficacy's association with self-regulation is partially mediated by outcome expectations and barriers a mediation analysis was performed again, controlling for work experience. The results indicated a significant indirect association of self-efficacy on self-regulation through outcome expectations, β = 0.36, 95% CI [0.15, 0.56] and barriers β = 0. 28, 95% CI [0.07, 0.40] but no direct association of self-efficacy β = -0. 23, 95% CI [-0.03, 0.01], *p*= .196. A visual representation of the model including beta weights can be seen in Figure 2. Without the influential cases the result pattern remained the same. The results can be found in the supplemental material.

Figure 2

Model of Self-Efficacy Associated with Self-Regulation, Mediated by Outcome Expectations and Barriers



Note. This figure shows beta weights found in a mediation analysis when controlled for working experience in years.

Study 2

As explained in Study 1 the SCT was proven in explaining and predicting health behavior. Additionally, a vast amount of interventions based on the SCT were shown to be effective as well (Beauchamp et al., 2019). The WHO (2009) summarized empirical studies and showed that interventions based on the SCT can be effective in increasing health behaviors. A study examining the effects of a campaign aimed to increase physical activity found for example, people who scored higher on variables associated with the SCT were more likely to remain physical active after the campaign (Leavy et al., 2014).

It therefore seems plausible to also apply the SCT framework to outside treatment when designing an intervention to increase it. To my knowledge, there is no literature yet trying to increase outside treatment among mental health-care practitioners.

Several articles stress the importance of evidence-based behavior change interventions. Often, studies lack the mechanistic understanding or clear description of behavior change techniques (BCT) used to change a certain behavior (Grüne-Yanoff, 2016; Michie & Abraham, 2004). Michie et al. (2013) describe BCTs as the active ingredient in interventions that drives its effectiveness.

Therefore, the aim of the present study is to develop an SCT-based tool to increase the percentage of outside treatment sessions a practitioner in mental health care institutions performs. Because of the early stages of outside treatment in the Netherlands it is aimed to develop an easy to implement tool that has the potential to reach great number of practitioners. For that reason, a flyer seems suitable.

Self-efficacy

Self-efficacy is the central determinant of health behavior according to the SCT. It's effect on health behavior gets mediated by all the other SCT variables (Bandura, 2004). Additionally, it was proven valuable when developing interventions. A meta-analysis found that changing self-efficacy has beneficial effects on health behavior (Sheeran et al., 2016).

Furthermore, a meta-analysis advised to focus SCT-based interventions on increasing self-efficacy as those effects seem the most promising (Young et al., 2014). Additionally, there have been several mass media campaigns to increase health behavior based on increasing self-efficacy. Craig et al. (2015) for example showed that relevant and engaging messaging can be used on a large scale to increase people's self-efficacy to be more active. Based on the reviewed literature the designed flyer therefore aims to mainly increase the self-efficacy belief of practitioners regarding outside treatment.

There are multiple ways to increase self-efficacy. Research found that providing instructions about tasks is one (Williams & French, 2011). Additionally Bandura (1977) states vicarious learning as a source of self-efficacy. Vicarious learning happens through the observation of social models. By watching other people performing a certain behavior people's beliefs in their own capabilities increases (Lirgg & Feltz, 1991). A meta-analysis, investigating found that vicarious learning is indeed one of the best ways to increase self-efficacy and therefore health behaviors like physical activity (Ashford et al., 2010). Kim et al. (2021) as well as Oyibo et al. (2018) found that individuals felt more efficacious after observing other people being physical active, consequentially leading to them being more physical active themselves.

Based on the discussed literature, using social models and therefore making use of vicarious learning on the flyer seems like a promising approach to increase self-efficacy and therefore outside treatment in mental health care practitioners.

The question the study aims to answer is: Can a SCT based flyer be an effective tool in increasing outside treatment?

Based on the above discussed literature, I expect that there is an effect of the flyer over time on outside treatment and the SCT variables. Specifically, I expect that practitioners who read the flyer at the first measurement moment will engage in more outside treatment, be more self-efficacious, perform more self-regulatory behavior, expect greater outcomes, perceive greater facilitators and less barriers at the second measurement.

