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Future Thinking in Suicidal Patients

Development and evaluation of
a Future Oriented Group Training
in a randomized controlled trial

Wessel van Beek

Future Thinking in Suicidal Patients

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of a Future Oriented Group Training in a
randomized controlled trial

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VRIJE UNIVERSITEIT

Future Thinking in Suicidal Patients

Development and evaluation of a
Future Oriented Group Training in a randomized controlled trial

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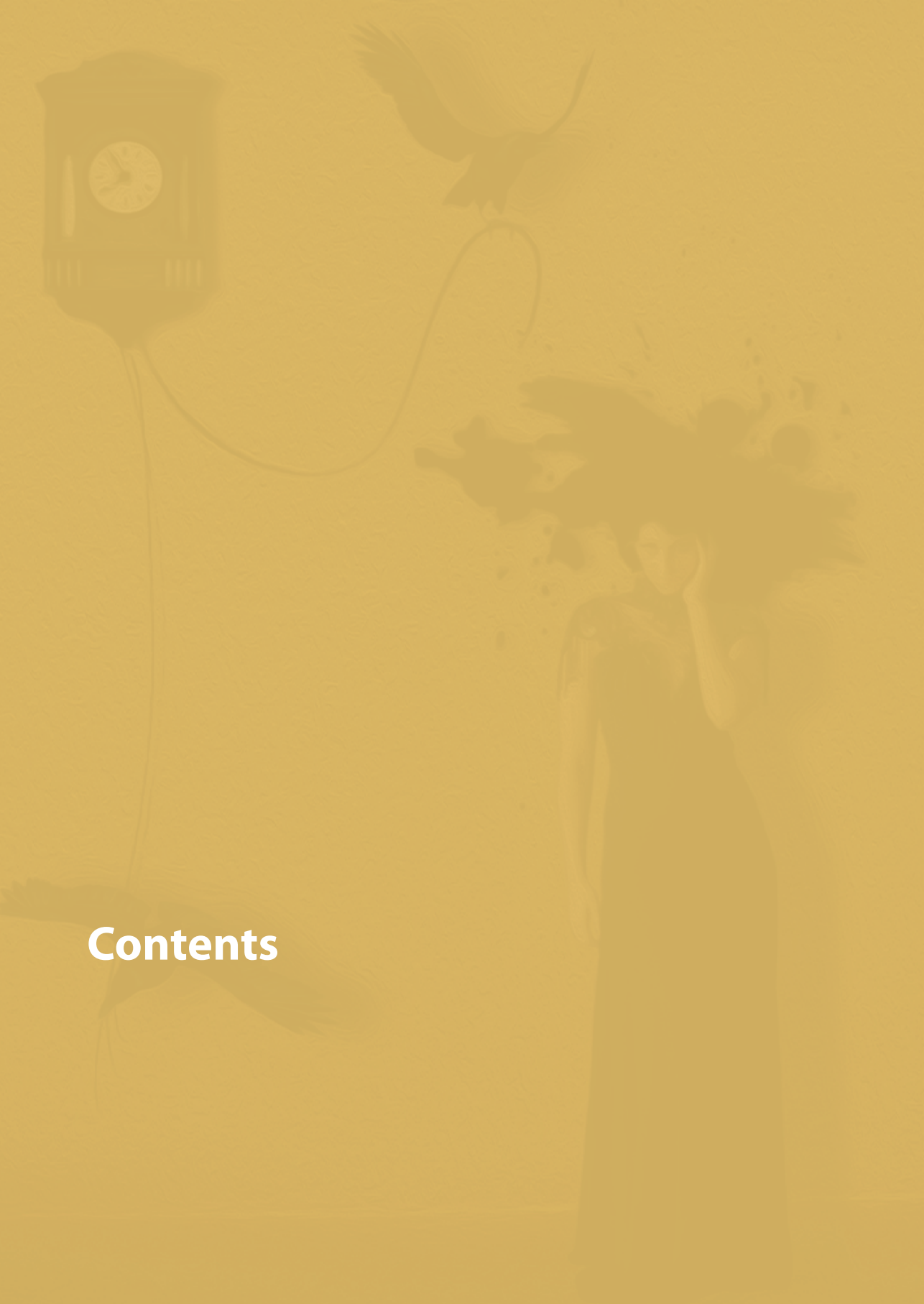
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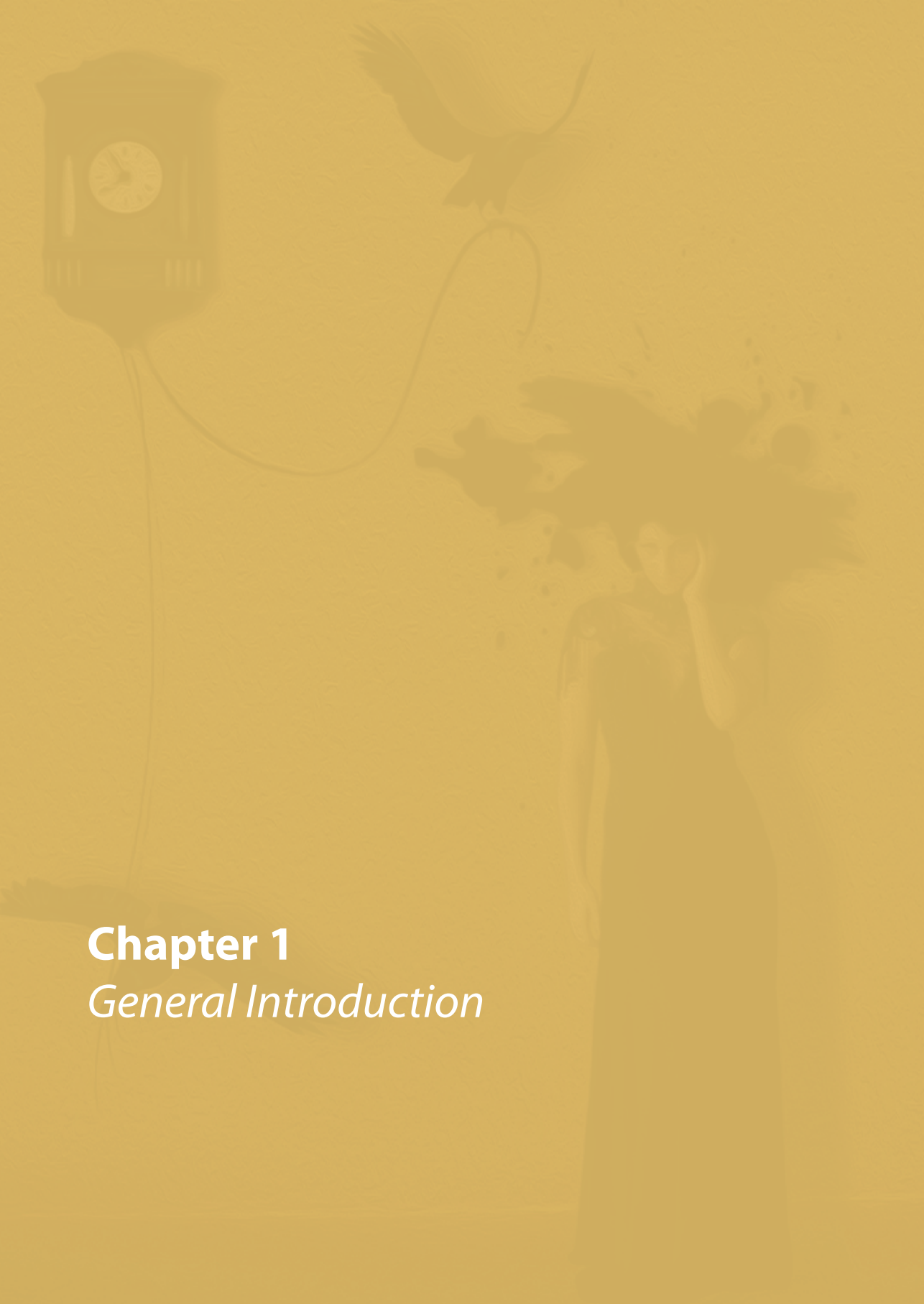
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Loes Marije van Beek



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Chapter 1

General Introduction

INTRODUCTION

About 1600 people commit suicide in The Netherlands every year (CBS, 2012), and almost half a million people have suicidal thoughts (Ten Have et al., 2006, 2011). Most of these suicidal patients feel hopeless, they lose faith in the future and they find it hard to endure their everyday life. In the diversity of co-occurring and intertwining facets of suicidality, we felt that hopelessness could be a meaningful starting point in understanding why a person would ultimately end his life. Suicidality is a complex and multi-faceted phenomenon, with a multitude of underlying distal and proximal influences. Biological vulnerabilities, developmental and psychological aspects, psychiatric problems, all occurring within a social, cultural and religious context. This diversity of causes and influences fuses in the suicidal patients we meet in our everyday clinical work.

One way of looking at suicidality is to focus on a primary aspect of Beck's (1969) cognitive depressive triad: hopelessness. Both clinical practice and the current scientific body of knowledge on suicidality inspired us to specifically address hopelessness, and what we consider to be its counterpart: positive future thinking. There is evidence that hopelessness can be further operationalized as a decrease in positive future thinking (see chapter two for an overview). Suicidal patients are less able to verbalize a positive future and possibly to envision it. These findings have been repeated over the years, in different subgroups of suicidal patients, mostly in the United Kingdom, so replication of these findings outside of the UK seemed necessary. We are still just at the beginning of understanding the role of future thinking in suicidality, but it makes sense in clinical therapeutic practice. Part of our study was to further explore the role of future thinking. What is future thinking, when does a decrease in positive future thinking occur and why is this important in comprehending suicidality?

Another goal of the project was to develop an intervention to help suicidal patients. We wanted to find out if our scientific knowledge on suicidality could be merged into a treatment that would be effective. We chose a starting point in what we called a

cognitive-motivational framework, because this fitted in both most of the contemporary research and in our therapeutic viewpoint. Although convincing empirical evidence for specific psychotherapeutic interventions for suicidal ideation is lacking (e.g., Van Hemert et al., 2012), we will discuss some clinical implications of prior research and their role in our intervention. Descriptions of interventions and programmes for suicidal patients can be found in for example Leenaars (2004), Ellis (2006), Henden (2008), and Wenzel, Brown and Beck (2009), but only the latter has proven to be effective.

In this chapter we discuss how and why we developed a new treatment for suicidal patients. We focus on different ways to measure meaningful change in this kind of therapy and we highlight the use of a randomized controlled trial design to measure effects. Furthermore, we focus in this chapter on generalizability and the role of treatment integrity in interventions like ours. This chapter ends with the research questions and an outline of this thesis.

Suicidal ideation

There are multiple interpretations of the concepts suicidality and suicidal ideations, leading to misinterpretations and miscommunication among both researchers and clinicians. And the word 'suicidality' is possibly the most indistinct term of them all. For some practitioners 'suicidal' refers to suicidal behaviour, or intentions to act upon suicidal ideas and someone who solely thinks or fantasies about suicide would not be diagnosed as being suicidal.

The definition of suicide, according to the World Health Organization (WHO, 1986) is that "suicide is an act with fatal outcome which the deceased, knowing or expecting a fatal outcome had initiated and carried out with the purpose of provoking the changes that he desired". The renowned suicidologist Edward Shneidman (1993) describes suicide as "a conscious act of self-induced annihilation, best understood as a multidimensional malaise in a needful individual who defines an issue for which the suicide is perceived as the best solution". According to O'Carroll, Berman, Maris, and Mosciki (1996) suicidal behaviour can be defined as "a potentially self-injurious behaviour with a nonfatal outcome, for which there is evidence (either explicit or

implicit) that the person intended at some (nonzero) level to kill himself/herself.” This nomenclature is based upon a series of workshops among suicidologists in the mid-nineties discussing how to define suicidal behaviour. But as Wagner, Wong, and Jobes (2002) stated, even suicide specialists do not agree on what can be considered a suicide attempt. In their overview De Leo, Burgis, Bertolote, Kerkhof, and Bille-Brahe (2006) emphasize one common element: a self-destructive act that has to be conscious and deliberate. They present another definition: “suicide is an act with fatal outcome, which the deceased knowing or expecting a potentially fatal outcome, has initiated and carried out with the purpose of bringing about wanted changes”.

When it comes to suicidal thinking, or suicide ideation, a clear definition appears to be easier. Suicide ideation could be defined as ‘a wish to commit suicide’, with or without planning the act and possibly without being capable of acting upon these thoughts. Beck and Garbin (1988) defined suicide ideation as “the presence of current plans and wishes to commit suicide in individuals who have not made any recent overt attempts”. This is a confusing description however, because both plans and wishes are required, and patients after an attempt are excluded.

The definition helps us to differentiate elements in the suicidal process. Traditionally, a distinction is being made between passive suicide ideation (the desire without the plan) and active suicide ideation (the desire and the intention to act upon it). But this description of suicide ideation includes the term suicide and thus includes the discussion about the concept as well. Is ‘thinking about killing oneself’ always intentional and conscious? What about obsessive, or psychotic thoughts? And what about suicidal thoughts and behaviour, while being in a dissociative state? Being drunk? Or, even more thought provoking, while living under high levels of emotional or physical distress, because of which higher-level functions in the prefrontal cortex are inhibited? Can we still speak of suicide when there is no Self to kill, because the brain functions necessary in self-awareness are switched off (e.g., Liston, McEwen, & Casey, 2009)?

Suicide ideation rates peak during middle adolescence, around 15 years in young people with parents who reported suicide ideations (Rueter & Kwan, 2005). About 9-10% of adolescents report suicide ideation on a given moment (Suicide Prevention Resource Centre, 2004). Among students who seriously considered suicide, 94.8%

reported that, at least once in the previous year, they felt so sad that they could not function and 94.4% reported feeling hopeless. Only 23.8% of students who reported feeling hopeless and 33.4% of those who reported feeling depressed seriously considered suicide. Thus, feeling depressed, being unable to function, and/or being hopeless does not necessarily mean that a student is seriously considering suicide (Suicide Prevention Resource Centre, 2004). McAuliffe, Corcoran, Keeley, and Perry (2003) investigated lifetime suicide ideation in university students. Almost one-third of the surveyed students had lifetime suicide ideation, with no differences in male and female suicide ideation history.

A large study by Weismann et al. (1999) measured differences in suicide ideation between cities in nine countries in the world. Participants in Beirut scored lowest¹ (2%) and Christchurch New Zealand highest (19%) on suicide ideation. We do not know much about these differences, but a possible explanation can be found in the fact that religion, especially Muslim religion, strictly forbids suicide and appears to be a protective factor (Bertolote & Fleischmann, 2002). Weismann et al. (1999) point out that the numbers of actual suicides are actually quite similar, so reporting the occurrence of thoughts about killing oneself differs, but the suicide numbers are alike. The differences in suicide ideation could be due to cultural or religious hesitations in reporting these thoughts, or maybe because in cultures these thoughts are not being experienced as suicide ideations.

Suicide ideation at adolescence is a fairly good predictor of suicide attempts later on in life. According to Reinhersz, Tanner, Berger, Beardslee, and Fitzmaurice (2006) adolescents with suicide ideation have a 12 times higher chance of attempted suicide by the age 30 and 15 more times to have had experienced suicidal thoughts during the past 4 years. In their study Beck, Brown, Dahlsgaard and Grisham (1999) conclude that the assessment of suicide ideation at its worst point identifies a subgroup of patients at relatively high risk for eventual suicide. Suicide ideation seems to have an episodic character, it returns every now and then in someone's life. Suicide

¹ Beirut had one of the highest rates of major depression, which makes it even more striking. The data must be viewed with caution, because of the relatively small size of the Beirut sample (N=435). A possible explanation would be that suicidality is a taboo in some Islamite countries.

ideations might become a part of one's coping mechanisms (e.g., Ahrens & Linden, 1996).

Treatment of suicidal ideation

There is a wide array of specialized treatment programmes in which suicidality, or self-destructive behaviour in a broader sense, is addressed for patients with personality disorders (Dialectical Behaviour Therapy, DBT – Linehan, 1993; Schema Focused Therapy, SFT – Young, Klosko & Weishaar, 2003; Mentalization Based Therapy, MBT – Bateman & Fonagy, 2004). Others, like Brown et al. (2006; Wenzel et al., 2008) describe cognitive therapy for suicide attempters and self-mutilation (Slee et al., 2008). But specific interventions addressing suicidal thinking as a separate problem appear to be lacking. This is remarkable, because suicidal ideation is a definitely not an uncommon phenomena. A large study among Dutch citizens (Ten Have et al., 2006, 2011) shows us a lifetime prevalence of suicide ideation of 8.3%.

Table 1

Life-time prevalence of suicidality in The Netherlands (2011)

	suicidal thoughts	suicide plan	suicide attempt
total	8.3%	3.0%	2.2%
male	7.4%	2.9%	1.7%
female	9.2%	3.2%	2.7%

Source: 'Netherlands Mental Health Survey and Incidence Study-2' (NEMESIS-2)

Because of the impressive results of their programme, we decided to organize our intervention in a way comparable to Brown and Beck's cognitive therapy for suicide attempters (Brown et al., 2006; Wentzel, Brown, & Beck, 2008): (a) a 10 session

outpatient intervention, (b) to focus on strategies to deal with suicide ideation, (c) a structured therapy that can be easily administered. We adopted elements of it and decided to have 10 weekly sessions. More about the content of the intervention can be found in chapter three.

A treatment programme like our future oriented training needs to be embedded in a range of related measures, focused on learning both patients and clinicians to effectively cope with suicidality. This exceeds the aims of our current project, but we do want to underscore the necessity of additional steps, like training of practitioners in assessment of suicidality, or a reduction of the availability of potential lethal drugs. A single, isolated intervention can never be fully effective for such a complex problem.

Study Design

We did two separate studies, which were closely related. The primary part of our study was a randomized controlled trial, with two arms: treatment as usual, and the second arm was treatment as usual plus our additional Future Oriented Group Training (FOGT). The second part of the project was a cohort study, using repeated assessments in order to investigate the temporal stability of other variables related to time and suicidality. For these research questions we included both suicidal and non-suicidal patients (see figure 1).

In order to be able to compare treatment as usual (TAU) to treatment as usual plus our additional training, we needed to determine whether TAU is comparable in both groups. In some cases TAU may be a very heterogeneous collection of treatments, an ill-defined set of procedures (Simons & Wildes, in Roberts & Ilardi, 2003). We gathered information in both groups, regarding for instance profession of the therapist, theoretical frame of reference, intensity of the treatment, the duration of the therapy sessions and the treatment itself.

Figure 1

Study design

	pre			post (3 months)	follow up (1 year)
suicide ideation		<i>Randomization</i>	TAU		
			TAU+FOGT		
no ideation			TAU		

Generalizability

The goal of most randomized controlled trials is to test a hypothesis in order to answer a clinically relevant question. RCTs estimate magnitudes of effects (or differences), in a design where random error and non-random error (bias) are controlled as good as possible. But to what extent are the results applicable in everyday clinical practice? What is the generalizability of the outcomes, or the external validity of the study? And by that, how clinically relevant are the findings?