To test the flyer’s effectiveness Study 2 was designed as a quasi-experimental online study.

Methods

Participants and design

A quasi-experimental online study was designed with intervention as between-, and time as within-subject factors and behavior and the SCT variables as dependent variables. Ethical approval got obtained from the Ethics Committee Social Science at the Radboud university before starting data collection.

I collected the data in two mental health care institutions which served as the intervention and waiting list control group. To increase the response rate, I introduced myself to several practitioners in person. Additionally, the practitioners were asked to take part in the research by their team leaders in the organization. However, it was always highlighted that participation is voluntarily, and no negative consequences derive from not participating.

An a priori power analysis using G*Power (Faul et al., 2009) showed that to find a medium effect with a power of .80 and an alpha of .05 when testing the flyer’s effectiveness with a Repeated Measures MANOVA, a sample size of 128 would be necessary. This amount was not met due to time constraints and limited availability of participants. Due to a lack of literature, the medium effect was estimated based on a meta-analysis investigating the effect size of interventions using vicarious learning to promote self-efficacy for physical activity (Ashford et al., 2010).

Only practitioners of the two institutions who participated in both measurement moments were included in the analysis. The intervention group consisted of five women (one missing) from 33 to 46 years (M = 41.75; one missing). They worked as practitioners from two to 20 years (M = 12.50; one missing value). All were psychologists (one missing value).

The control group consisted of three men and four women from 29 to 55 years (*M* = 41.00). They worked as practitioners from three and a half to 28 years (*M* = 15.79). Two worked as nurses and five as psychologist.

Materials and procedure

Intervention. A flyer was developed including an introductory message, benefits as well as considerations of outside treatment, three testimonials of role models that are going outside for treatment sessions regularly and links to further information. It can be seen in in the appendix.

The testimonials were placed on the right side of the flyer taking up a substantial part of the flyer to catch the attention. The testimonials described experiences of the social models with outside treatment. They were mainly formulated positive with some challenges described the models had to overcome ragarding outside treatment. This was done as research showed that descriptions of successful progress as well as coping strategies regarding a challenging task can have a positive influence on self-efficacy (Feltz et al., 2008).

Gould and Weiss (1981) additionally concluded that when people are uncertain about their abilities regarding a behavior, similarity to the model is an important factor to increasing self-efficacy. As outside treatment, because of its novelty, is surrounded with quite some uncertainty the models portraited on the flyer were chosen to be similar to practitioners reading the flyer. They were practitioners from the field, their job descriptions were stated, and pictures were included.

Although the flyer mainly aimed to increase self-efficacy, other variables of the SCT were target as well. Mainly the outcome expectations by providing evidence- and experience-based benefits of outside treatment; the institutional support as the flyer was distributed via the organization, highlighting their support of outside treatment; and the social norm, by the social models which showed that other practitioners are doing outside treatment.

Additionally in the introductory text several BCTs were used to increase openness to the message because I expected that the flyer could evoke reactance in practitioners as it tells them what they ought to do. Reactance is one specific form of resistance, which gets evoked when people fear a lack of their autonomy (Worchel & Brehm, 1970). Two techniques were applied to overcome possible reactance.

By beginning the text with “As a practitioner in mental health care you have great interest in the quality of treatment and in the health of the client. In addition, you know the importance of movement and outdoor activity for the well-being of the client.” It was aimed altercast practitioners. Mended altercasting is a communication strategy in which one tries to make a specific role of the reader more prominent to get them to listen more openly to a message (Weinstein & Deutschberger, 1963). In this case, the caring and knowing practitioner was made salient. Hereby I expect that practitioners are listening more openly to the message presented on the flyer because they think they are indeed caring and knowing and they like to be confirmed in that.

The flyer further stated, “As a practitioner you are of course free to choose whether to go outside with clients”, making use of the “but-you-are-free”- technique, a BCT technique proven to decrease reactance (Guéguen et al., 2013). It is proposed to work because it restores the sense of freedom in people by giving them an opportunity to refuse.