External validity is generally defined as the extent to which the experimental intervention can be applied to other patients, settings and times and can be expected to have similar outcomes when delivered by other investigators at another time and in other settings (Solomon, Cavanaugh & Draine, 2009). Two forms of validity relevant to external validity are ecological validity and construct validity. Ecological validity refers to the degree to which the intervention approximates real life circumstances. In order to enhance ecological validity we stayed close to regular procedures within the

hospital, we included a representative spectrum of suicidal patients, and the components of our intervention (see chapter 3) are not uncommon in regular psychiatric practice.

Another concern is construct validity, the relationship between the measures in the study and the higher order theoretical concepts they intend to represent. A common way to increase construct validity is to use well known instruments, with high rates of reliability and validity, like Beck's BDI-II. Due to the exploratory nature of some of our research questions, within the relatively novel realm of time and suicide, we had to apply some less investigated and less customary instruments, like our adaption of MacLeod's Future Thinking Task and our translation of the Zimbardo Time Perspective Inventory (ZTPI; see the Appendix for these instruments).

In order to increase generalizability and statistical power, multi-site RCTs have been promoted, especially for effectiveness studies in mental health services (Kraemer, 2000). We decided for a (limited) multi-site design for these reasons and found the opportunity to have the intervention implemented in four different departments from two mental health institutions in the Netherlands. Furthermore the training was administered by therapists who were not related to the principle investigator (WvB).

A fundamental problem regarding generalizability is the complexity and multi-diversity of psychiatric problems in general and the heterogeneity of the included subjects in our study in particular. The participants in our study significantly differed in underlying problems, both psychiatric and psychosocial. This leads to difficulties in the generalizability of our study. There is no prototypical suicidal patient, while conclusions based upon RCTs presume that the commonalities between the subjects can be measured and the individual differences are evenly distributed between the groups to be compared, or can be integrated in the statistical analysis as variables. Can the uniqueness of human (suicidal) experience be measured and extrapolated to other human beings with somewhat comparable problems? A manic-psychotic suicidal patient is unmistakably different from an elderly individual who feels life should be over. But our assumption was that the one thing these people have in common, the lack of positive future thinking, could justify a more generic approach like ours.

Research questions and outline of this dissertation

In this first chapter we discussed suicidal ideation and its definitions, and the development of suicidal thinking through life and the prevalence of suicidal ideation in The Netherlands. We furthermore elaborated on our research design and several related concepts. Chapter two further considers the study, focusing on the randomized controlled trial. Our main research question, the efficacy of the treatment we developed is clarified and our methods are discussed. In chapter 3 we introduce our Future Oriented Group Training (FOGT) and expand on the theoretical underpinnings. An outline of the sessions is given. In chapter 4 we focus on the second research question, the association between suicidal thinking and two time related concepts: future thinking and time perspective. Future thinking is used as an operationalization of hopelessness. Prior research has shown that suicidal people are less able to think about possible positive future scenarios. In chapter 6 we test this hypothesis in our sample. The role of time perspective, one's personal tendency to focus on either the past, the present or the future, is studied in chapter 7. Turning back to our main research question, we discuss the outcomes of our RCT in chapter 8. We examine the effects of the intervention when we compare with treatment as usual (TAU), in terms of suicidal thinking, depression, hopelessness, worrying and quality of life scores.

In our concluding chapter 9 we summarize our findings. We present a model of the association between future thinking, and time perspective, to understand why a decreased ability to imagine positive future outcomes might be related to an increased chance of suicide.

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Chapter 2

*Future Oriented Group Training for
Suicidal Patients: A Randomized
Controlled Trial*

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W. van Beek, A.J.F.M. Kerkhof, and A.T.F. Beekman

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ABSTRACT

Background

In routine psychiatric treatment most clinicians inquire about indicators of suicide risk, but once the risk is assessed not many clinicians systematically focus on suicidal thoughts. This may reflect a commonly held opinion that once the depressive or anxious symptoms are effectively treated the suicidal symptoms will wane. Consequently, many clients with suicidal thoughts do not receive systematic treatment of their suicidal thinking. There are many indications that specific attention to suicidal thinking is necessary to effectively decrease the intensity and recurrence of suicidal thinking. We therefore developed a group training for patients with suicidal thoughts that is easy to apply in clinical settings as an addition to regular treatment and that explicitly focuses on suicidal thinking. We hypothesize that such an additional training will decrease the frequency and intensity of suicidal thinking.

We based the training on cognitive behavioural approaches of hopelessness, worrying, and future perspectives, given the theories of Beck, MacLeod and others, concerning the lack of positive expectations characteristic for many suicidal patients. In collaboration with each participant in the training individual positive future possibilities and goals were challenged.

Methods/Design

We evaluate the effects of our programme on suicide ideation (primary outcome measure). The study is conducted in a regular treatment setting with regular inpatients and outpatients, representative for Dutch psychiatric treatment settings. The design is a RCT with two arms: TAU (Treatment as Usual) versus TAU plus the training. Follow up measurements are taken 12 months after the first assessment.

Discussion

There is a need for research on the effectiveness of interventions in suicidology, especially RCTs. In our treatment programme we combine aspects and interventions that have been proven to be useful in the treatment of suicidal thinking and behaviour.

BACKGROUND

Suicide has a low prevalence in the general population, but suicide ideation is remarkably common (Gaynes et al., 2004). In The Netherlands about 10% of the general public reported that they ever had suicidal thoughts (Ten Have et al., 2007), and Casey et al. (2006) found no differences amongst several European countries. When these patients enter treatment, they are confronted with a commonly held misconception amongst health care workers that suicidal thinking and behaviour will vanish when underlying psychiatric problems are treated. We have very good reasons to believe this is not the case. Suicidal thinking fluctuates over time (Gunnell, Harbord, Singleton, Jenkins, & Lewis, 2004, De Leo, Cerin, Spathonis, & Burgis, 2005), and reoccurs in the majority of depressed individuals in a consecutive episode (Williams, Crane, Barnhofer, Van der Does, & Segal, 2006). In a study amongst formerly suicidal patients, Williams, Barnhofer, Crane, and Beck (2005) showed that problem-solving abilities and autobiographical memory specificity, commonly associated with suicidal thinking and behaviour, deteriorate when the patient's mood lowers again. Suicidality appears to become a syndrome irrespective of underlying psychiatric morbidity (Ahrens & Linden, 1996). This is a reason for Oquendo, Baca-Garcia, Mann, and Giner (2008) to plea for a separate diagnostic category in the forthcoming DSM classification manual. A distinct psychiatric problem, which needs a specific intervention.

Clinicians in psychiatry are increasingly aware of the need for systematically assessing suicidal risk, but they lack the tools for addressing suicidal thinking as a specific goal in treatment. There is a shortage of well described, evidence based treatment methods for suicidal behaviour and suicide ideation. A few randomized clinical trials focussing on self-harm and suicidal behaviour have been published, like MACT (Manual Assisted Cognitive- Behaviour Therapy; Evans et al., 1999) and the study on cognitive therapy for suicide attempters by Brown, Ten Have, Henriques, Xie, Hollander, and Beck (2005). There are studies on suicidality as a component of treatment programmes for borderline patients, like Dialectical Behavioural Therapy

(Linehan, 1993; Verheul et al., 2001), Schema Focused Therapy (Giessen-Bloo, 2006), and Mentalization Based Treatment (Bateman & Fonagy, 2004). Most of these interventions have been applied in the Netherlands, but they all are developed for specialized settings and specific patient groups. This was a reason for us to develop an intervention for a broad group of patients with suicidal thoughts. The new intervention should be easy to implement as an add-on intervention. Therefore, it should not require highly specialized therapists.

The most consistent and convincing theories on suicidal thinking and behaviour include hopelessness, so we decided this should be the core component of our intervention. According to Beck (1967) three variables constitute the so called negative triad: hopelessness, self-esteem and a negative perception of the environment. Hopelessness is considered to be the best predictor or indicator of the risk of suicidal behaviour (Vinas, Canals, Gras E, Ros, & Domenech-Llaberia, 2002). Research shows that especially lack of positive future expectancies, as a part of hopelessness, is an important factor in developing suicidal ideations and behaviour (MacLeod, Rose, & Williams, 1993). MacLeod et al. (1998) have shown that specifically a deficit of positive anticipation about the future relates to hopelessness and discriminates between parasuicidal and non-parasuicidal groups. Parasuicidal patients show an absence of anticipation of pleasurable future events, but not an increased anticipation of unpleasant events (MacLeod, Rose, & Williams, 1993). Lack of positivity seems to be related to cluster B disorders, especially borderline and dissocial personality disorder (MacLeod et al., 2004). MacLeod, Pankhania, Lee, and Mitchel (1997) hypothesized that this shortage of positivity might reflect a lack of available sources of rewarding and enjoyable experiences, a cognitive inaccessibility of representations of future positive outcomes, or it may represent an inability to derive pleasure from what are normally enjoyable events. Research among older individuals by Hirsch et al. (2006) reveals that positive future orientation is associated with less current and less worst point suicide ideation. These authors regret that no cognitive based treatment has focused specifically on enhancing future orientation.

Another element of any new intervention for suicidal individuals should be problem solving. According to Hawton et al. (1999) forms of problem solving therapy are promising in the treatment of suicidal patients. Research by Eskin, Ertekin, and Demir

(2008) showed significant decrease of suicide risk when adolescents and young adults received problem solving therapy. Consistent evidence has shown that people who attempt suicide have poor problem solving skills (Linehan, Camper, Chiles, Strohsal, & Shearin, 1987; Pollock & Williams, 2001) and problem solving therapy showed to reduce levels of depression and hopelessness in patients who have attempted suicide (Townsend et al., 2001). A study among suicide attempters by Jollant et al. (2005) shows that decision-making is impaired in this group, when it was evaluated in a period in which the participants had no axis I disorder. Several attempts have been made to influence problem-solving skills, like MACT (Manual Assisted Cognitive Behavioural Therapy, Evans et al., 1999), STEPPS (Systems Training for Emotional Predictability and Problem Solving, Blum et al., 2008) and BATD (Behavioural Activation Treatment for Depression, Hopko, Sanchez, Hopko, Dvir, & Lejuez, 2003). In general health practice Problem Solving Therapy (PST), developed by Nezu, Nezu and Perri (1990) has proven to be helpful and it is one of the treatment methods in the Dutch Multidisciplinary Treatment Guidelines for Depression (Trimbos Instituut, 2005).

Some other available interventions have a stronger focus on dysfunctional cognitions, like the time-limited approach by Rudd, Joiner and Rejab (2001), and cognitive therapy for suicide attempters, evaluated in a RCT by Brown et al. (2005). These authors developed a 10 week programme in which they combined basic cognitive therapy with elements like safety seeking and behavioural experiments. They found a 50% lower reattempt rate in their cognitive therapy sample, even after 18 months.

Suicidal behaviour is characterized by isolation and social detachment (Duberstein et al., 2004). As a result local and governmental incentives were developed to encourage health-seeking behaviour and to increase social support. Examples are the Scottish 'Choose Life' programme and Australia's 'Social Inclusion Suicide Prevention Initiative'. On a smaller scale we encourage the participants in our project to seek for a coach or buddy to support them during the training. We stimulate patients to involve partners or friends. We are working on a pool of volunteers that can be contacted when participants have no one who can act as their personal coach. This supportive role is an element in other programmes as well, like in the Community Reinforcement Approach (Roozen et al., 2004).

The above-discussed ideas became the cornerstones of an intervention that we called Future Oriented Group Training. The training addresses hopelessness and lack of future thinking, and includes elements from cognitive therapy and problem solving therapy. Furthermore, a main goal is to break through the social isolation most participants got stuck in. In this chapter we describe the outlines of the training and our research project.

METHODS/DESIGN

Design

In order to evaluate the effectiveness of our intervention programme we carry out a pragmatic randomized controlled trial (RCT). The participants are randomly assigned to either treatment as usual (TAU), or treatment as usual plus our additional treatment (TAU+). There are three assessments: when participants enter the project (pre-measurement), after three month (post measurement) and the follow up measurement carried out one year after the baseline measurement.

This research has been approved by the METiGG, the medical-ethical committee for research in mental health care settings in the Netherlands.

Participants

People enter this project in several ways. The main stream of participants (aged 18-65 years) enters the project after an initial assessment in two psychiatric hospitals in The Netherlands, both in-patients and outpatients. A smaller sample is recruited from the existing pool of patients already in treatment and who were referred to the programme due to suicide ideation.

The intervention is open for patients with suicidal ideation, irrespective of comorbid psychiatric disorders. Patients in an acute manic or psychotic state and those who seek treatment primarily because of drugs problems are excluded. Suicidal behaviour is not a reason to exclude patients.

Participants are required to speak and read Dutch sufficiently to take part in the study. All participants signed an informed consent form.

Randomization

The randomization is conducted by an independent statistician. The researchers receive the outcome of the randomization by email and schedule the participants accordingly.

Sample Size

The effect size deemed worthwhile to be detected by the study is $d = 0.5$. This is what is generally judged to be a clinically relevant effect size (Cohen, 1988). Power calculations are based upon a type I error $\alpha=0.05$, a power of 0.80, and an effect size of 0.5, imply a minimum of 63 participants in the groups. We calculated power to be sufficient for both intention-to-treat and completers analysis. Expecting that 80% of the patients in the 'suicide ideations group' are willing to participate (before randomization) and a drop out of 20% after randomization, we need to include 75 patients in each of the two groups to maintain 63 completers.

Blinding

Given the nature of the intervention, it was impossible to blind the patients and the trainers as to which condition they participated in. The outcomes will be assessed by blinded interviewers.

Experimental Condition

The patients with suicidal ideation who are randomly assigned to the TAU+ condition receive an additional intervention called Future Oriented Group Training. There are 4 to 8 participants in each group and the sessions are led by one trainer. This

intervention consists of three major elements: the training sessions, the workbook with an accompanying audio cd and a website. The main goal of this training is to decrease suicidal thinking by stimulating realistic future thinking and reducing hopelessness. The training promotes goal directed and future oriented behaviour by combining cognitive therapy, problem solving therapy and future thinking. This means that participants and trainers almost exclusively address things to come.

The 10 weekly group-training sessions last one and a half hours each. They are organized as workshops. Participants listen to the trainer who explains and discusses relevant topics. The trainer asks for personal experiences, but remains on a practical and educational level. The trainer discusses general tendencies and individual experiences are generalized and reformulated in terms of future oriented cognitions and behaviour. How would this kind of thinking, or that way of behaving, influence one's chance of reaching future positive goals? And what can be done about this?

The exercises and texts included in the workbook promote realistic thinking and help participants to create a personal meaningful future, by accomplishing goals that make life worthwhile again. In the workbook notorious cognitive patterns among suicidal patients are challenged, like dichotomous thinking and external locus of control. The participants receive information about suicidal vulnerability and factors influencing this vulnerability, for instance perfectionism, social isolation and alcohol and drug abuse. The workbook discusses several practical steps, like making a survival plan and creating a scrapbook with positive elements from their present and their past, in order to find strength when they feel hopeless. The workbook comes with an audio cd, with additional exercises that are in line with the contents of the workbook.

The supplementary website provides information about the training and the research project. It gives directions about the practical steps participants can take, like where to find help for their alcohol problems. It also provides means to discuss the training and exchange information. The website hosts a message board. Further information about the training can be found in chapter 3.

Treatment integrity

The trainers are instructed by two of the authors (WvB and AK). The training is structured along a treatment-manual and each session is being audiotaped and analyzed by one of the authors (WvB). The trainers fill in a form that states the main topics for each session in order to help them to stay focused on the manual.

Control Condition

Participants in the control condition receive treatment as usual. Our training is additional and does not interfere with the ongoing treatment. In order to be able to compare the TAU and the TAU+ group we gather information on several characteristics of treatment as usual.

MEASUREMENTS

Sample characteristics

We gather information about demographic characteristics (age, marital status, education level) and parasuicidal behaviour (self-harm, past suicide attempts, risky behaviour in traffic) and drug and alcohol abuse.

Primary Outcome

Suicide ideation. With the Scale for Suicide Ideation (SSI; Beck, Kovacs, & Weissman, 1979) we assess the presence and the level of suicide ideations. The SSI is a 19-item, clinician-administered semi structured interview that has demonstrated high reliability, with an internal-consistency coefficient (Cronbach's alpha) of .89 and a reported interrater reliability coefficient of .83.

Secondary Outcomes

Depression. The Beck Depression Inventory (BDI-II; Beck, Steer, & Brown, 1988) is a self-administered 21 item self-report scale measuring supposed manifestations of depression. The BDI-II takes approximately 10 minutes to complete. Internal consistency for the BDI-II ranges from .73 to .92 with a mean of .86 (Beck, Steer, & Garbin, 1988). The BDI-II has a split-half reliability co-efficient of .93.

Hopelessness. Hopelessness is to be measured with Beck's Hopelessness Scale (BHS; Beck & Steer, 1988), a 20-item measure pertaining to the global experience of hopelessness, modified from a simple True/False format to a 5-point Likert-style rating system. It has a strong internal consistency (.81 to .90 in different studies).

Quality of Life. We administer the OQ-45 (Outcome Questionnaire 45; Lambert et al., 1996) to assess well-being. Quality of Life is an important measure in RCTs because an increase in patient's subjective well-being motivates them to generalize what they learn during the treatment (Everitt & Wessely, 2003).

Explanatory variables

Coping. The Coping Inventory for Stressful Situations (CISS, Endler & Parker, 1999) is a 48-item self-report measure of coping. The measure is divided into three subscales, each containing 16 items: task-oriented coping, emotion-oriented coping, and avoidance-oriented coping. Respondents are asked to rate on a 5-point scale how each item is representative of their own way of coping with stress. The CISS has adequate psychometric properties. Across studies, the CISS has proved to be reliable. The internal consistency of the sub-scales is excellent ($\alpha > .85$) (Endler & Parker, 1994).

Time Fluency. Our adapted version of MacLeod's Future Thinking Task (FTT, MacLeod, Pankhania, Lee, & Mitchell, 1997) is used to determine both positive and negative ideas about the past, present and the future. MacLeod's fluency task consists of three future time periods: the next week, the next year and the next five to ten years. Subjects are given 1 minute to verbally provide examples for each time

period: things they are looking forward to and things they are not looking forward to. Our adapted version also inquires about current and past time periods and assesses the emotional relevance of the experiences and their subjective significance for the future.

Time Perspective. Zimbardo's Time Perspective Inventory (ZTPI; Zimbardo & Boyd, 1999) provides information about the time perspectives of the participants. The ZTPI consists of 56 items that are assessed on a 5-point Likert Scale, ranging from (1) very untrue to (5) very true. It has a high test-retest reliability ranging from .70 to .80 for the different factors.

Transcendental Future thinking. Another time related instrument is the additional scale of the ZTPI called the Transcendental Time Perspective Inventory (TFTPI), measuring what Boyd and Zimbardo (1997) called transcendental future thinking: one's ideas about the afterlife as a motivating factor in one's present behaviour. The TFTPI consists of 10 statements. Participants rate these statements on a 5-point Likert scale (see ZTPI).

Social Problem Solving. The Social Problem-Solving Inventory-Revised (SPSI-R; D'Zurilla, Nezu, & Maydeu-Olivares, 2002) consists of 52 items that respondents rate on a 5-point scale. The SPSI-R has five scales: Positive Problem Orientation (PPO, 5 items), Negative Problem Orientation (NPO, 10 items), Rational Problem Solving (RPS, 20 items), Impulsivity/Carelessness Style (ICS, 10 items) and Avoidance Style (AS, 10 items). Alpha values for these five scales range from .76 to .92 and test-retest reliability ranges from .72 to .88.

Analyses

We are particularly interested in the effect (Cohen's d) on the main parameter suicide ideation. The effectiveness analyses will be conducted according to both intention-to-treat (ITT) and treatment completers principles. In the ITT analysis all randomized participants in the treatment group are included, irrespective of adherence, actual treatment received, or withdrawal from treatment or assessment. The completers analysis will focus on those participants who took part in 80% or more of the sessions

and completed the post measurement.

Descriptive and mediating variables will be analyzed in order to reveal variables that need to be taken into account as covariates in the primary analyses of treatment effects. In order to find differences between the effects of our Future Oriented Group Training and treatment as usual we will perform analyses of repeated measures. We expect data loss due to drop out of participants. By using latent random effects variables for each participant multi-level multivariable analysis permits estimation of changes in repeated measures, even when not all post assessment data are available due to missing data.

DISCUSSION

We have developed our Future Oriented Group Training based on the assumption that suicide ideation is characterized by diminished positive future thinking. Our intervention intends to stimulate realistic future perspectives. When suicidal individuals are able to envision a worthwhile future, their hopelessness and suicidal thinking and behaviour are expected to decrease.

Extensive research the last twenty years has provided information about the different aspects and dynamics of suicidal thinking and behaviour, but only a few interventions for suicidal patients have been evaluated in randomized controlled trials. The ones we know of (for instance Brown et al., 2005) have been developed for patients coming into care after a suicide attempt. Our training aims to help patients early on in the suicidal process, and we include both patients with suicidal ideation and after a suicide attempt in our study.

Future Oriented Group Training combines different elements that have proven to be effective in the treatment of suicidal thinking and behaviour, like cognitive therapy and problem solving. Relatively new is the emphasis in the training on future thinking and goal oriented behaviour. The intervention is designed to be easy to implement and is suitable for a broad range of comorbid psychiatric disorders.

Treatment programmes like our training encompass several potentially effective

elements. In the RCT we cannot distinguish which specific factor contributes to what extend to the overall treatment effect. This is also a characteristic of well-established treatments, like Dialectical Behavioural Therapy (Linehan, 1993). We obtain an indication of changes in specific areas by gathering data on explanatory factors, like coping, problem solving and future orientation, but we cannot tell which element of the training is responsible for these changes. Further research might be helpful to discriminate the efficacy of the separate elements.

Stimulating future thinking is a way of helping suicidal individuals to recreate a meaningful life, by working on purposeful goals and overcoming inefficient behavioural and cognitive patterns. The goal of our Future Oriented Group Training is to help our patients to make life liveable and maybe even enjoyable again by realistically focusing on what the future might have to offer.

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Chapter 3

*Future Oriented Group Training for
suicidal patients: description of the
intervention*

This chapter is partly based upon the supplement published online with the BMC article (chapter 2).

INTRODUCTION

This chapter focuses on (a) the theoretical background of the Future Oriented Group Training and (b) how the training was delivered. The Future Oriented Group Training is suitable for patients with present suicidal thoughts, regardless of psychiatric comorbidity. Patients who are emotionally or cognitively deregulated, like in a manic or psychotic state, are excluded from the project. In our study the training was accessible for both inpatients and outpatients, in a general psychiatric setting. We randomized about one week before the actual start of the training. Half of the group of participants received treatment as usual plus our add-on training, the other half received treatment as usual.

The group consisted of 4 to 8 patients, all adults in the age range 18-65 years. The training lasted 10 weeks, with weekly 1.5 hours sessions. At the start of the training each of the participants received a workbook (182 pages), containing texts and exercises and an audio cd with additional exercises. The trainers used a treatment manual, which consisted of the workbook with supplementary information on the background of the training and a checklist of topics to be discussed each session. All the trainers were introduced in the treatment by two of the authors (WvB and AK). The training was developed to be suitable for regular mental health care workers. Formal training in cognitive psychology or group therapy was not necessary, but some experience in group work was desirable.

Theoretical foundations of the programme

When we developed our training programme we decided to base our intervention upon insights and findings from motivational and cognitive therapies. Both theory and research findings suggested that we should focus on the following elements.

Positive future orientation

A cornerstone of our project was the assumption that decreased positive future thinking is related to increased suicidal thinking. Our intervention therefore should be focused on helping participants to construct more positive future ideas. MacLeod et al. (1998) have shown that specifically a lack of positive anticipation about the future relates to hopelessness and discriminates between parasuicide and non-parasuicide groups. Parasuicidal patients show a shortage of anticipation of pleasurable future events, but not an increased anticipation of unpleasant events (MacLeod, Rose & Williams, 1993). Lack of positivity seems to be related to cluster B disorders, especially borderline and dissocial personality disorder (MacLeod et al., 2004). MacLeod hypothesized that this shortage of positivity might reflect a lack of available sources or rewarding and enjoyable experiences, a cognitive inaccessibility of representations of future positive outcomes, or it may represent an inability to derive pleasure from what are normally enjoyable events (MacLeod, Pankhania & Lee, 1997). Malone et al. (2000) concluded "a more optimistic perceptual set, despite equivalent objective severity of depression, may modify hopelessness and may protect against suicidal behaviour". So dispositional positivism and optimism might colour the emotional world and safeguard against suicide.

The necessity of including future thinking into therapy is clearly stated by Boyd and Zimbardo (in Strathman & Joireman, 2005): "The preponderance of evidence suggests that efforts to enhance future time perspective and decrease present time perspective should be encouraged and perhaps even mandated". According to Zaleski (in Strathman & Joireman, 2005) self-perceptions of future time can be targeted by interventions which might be particularly beneficial for patients with a pessimistic or unclear future time perspective. As MacLeod et al. (1993) put it, the anticipation of positive events and the planning and organizing involved in bringing some of them about will also be an important component in recovery. When people are able to see beyond their current situation and envision a different future, they might be better capable of coping with the current event (Tedeschi & Calhoun, 1995). This leads to Holman and Silver's conclusion (1998) that psychologists might be able to develop ways of helping traumatized individuals to re-establish an integrated and hopefully fulfilling, view of the past, present and future periods in their lives.

As Liu and Aaker (2006) found in their research, the way we perceive our futures and the decisions we take are influenced by life events. Although time perspective and future thinking have been widely studied, not many interventions aiming to change future perspective have been scientifically evaluated in mental health care. Hall and Fong (2003) implemented a programme in order to increase physical activity. In their programme and their article they emphasize the necessity of connecting present behaviour with future outcomes. Making clear how investment in the present eventually leads to health gain in the future.

In a study by Marko and Savickas (1998) students were taught to plan their careers. This intervention consisted of three stages: administering a set of future related tasks (discussing past, present and future in groups). In the second phase called differentiation, participants worked on their futures by goal setting. In the integration phase students presented future directed behaviour, practiced planning skills and heightened career awareness. Similar programmes have been developed and appear to be successful (see Nurmi, in Strathman & Joireman, 2005). Lapierre and her colleagues evaluated a goal-oriented programme for elderly people with suicidal ideas and reported some interesting findings (Lapierre, Dube, Bouffard & Alain, 2007). Depression and psychological distress decreased significantly, an effect maintained 6 months later.

Other interesting applications of future oriented thinking are 'Future directions' (Carrington & Whitten, 2005), 'Exploring future options' (Perry & VanZandt, 2006a), and 'Focus on the future' (Perry & VanZandt, 2006b), all three specifically written to teach younger people to focus on the future. Another comparable intervention, developed for women crisis centres is 'Future oriented work', a Dutch application in which women are taught to focus on their futures after a recent break up or divorce (Van Heel & Warner, 1999). Vilhauer et al. (2011) developed their Future Directed Therapy for depressed patients based upon a comparable assumption: FDT "teaches people to redirect their thinking toward things that feel better and bring them closer to what they want in life", as these authors state. Their initial results are promising.

Although our training was not based upon his ideas, we need to mention the work by Melges (1974, 1982), who developed what he called Future Oriented Therapy.

Cognitive therapy

Several interventions based upon, or containing elements from cognitive therapy have been scientifically evaluated (e.g., Tarrier, Taylor, & Gooding, 2008). Ellis (2006) states: "it can be said that cognitive-behavioural approaches to suicidal patients are, to a greater extent than most other psychotherapies, tailored to the characteristic needs of the patient population" (pp. 376). The central assumption is that hopelessness, as a core element in suicidality, is closely related to stereotypical ways of depressed and suicidal thinking (e.g., Rudd, Joiner & Rehab, 2001). Events in the present evoke underlying basic conceptions about the self, the world and the future. Beck's theory of the role of negative schemas in depression has only recently been tested and proven valid (Evans, Heron, Lewis, Araya, & Wolke, 2005). There appears to be a positive correlation between negative cognitions and depression, but not between negative cognitions and the ability to generate positive future expectancies. This strengthens the hypothesis that depression and future expectancies are relatively independent.

During the training we discuss several aspects from a cognitive therapy perspective, for instance the typical suicidal cognitions that Berk et al. (2004) address in their treatment. Participants fill out Jeffrey Young's schema questionnaire (YSQ-L3) to discriminate their underlying cognitive patterns, and they read about different types of cognitive distortions, like all-or-nothing thinking, overgeneralization, and should statements. The patients are encouraged to recognize them and during the sessions they discuss how these cognitions impede goal-oriented behaviour. Ineffective cognitions are challenged and motivating cognitions are stimulated.

Problem solving

There is little doubt about the specific role of decreased problem solving abilities in suicidal patients. Consistent evidence has shown that people who attempt suicide have poor problem solving skills (Linehan, Camper, Chiles, Strossahl, & Shearin, 1987; Pollock & Williams, 2001) and problem-solving therapy has shown to reduce levels of depression and hopelessness in patients who have attempted suicide (Townsend et al., 2001). Everyday problems, which can be solved before the suicidal

period, can no longer be effectively dealt with. Normal hassles, frustrations and stressors lead to an increase of hopelessness and helplessness, and accordingly to avoidance. A study among suicide attempters by Jollant et al. (2005) shows that decision-making is impaired in this group, evaluated in a period in which the participants had no axis I disorder. This decision-making impairment might be due to emotional dysfunction, which makes people vulnerable for suicidal behaviour. According to Hawton et al. (2005), and Sharon, Hatcher, Coggan and Bennett (2004) forms of problem solving therapy are promising in the treatment of suicidal patients.

An important related aspect of suicidality that is discussed during the training is attributional style: how one perceives the causality of events. A study amongst children and adolescents (Wagner, Rouleau & Joiner, 2000) determined that change in attributional style was shown to be a factor significantly related to the resolution of suicidal ideation. Whether these findings can be generalized to adults must be subject to further research, but it is in line our hypothesis of hopelessness and helplessness. In their attributional style suicidal patients tend to attribute negative life events to internal, stable and global causes (Sheehy & O'Connor, 2002). So, suicidal patients blame themselves, perceive their situation as unchangeable, and they do not know what to do about it. This inability to act upon an idea is another problem. "The types of executive deficits seen in depression include problems with planning, initiating and completing goal-directed activities" (DeBattista, 2005). Suicidal patients are comparable able to formulate their personal goals, but they do not know how to achieve those goals (Vincent, Boddona, & MacLeod, 2004). We therefore stress the relevance of successful little steps, important because they help participants to regain a sense of control. But we also try to prepare these patients for upcoming frustration and unsuccessful behaviour, as new learning experiences important to adapt one's strategies. We underline that learning from unsuccessful behaviour is fundamentally different than failure.

In the treatment of depression and suicidality several attempts have been made to influence problem-solving skills, like MACT (Manual-Assisted Cognitive-Behaviour Therapy; Evans et al., 1999), STEPPS (Systems Training for Emotional Predictability and Problem Solving; Blum, Pfohl, Monahan & Black, 2002) and BATD (Behavioural Activation Treatment for Depression; Hopko, Sanchez, Hopko, Dvir & Lejuez, 2003).

In general health practice PST (Problem Solving Therapy) developed by Nezu, Nezu and Perri (1990) has proven to be helpful and is one of the treatment methods in the Dutch Multidisciplinary Treatment Guidelines for Depression (Multidisciplinaire Richtlijn Depressie; Trimbos Instituut, 2005). McCullough's Cognitive Behavioural Analysis of Psychotherapy (CBASP) appears to be a useable derivate, but we need more data on available problem-solving training programmes and their effects. Research done by Needles and Abramson (1990) shows a, what they call dramatic reduction in hopelessness, when depressed patients experienced positive events that they attributed to themselves.

In our treatment we decided not to focus on problem solving per se. We discuss the PST steps, but relate them to desired outcomes, to future goals, not to current problems. To put it simple, problems in the present lead to desired outcomes in the future and we encourage participants to think about what they want to be done. Sometimes, but not always, patients themselves focus on problems in the present, but in the course of the sessions most participants dare to express some wishes and desires.

There is an apparent overlap between problem solving models and solution focused approaches. Both encourage change by empowering patients, aiming to stimulate goal oriented behaviour and hope. A key assumption in solution-focused therapy is that small changes can have a knock-on effect in other areas of a client's life (Henden, 2008). In the therapy sessions patients are encouraged to talk about the smaller and bigger things that recently made life less miserable. Topics like 'what would make life 10% less hopeless?' are addressed both in solution focused therapy and in our future oriented group training. As in Positive Psychology (which will be discussed later on), it is not that we do not acknowledge underlying problems, but we decide not to have them dominate the therapy sessions.

Social deprivation and isolation

Most suicidal patients detach from everyday social life and isolate themselves (e.g., Joiner, 2005). We know that loss of insufficient family support is important in the

aetiology of suicidal behaviour in children and adolescents, probably because this kind of social support normally thwarts their underlying vulnerability to stressful events (Moreno, Cisler, & Lemerond, 1983), and it is likely that this is similar in adults. This led to the decision to develop a group-based training, instead of doing individual psychotherapy with suicidal patients. For different reasons we chose to develop a learning group instead of a traditional psychotherapy group, hence the focus on training in the name of the programme. Participants are taught; they listen, read, talk and learn. Of course patients eventually become aware of both patterns and feelings, both cognitively and experientially, but sharing emotions is not stimulated, and most of the times curbed by the trainers. We think vicarious learning is an essential part of this intervention and recognition in fellow-participants aids to breach the seclusion. Patients learn they are not an exception and that suicidality is not an uncommon phenomenon in fellow participants, or psychiatric patients in general. This kind of group therapy, or group training, is acknowledged as a powerful method in comparable interventions, like DBT (Linehan, 1993).

We also decided to introduce a personal coach in our programme, a person invited by the participant, someone who was told about the reasons for the participants to enter the programme. Who can read the workbook to be of support and who can help them with the exercises? This coaching person should not self-evidently be a family member. Obviously a careful selection of who can be a helpful and successful coach is important, and discussed during the sessions. We stress the importance of this coach and when patients are unable to find someone, we encourage them to ask their regular individual therapist to become a coach (it is a condition in our programme that all participants have an individual therapist as well).

These coaches can attend the sessions. If they plan to, we shortly discuss this in the group as an important opportunity for the patient, which lessens much of the anxiety of the group members. Events like this sometimes trigger cognitions and emotions that we can address in the training, for instance someone who thinks she will be too anxious to talk when a stranger enters the group. A prediction that one can accept as a mere fact, or fight when acknowledged as an unwanted cognition.

Self-discrepancy theory

Self-discrepancy theory is well established in psychological literature (see chapter 9 for a discussion) and these ideas are reflected in many therapeutic interventions. We included several exercises that help participants to become aware of the discrepancies between how it is in the present, and how they want it to be. For instance a 'mental mirror exercise' in which patients are asked to describe how they see themselves now and how they would like to see themselves in the future. Mentally visualizing different possible outcomes certainly appears to be helpful. In a study by Holmes, Mathews, Dalgleish, and Mackintosh (2006) those participants who were trained to imagine ambiguous scenarios, instead of thinking about the verbal meaning, were more positive about what eventually might happen. In mental imagery exercises like these we find it important to discuss the distinction between fantasy and goal oriented future thinking. The Fantasy Realization Theory as developed by Oettingen (1999) has proven to be useful to enhance goal-oriented behaviour (Oettingen, Mayer, Thorpe, Janetszke, & Lorenz, 2005), by discriminating between positive expectations and positive fantasies. Expectations are reflections of one's performance history; they are derived from earlier personal experiences. Fantasies are wishes that are not necessarily likely to occur. Lack of positive future is the outcome of ruminating on a negative present reality and these people do not have a compulsion to act, because there is no future to act toward, according to Oettingen. This is important for our study, because it implies that we need to enhance positive future expectancies and focus less on fantasies. Positive fantasies suppress motivation and action (Oettingen, 1997; Oettingen & Mayer, 2002). In line with Oettingen's work, we need to help patients to mentally contrast between the desired outcome and the current situation, stimulating them to simultaneously work on negative cognitions or other obstructions that occur (Oettingen, Pak, & Schnetter, 2001). The discrepancy should obviously not lead to further hopelessness, when patients realize once again that things are not like they should be, but it ought to strengthen goal commitment. Depicting a worthwhile future that could be achieved. Not a separate future experience, but a continuation or extension of the current situation. And as future prospects become more salient and concrete, they tend to become more motivating (Liu & Aaker, 2006). In chapter 9 we will further discuss the role of discrepancy theory in suicidality.

Motivational techniques

Suicidality is most of the times characterized by a lack of internal hope and motivation to once again try to change. Patients become passive and avoidant, to fence off further frustration, loss, and pain. This is something we discuss quite extensively during the training, and we address this not as a lack of motivation per se, but we view passivity as an understandable protection from the repeating disappointment these patients predict. We try to strengthen the inner dialogue between the desire for improvement and the fear of renewing pain by introducing both educational texts and exercises based upon Motivational Interviewing (Miller & Rollnick, 1991). In the group we discuss the pros and cons of change, we talk about change in terms of the stage model by Proshaska and DiClemente (2005), and particularly address relapse. Reoccurrence of suicidal ideas is quite common. Change and hope are accompanied by frustration and failure, which we discuss. The cognitive and behavioural reflexes in response to frustration or expected frustration: decrease of motivation and an increase of passivity. Another aspect of motivation is the role of the fellow group members and the coaches, who can act as an encouragement for each other.

Positive psychology

The recent field of positive psychology studies offers valuable knowledge on topics less common in clinical psychology and psychiatry, like optimism, creativity, compassion, resilience and forgiveness (see Snyder & Lopez, 2002, for an extensive overview). In more general terms, positive psychology focuses on what makes a person happy and successful. Hope, as the counterpart of hopelessness, is described in positive psychology as goal-directed thinking in which people perceive that they can produce routes to desired goals (Lopez, Snyder, & Teramotto-Pedrotti, in Lopez & Snyder, 2007). Once again the relationship between hope(lessness) and goal-orientation is stressed. Seligman's theory of learned helplessness (Seligman, Reivich, Jaycox, & Gillham, 1995) provides a helpful model to understand the tendency of hopeless people to move away from their goals. According to this theory, in order to protect themselves from further pain, patients avoid personal goals, because frustration would imply further pain. This distinction between (positive) goal-orientation

and (negative) goal avoidance is an important pillar underneath Carver and Scheier's theory on human motivation (Carver & Scheier, 1998). Subsequently, suicidal and hopeless patients avoid change to protect themselves from further pain.