Another form of resistance is skepticism, in which people lack security and therefore keep on being not convinced of a message regardless of the arguments. A proven technique to overcome skepticism used on the flyer is self-persuasion. When people come up with their own arguments for a behavior, they are more likely to be convinced of it (Aronson, 1999). Before presenting evidence-based benefits of outside treatment it was therefore chosen to first pose the question, “What could be reasons to go outside (more often) with a client?”, to the practitioners to let them think for themselves.

Lastly, the flyer also made use of authority. According to Cialdini (2007), when a request stems from an authority people are more likely to comply with it. On the flyer it said, “The institution where you work is a Green Forerunner of the Green mental health-care initiative. Green Forerunners want to use nature as a source for mental health while also inspire others inside and outside the mental health care system.” Thereby it was highlighted that an authority, the employer, supports the message on the flyer and I predicted practitioners to be more likely to comply with the request.

Questionnaire. The questionnaire to measure the SCT variables and behavior were the same as in Study 1. For the present sample the value for Cronbach’s Alpha, at the pre and post measurement respectively, for self-regulation was $\alpha = .95$; $\alpha = .94$, for self-efficacy $\alpha = .62$; $\alpha = .87$, for outcome expectations $\alpha = .82$; $\alpha = .66$, for barriers $\alpha = .62$; $\alpha = .82$ and for subjective well-being $\alpha = .88$; $\alpha = .71$.

The questionnaire was administered online using Qualtrics (2005). There was one intervention and one control version of the survey, which took around 20 and 10 minutes respectively. After signing an informed consent, practitioners created an individual code (containing the first two letters of their birthplace, their birth month, the second number of their age and the number of siblings they have) so data could be matched afterwards. Afterwards questions regarding their outside treatment behavior, SCT variables and subjective wellbeing were asked. The intervention version then presented the flyer. To increase the chance that participants read the flyer thoroughly they were asked two questions: “How useful did you find the flyer?” (0= not at all useful, 100= Completely useful); and “Did you miss something on the flyer?” (Open question). Finally, participants filled in their demographics and were thanked for the contribution. In the control version no flyer was presented, and it was immediately skipped to demographics.

Both versions were administered in both institutions. The intervention group first got the intervention survey and afterwards the control survey. For the waiting list control group, it was the other way around. Due to time constraints no third measurement was included to investigate the effect of the flyer in the waiting list control group. The time between the pre and post measurement was initially set to be two weeks. However, to guarantee anonymity, no names or e-mail addresses were collected. The questionnaires were sent out two weeks apart, but practitioners responded in their own time which led to the intervention time ranging between seven and 23 days (M = 13.00; SD = 5.75)[3].

Data analysis

Data was processed and analyzed using IBM SPSS Statistics Version 25.0 (2017). After recoding item three of outcome expectations the scales for the variables were computed.

No outliers were removed as they were defined plausible and only due to the low variance on the outcome variables.

To test the effectiveness of the flyer over time on outside treatment and the SCT variables, a repeated measures MANOVA was performed. Levene's test of Equality of Error Variances revealed no violation of the homogeneity, however normality was violated due to the small sample size. Because of that and the quasi-experimental nature of the design results need to be interpreted with caution.