One of the topics we integrated from positive psychology was to help patients focus on effective and successful behaviour. In general, optimism seems to reduce the risk of health problems and may be related to a faster recovery after a major life event (Kivimäki, Vahtera, Elovainio, Helenius, Singh-Manoux, & Pentti, 2005), and comparable effects have been found in positive psychology (Seligman & Csikzentmihalyi, 2000). This focus on effective behaviour is obviously not reserved for positive psychology, but some of the exercises we borrowed are inspiring and have proven to be related to pleasant emotions. We teach participants to focus on manageable small goals to experience a stronger internal locus of control and feel good about something again, like helping others, or writing a thank you letter.

Other elements of the training

One particular element we discuss throughout the training is perfectionism. According to Chang (1998) the results of his experiment suggest that perfectionism is an important predictor of suicidal risk, and we know that especially perfectionism predicts hopelessness and suicidal ideation (Beevers & Miller, 2004). The absence of positive expectations exacerbates the relationship between a relatively stable personality dimension –social perfectionism- and psychological distress (O'Connor, O'Connor, O'Connor, Smallwood & Miles, 2004). So suicidal people hold high interpersonal standards and tend to react with suicidal ideation when they cannot measure up to their own perfectionism. The need to be perfect, or the anxiety about being punished, is talked about when participants formulate goals and start to take steps. How understandable it is that one decides to stop trying when you scrutinize every imperfect attempt. And the ambivalence these patients struggle with.

Another element we integrated in the treatment was the necessity of a crisis-plan. Participants are taught to become aware of indications of rising stress levels. We hand out a stepwise method to first list signs of increasing stress, physically, behaviourally

and psychologically, and participants are encouraged to write down what needs to be done to lower the stress levels, in a crisis-plan. We teach them not to focus on the last stage of this process (the suicidal crisis), but on the earlier stages (the presuicidal state).

OVERVIEW OF THE SESSIONS

First session: Suicidality and Future Thinking

The training begins with emphasizing that we are going to talk about topics that underlie suicidality, but that we will focus on a how to create a worthwhile future. We illustrate the main subjects of the training in terms of typical suicidal thinking or behaviour, and subsequently focus on desired cognitions and efficient action. Some participants need time to emphasize that their suicidal ideas are based upon their personal experiences and how 'true' they are. We acknowledge and validate the reasons participants have for their current ways of thinking and behaving, but we also stress the need for change. This is a good opportunity to discuss efficient and effective thinking and behaviour.

During the first session we explain relationships between suicidality, negative expectation and diminished future thinking in suicidal people. Suicidality is related to the prediction that the future will be negative and particularly that there are hardly any positive experiences to look forward to. We explain how people construct their own expectations and heavily base those expectations upon prior generalized experiences.

We introduce the question of coaching yourself, and how to organize a personal coach or buddy. Participants are strongly advised to seek someone who can be their mentor or support during the training, like a friend or a partner. These personal coaches receive a workbook. They can also attend a session to experience what this training is about, actively or more passively. Although some participants express their worries about not being able to find someone, most of them actually do. This is a great chance for us to discuss the tendency of suicidal individuals to isolate themselves. One of the positive reactions we receive when we evaluate the training is that this is the first time for some participants and coaches to talk about their suicidality while they are not in a

crisis situation. They learn not to be too frightened by the subject and discuss how to be able to talk about it with someone they care about.

Session 2 and 3: Change

At the start of every session we discuss the homework. Listening to the audio cd takes about 20 minutes per week, doing the homework assignments about the same. Both the audio and the paper assignments focus on aspects of the training that was discussed in the previous session. The first exercise in the workbook deals with imagining change and we ask the participants what they would want to change in their lives, without thinking about how to manage that. A couple of exercises in the workbook focus on practicing to envision different outcomes. We ask the patients to imaginarily create different scenarios and experience their tendency to believe that only the negative ones are true. How they defend this hopeless stance without actually wondering if they should. We discuss automated thinking and behaviour, cognitive reflexes, and one's tendency to resist against change.

We take a sidestep to stimulate positive and constructive thinking and behaviour. The participants fill in a questionnaire asking for personal competencies and the workbook lists some exercises from positive psychology, like doing small favours to feel better about oneself. All of these texts and homework assignments are meant to help participants to start feeling in control of their own lives more than they did.

Session 4 and 5: Cognitive therapy

In this phase participants appear to becoming aware of the role of their thoughts, beliefs and expectations in their hopelessness. Patients are taught to recognize that their feelings and behaviour are at least influenced by their cognitions and that it might be useful to question the efficiency of these thoughts. During session 4 and 5 we teach the patients about inadequate cognitive styles and they fill in a questionnaire that helps them to differentiate their cognitive schemas. Once again we focus on those ideas that obstruct future goals, maladaptive cognitive patterns like "I will not be able

to finish this training”, or ‘This treatment is not sufficient because I am a hopeless case’. Which thoughts and convictions are automatically triggered when you start raising hope? What do you say to yourself when you set goals and strive to change something? And how can we help you to protect yourself against these destructive cognitive tendencies? We teach participants to recognize their hopelessness invoking thoughts in order to safeguard themselves against these ideas when they start making plans again.

Session 6 and 7: Goal Orientation

At this point in the training most participants are becoming aware of their avoidance, their isolation, their perfectionism or fear of failure and some of their inefficient cognitions. Then we talk about change, about making plans and taking steps to achieve one's goals. In the workbook we differentiate steps and means, as is being done in problem solving therapy. What do you need, who can support you, and which tendencies do your need to be aware of when you start to make plans again? We discuss goal formulation and achievable goals, high expectations and avoidance as a way of guarding against more unbearable negative feelings like failure. We talk about successful people, like in sports. What is necessary to achieve one's goals? And what is the role of rewards and support from significant others? Some of these ideas are based upon Problem Solving Therapy, but we do not focus on problems, but on desired outcomes.

Session 8 and 9: Taking Steps

In this phase we combine the previously discussed elements in a structured format. The workbook provides a document in which (a) personal meaningful goals, (b) motivation, (c) cognitive and behavioural pitfalls, (d) steps/sub goals and (e) means can be formulated. Each participant focuses on his own goal and determines how to start an experiment with alternative behaviour, taking into account what one has learned during the training. The group members discuss their own plan and reflect on one's ideas. Once again the focus is on how to accomplish the desired outcome. One

of the benefits of the group format is that participants stimulate one another and can share practical information that can be helpful. Like in one of our groups a patient wanted to pick up a study and a group member supported her in doing so, by providing necessary information on a specific course.

The form participants can use when they start working on a personal goal consists of 13 steps and 5 additional points of attention. It summarizes what we discussed in the training, it can be used during the training and afterwards. Participants can download it from our website when they need additional copies.

The content of the training are summarized in these following questions, and the written plan participants fill in:

Tell me which goal you want to reach. Can you explain me why this is important and how it relates to making your life more meaningful again. Which thoughts will show up as a threat to reaching your goal. Which thoughts motivate you and help you. How can your personal coach assist you in this. Which sub goals are necessary. What do you need to do (steps) and which tools do you need. Describe your time plan. What will you need to do when something demotivates you, when you get frustrated (e.g., support, relaxation). Which competencies can you use in order to reach your goal. What do you need from others. How can you reward yourself during the process of working on your goal. What is effective and what are ways of being more effective when it comes to this goal. Describe a detailed imaginary situation in which you reached your goals; what does it look like. And keep in mind: which alternative goals and steps am I leaving out. What in your plan so far would you not recommend to a friend. Are the steps realistic (80% sure it will work). Is it encouraging, helpful, fun and challenging enough.

Session 10: Consolidation and evaluation

During the last session we talk about ways to preserve what the patients learned during the training. We advise participants to read the workbook regularly and to use their personal coach to encourage them to do so. We discuss what each participants

expects to happen, which cognitions and typical behaviour will keep them from doing so. Part of the conclusion is the structured evaluation of the treatment. At the end of the training all participants receive a certificate of attendance.

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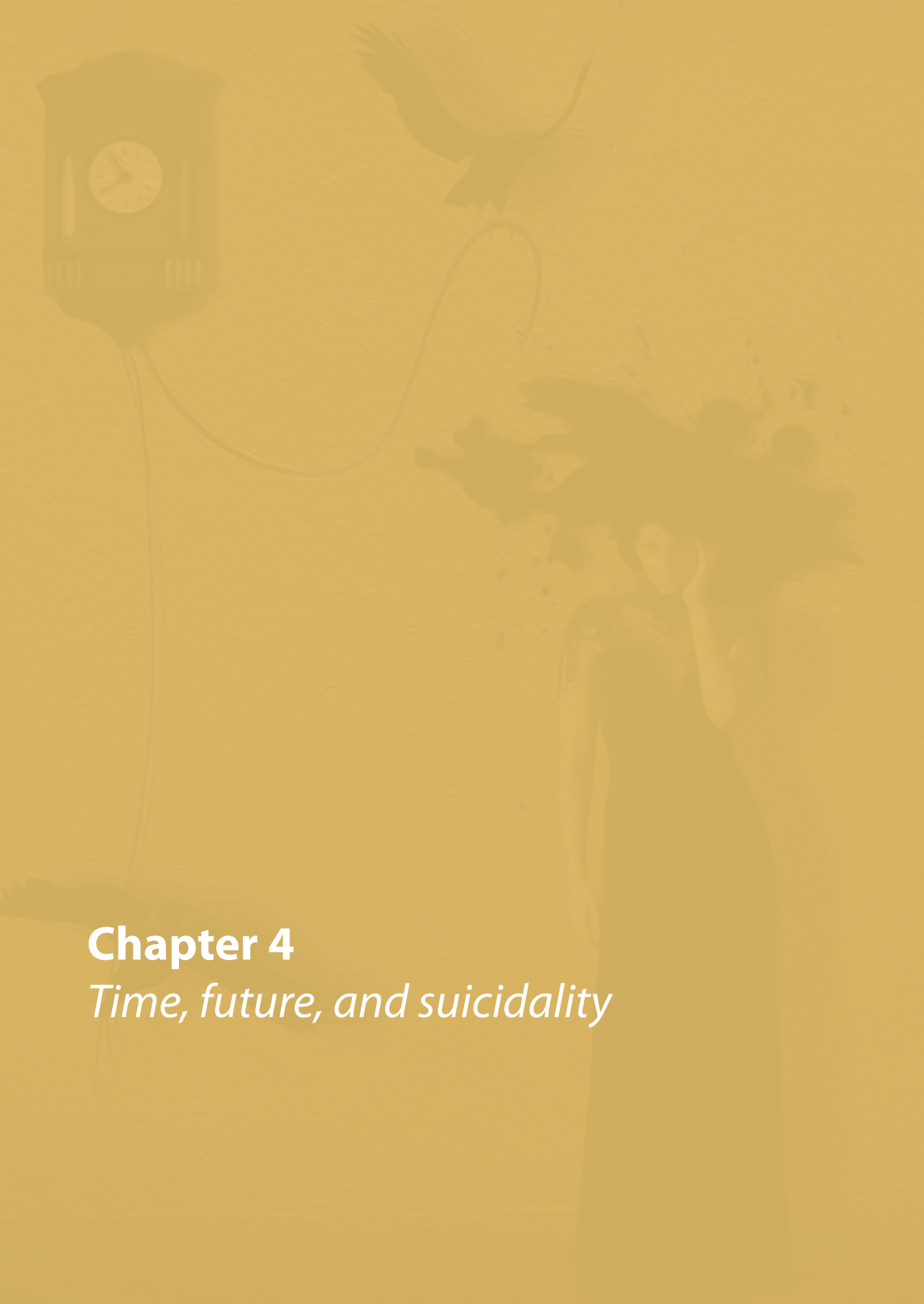
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Chapter 4

Time, future, and suicidality

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“For living men, the units of time always have a value, which increases in ratio to the strength of the internal resources of the person living through them; but for us, hours, days, months spilled out sluggishly from the future into the past, always too slowly, a valueless and superfluous material, of which we sought to rid ourselves as soon as possible.”

Primo Levi – If this is a man (1947)

INTRODUCTION

The Jewish author Primo Levi writes about his experiences in a concentration camp, and what time meant for him. For suicidal patients time is just such valueless and superfluous material. Every day is a burden that must be dragged along and new days are hurtled into their lives.

In this chapter we discuss the relationship between time, future and suicidality. This is not just theory about abstract notions, but it has consequences for the way we understand suicidality and how we treat suicidal patients. Suicidality is a broad concept, with different manifestations, in very different human beings. It is related to existential questions, to all kinds of intrapsychic, interpersonal and social-economic variables, and to different types of psychiatric problems. In our research project and our everyday practice we are obliged to make choices and simplify it to topics we can investigate and work with. We focus on one common characteristic of suicidal thinking: the decreased ability in suicidal patients to envision a worthwhile future. Most suicidal people cannot imagine that there will ever be a better day again, a day on which life will be bearable. They start thinking about suicide, because they can no longer bear the burden of a life without a positive future. Time, particularly the future, plays an essential role. The deficiency of the prospect of a bearable future thus increases the risk of eventual suicide.

Caught in repetition

According to Williams (1997) suicidal patients get caught in their own ways of thinking. Their thinking gets dominated by negative thoughts about the past. Suicidal patients remember negative memories more easily than positive ones. Their world gets flooded by negatively laden information: memories about pain, disappointments, failures and loss. This information forces up to them, because they are associated with strong emotions. And they are unable to let go of these strong emotions. Negative memories push up to them and right because these memories are that emotional, their thoughts stop just there. Suicidal patients worry, hardly capable of stopping their distressing thoughts: memories of the past, doubts about the present, and worries about the future.

Recent neurological research by Addis and her colleagues (e.g., Addis, Pan, Vu, Laiser, & Schacter, 2009) shows that in remembrance the same brain regions are activated as in future thinking. This acknowledges once again that future thinking is highly influenced by what is stored in our autobiographical memory during people's lives. Biographical memory stores personal memories and plays an important role in how they evaluate their life. How they understand what happens to them, and give meaning to it. Research exemplifies that memories are no mere facts, but that they are biased by interpretations (e.g., Spear, in Roediger III, Dudai, & Fitzpatrick, 2007).

These interpretations play a role in memories, in how people understand everyday life, and they predict the future based upon that same information. This particular process makes that suicidal patients are getting stuck in hopeless repetition. They remember negative experiences, their everyday life gets negatively biased, and they predict repetition in the future. Time becomes one big tangle in which past, present and future mingle. The past is survived, the present is being survived, but the future looms up as one frightening recurrence.

Time and future as a topic of conversation

How do you talk to someone about this aspect of suicidality? It is associated with learning to understand what makes someone that desperate. We presume that the future is threatening to most suicidal people. An ordeal, dead weight, valueless and superfluous, as Primo Levi described it. These suicidal people are anxious about the hopeless recurrence of a life in which they are obliged to bear this superfluous time, over and over. Suicidal patients are quite certain about their gloomy future, and as clinicians we can bring this under discussion. And we can ask them about what they think they are not able to face.

Talking about the future is not common, especially not in mental health care. Therapy quite often focuses on the past. In some other areas in psychology the future is more commonly theme of interest, and the focus of research. In the field of motivation psychology, as being applied in organizational psychology and social psychology, the topic 'future' gets more attention (see Strathman & Joireman, 2005, for an overview). It discusses questions like 'What motivates people?', and to what extent people invest in uncertain future scenarios? There are hardly any treatment programmes developed, let alone scientifically evaluated, which focus on future thinking. We know from a series of studies by the British psychologists Williams, MacLeod, and O'Connor that suicidal patients are hardly capable of imagining a positive future (e.g., MacLeod et al., 1997). Hopelessness in suicidal patients is associated with an inability to envision and mentally experience the idea that a more liveable could become reality. Research amongst depressed patients showed that they are stronger convinced that their predictions will come true (Dunning, Perie, & Story, 1991). Depressed people, and probably suicidal people as well, strongly believe they know what the future will be like.

The Past

Many suicidal patients are preoccupied with their negative past. Like non-suicidal depressed patients they can easily retrieve a series of negative experiences from their memory. Information that is being used to construct predictions. The American social psychologist Zimbardo differentiates between negative past and positive past, both

influencing current behaviour in different ways (Zimbardo & Boyd, 1999). The positive past reflects the warm, caring, supportive and pleasurable memories. The negative past on the other hand encompasses the unpleasant aspects of one's personal history. People appear to differ in the magnitude this positive and negative past influence their behaviour. This is obviously at least partly determined by the quantity of positive and negative experiences. But neither the amount of horrible experiences, nor how horrible they were, determines in what way the experiences affect the current situation. The tendency to either focus on the negative, or the positive aspects of one's past experiences is a rather stable personality characteristic (Boniwell & Zimbardo, 2003), affected by one upbringing and one's socio-cultural environment. The way one thinks about the past, and the attention this gets, is influenced by one's thinking style, more than what has actually happened.

The negative past receives a lot of attention, both in the mind of the suicidal person, and in most psychotherapies. To simplify: in therapy we encourage people to experience, express and integrate earlier events, and to develop alternative meaning or ideas. For patients who are stuck in their past, by endlessly repeating prior experiences, this seems not the correct approach. For these people it is important to present a treatment in which they can focus on other aspects of their 'personal time', like the positive past or the future.

The Present

For many people with suicidal thoughts, the present is frequently unliveable. Their existence confronts them with an unbearable burden, sometimes so big there seems no other choice than to escape from that existence to end this suffering. Suicidality is not continuously that intense, the necessity to escape differs from moment to moment. For those suicidal people the present, here and now, means survival. And an important part of that survival is to fend off negative memories, worrisome thoughts and grim predictions. The present, where the main part of our life takes place, is for these people not a source of strength to counterbalance the awful past. Many depressed and suicidal patients report that hardly anything is pleasant, amusing, or fun anymore. They do not enjoy activities, because the present has no real meaning to

them. For these people their attention shifts, unconsciously but also consciously, towards their past. This past has to be solved, erased and made undone. Many of these people hardly experience the present. They stare, sunken in thoughts, living a life they hardly own. Some patients recognize the term 'depersonalized', to be hardly aware of what is happening. This makes them hard to reach, not connected to themselves, and cut off from others. Taking a stroll or catching a movie often means just changing the place where the worrying takes place. Taking along a head full of dreadful thoughts.

Some treatment programmes for suicidal patients, for example Mindfulness Based Cognitive Therapy (MBCT; Segal, Williams, & Teasdale, 2001), focus on letting go these thoughts, and help participants not to get absorbed in their thoughts. These treatments focus on the present and help the cognitive system to break out of the conditioned stream of horrible thoughts, by focusing on the experiences in the present. In different countries, like The Netherlands, England and Belgium, this approach is being evaluated in research and the first results are promising.

The Future

People differ in the way they consider the future. For some people the future is an abstract and even trivial notion. Many of these people are focused on getting enjoyment and pleasure in the present, they don't save for later, but buy that television set because they want it right now. Others deny themselves these pleasures, in order to achieve a goal they set. For instance sportsmen, who adjust their lives to the glory they obtain in one or maybe 10 years, or maybe never. Suicidal patients predict a future that will be a horrible repetition of what has proceeded. A recurrence that they think they will not be able to escape from. Tomorrow, next week, next year, people will leave me as well. I will disappoint them, and things will go keep going wrong in my life. And once again, nothing will happen that will make life worthwhile again. Suicidal people are particularly incapable of imagining what could be positive in the future. And because of that, quite understandably, they struggle with ideas like "Why would I would I take all the trouble?" They become dispirited, hopeless and ultimately passive

and avoidant. Therefore, they literally do not gain experiences to adjust their expectations about the future.

Future Oriented Training

When we realize that the future plays such an important role in the hopelessness that characterizes suicidal patients, it is only logical to develop a treatment programme which is focused on just that. For that reason we developed our 'Future oriented training for suicidal patients' (Van Beek, Kerkhof & Beekman, 2009). An important aim in this treatment is to encourage participants to realistically focus on their futures.

This training programme can be implemented in regular mental health care practice, for a broad group of suicidal patients. Existing programmes for suicidal patients mainly focus on patients entering care after a suicide attempt (e.g., Brown et al., 2005), or are an element in a specialized treatment programme, for specific target populations (like Dialectical Behavioural Therapy; Linehan, 1993, or Mentalization Based Treatment; Bateman & Fonagy, 2004). We know that suicidal thinking occurs in many patients without complex personality disorders and who will never attempt suicide. Suicidal thoughts are hardly ever a reason to enter treatment, or a consistent focus when in treatment. Most of the times suicidality is incorrectly directly associated with the underlying depression. When the depression resolves, the suicidal thoughts will disappear. But we know such is not the case, as has been demonstrated by Williams et al. (2005). Suicidal thinking stays in the coping repertoire and is activated relatively easily by negative events. Therefore, a specific treatment is necessary, which helps patients reckon with their tendency towards suicidal thinking and helps them to cope with disappointment and frustration differently.

Future thinking and visualizing

Future oriented treatment intends to help people to think differently about their futures. One way to accomplish that is by visualization exercises. In order to overcome the hopelessness, which is so typical for suicidality, it is necessary that alternative future

scenarios arise in the minds of our participants: different courses, alternative outcomes. In various fields of psychology this is worked out in different ways. In narrative psychology for example imaginary stories and alternative scenarios have a central role. Another approach, within positive psychology, encourages people to mentally explore multiple future possibilities.

The future, by definitions, deals with something that has not happened yet. In our future oriented treatment we ask participants to investigate their mental future scenarios and to acknowledge that their interpretation is one of the possible outcomes of an upcoming process. A process they have influence on in the present. We use terms like 'becoming the director of their own future-story'. We accomplish this by a series of practical exercises, like this one:

Close your eyes and keep your mind on a goal. Something you would like to work on in the next period. Subsequently, you imagine everything that can go wrong in this scenario. Take some time for that, describe in your mind what can go wrong, what you do wrong and what the horrible consequences will be. Create something awful and overdo things a little. Describe what you see.

Go on back to your goal and imagine a story in which everything turns out as positive as possible. Everything ends up marvellous, it is a huge success, bigger than you ever held possible. Look around in this imagination, who is proud, what are the positive consequences? Describe the details.

For the last time go back to your goal. Describe the scenario in which things go against you, some things are disappointing, but in which other things go well. Maybe there are people who are critical or cynical. Maybe there are people who are encouraging and who believe in you. Follow what happens, when things turn out not too positive and not too negative. How do you deal with disappointment and how do others react? What happens to you, how do you feel, how do you think about yourself when things go reasonably well?

Exercises like this one are meant to create room for alternative outcomes. Another result than we expected. We ask participants to exaggerate their thoughts, in order to

be able to discuss their typical ways of thinking. These exercises evoke all kinds of objections amongst suicidal patients. They convince us and themselves that things are really not that simple. That escape from their hopeless lives will not happen by doing simple exercises like these. This is something to discuss subsequently. It links to two other topics we want to talk about in the first phase of the treatment: how do you coach yourself and what do you say to yourself? What are your typical ways of encouraging yourself?

Another exercise, in which we use exaggeration to underscore the power of negative ways of thinking, is 'recipe for perfectly unhappy', an exercise which originates from Gestalt therapy. In this task we ask participants to describe into detail what they need to do and think to start feeling hopeless and suicidal. Lock yourself up in your own house. Cancel appointments. Put on some depressing music. Constantly tell yourself what a failure you are, that no one loves you and never anyone will, and so on, and so forth. This exercise perfectly but painfully exemplifies that staying unhappy is a lot of hard work, claiming all one's energy and attention. To be unhappy is related to behaviour, and therefore changeable.

Cognitive therapy and coaching

Suicidality is undoubtedly related to hopeless making thinking and cognitive therapy should be part of the treatment of suicidality (Ellis, 2006). Actively combating the thoughts that maintain hopelessness is a tough job. In our future oriented training we choose to specifically focus on one area of thoughts, namely these thoughts that obstruct reaching one's goals. What does someone say to himself in order to stay hopeless? We use examples of cognitive biases (Beck) and schemas (Young) in which participants can recognize their own thinking style. Which thoughts hinder your process of goal-oriented behaviour? We discuss how participants encouraged themselves in times they were more successful and happier. During the training we frequently use motivating examples from the sports, from our own lives, and from all other useful sources like television soaps, comics, or literature. We extensively focus on how participants discourage themselves, and what are alternatives. And how this turn out when coaching someone else. An example is the following exercise:

Let's discuss the ideal characteristics of a good coach, what are they? Write these characteristics down. Examine which people in your circle of acquaintances more or less correspond to these characteristics. And then think about whether you apply these characteristics to coaching yourself, when you want to accomplish something. Probably you conclude that you are not a particularly good coach for yourself. This may be understandable, but it is far from helpful.

Discussing these cognitive styles and demotivating self-talk we obviously touch underlying core cognitions or schemas. We talk about these frequently occurring and individual ways of thinking, which play an important role in discouraging themselves and increasing their hopelessness. We address aspects and topics which would make life worth living again, like meeting a new partner, or moving to better house, and discuss how one's cognitions maintain the hopelessness. Again, it is understandable when you realize what happened to you in your life and all the things you went through. How these ideas were consolidated by your prior experiences; but we also know if you keep saying these things to yourself, nothing will change and you will stay hopeless forever. You have to make a choice here.

An important part of this cognitive approach is the recognition and validation of the negative ideas that suicidal patients have developed over the years. We do not doubt their reasons for having developed these thoughts, they probably were very true for the past experiences, but they might not be applicable for events to come. When you want to change, you will have to bring your beliefs and convictions up for discussion. Certainties that are just thoughts.

Goal oriented and effective behaviour

A recurrent conclusion from research is that suicidal patients are hardly capable of solving problems. We have no reasons to believe this deficit existed prior to the time they became suicidal, but suicidal patients are hardly capable of constructively coping with problematic situations. They become passive, avoidant and develop an external

locus of control, convinced that they are incapable of influencing their own lives. Their problem solving abilities are diminished, because of which they can hardly deal with everyday life hassles.

In our treatment we adapted concepts from problem-solving therapies into 'goal-oriented behaviour'. We focus on a) goal setting, b) unhelpful cognitions and behaviour and c) determining what, in which way should be done to reach the stated goal. This is accompanied by the plan of work participants fill out and start working with. In this plan of work we discuss the following:

Tell me which goal you want to achieve. Can you explain to me what makes this an important goal and how it is related to giving meaning to your life again? Which automated cognitions will arise when you start working on this goal? And which cognitions support and motivate you? How can your personal coach aid you in this? Which sub-goals can you differentiate? Which steps do you need to take and which tools do you need to do so? Describe your planning. What can you do when something or someone discourages you, or when you get frustrated? Which positive and constructive characteristics of yourself can you call forth? Describe a detailed image of the situation in which you have achieved your goal; what does it look like? What in your current plan would you not recommend to your best friend? Are both the goals and the steps in the plan realistic and challenging enough (are you for 80% sure you will be successful)? Is it encouraging, helpful, important and pleasant enough?

In the future oriented training these elements are presented in a structured way. Both the trainers and the participants use a manual in which these steps are described. The plan of work is a summary of most of the components of the training. It is practical and easy to use and can be applied independently after the training is finished. The steps in the plan of work are recognizable, what increasing their sense of competence. They work with something they easily understand, what they actually already knew. Nothing new, which increases their sense of control.

Breaking the isolation

An important aspect of the training is breaking the isolated lives our participants have gotten into. Suicidal patients retrieve, isolate themselves and break off existing social connections (associations and club life, family, friends). This is one of the reasons why we choose for a group-based intervention: people are invited to talk about their suicidal tendencies with others who recognize and validate. Most of the times suicidal thinking is only a topic during a crisis situation, and never afterwards. Participants are also reserved because they do not want to bother other people with their suicidality. In the training we try to normalize talking about suicidal ideas, particularly when the stress is not that high. We do however discourage sharing negative experiences or emotions. It is a supportive working group with like-minded peers. In order to make suicidal thinking a subject of discussion aside from the training, we stimulate participants to find an external coach, someone from their own network with whom they dare to talk about suicidal thoughts. But also someone who will support them in their plan of work. A partner, a friend, or possibly a therapist. This is also the place to make the general information we give about suicidality more personal, because we hardly do this during the training. In the ten sessions the topics are being discussed mostly in an educational way. During these sessions we promote a work attitude more than a sharing attitude. Of course we do talk about what participants recognize, but mostly in an intellectual, learning way, without sharing their feelings.

Although most participants initially state they have no one to ask, most of them eventually find an external coach. When they want to, they can bring their coach to one of the regular training sessions, to listen and possibly share some own experiences. This turns out to be both supportive and normalizing.

Other topics

In order to better understand suicidality and better gain control over it, we discuss several other matters during the future oriented training related to suicide. For instance characteristics we frequently see in suicidal individuals, like perfectionism and fear of failure. The idea that others hold strong expectancies that you cannot fulfil.

We discuss passivity and avoidance. And we talk about change and how difficult it is, to let go of what have become certainties about oneself and others, about life and what to expect from it.

We furthermore pay attention to the risks of loss of self-control, for instance due to alcohol or prescribed calming medication. We refer to specialized institutions for treatment of addictions when appropriate. And we discuss how participants can protect themselves from stimuli that trigger their suicidality, like websites and chat-rooms. In the manual and on the additional website (www.toekomstgerichtetraining.nl) titles of books and useful websites can be found (for example www.113online.nl).

CONCLUSION

Suicidality is a complex phenomenon, with different manifestations, within very dissimilar human beings. Every generic way of understanding wrongs individual people. Ready with life suicide asks for a different approach than 'cry for help' suicide. Many aspects of suicidality can be better understood in terms of temporal thinking, particularly the lack of positive future orientation and underlying mechanisms, like worrying.

Not much is known about the role of time in health care and how we can aid people to change their ideas about it. Can we recreate time and future into a source of new possibilities, instead of Primo Levi's 'valueless and superfluous material'? Can we help suicidal patients to create hope, by imagining possible positive outcomes and how to work towards them? Future oriented training is not an answer for every case of suicidality, but an element in a broader treatment of a complex psychiatric and existential problem. If there is no hope, maybe together we can create some.

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Chapter 5

Time Perspective, personality and psychopathology: Zimbardo's Time perspective inventory in psychiatry

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ABSTRACT

Time perspective theory assumes that behaviour is influenced by how individuals link their behaviour to their past, present and future. This chapter explores the concept of time perspective (Zimbardo & Boyd, 1999) within a psychiatric context. We compared 76 individuals, in treatment ($n = 32$) with participants not in treatment ($n = 44$). The participants completed the time perspective questionnaire ZTPI, the NEO-PI-R (personality traits), an instrument to measure personality problems SIPP-118 and the BDI-II (depression). We found correlations between measures of psychopathology and Past Positive, Past Negative and Present Fatalistic time perspectives. Particularly Past Negative appeared to be indicative for psychiatric problems.

INTRODUCTION

There is growing knowledge of the application of time perspective theory in many health care settings (Apostolidis et al., 2006; Hamilton et al., 2003; Hodgins & Engel, 2002; Keough et al., 2001), but research in clinical psychology and psychiatry is sparse. The first paper to focus on the role of time perspective in suicidality was published recently (Laghi et al., 2009). The goal of our study is to further explore the concept time perspective in a clinical psychiatric context.

Zimbardo and Boyd (1999: 1271) consider time perspective to be “the often unconscious process whereby the continual flows of personal and social experiences are assigned to temporal categories, or time frames, that help to give order, coherence and meaning to those events”. Time perspective is rooted in a personal sense of continuity and coherence. Our Self is constructed by the way we align experiences along our psychological time line (Shmotkin & Eyal, 2003). Nobel prize winner Gerald Edelman (1992) described this eloquently: “the concept of personal self necessarily assumes the ability to model the future as well as the past into some correlated scene”. According to time perspective theory, time plays an important role in the way people give meaning to separate manifestations, in order to construct coherence and continuity.

Time perspective is a measure of how the three time frames of past, present and future influence one's behaviour and how one adapts to changes. Preoccupation with a specific time frame, or the lack of attention for a time frame, appears to be related to a diminished adaptive functioning. Several authors have presumed a relationship between healthy psychological functioning and time perspective (e.g., Holman & Silver, 1998; Kruger et al., 2008). Boyd and Zimbardo (2005) postulate that there exists a healthy balance between orientation on the past, the present and the future. This balance could reflect one's capabilities to learn from the past, to adapt in the present and to prepare for and engage in goal-oriented behaviour in the future.

Time perspective may be related to clinical psychology and psychiatry, and lack of historicity and continuity is regarded as a core feature of personality pathology (Livesley, 2003) and has been linked to depression and suicidality. According to Yufit (1977) suicide is in large part an outcome of distortions of someone's time perspective. Loss of continuity, lack of ideas about the future or being cut off from their past, appear to cause the psychological pain people want to escape from. The hopelessness in depressed suicidal patients appears to consist of two factors: preoccupation with the negative past and a lack of a positive future. MacLeod and colleagues have tested this hypothesis in different populations. As MacLeod et al. (1993, 1997) found on several occasions, parasuicidal people are impaired in their ability to generate positive future thoughts. MacLeod et al. (1998) have shown that a lack of positive anticipation about the future relates to self-reported hopelessness and distinguishes parasuicidal from non-parasuicidal groups.

In order to empirically test associations between time perspective, personality and psychopathology, we compared a group of patients in treatment in a mental health institute and a healthy control group, using time perspective along with several psychological measures. Our first hypothesis was that people scoring higher on the Past Negative subscale time perspective would be more vulnerable for stress and general psychiatric symptoms, like anxiety and depression (Boyd & Zimbardo, 2005). Our second hypothesis was that Past Negative time perspective would be correlated with more personality psychopathology. Our third hypothesis was that people that lack of Future orientation would be associated with depression and suicidal ideation. Our fourth hypothesis was to find positive correlations between Past Negative and Neuroticism and Conscientiousness and Future. The fifth and last hypothesis was that we would find differences between patients and healthy controls on the ZTPI scales Past Negative and Future, the NEO-PI scales Neuroticism and Conscientiousness, on all the SIPP-118 scales and on the BDI-II.

METHOD

Participants and Procedure

The sample ($N = 76$) included a heterogeneous group of patients ($n = 32$) and a control sample of participants currently not in treatment ($n = 44$). The mean age was 31 years ($SD = 11.5$ yrs), 40 percent were male and 60 percent female. One part of the sample consisted of patients who applied for clinical treatment for personality problems. The data in this group were collected as part of the regular diagnostic workup, and the participants agreed to filling in additional surveys. The second group is a convenience sample. All participants signed an informed consent form.

Instruments

Zimbardo's Time Perspective Inventory (ZTPI; Zimbardo & Boyd, 1999) is composed of 56 items. People indicate on a 5-point Likert scale to what extent a statement applies to them. The ZTPI consist of five factors: Past Negative (1), a generally negative, aversive view of the past; Present Hedonistic (2), reflects a hedonistic, enjoyment and pleasure centered, risk- taking 'devil may care' attitude towards time and life. The Future scale (3) measures a general future orientation, planning for and achievement of future goals. Often at the expense of present enjoyment, delaying gratification and avoiding time-wasting temptations. The Past Positive scale (4) reflects a warm, sentimental, positive attitude toward the past. Focusing on family, traditions, continuity of self over time and a focus on history. Present Fatalistic (5) measures a fatalistic, helpless and hopeless attitude towards the future and life, with a belief that the future is predestined and uninfluenced by individual actions.

The NEO-Personality Inventory (NEO-PI-R; Costa & McCrae, 1992) is a widely used 240-items operationalization of the Five Factor Model of personality. Respondents indicate their level of agreement with each of the statements on a 5-point scale. Items map onto the five domain scales, each of which is subdivided into six facets. Those dimensions are Neuroticism (proneness to psychological distress), Extraversion (quality and intensity of energy directed towards the social world), Openness (seeking and appreciating experiences), Agreeableness (the tendency to be pleasant and

accommodating in social situations), and Conscientiousness (degree of organization, persistence, control and motivation in goal-directed behaviour). Costa and McCrae (1992) report extensive reliability and validity data on the NEO-PI-R.

Severity Indices for Personality Problems (SIPP-118; Verheul et al., 2008) is a self-report questionnaire, consisting of 118 items, measuring the core components of (mal) adaptive personality functioning. The time frame of the questions is the last three months. The response format of each item is on a 4-point Likert scale. Research by Verheul et al. (2008) revealed five higher order domains: Self Control, Identity Integration, Responsibility, Relational Capacities and Social Concordance. Self-control refers to the capacity to tolerate, use and control one's emotions and impulses. Identity Integration measures the capacity to see oneself and one's own life as stable, integrated and purposive. Responsibility is about goal setting and achieving those goals in line with the expectations one generated in others. Relational Capacities refer to the ability to care for others, communicate with others, and the ability to see some of those contacts in the context of a long-term relationship. Social Concordance measures the ability to value someone's identity, withhold aggressive impulses towards others and to work together with them.

The Beck Depression Inventory-II (BDI-II; Beck et al., 1996) is a 21-item self-report instrument developed to measure severity of depression in adults and adolescents. Higher scores represent greater depression severity (range 0–63), and minimal, mild, moderate and severe symptom severity ranges have been specified. Item 9 of the BDI-II is used as a measure of suicidality.

Data analysis

We calculated bivariate Pearson correlation coefficients between the sub-scales of the instruments. Because the data were not normally distributed we did Mann-Whitney tests in order to determine differences between the two groups (patients versus people currently not in treatment).

RESULTS

The first three hypotheses

We present a summary of our findings by combining the first three hypotheses. Because we want to highlight the role of time perspective, we relate the findings to the scales of the ZTPI. In Table 1 we present the relationship between time orientation, measured with the ZTPI, and personality characteristics measured with the NEO-PI-R, in the whole sample ($N = 76$). In our first hypothesis we expected Past Negative oriented to be more vulnerable for stress and general psychiatric symptoms. Our second hypothesis was that Past Negative time perspective would be correlated with more personality psychopathology, and our third hypothesis was that people that lack Future orientation would be associated with depression and suicidal ideation. Based upon prior research by Zimbardo and Boyd (1999) we expected correlations between Past Negative and Neuroticism, and Conscientiousness and Future on the ZTPI x NEO-PI in our fourth hypothesis.