Results

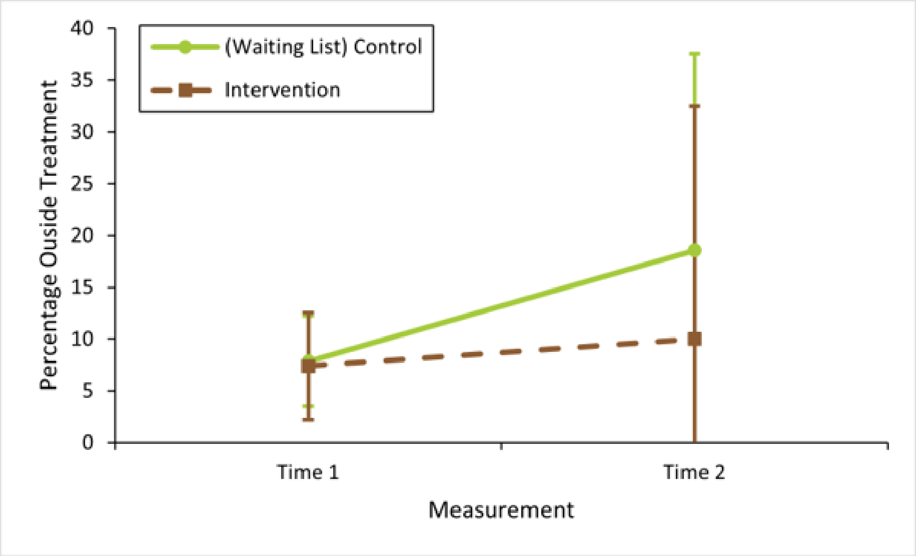
To test the effectiveness of the developed flyer over time a repeated measures MANOVA was performed. Intervention (intervention/ control) served as the between-subject and time (pre/ post) as the within-subject factor. Outside treatment and the SCT variables were the dependent variables. Due to low sample size, working experience and the intervention time were not included as covariates. The results indicated no multivariate effect of the flyer over time on the outcome measurements $F(8,3) = 0.80$, $p = .647$. The multivariate

[3] Only participants with at least seven days were included in the analysis. Therefore, one participant was excluded.

main effect of institution was significant *F*(8,3) = 12.10, *p* = .032. The multivariate main effect of time was not significant *F*(8,3) = 1.18, *p* = 759.

Figure 1

Portrays the Interaction Between Measurement and Group on the Percentage of Outside Treatment.



Note: The Practitioners indicated the percentage of outside treatment over the course of the last two weeks

Exploratory Analysis

A t-test revealed pre (*M* = 7.40, *SD* = 4.34) and post (*M* = 10.00, *SD* = 10.00) measurement scores of outside treatment in the intervention condition did not differ significantly, *t*(4) = -0.70, *p* =.522.

A t-test revealed pre (*M* = 7.86, *SD* = 5.67) and post (*M* = 18.57, *SD* = 27.95) measurement scores of outside treatment in the control condition did not differ significantly, *t*(6) = -1.17, *p* =.286.

A t-test revealed intervention (*M* = 7.40, *SD* = 4.34) and control (*M* = 7.86, *SD* = 5.67) group did not differ significantly in outside treatment at the pre measurement, *t*(10) = -0.15, *p* =.883.

Discussion

The objective of this research was to investigate the value of the SCT as a framework of the underlying psychological processes that lead to mental health care practitioners (not) going outside with their clients for treatment sessions. Additionally, I examined the association between outside treatment and subjective wellbeing and aimed to develop an evidence-based intervention to increase outside treatment in mental health care practitioners. Two studies were conducted. The results are discussed per study, followed by overall strengths and limitations and conclusions.

Study 1

In the first study, results indicated medium to high associations between the percentage of outside treatment and variables of the SCT (Bandura, 1986; Beauchamp et al., 2019). In the two weeks preceding data collection, participants went outside for relatively more therapy sessions if they experienced more self-regulation and self-efficacy, had higher outcome expectations, felt more institutional support, higher social norms, and an inviting environment and, less barriers. These results support the first hypothesis. Thereby, this is the first study which shows that, SCT provides a valuable framework to investigate outside treatment in mental health care practitioners.

In line with the second hypothesis, results further indicated that the association between self-efficacy and outside treatment was partially mediated by self-regulation. Thus, the more self-efficacious practitioners felt, the more self-regulation they reported and the more often they went outside with their clients, both to the extent that they reported self-regulation but also independent of it. This is in line with the predictions of SCT (Bandura, 1986; Beauchamp et al., 2019)**.**

Furthermore, results indicated a full mediation of the association between self-efficacy and self-regulation by outcome expectations and perceived barriers: The more self-efficacy participants felt, the more self-regulatory behavior they reported to the extent that they had higher outcome expectations and perceived less barriers to outside treatment. This result is supporting Hypothesis 3 only to some extent in that this association is only partially mediated according to SCT with an additional direct association with self-efficacy. Possibly, here, the relation between self-efficacy and outcome expectations and perceived barriers to outside treatment plays a relatively larger role in predicting behavior than in other contexts.