Table 1

Correlations between ZTPI and NEO-PI scales, whole sample (N=76)

	ZTPI	PastNeg	PastPos	PresFat	PresHed	Future
NEO-PI						
Neuroticism		.78**	-.44**	.48**	-.12	.00
Extraversion		-.68**	.53**	-.33**	.34**	.00
Openness		-.17	.23*	.10	.30**	-.12
Agreeableness		-.20	.17	-.09	-.08	.01
Conscientiousness		-.71**	.48**	-.58**	-.09	.44**

Note. PastNeg = Past Negative, PastPos = Past Positive, PresFat = Present Fatalistic, PresHed = Present Hedonistic

** $p < 0.01$, * $p < 0.05$

Because of the strong correlations between the PastNeg variable and both the SIPP-118 and the BDI-II variables, we further analyzed the data. We calculated partial correlations, controlling for PastNeg. This indicated the weight of PastNeg, because this left only the PastPos x BDI-II variables depression ($r = .36, p = .05$) and suicidality ($r = .37, p < .05$) to be significant. A major part of the variances in PastPos and PresFat can be explained by high scores on PastNeg. This emphasizes the specific importance of PastNeg.

Hypothesis 4

In hypothesis 4 we expected correlations between Past Negative and Neuroticism, and Conscientiousness and Future on the ZTPI x NEO-PI (see Table 2). The Past Negative perspective on the ZTPI correlates high with the NEO-PI scale Neuroticism ($r = .78, p < .001$). These people are worrisome and anxious. Past Negative oriented people are less Extraverted ($r = .68, p < .001$) and less Conscientious ($r = .71, p < .001$), indicating that they are less oriented towards others and less persistent and goal-directed. People who are more focused on Past Positive are less anxious and worrisome (Neuroticism, $r = .44, p < .001$) and more extraverted ($r = .53, p < .001$). They are open for new experiences ($r = .23, p < .05$) and more persistent, controlling and goal directed ($r = .48, p < .001$). Participants scoring high on Present Fatalistic have a tendency to feel helpless and not in control of their lives. They are more neurotic ($r = .48, p < .001$) and less extraverted ($r = .33, p < .001$), and they score lower on Conscientiousness ($r = .58, p < .001$) on the NEO-PI. High Present Hedonistic people, who do not care much about the consequences of their behaviour and enjoy life right now, are directed towards others ($r = .34, p < .005$) and open for new experiences ($r = .30, p < .01$).

Future oriented people tend to score higher on Conscientiousness ($r = .44, p < .001$), indicating that they are more persistent and goal oriented.

Table 2

Correlations between ZTPI, SIPP and the BDI-II, whole sample (N = 76)

	ZTPI	PastNeg	PastPos	PresFat	PresHed	Future
SIPP						
Selfcontrol		-.77**	.45**	-.42**	.01	.15
Identity Integration		-.83**	.48**	-.49**	.12	.09
Responsibility		-.71**	.36**	-.48**	-.18	.27*
Relational Functions		-.69**	.58**	-.33**	.08	.02
Social Concordance		-.52**	.26*	-.28*	-.03	.06
BDI-II total score		.84**	-.64**	.39**	-.24	-.08
BDI-II suicidality		.78**	-.58**	.46**	-.05	-.27*

Note. PastNeg = Past Negative, PastPos = Past Positive, PresFat = Present Fatalistic, PresHed = Present Hedonistic

** $p < .01$, * $p < .05$

Hypothesis 5: Differences between patients and healthy controls

The demographic data were examined to determine whether between-group differences existed, using one-way analysis of variance (ANOVA). This showed no significant differences in either age or gender. Mann-Whitney tests of the differences between the two groups (patients versus people currently not in treatment) revealed significant differences on Past Negative ($Mdn = 2.55$), $U = 111.00$, $p < .001$, Past Positive ($Mdn = 3.33$), $U = 134.00$, $p < .001$, and Present Fatalistic ($Mdn = 2.72$), $U = 384.00$, $p < .001$). These scales discriminate between psychiatric patients and healthy controls, while the others do not. The two groups differed on depression ($Mdn = 5.00$), $U = 25.00$, $p < .001$ and suicidality ($Mdn = .00$), $U = 43.00$, $p < .001$, but also on all of the SIPP-118 ($p < .001$) and most of the NEO-PI scales at a $p < .001$ level, except for Agreeableness ($p < .05$) and Openness (not significant).

DISCUSSION

The main goal of our study was to explore the concept of time perspective within a psychiatric context. In our first hypothesis we expected a relationship between Past Negative and Neuroticism. According to the high correlation we found, this hypothesis can be confirmed. People who have tendency to focus on past experiences have a greater chance of scoring high on Neuroticism. The correlations between high Past Negative orientation on the ZTPI and Neuroticism, low Extraversion, low Conscientiousness on the NEO-PI that we found, as well as the inverse relationships of those scales with Past Positive, confirm what has been reported in prior research (Boyd & Zimbardo, 2005).

One of our most notable findings is probably the strong relation between Past Negative time perspective and the measure of the severity of personality problems that we used. This confirms our second hypothesis. People who are cognitively focused on their past negative experiences have a higher chance of reporting severe personality problems. Or, vice versa, people with more severe personality problems tend to focus on Past Negative experiences. One can assume some causality in both directions. A personality development in which the person keeps focusing on past negative experiences might become disturbed, because there is not enough attention to the integration of constructive or positive experiences. On the other hand, a current failure to function at a healthy level might trigger stored negative material in one's memory. A tendency to keep focusing on Past Negative is closely related to depression (Boyd & Zimbardo, 2005; Lyubomirsky & Nolen-Hoeksema, 1995), and we found a similar relationship. People who are focused on their negative past are more depressed and report more suicidal ideations.

People who are able to focus on pleasant memories, a high Past Positive score, have a higher chance of reporting less personality problems. The relationship between Past Positive time perspective and healthy functioning that we found has been highlighted before (Holman & Zimbardo, 2003). The most obvious reason might be that psychiatric patients have less positive memories because of their life histories. But it might also reflect a lower capacity in the patients' group to retrieve past positive memories. We know that negative memories are more accessible (Williams & Broadbent, 1986), and that one's current mood influences the retrieval of positive

memories (Clark & Teasdale, 1982).

Present Fatalistic people, who tend to think their present life is dictated by fate and feel helpless report more psychopathology. Zimbardo and Boyd (1999) demonstrate that Past Negative and Present Fatalistic perspectives are associated with strong feelings of depression, anxiety, anger and aggression. We found higher Present Fatalistic scores to be associated with less extraversion, consciousness and higher neuroticism. In line with the findings by Laghi et al. (2009), a high Present Fatalistic is related to an increased risk of suicide ideation.

People who are less Future oriented have a higher risk of being suicidal. Or perhaps the other way around, as we know from the connection between future thinking, hopelessness and suicidality. As Boniwell and Zimbardo (2003) point out, being too future oriented sometimes implies an inability to 'switch off', to relax, to let go. Anxious and depressed patients are preoccupied with their futures, but not in the same way as goal-oriented people are. We know from earlier research that we can presume that depressed people are 'future negative' oriented (Lavender & Watkins, 2004), and suicidal people score low on 'future positive', as MacLeod and his colleagues pointed out. Suicidal patients lack the ability to envision a positive future and a high tendency to positive future thinking seems to be protective against suicide. These people are less future oriented, but the relationship between suicidality and the Future scale of the ZPTI is unclear, because the ZPTI does not differentiate between a positive and a negative orientation towards the Future. More research is needed on the difference between future positive and future negative time perspective in order to increase the usability of such perspectives in clinical settings. The dominant role of Past Negative also influences the relation between Future and suicidality. When we partial out Past Negative, we no longer find a significant correlation.

The non-significant correlations between the ZPTI scale Present Hedonistic and our markers for psychopathology might seem remarkable. People who score high on Present Hedonism are impulsive (Zimbardo & Boyd, 1999), without worries about the consequences of their behaviour. Our findings are in line with Hodgins and Engel (2002), who found no differences between psychiatric patients and social gamblers on Present Hedonism, while their pathological gamblers sample scored significantly higher. Present Hedonism reflects one's capacity to focus on wish fulfilment and

values. Psychiatric patients are no different from people who are not in treatment when it comes to this: they value it and need it.

The findings on our fifth hypothesis, that the instruments we used would discriminate between psychiatric patients and healthy controls, are understandable. All the SIPP-118 scales and the BDI-II (including suicidality) differed between patients and people currently not in treatment. This is understandable, because both instruments were developed for clinical populations.

The role of the ZTPI in clinical psychology and psychopathology is interesting. Especially high Past Negative orientation appears to be a strong indicator of more psychopathology, while Past Positive might be protective against psychopathology. A preoccupation with negative experiences might be a bad indication for psychotherapy or treatment in general (Beiger & Hyman, 1997). On the other hand, a stronger ability and tendency to focus on past positive experiences appears to be correlated with less psychopathology. Consequently, it might be helpful to stimulate patients to stop focusing on their negative memories and aid them to search for positive experiences in their pasts.

Our study is an attempt to integrate knowledge on time perspective, which originates in social psychology, into clinical psychology and psychiatry. Further research on the role of time psychology in maladaptive behaviour is desirable, especially research on healthy profiles and combination of time perspective scale scores (Boyd & Zimbardo, 2005; Zimbardo & Boyd, 2008). Zimbardo, Keough, and Boyd (1997) consider time perspective to be a trait-like construct, but further longitudinal research on the stability and changeability of time perspective is needed. Furthermore, knowledge on the changeability of temporal preoccupation, for instance the magnitude of Past Negative orientation, might be indicative for psychological treatment outcome. And therapy might need to emphasize positive aspects of one's past. As Zimbardo and Boyd (2008) clearly put it: you cannot change your past, but you can change your attitudes towards it. And learn to focus on the positive future, we would like to add.

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Chapter 6

*Past, present and future fluency in
depressed suicidal and non-suicidal
patients*

ABSTRACT

Depressed patients (N = 207) filled out questionnaires on depression, hopelessness, worrying, and did a fluency task asking them to generate verbal material regarding the past, present and future.

Suicidal patients generated less positive future material and more present negative information. They were more depressed, hopeless and worried, but they were not stronger convinced their predictions will come true. Suicidal ideation was mostly explained by depression (30%) and hopelessness (3%). Fluency and worrying did not contribute. Severely depressed patients stronger expected their futures to be influenced by their past.

Focusing on expectations may add to the treatment of depressed suicidal patients.

Keywords: suicidality, future thinking, hopelessness, worrying, depression.

INTRODUCTION

We know from prior research that suicidal patients differ from non-suicidal patients when it comes to future thinking. Research by MacLeod et al. (1993, 1997, 1998, 2005), Hunter and O'Connor (2003), O'Connor, O'Connor, O'Connor, Smallwood, and Miles (2004) showed that suicidal patients generate less positive future oriented verbal material than non-suicidal patients. MacLeod et al. (1993) developed an instrument called the Future Thinking Task (FTT), which aimed to operationalize hopelessness by investigating negative and positive future fluency. Hopelessness was defined as a substantial decrease in positive ideas about the future. This lack of positive future fluency has also been linked to cluster B personality disorders (MacLeod et al., 2004) and subjective well-being (MacLeod & Conway, 2005).

One possible explanation has been discussed by Lavender and Watkins (2004), who demonstrated that worrying had a significant effect on future thinking in depressed patients. Depressed participants with higher worry scores were able to generate both higher negative future and positive future scores on the FTT. Worrying in depressed patients appears to prime them on self-related information, either positive or negative, according to Lavender and Watkins. This assumption is supported by Andersen and Limpert (2001), who found depressed patients to worry about the future, based upon a recent distressing life event. They suggest that future-event schemas among people with moderate depression enables relatively effortless future-event predictions. This automaticity was hardly found in severe depressed patients. It seems that mildly depressed patients simply 'know' what will happen in the future, without thinking too much about it. These, mostly negative, images of the future come into mind automatically and repetitively and they impede positive predictions.

Prior research has shown that depressed patients are stronger convinced that their predictions are accurate than non-depressed individuals, while they actually are less accurate (Dunning, Perie, & Story, 1991). Negative memories are easier accessible (Williams & Broadbent, 1996) and classic studies (Tversky & Kahneman, 1973; Kahneman & Tversky, 1982) show that easily accessible alternatives are judged to be

more probable. We know that depressed patients show a pessimistic bias in making predictions about the outcomes of future life events by over-predicting that undesirable events would happen to them and under-predicting that desirable events would happen to them (Strunk, Lopez, & DeRubeis, 2006; Strunk & Adler, 2009). When depressed patients differ from non-depressed patients, would this imply that suicidal patients are even more convinced of their predictions than non-suicidal patients because they feel even more depressed?

Decreased positive future thinking in suicidal individuals has become a well-established phenomenon, but it has hardly been investigated what the differences are between suicidal and non-suicidal patients in thinking about the past or about the present. Is the content of the suicidal mind stronger affected by negatively laden material than in non-suicidal patients? In this study we focus on verbal fluency in a broader sense. We distinguish between three time zones (past, present and future), and participants are asked to generate as many positive and negative words that come to mind when they think about these time zones.

Our first research question is whether suicidal patients generate different material than non-suicidal patients on a fluency task. Particularly the addition of the past and the present time zone could help further understanding suicidal thinking. Secondly, we want to know what temporal fluency adds to the prediction of suicidal ideation, next to worrying, depression and hopelessness. Our third research question was whether suicidal patients think the information they generate is more important than to non-suicidal patients. And are suicidal patients are more convinced that their predications will become reality in the future? We also want to know whether mildly depressed patients are more convinced of the predictive value of their future related thoughts than highly depressed patients (research question 4).

METHOD

Procedures and sample

The study was cross-sectional in design. All participants were underwent treatment for psychiatric problems, either ambulatory or clinical, in two mental health care institutions in The Netherlands. The majority of the participants was contacted after their initial assessment, based on their diagnostic workup. A smaller sample was recruited from the existing pool of patients already in treatment, who were referred to the programme because of the presence of suicidal ideation. Both in-patients and outpatients were included. The study was open for patients with suicidal ideation, irrespective of the severity of their suicidal thoughts or behaviour. Patients in an acute manic or psychotic state, and those who sought treatment primarily because of drugs problems were excluded. Participants were required to speak and read Dutch sufficiently to take part in the study. After both patient and therapist agreed on taking part in the project, the participant was invited to partake. They were informed about the project and signed an informed consent form.

The sample consisted of 207 participants, who at the time of the study were in treatment (either outpatient or inpatient) in one of the three participating general mental health centres, located in The Netherlands. The mean age was 42 years ($SD = 11.74$ years). About 59% of the participants was female and 41% male. Ten percent of the participants was educated at a low (elementary) level, 45% at a medium (high school) level, and about 45% was higher (tertiary) educated. The majority of the participants (89%) were diagnosed with a comorbid axis II disorder (mainly personality disorder not otherwise specified, or borderline personality disorder). There were 109 suicidal ($SSI > 0$) and 96 non-suicidal ($SSI = 0$) patients included in this study. We consider this to be a representational sample of patients.

Materials

With the Scale for Suicide Ideation (SSI; Beck, Kovacs, & Weissman, 1979) we assessed the presence and the level of suicide ideation. The SSI is a 19-item,

clinician-administered semi-structured interview which has demonstrated high reliability, with an internal-consistency coefficient (Cronbach's alpha) of .89, and a reported interrater reliability coefficient of .83.

Hopelessness. Hopelessness was measured with Beck's Hopelessness Scale (BHS; Beck & Steer, 1999), a 20-item measure pertaining to the global experience of hopelessness, modified from a simple True/False format to a 5-point Likert-style rating system. It has a strong internal consistency (.81 to .90 in different studies).

Time Fluency. We adapted MacLeod's Future Thinking Task (FTT, MacLeod et al., 1998) to investigate possible relationships between information from other time zones (the past and the present) and suicidal ideation. Both the FTT and our TFT are verbal fluency tasks, asking participants to report what comes into mind after a directive is provided (e.g., "Can you tell me what comes into your mind when you think about a positive future?"). After finishing this, participants were asked to (1) rate the emotional significance of the separate events and (2) rate the influence of the generated past and the present material on their personal futures (e.g., "You told me about that you were mistreated, how will this affect your future?" – rated on a 7 point Likert scale). After the participants generated future related words, we asked them to rate the likelihood that it will actually happen, again on a 7 point Likert scale. Final scores were sums for every time zone (fluency), or means (emotional significance, influence on the future and likelihood).

Depression. The Beck Depression Inventory (BDI-II; Beck, Steer, & Brown, 1996) is a self-administered 21 item self-report scale measuring supposed manifestations of depression. The BDI-II takes approximately 10 minutes to complete. Internal consistency for the BDI-II ranges from .73 to .92 with a mean of .86. The BDI-II has a split-half reliability co-efficient of .93. BDI-II question 9 is a four item scale measuring suicidal ideation. This single item correlates high with the SSI ($r = .56 - .58$; Beck & Steer, 1991).

Worrying. The 16 item Pennsylvania State Worrying Questionnaire (PSWQ; Meyer, Miller, Metzger, & Borkovec, 1990) was used to assess worrying. Participants respond to each item using a Likert scale ranging from 1 = "not at all typical" to 5 = "very typical." Good test-retest reliability (between .74 and .92), internal consistency

(Chronbach alpha between .86 and .95) and validity have been reported (Meyer et al., 1990; Molina & Borkovec, 1994). Responses to each item are summed to produce a total PSWQ score with higher scores indicating more worrying.

Data analysis

For our first research question we conducted t-tests, to determine whether suicidal patients differed from non-suicidal patients on temporal fluency, depression and worrying and to investigate gender interactions. To investigate the effect of temporal fluency on suicidal ideation (research question 2), stepwise multivariate regression analysis was used to calculate the contribution of the relevant variables on suicidal ideation (time fluency, depression, hopelessness, worrying). To determine the relevance of the different future time zones (short term, near future, long term) on the total future score, we conducted multiple regression analysis. We used between groups t-tests in order to calculate the difference between the suicidal and non-suicidal groups on the likelihood, emotional significance and the expected influence of prior or current experiences on the future (our fourth research question).

RESULTS

Research question 1: Do suicidal patients differ from non-suicidal patients on temporal fluency, depression, hopelessness and worrying?

Patients in the suicidal group scored 17.10 on the SSI ($SD = 6.72$). We found suicidal patients to be more depressed than non-suicidal patients ($F(1, 204) = 2.074, p < .001$) and to worry more than non-suicidal patients ($F(1, 204) = 1.865, p < .001$). No gender effect was found.

The difference between suicidal and non-suicidal patients on future fluency (sum of next week + next year + next 5-10 years) was significant. Furthermore, other differences between suicidal and non-suicidal patients were found (table 1). Particularly interesting is the difference on present positive fluency ($F(1, 294) = 4.83, p$

= .024). Suicidal patients generate fewer words when they think about what is positive in the present. The findings that suicidal patients score higher on hopelessness, depression and worrying were as expected.