However, since Study 1 was a cross-sectional study, the results of the mediation analyses should be interpreted with caution. According to SCT, outside treatment behavior is predicted by self-regulation, self-efficacy, outcome expectations, and perceived barriers and facilitators. It could, however, also be the other way around, which would mean that outside treatment influences the SCT variables. For example, only when practitioners go outside more often, their self-efficacy in doing so increases. This idea was already introduced by Bandura (1977) who proposed that successful prior behavior (i.e., mastery experience) is the most influential source of self-efficacy.

Beauchamp et al. (2019) pose further questions about the directionality of the association between the SCT variables and behavior in their review. Not only do they question the proposed directions of Bandura (1986) but they also state that previous tests of the SCT indicated the possibility of bidirectional effects. For the present research this would mean that not only positive outcome expectations can increase outside treatment, but at the same time giving outside treatment can also increase the valence of outcome expectations.

Because of the correlational nature of the study and the discussed literature future research could investigate the directionality of the associations between the SCT variables and outside treatment to advance the theoretical reasoning of SCT as well as find effective targets to future interventions.

Subjective Wellbeing. Contrary to the expectations and the literature (e.g. Rogerson et al., 2020) outside treatment was not associated with subjective wellbeing in the present sample. A possible explanation of this finding is that spending time in nature might not be the most influential factor associated with mental health and wellbeing (Richardson et al., 2021). Instead, nature connectedness and engaging with nature have been found to be prominent factors in predicting mental health and wellbeing (Richardson et al., 2021). This indicates that simply doing the same evidence-treatment outside as inside might not be enough to increase the wellbeing of the practitioners, and possibly the clients.

It should be noted that the effects of outside treatment on clients were not examined in the present research. I can therefore not draw any conclusion about them. Like several reviews stated, there is a need for longitudinal and worldwide studies examining the effect of outside treatment (Annerstedt & Währborg, 2011; Hansen et al., 2017; Song et al., 2016). The results of this study provide evidence that outside treatment itself might not be enough. Instead, the potentially moderating role of nature connectedness and engaging with nature on clients' as well as practitioners' mental health and wellbeing when providing outside treatment could be investigated.

Study 2

In the second study, I hypothesized that the designed flyer had an effect over time on outside treatment and the SCT variables. This was not confirmed by the results. The flyer did not increase outside treatment, nor did it significantly increase self-regulation, self-efficacy, outcome expectations and facilitators, or significantly decrease perceived barriers over time. There are multiple explanations of why that could be the case.

First, it could have been that participants did not take enough time to read the flyer. Participants in the intervention group took in average around 12,5 minutes to complete the whole questionnaire including the flyer (ten minutes in the control condition). With an average reading speed for an adult of 238 words per minute (Brysbaert, 2019) participants in the intervention group should have been able to read almost 3000 words. The flyer contains only around 500 words. Even combined with the questionnaire the word count does not exceed 3000. It can therefore be assumed that practitioners read the flyer. However, questions can be posed about how thoroughly and whether they remembered information afterwards.

Second, the intervention time was short. The intervention time was initially set to 14 days. However, due to methodological limitations and time constraints there was a big variety in how long the intervention time was per participant. About half of the participants had an intervention time of less than 14 days. There are several campaigns using communication strategies on a large scale to increase health behaviors like physical activity and the associated SCT variables, in which the intervention time is significantly longer (e.g., 33 weeks in Craig et al., 2015; 2 years in Leavy et al., 2014). Future research should therefore examine the potential need for longer exposure time and the incorporation of the flyer in a greater campaign targeted at practitioners.

Nevertheless, it could also be that an increased intervention time does not change anything because the manipulation was not strong enough. The main active ingredient on the flyer were the social models through which vicarious learning was aimed to elicit. I proposed that reading the success stories of other practitioners regarding outside treatment would increase self-efficacy in the reader. Although Ashford et al. (2010) indicated vicarious learning as one of the best ways to increase self-efficacy, most studies included in their meta-analysis manipulated vicarious learning by letting people observe similar people, while they were performing the behavior. On the flyer used in this study, however, participants only read about the successful experience. Consequently, the manipulation might not have worked as expected. Future research should therefore examine whether observing other practitioners performing outside treatment can increase the self-efficacy more than reading about the success.

Bandura (1977) additionally describes mastery experience as the most influential source of self-efficacy. Ashford et al. (2010) on the other hand found written feedback on past or others behavior to be the most influential source of self-efficacy in their meta-analysis.

Although vicarious learning is found to be an influential source of self-efficacy (Ashford et al., 2010) future research should nevertheless examine what the potential of other sources of self-efficacy is when wanting to increase self-efficacy regarding outside treatment.

A third explanation of why the manipulation might not have worked is the lack of perceived similarity of the models. Gould and Weiss (1981) concluded that when people are uncertain about their abilities regarding a behavior, similarity to the model is an important factor when aiming at increasing self-efficacy. The models were chosen to be similar to practitioners because of the novelty and uncertainty surrounding outside treatment. Therefore, the chosen models could have not been similar enough for the participants, reading the flyer, to identify with them.

As stated earlier, Feltz et al. (2008) additionally showed that descriptions of successful progress and coping strategies regarding a challenging task can have a positive influence on self-efficacy. Therefore, the testimonials were mainly formulated positive but also described some struggles the models had to overcome to successfully engage in outside treatment. Therefore, the testimonials might have been formulated to positive and progress or coping strategies were not addressed enough.

Future research could thus investigate factors that influence perceived similarity, such as acknowledging struggles of the model.

Strengths and Limitations

To my knowledge, the present research was the first to investigate the underlying social psychological factors of why practitioners are (not) going outside with their clients.

It was able to show that the factors from the SCT, which are commonly used to explain health behaviors, are also associated with outside treatment. Thereby, it was able to extend the scope of health behaviors to which the SCT can be applied.

The theory that was used both in Study 1 and in designing the flyer for Study 2 was inspired by interviews with professionals from the field. Thereby, the theoretical framework for this research was not only based on a solid empirical basis in SCT, but it also qualitatively extended our knowledge of factors influencing outside treatment in practitioners.

Although not succeeded, I aimed to develop an evidence-based behavior change intervention. As there often is a lack of the mechanistic understandings or clear description of behavior change techniques (BCT) used to change a certain behavior (Grüne-Yanoff, 2016; Michie & Abraham, 2004).

The intervention was developed as well as tested in the field where it might also be implemented (in an adapted form) later. However, this also comes with some limitations.

First, the study was set up as a quasi-experiment which means that there are threats to the internal validity due to missing randomization.

In Study 2, the main effect of institution was significant which shows a significant difference between the groups in how much outside treatment is performed, irrelevant of time. However, exploratory analysis revealed no difference between the groups from the beginning which might have had an influence on the outcomes. This leads to the assumption that something happened at one condition during the intervention time that was outside the scope of my research. This shows the importance of randomization.

Both institutions were Groene Voorlopers [Green Frontrunners]. Groene Voorlopers are several mental health care institutions in the Netherlands who agreed, within Groene GGZ to increase the incorporation of nature exposure into their mental health care treatment. An explanation for the main effect of institution could therefore be that in one institution there is already more attention for outside treatment than in the other.

Second, Study 2 had a very low sample size. With 11 participants the study was underpowered. Third, in Study 1 as well as Study 2, there were little practitioners who already go outside regularly with their clients. The variance of the outcome variable was therefore quite low. Because of those methodological limitations the results need to be interpreted with caution.

To increase the generalizability and minimize the limitations it might therefore be beneficial to conduct the study again with a larger, randomized sample consisting of practitioners in mental health care institutions that are not yet Groene Voorlopers.

Conclusion

To conclude, this research investigated the value of the SCT as a framework of the underlying psychological processes that lead to a mental health-care practitioner (not) going outside with their clients. While associations between outside treatment and the SCT variables were found, subjective wellbeing was not found to be associated with outside treatment. Based on qualitative interviews at the beginning of this project, a flyer was developed to increase outside treatment in practitioners. Even though a test of this flyer in Study 2 did not indicate an effect, the content of the flyer might still be used as a basis for longer and stronger interventions in the future.