Table 1

Mean scores and differences of suicidal and non-suicidal depressed patients on time fluency, hopelessness, depression and worrying; measurement 1, ANOVAs

	suicidal	non-suicidal	<i>F</i>	<i>p</i>
	<i>n</i> = 109	<i>n</i> = 96		
negative past fluency	5.09	5.41	0.01	.79
positive past fluency	5.53	5.62	0.39	.98
negative present fluency	4.32	3.93	0.94	.17
positive present fluency	4.08	4.83	3.16	.02*
negative future fluency	8.83	8.81	0.03	.98
positive future fluency	10.00	12.07	1.37	.004**
hopelessness	14.31	8.60	21.22	.001***
depression	38.22	24.40	2.07	.001***
worrying	63.52	55.88	1.87	.001***

Note. Negative future and positive future scores are sums of scores on the three categories (next week, next year, next 5-10 years).

* $p < .05$, ** $p < .005$, *** $p < .001$.

Research question 2: What does temporal fluency add to the prediction of suicidal ideation, next to depression and hopelessness? Is there a difference between the immediate future, the near future and the longer-term future?

In order to find the influences of these different variables on suicidal ideation, we entered depression, hopelessness, worrying, positive present fluency and positive future fluency into a stepwise multiple regression analysis, with suicidal ideation as the dependent variable. This five variable regression model accounted for 34% of the suicidal ideation variance ($R^2 = .34$). Depression accounted for 30% of the variance in suicidal ideation (R^2 change = .30), while hopelessness explained a further 3% (R^2 change = .03). Neither positive future fluency, positive present, nor worrying contributed significantly to the variance in the suicidal ideation score. We did not find an interaction effect (depression x positive future thinking, $b = -.232$, $p = .71$), but depression has a significant mediating effect on the relationship between suicidal ideation and both positive present fluency ($t = -3.26$, $p < .001$) and positive future fluency ($t = -3.75$, $p < .001$) on Sobel tests. So depression mediates the already small effect of positive present fluency and positive future fluency on suicidal ideation.

Table 2

Differences between suicidal and non-suicidal participants in the positive expectations of immediate future, near future and longer-term future fluency on the TFT, multiple regression analysis

Positive future	suicidal	non-suicidal	F	p
	$n = 109$	$n = 96$		
next week	3.98	5.16	4.55	.028*
next year	3.95	4.75	1.02	.008*
next 5-10 year	3.54	4.31	0.75	.013*

* $p < .05$

When we have a more detailed look at the future scores (table 2), we can differentiate between what is expected next week (immediate future), next year (near future) and next 5-10 years (longer term future). Stepwise regression analysis revealed that all these three factors contributed significantly to the variance in positive future fluency, in total explaining 80% of the variance, with next year explaining 65% ($R^2_{\text{change}} = .65$). So when patients think about the positive future, their ideas about what might happen next year are most illustrative.

Research question 3: Do suicidal patients think the information they come up with is more important than to non-suicidal patients. And are suicidal patients more convinced that their predications will become reality in the future?

We asked the participants to rate the likelihood of their predictions of possible future events, on a 7 point Liker scale (e.g., “I will find a partner again”, how likely is it that this will happen, on a 7 point scale?). We used the sum of the likelihood scores on both the positive and negative future predictions as the indicator of likelihood. Suicidal patients scored 25.09 ($SD = 5.168$), while non-suicidal participants scored 24.21 ($SD = 5.90$). The differences were not significant ($F(1, 190) = 0.47, p = .28$).

We did the same for emotional significance. We asked the participants how important the verbal material they generated about the past and present was, or would be if their predictions would become true. The sum of these scores was used as an indication of the emotional significance. Suicidal participants scored 47.82 ($SD = 7.39$), while non-suicidal participants scored 47.06 ($SD = 5.46$). No significant differences between suicidal and non-suicidal patients were found ($F(1, 188) = 0.40, p = .42$).

Another question was how the participants felt the material they generated about the past and the present would influence their futures (e.g., “You told me you lost your job, how will this affect your future?”). Again, no significant differences between suicidal participants ($M = 22.30, SD = 3.12$) and non-suicidal patients ($M = 20.72, SD = 3.94$) were found ($F(1, 200) = 2.16, p = .497$).

Research question 4: differences between mild to moderate and severe depression on probability, significance and expected influence.

We divided the depression scores in our sample into two groups, based upon the distribution by the original authors of the BDI-II (Beck, Steer, Ball, & Ranieri, 1996). The sample is split in a group of patients with a mild to moderate depression (range 14-28) and a group with severe depression (29–63).

Our data show that mild to moderate depressed patients do not differ from severely depressed patients when it comes to how probable they estimate their predictions. They are not stronger convinced of the truth of their estimations. We also found no differences on how emotionally significant they rate the information they retrieved on the fluency test. There is a significant difference between these two groups on the expected influence of the information they verbalized: severely depressed patients rate the retrieved material to be more influential on their futures than mild to moderate depressed participants.

Table 3

Differences between mildly and severely depressed suicidal patients in probability, significance and expected influence, ANOVAs

	mild to moderate	severe depression	<i>F</i>	<i>p</i>
	<i>n</i> = 94	<i>n</i> = 98		
probability	24.52	24.84	0.241	.624
significance	48.25	46.72	0.089	.767
influence	20.89	22.16	4.159	.043*

**p* < .05

Note. Probability: how probable is it that my predictions become true (Likert scale 1-7; 6 times rated)? Significance: how emotionally significant is what comes into my mind

(Likert scale 1-7; 10 times rated)? Influence: will prior experiences influence my future (Likert scale 1-7; 4 times rated)?

DISCUSSION

While prior research demonstrated the significance of lower scores of positive future thinking in suicidal patients, compared to non-suicidal patients, our findings further add the importance of lower positive present scores in suicidal patients. Suicidal patients have difficulties generating positive future verbal material and positive present material. “They show a startling lack of ability to project or imagine themselves into the future”, as Charles Neuringer put it (cited in Ellis, 2006, p.17), probably because they don’t have the mental images or language to do so. It is important that these prior findings were replicated in a Dutch sample, to further support the role of limited positive future thinking in suicidal thinking. Our data show there is not more negative information on their minds, but that less positive verbal material distinguishes suicidal patients from non-suicidal patients.

How can we understand these findings? It is assumed that semantic fluency tests like our TFT tap from autobiographical memory, and that abnormalities in the number and types of items produced reveal abnormalities in the storage and retrieval of categorical semantic information (Wood, Allen, & Pantelis, 2009). Furthermore, ever since the research by Williams and Broadbent (1986) we know that suicidal patients show reduced biographical memory specificity. The specificity of recall of autobiographical material differs in groups of depressed (Williams & Pollock, 2001), repeated self-harming patients (O’Connor, Fraser, Whyte, MacHale, & Masterton, 2008) and possibly in schizophrenic patients (D’Argembeau, 2008). This inability to differentiate negative from positive situations might also affect present positive thinking in suicidal patients. We found that depressed suicidal patients express less positivity than depressed non-suicidal patients. Furthermore, our findings show that they are focused more on repetitive automatic negative information and worrying, as can be inferred from the differences in worrying (PSWQ scores). Our data show that the increased level of negative information about the present whirls around the suicidal mind, as prior research on the role of rumination and worrying indicated. This is in accordance

with what Williams, Segal, and Teasdale (2001) describe as 'constricted mind space' (p.122), the available capacity in one's psyche to process information that is not consistent with the dominant (negative) information.

Neither the decrease of positive present information, nor of positive future information contributes to the prediction of suicidal ideation in our multivariate model. Depression is a far more substantial factor. But the differences in positive present and future thinking do have some important implication for therapy. In treatment we may focus on helping patients to imagine and verbalize possible positive future scenarios better and to reinforce positive present thinking. Subsequently, the automatic cognitive interpretations of future scenarios and the lack of positive expectations can be addressed. The effectiveness of this strategy has yet to be demonstrated. This is what we do in our Future Oriented Group Training for suicidal patients (Van Beek, Kerkhof, & Beekman, 2009).

Prior research demonstrated that depressed patients make higher estimates of the likelihood that negative events will happen to them (Kaney et al., 1997) and lower estimates of the likelihood that positive future events will occur (Andersen et al., 1992). According to Anderson and Limpert (2001) the automaticity in milder depressed patients causes them to think they 'know' what will happen in the future, stronger than severely depressed patients. We did not find a comparable effect in our sample. Our data show no differences between suicidal and non-suicidal patients on how they estimate the likelihood of their predictions (will they come true?), the emotional significance of the information they generated (how important is what has happened, what is happening and what will happen?), and the influence they ascribed to the generated words on their futures. Nor did we find differences between mildly to moderately depressed patients and severely depressed patients, apart from a small but yet significant difference on the predicted influence on the future of what has happened in the past, or is happening in the present.

Limitations

The strength of our research is the sample size of clinical patients. We furthermore think that the additional questions about the two other time zones, and about the importance of the generated material, help us to further understand suicidal thinking.

Time fluency is associated with information that is stored in one's autobiographical memory. We postulate that time fluency represents the content in a hypothetical information-processing model of temporal thinking in suicidal patients. The individual processing style, the way this information is consciously or unconsciously translated into thoughts that can be verbalized, refers to underlying schemas that automate this process, comparable to what Andersen and Limpert (2001) found in their research on rumination in suicidal thinking. This cognitive tendency seems to impair the accessibility of representation of future positive outcomes (e.g., MacLeod, Pankhania, Lee, & Mitchell, 1997). Future research could elaborate on these mechanisms that make a positive future inaccessible.

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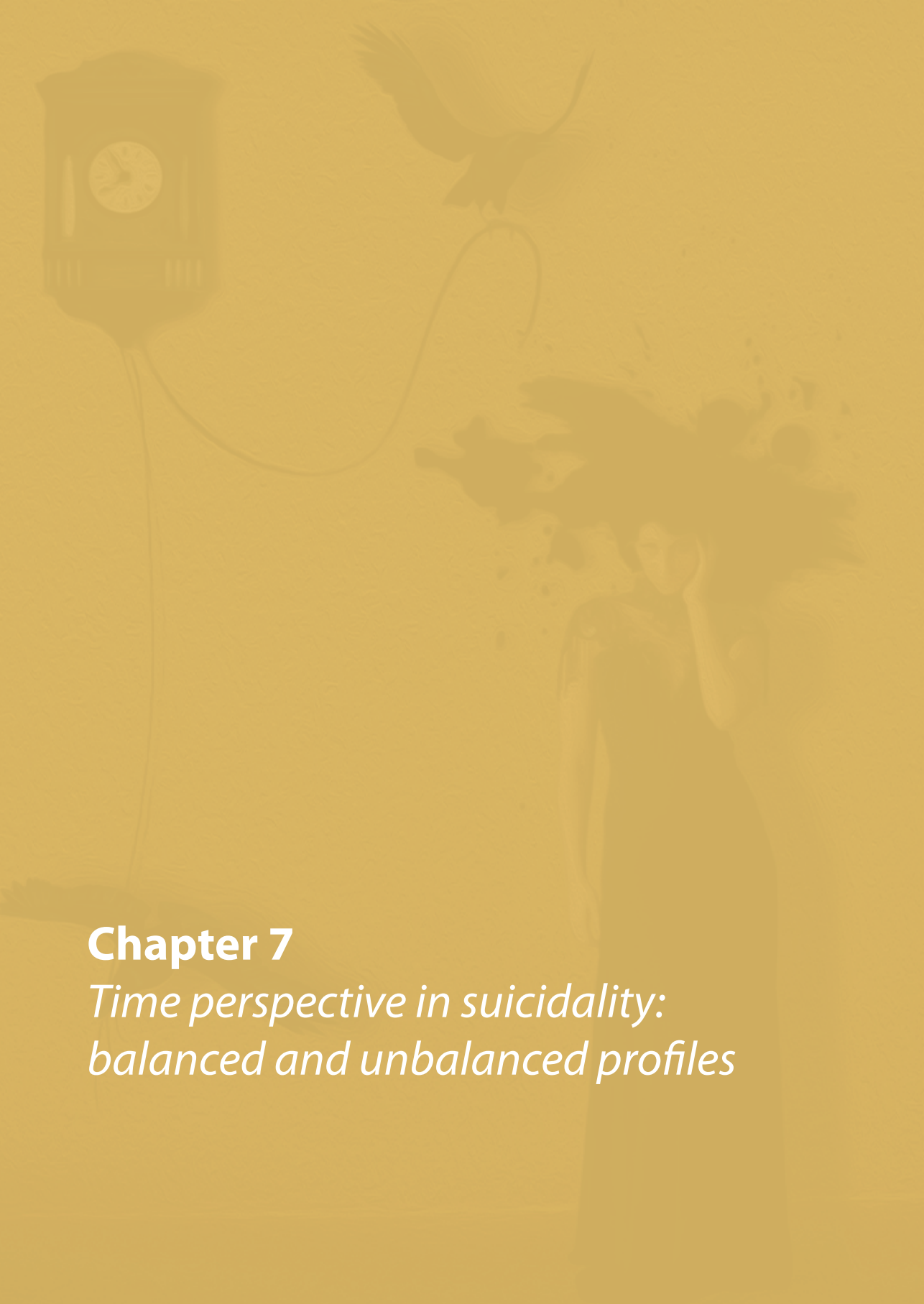
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Chapter 7

*Time perspective in suicidality:
balanced and unbalanced profiles*

Manuscript submitted for publication in *Crisis*

ABSTRACT

Background: Prior research has highlighted the role of future thinking in suicidality. In this chapter we discuss how time perspective theory can help understand suicidal future thinking.

Aim: Our goal was to identify time perspective profiles associated risk of suicidal ideation. Furthermore we wanted to find out how temporally stable time perspective is in a clinical population of suicidal patients.

Method: In a repeated measurement design 207 patients with a mood disorder filled out questionnaires on: time perspective, transcendental future, suicidal ideation, depression, and quality of life.

Results: People with more negative memories, a higher fatalistic view on the present, and more focused on life after death, have a higher chance of having suicidal thoughts. The combination of less focused on negative memories, more on positive memories and less fatalistic views of the present appears to be associated with suicidal ideations.

Conclusions: Time perspective is a helpful concept both in our understanding of suicidal ideation and in therapy for suicidal patients. Practical implications are discussed.

Keywords: suicide, depression, time perspective, quality of life, balanced time profile

INTRODUCTION

Suicidal patients have a specific relationship with time. They feel hopeless about the future, and prior research shows that these patients are less able to generate positive ideas about that future (e.g., MacLeod et al., 1993; Van Beek, Beekman, & Kerkhof, 2011). In this chapter we focus on how suicidal patients are affected by the ways they think about the past, the present and the future. We know that people, in general, do not think about their behaviour and experiences as separate manifestations in time, but that they expect interrelatedness between their past, present and future. And people appear to differ in the way they are personally related to these time frames, so called time perspectives. Zimbardo and Boyd (1999) consider a time perspective to be “the often unconscious process whereby the continual flows of personal and social experiences are assigned to temporal categories, or time frames, that help to give order, coherence and meaning to those events” (p.1271). Time perspective refers to the way we relate our experiences to our personal time line, our personal history.

Zimbardo and Boyd (1999) developed an instrument to measure time perspective: the Zimbardo Time Perspective Inventory (ZTPI), based upon factor analysis of a large pool of items related to time and behaviour. The analysis distinguished five major factors, leading to five scales: Past Negative, Past Positive, Present Hedonistic, Present Fatalistic and Future. There is a wide range of research on the relationship between time perspective and health related measures (e.g., Zimbardo & Boyd, 2008; Van Beek, Berghuis, Kerkhof & Beekman, 2011). In their 1997 article Boyd and Zimbardo extend their original work on time perspective with an even further timeframe, which they call transcendental future. They acknowledge that some people are highly motivated by life after death, either because of their religion or their life orientation. Transcendental time is thought to represent an independent factor in one's time perspective. Zimbardo and Boyd (2008) discussed it together with the five other time perspective scales by, but transcendental future is not a ZTPI subscale.

Balanced time perspective

In their theory Zimbardo and Boyd (1999) focus on the different aspects that constitute one's time perspective, and they hypothesize about achieving what they call a balanced time perspective. The authors consider specific combinations of scale scores to be central to optimal functioning. According to Zimbardo (2002), in this balanced time perspective 'the past, present and future components blend and flexibly engage, depending on a situation's demands and our needs and values' (p.62). A balanced time perspective allows the individual to shift between time perspectives, depending on the situation. Based upon prior findings on the correlations between the ZTPI scales and measures of well-being, a balanced time perspective can be hypothetically defined as a combination of high scores on Past-Positive, Present-Hedonistic and Future scales in conjunction with low scores on the Past-Negative and Present-Fatalistic scales (Boniwell & Zimbardo, 2004; Boyd & Zimbardo, 2005). Drake, Duncan, Abernethy and Henry (2008) investigated the relationship between the five ZTPI scales and subjective happiness and calculated balanced time perspective by dividing the scores of each of the five factors in groups, based upon 33rd and 66th percentiles. This led to a division in low, moderate and high scores. This method was repeated and refined by Boniwell, Osin, Linley, and Ivanchenko (2010), who used both this cut-off approach and a method in which they distinguished groups of individuals exhibiting certain patterns within the sample. These authors used hierarchical cluster analysis and discriminated five different time perspective patterns. The cluster with above average scores on future thinking and past positive, below average on present hedonistic, and low scores on past negative and present fatalistic corresponded best with the theory about balanced time perspectives and showed to have the highest correlations with well-being. In our study we use quality of life as an indicator of well-being, in order to be able to compare our results with prior studies. Because depression, hopelessness and suicidal thinking are closely related, we include depression as a variable as well.

In this chapter we investigate four major research questions: (1) is there a difference between suicidal and non-suicidal patients in terms of time perspective? Can we discriminate a specific role for Transcendental Future thinking (2), can we distinguish

combinations of time perspective scale scores which are indicative for heightened suicide of suicidal thinking (3), and (4) how stable is time perspective over time?

METHOD

Participants and procedures

This study was conducted in the context of a randomized controlled trial on the effectiveness of an intervention for suicidal patients we developed (Van Beek, Kerkhof & Beekman, 2009). To investigate the temporal stability of time perspective participants were approached three times: an initial assessment, an assessment after three months and one after 12 months.

Our aim was to be able to compare the time perspective profiles reported by patients who vary in their level of suicidality. We therefore chose to recruit patients referred for the treatment of affective. We included 207 patients from three different general mental health care institutions in The Netherlands. There were two streams of participants: the suicidal patients were recruited from our experimental intervention, the non-suicidal participants were recruited amongst patients currently treated in the mental health centre. We used a SSI cut-off score of 1, to include patients with both active and passive suicidal tendencies. We excluded patients with primary alcohol or drugs problems or patients who could not speak, read and write Dutch. This implied that our sample could be regarded to be characteristic for the population of depressed patients in treatment. All participants signed an informed consent form. The Dutch ethics committee METiGG approved the study.

Sample

The mean age was 42 years ($SD = 11.74$ years). About 59% of the participants were female and 41% male. Ten percent of the participants were educated at a low (elementary) level, 45% at a medium (high school) level and about 45% was higher (tertiary) educated. All patients had a mood disorder (as indicated by the attending

mental health care worker) and the majority of the participants (89%) were diagnosed with a comorbid axis II disorder (mainly personality disorder not otherwise specified and borderline personality disorder).