To my knowledge, the present research is the first to investigate underlying psychological processes that lead to a therapist (not) going outside with their client. It thereby provides a thorough qualitative and quantitative basis for future research in the domain of behavior change as well as wellbeing research.

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Appendix A

Flyer designed for the present research

GROENE GGZ - BUITEN BEHANDELEN

Als behandelaar in de GGZ heeft u een grote belangstelling voor de kwaliteit van de behandeling en voor de gezondheid van de cliënt. Daarnaast kent u het belang van beweging en buitenactiviteit voor het welzijn van de cliënt.

De instelling waar u werkt is Groene Voorloper van het initiatief Groene GGZ. Groene Voorlopers willen graag natuur gebruiken als bron voor mentale gezondheid en daarmee anderen binnen en buiten de GGZ inspireren.

Als behandelaar bent u natuurlijk vrij om zelf te kiezen of u met cliënten naar buiten wilt gaan. Bent u zelf weleens met een cliënt buiten geweest? Er zijn veel goede redenen voor buiten behandelen die worden aangetoond door een groeiende aantal wetenschappelijk onderzoek.

Wat kunnen redenen zijn om (vaker) met een cliënt naar buiten te gaan?

VOORDELEN VAN BUITEN BEHANDELEN:

- Onderzoek laat zien dat een groene omgeving voordelige effecten kan hebben op stressherstel, stemming, piekeren en het herstel van aandachtsvermoeidheid.
- Cliënten vinden het vaak lastig hun gevoelens te uiten, buiten stellen ze zich vaak wat meer open.
- Omdat cliënten, met bijvoorbeeld depressieve klachten, vaak moeite hebben om op gang te komen kan het fijn zijn om dat samen te doen door samen een stukje te gaan wandelen.
- De behandelsetting binnen wordt door sommige cliënten als te formeel, spannend of gevangen ervaren. Hier kan de buitensetting behulpzaam zijn.

Therapie in de natuur kan breed toegepast worden. In verschillende settingen, voor mensen met verschillende geestelijke gezondheidsproblemen en voor mensen die verschillen in leeftijd en geslacht. En zijn wel wat aandachtspunten:

AANDACHTSPUNTEN BIJ HET TOEPASSEN VAN BUITEN BEHANDELEN:

- Overweeg in wat voor soort natuurlijke omgeving zich de cliënt op zijn gemak voelt. Een meer open of juist meer afgeschermd omgeving?
- Hou er rekening mee wat voor ervaringen de cliënt (als kind) heeft gehad met de natuur.
- Wees flexibel en creatief en gebruik uw klinisch inzicht om de protocollen ook buiten toe te passen. In goed overleg met alle betrokken partijen is vaak veel mogelijk.
- Maak plannen (met de cliënt) over het borgen van de privacy buiten, bijvoorbeeld bij het eventueel tegenkomen van bekenden.

Irina Poleacov
Christel Westgeest
GZ psychologen & De Buitenpsychologen

"We merkten snel op dat het ook een cadeautje voor ons was! Sinds dat we regelmatig met cliënten naar buiten gaan voelen we ons veel minder gestrest en kunnen we zo ook betere therapeuten zijn."

Emily Sprokkereef
GZ psycholoog, EMDR therapeut en relatie & gezinstherapeut

"Het voelt soms als of je ingaat tegen de gebruikelijke manier waarop therapie wordt gegeven. Ik heb gemerkt dat alles wat binnen kan, ook buiten kan en vaak ook meer effect heeft. Zelfs EMDR kan buiten uitgevoerd worden. Wandelingen geven cliënten ook meer blijvende herinneringen dan gesprekken binnen in de spreekkamer. Door het effect van behandeling buiten, groeide mijn mijn vaardigheden als professional, ook buiten, en voelde het al snel als natuurlijk."

Mischa Selis
Psychiater
GGZ Mondriaan

"Ik ervaar dat het samen buiten wandelen de patient helpt om met mij te praten, terwijl ik de patient completer ervaar dan in de spreekkamer."

Meer informatie:

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- https://www.ivn.nl/groene-ggz
- https://www.nahf.nl/het-groene-ggz-partnerschap/
- https://www.debuitenpsychologen.nl/

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