Measures

Suicide ideation. With the Scale for Suicide Ideation (SSI; Beck, Kovacs, & Weissman, 1979) we assessed the presence and the level of suicide ideations. The SSI is a 19-item, clinician-administered semi structured interview that has demonstrated high reliability, with an internal-consistency coefficient (Cronbach's alpha) of .89, and a reported interrater-reliability coefficient of .83.

Depression. The Beck Depression Inventory (BDI-II; Beck, Steer, & Brown, 1996) is a self-administered 21 item self-report scale measuring supposed manifestations of depression. The BDI-II takes approximately 10 minutes to complete. Internal consistency for the BDI-II ranges from .73 to .92 with a mean of .86. The BDI-II has a split-half reliability co-efficient of .93. BDI-II question 9 is a four-item scale measuring suicidal ideation. This single item correlates high with the SSI ($r = .56-.58$; Beck & Steer, 1991).

Time Perspective. The Zimbardo Time Perspective Inventory (ZTPI; Zimbardo & Boyd, 1999) consists of the five factors we discussed in our introduction section: Past Positive, Past Negative, Present Fatalistic, Present Hedonistic and Future. Past-Negative, a generally negative, aversive view of the past. It is associated with being conservative and cautious, scared to change habits. The second scale, Present-Hedonistic, reflects a hedonistic, enjoyment, pleasure, risk taking 'devil may care' attitude toward time and life. Seeking new sensations and thrill seeking. Life is about seeking pleasure and avoiding pain. The Future scale measures a general future orientation, planning for and achievement of future goals. Often at the expense of present enjoyment, delaying gratification and avoiding time-wasting temptations. A downside is minimizing the need for social connections, not taking time for occasional self-indulgence, not being grounded in a sense of community and cultural traditions. The component of Past-Positive reflects a warm, sentimental, positive attitude toward

the past. Focusing on family, traditions, and continuity of self over time and a focus on history. The fifth factor Present-Fatalistic measures a fatalistic, helpless and hopeless attitude toward the future and life, related to an external locus of control. A belief that the future is predestined and uninfluenced by individual actions.

Transcendental Future. The Transcendental Future Time Perspective Inventory (TFTPI) is an additional scale to the ZTPI, introduced by Boyd and Zimbardo (1997). The TFTPI measures ideas about what will happen after death. It is usually applied separately from the ZTPI, but research on the TFTPI is sparse.

Quality of Life. We administered the OQ-45 (Outcome Questionnaire 45) to assess well-being (De Jong, Nugter, Wagenborg, Spinhoven, & Heiser, 2008). A score of 63 or more indicates symptoms of clinical significance. Previous studies have indicated that the OQ-45 is reliable, with internal consistency in the low .90s and test-retest coefficients in the low .80s (Lambert et al., 1996).

Analysis

In order to answer the first three research questions we analysed the data of the first assessment (cross-sectional). The fourth research question was investigated by an analysis of the data of assessment one, moment two (three months later) and assessment three (12 months after the initial assessment).

For our first research question we calculated the differences between suicidal and non-suicidal patients in terms of time perspective (Pearson's r). Because we wanted to determine the specific role of transcendental future thinking (question 2), we focused on its relationship with other measures. To determine balanced time perspective profiles (research question 3), we used a method proposed by Boniwell, Osin, Linley, and Ivanchenko (2010). Balanced time perspective profiles were defined based upon hierarchical cluster analyses. Hierarchical cluster analysis (standardised z scores, Ward's method, squared Euclidian metric) was used to group patients, based upon their similarities to the ZTPI scale scores. Our method to establish the number of clusters was to examine the changes in the agglomeration table (provided by SPSS).

We did a post-hoc Tukey test to discriminate the size of the differences between the clusters. Whereas hierarchical cluster analysis distinguishes the number of clusters based upon the ZPTI scale scores, the post-hoc Tukey test calculates how these clusters are related to other independent variables, in our case suicidal ideation, depression and quality of life. The combination of hierarchical cluster analysis and analysis of variance between the clusters found was used to determine specific profiles in which patients are vulnerable for suicidal ideation (research question 3). To analyse the temporal stability of the ZPTI (research question 4) we used a common test-retest measure, Pearson's *r*.

RESULTS

Research questions one and two: differences between non-suicidal and suicidal patients (1) and the specific role of transcendental future (2). Table 1 shows the differences between suicidal and non-suicidal participants on the five ZPTI scales and on Transcendental Future.

Suicidal patients score lower on Past Positive, higher on Past Negative, lower on Present Hedonistic and higher on Present Fatalistic. There is no difference on Future and on Transcendental Future orientation (research question 2).

Hierarchical cluster analysis revealed 4 clusters. In table 2 we present the cluster means, and whether these cluster significantly differ from the mean scores of the total sample, calculated by a series of t-tests.

In cluster 1, the second largest cluster, ('suicidal/future') participants scored low on Past Positive, low on Present Hedonistic and high on Future. They focus more on the future than the other cluster with suicidal patients, cluster 2. This cluster ('suicidal/depressed') consists of patients who were stronger oriented on Past Negative, lower on Past Positive, higher on Present Fatalistic, higher on Present Hedonistic, and lower on Future. Furthermore, they had higher depression rates and lower quality of life. The largest subgroup within our sample was cluster 3, ('less suicidal'), which consists of participants who scored high Present Hedonistic and low

on depression. These people appear to be clinging onto life and focus on the present. The forth cluster can be characterized as the 'non-suicidal' cluster, because only one participants scored 1 or higher on the SSI (our definition of being suicidal) within this cluster. These patients were less oriented on Past Negative, more on Past Positive, less Present Fatalistic and they scored higher on Future. They were less depressed and had better quality of life scores. These patients were less oriented on Past Negative, more on Past Positive, less Present Fatalistic and they scored higher on Future than the sample as a whole.

Table 1

Time Perspective in non-suicidal and suicidal patients (means), t tests

	non-suicidal	suicidal	<i>F</i>	<i>p</i>
	<i>n</i> = 94	<i>n</i> = 105		
Past Positive	2.96	2.38	.063	.001**
Past Negative	3.50	3.86	.011	.001**
Present Hedonistic	3.29	3.08	.255	.01*
Present Fatalistic	3.16	3.45	.270	.001**
Future	3.13	3.08	2.18	.57
Transcendental Future	3.28	3.25	1.182	.82

* $p < .01$, ** $p < .001$

The post-hoc Tukey test revealed that clusters 1 and 2 significantly differed from clusters 3 and 4 on suicidal ideation ($p < .001$). Furthermore we found that cluster 1 and 2 differed from cluster 3 ($p < .001$), and that these three differed from cluster 4 ($p < .001$) on level of depression. This same grouping of clusters was found on quality of life ($p < .001$ and $p < .01$). Based upon the cluster analysis, profiles 1 and 2 were

associated with heightened risk of suicidal ideation, and the combination of ZTPI scores of the 4th cluster appears to be associated with the absence of suicidal ideation

Table 2

Cluster mean scores of time perspective, depression and quality of life; hierarchical cluster analyses

	cluster			
	1	2	3	4
	<i>n</i> = 48	<i>n</i> = 42	<i>n</i> = 92	<i>n</i> = 13
	suicidal/ future	suicidal/ depressed	less suicidal/ here and now	not suicidal/ future
Past Negative	3.76	4.33***	3.57	2.48***
Past Positive	2.18***	1.69***	3.21	3.43**
Present Fatalistic	3.11	3.72***	3.34	2.38***
Present Hedonistic	2.61***	3.37*	3.38**	3.07
Future	3.41**	2.77**	3.00	3.74***
Suicidal ideation	12.15	12.98	6.83***	1.38 a)***
Depression	35.43	41.10***	27.82*	15.77***
Quality of Life	106.25	113.38**	100.69	75.77***

Note. a) only 1 participant scored > 0 on the SSI in this cluster

* $p < .05$, ** $p < .01$, ***: $p < .001$

In our fourth research question we wanted to examine how stable the scores on the time perspective scales would be. In order to do so, we measured the participants three times: during an initial screening, after 3 months and after 1 year.

In table 3 we see that most test-retest correlations are high (.60 - .70 range), except for Past Negative, which is lower (.50 - .60), and Present Hedonistic which can

regarded to be good (.70 - .80). Transcendental Future is also stable over time (.70 - .80).

Table 3

Test-retest correlations of Time Perspective (Pearson's r)

	pre/post	pre/follow up
	3 months	1 year
	$n = 125$	$n = 62$
Past Positive	.78	.75
Past Negative	.59	.50
Present Hedonistic	.75	.69
Present Fatalistic	.62	.60
Future	.67	.58
Transcendental Future	.86	.73

Note. All the correlations were significant at a $p < 0.01$ level

DISCUSSION

The central question in this study was whether we could identify time perspectives which characterize suicidal patients. Are suicidal patients differently related to the past, the present and the future than non-suicidal patients? Our data show they are. Suicidal thinking is in our sample reflected in a personal tendency to focus on negative information from the past, less positive past orientation, less hedonistic thinking in the present and a stronger tendency to be fatalistic about the present. In a prior article, within a different sample, we found a distinct role for higher Past Negative and Present Fatalistic thinking, and low Past Positive and Future orientation (Van Beek, Berghuis,

Kerkhof, & Beekman, 2011), comparable to findings in a sample of high school students (Laghi, Baiocco, D'Alessio, & Gurrieri, 2009). The distinct roles of higher Past Negative and Future were not confirmed in our present study. When it comes to transcendental future thinking, the role of thinking about life after death, we found a relationship with suicidal ideation scores, but no statistical significant differences between suicidal and non-suicidal patients were found.

We were able to identify a combination of ZTPI scores that is associated with healthier non-suicidal functioning: a balanced time perspective profile for patients with a mood disorder. This is a profile in which people are less oriented on Past Negative, more on Past Positive, they are less Present Fatalistic oriented and score higher on Future. Boniwell, Osin, Linley, and Ivanchenko (2010) found in their research a balanced time perspective to be characterized by high Future, high Past Positive, average Present Hedonism and low Past Negative en Present Fatalistic, which is comparable to our non-suicidal cluster and earlier suggestions by Zimbardo and Boyd (1999).

The concept of balanced time perspectives needs more research though. Although previously and in our present study defined as a combination of scores on the ZTPI scales, a statistical analysis of scores related to healthy functioning does not provide sufficient insight in one's ability to shift from one time perspective to another. Why and how are individuals able to move from, for instance a Past Positive orientation, to a Future orientation needed for a specific goal? We need a better understanding of underlying mechanisms of change.

Our findings indicate that time perspective is a stable characteristic. Some authors assume it to be a personality trait (Gorman & Wessmann, 1977), but our sample of patients who filled in the ZTPI after one year is too small to support that hypothesis. Larger scale longitudinal research in a heterogeneous sample is needed to further investigate stability over time.

Time perspective might be hard to change in therapy when we realize that time perspective is stable over time,. But our findings have implications for the treatment of depressed suicidal patients. With the proposed balanced time perspective in mind, we might need to help our patients to focus less on negative memories (Past Negative), and more on pleasant memories (Past Positive). Furthermore, we could try to

strengthen their internal locus of control, to become less Present Fatalistic oriented. This would be helpful being able to be more focused on personal meaningful goals (Future time perspective). And when suicidal patients once again experience that they are able to influence their lives, and that they can reach some realistic goals, we expect that hopelessness and suicidal ideation will decrease. This is the main focus of our Future Oriented Group Training for suicidal patients (Van Beek, Kerkhof, & Beekman, 2009).

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The background of the slide is a solid mustard yellow color. Faint, semi-transparent illustrations are visible: a cuckoo clock on the left, a bird in flight at the top center, and a woman in a black dress holding a telephone receiver on the right.

Chapter 8

Outcomes of the Randomized Controlled Trial

Manuscript submitted for publication in *Journal of Affective Disorders*

ABSTRACT

Background

The ability to imagine positive future scenarios is central to maintaining hope and thereby also a key feature in suicidality. As positive future thinking may be enhanced through cognitive behavioural intervention, this may provide a window of opportunity to influence suicidal thinking and behaviour. We designed a 10-week training programme that can be added to on-going treatment, aiming to improve positive future thinking, thereby decreasing suicidal thoughts and suicidal behaviour.

Methods

Randomised controlled trial in which 150 patients with a mood disorder and suicidal ideations were randomized to either Treatment as Usual (TAU), or to TAU plus Future Oriented Cognitive Training (FOGT). The participants were assessed at baseline, after finishing FOGT (at 3 months), and as a longer follow-up, after 12 months. The primary outcome measure was suicidal ideation, secondary measures were hopelessness, depression, worrying, positive future thinking, and symptoms and distress.

Results

With regard to suicidal thinking, in intention to treat analyses FOGT had no significant effect beyond TAU. In the adherer analyses FOGT did have a significant effect on suicidal ideation ($d = .46$ $p = .011$). With regard to our secondary outcomes, FOGT had a positive effect on our measure of symptoms and distress (both intention to treat and adherers analyses), and on depressive symptoms (adherers). FOGT did not have effects on positive future thinking, worrying or hopelessness, which were variables included as putative mediators of the effect of FOGT. At one year follow-up FOGT adherers reported less suicidality than TAU.

Limitations

We included a heterogeneous group of patients. Possibly some severely depressed or severely suicidal patients were not enrolled in our study, which decreases generalizability.

Conclusions

This study rigorously tested the effect of a future oriented intervention in groups for suicidal patients. Most of the patients who attended more than 6 sessions appreciated the intervention and benefitted, both in terms of suicidality and in terms of depressive and other psychiatric symptoms, but effects were too small to be statistically significant after Bonferroni correction. Contrary to our hypothesis, the mechanism of change was not through improved future positive thinking. The decrease in depression probably accounts for the reduction in suicidality.

Keywords: suicidal ideation, suicidal thoughts, randomized controlled trial, intervention, depression.

INTRODUCTION

In depressed suicidal patients the ability to imagine that positive things in the future might happen is crucial to maintain hope (MacLeod, Rose, & Williams, 1993). The lack of positive future thinking may be a key element in hopelessness and suicidality. Previous work has shown that suicidal patients generate less positive future material on a verbal fluency test than non-suicidal patients (MacLeod, 1994; Van Beek, Beekman & Kerkhof, 2012). Several interventions have been designed to enhance positive future thinking. Melges (1972, 1982) for instance developed his future oriented therapy based upon the assumption that 'time distortions disrupt anticipatory control and lead to psychopathological spirals' (Melges, 1982, p.43). In a more recently evaluated intervention by MacLeod et al. (1998) it was shown that their manual-assisted cognitive therapy was at least partly capable of increasing positive future thinking in a group of self-harming patients. Thinking about the future is an important domain and it appears to be open to change.

Our goal was to evaluate an intervention that would help suicidal patients to increase their ideas about possible positive future scenarios. We developed a Future Oriented Group Training (FOGT), in which we combined several future oriented elements that have proven to be effective in the treatment of suicidal patients, including cognitive therapy and problem solving. We decided to deliver the intervention in groups for several reasons. Meeting other suicidal peers might break the isolation most of these patients are in, feeling less exceptional. Moreover, group interventions are likely to be more cost-effective.

We carried out a randomized controlled trial, in which we had four research questions. Our first question was to test whether FOGT is effective in reducing suicidal thinking, when added to Treatment as Usual (TAU). Research question two was to test whether FOGT would be effective in reducing hopelessness, depressive symptoms and worrying, and in increasing quality of life. Our third research question was to evaluate how the participants experienced taking part in the training. Our fourth and final research question was to test whether FOGT helps to increase positive future thinking, which we hypothesized to be an underlying mechanism in reducing suicidal thinking.

METHODS

Two-armed randomized controlled trial in which Treatment As Usual (TAU) was compared with TAU plus Future Oriented Group Training (FOGT). This study was approved by the Dutch medical ethical committee METiGG and the medical ethical committees of both GGz Centraal, and Dimence, mental health care organizations in which the study was conducted. One hundred and fifty patients (age range 18-65 years) with suicidal ideation and any kind of affective disorder were recruited at the above-mentioned institutions in the Netherlands. All participants signed a written informed consent. The trial has been registered (ISRCTN56421759).

Procedures

The majority of participants were contacted after their initial assessment, based on their diagnostic workup. A smaller sample was recruited from patients in treatment, who were referred to the programme because of the presence of suicidal ideation. Both in-patients and outpatients were included. The intervention was open for patients with suicidal ideation, irrespective of the severity of their suicidal thoughts or behaviour. Patients in an acute manic or psychotic state, and those who sought treatment primarily because of drugs problems were excluded. Participants were required to speak and read Dutch sufficiently to take part in the study. After both patient and therapist agreed on taking part in the project, the participant was invited to partake. They were informed about the project and signed an informed consent form. When enough patients were assembled to start a group, the participants were measured. The training started within two weeks after the first assessment. This assessment was repeated at T2 (three months) and T3 (twelve months). About half of the participants didn't find the opportunity or were not willing to come to the institute for the assessment at T2 or T3 and were sent a paper version of the SSI (the BSS, Beck Suicide Scale), together with some of the other questionnaires (BDI-II, BHS, PSWQ, OQ45 and a form inquiring about suicidal behaviour).

INTERVENTIONS

Experimental Condition

The patients with suicidal ideation, who were assigned to the experimental condition, were offered the Future Oriented Group Training (FOGT), delivered in addition to their on-going treatment. This intervention consisted of three major components: the training sessions, the workbook with an accompanying audio cd and a website. The main goal of this training was to decrease suicidal thinking by stimulating realistic future thinking and reducing hopelessness. The training promoted goal directed and future oriented behaviour by combining cognitive therapy, problem solving therapy and future thinking. This meant that participants and trainers almost exclusively addressed things to come. The 10 weekly group-training sessions lasted one and a half hours each. They were organized as workshops, with 4 to 8 patients in each group. Groups were led by either one or two trainers. Participants listened to the trainer who explained and discussed relevant topics. The trainer asked for personal experiences, but remained on a practical and educational level. The trainer discussed general tendencies, and individual experiences were generalized and reformulated in terms of future oriented cognitions and behaviour. How would this kind of thinking, or that way of behaving, influence one's chance of reaching future positive goals? And what can be done about this?

The exercises and texts included in the workbook promoted realistic future thinking and assisted participants to focus on goals that would make life worthwhile again. In the workbook prototypical cognitive patterns among suicidal patients were challenged, like dichotomous thinking, catastrophic thinking and overgeneralization. The participants received information about suicidal vulnerability and factors influencing this vulnerability, like perfectionism, social isolation and alcohol and drug abuse. The workbook discussed several practical steps, for instance making a survival plan, and creating a scrapbook with positive elements from their present and their past, in order to find strength when they feel hopeless. The workbook came with an audio cd, containing additional exercises that were in line with the contents of the workbook. The supplementary website provided information about the training and the research project. More information about the intervention can be found online (Van Beek,

Kerkhof, & Beekman, 2009), and in chapter 3. During the project 9 trainers were involved, who led 13 groups in total.

Treatment as usual

For all participants in both conditions in the trial, treatment as usual (TAU) consisted of on-going medication when prescribed and regular psychological treatment. In order to be able to compare treatment as usual (TAU) to treatment as usual plus our additional Future Oriented Group Training, we determined whether TAU was similar in both groups. We found no significant differences between treatment as usual in both conditions in terms of quantity of care $\chi^2 (3, N = 101) = 2.67, p = .45$), frequency of sessions $\chi^2 (4, N = 102) = 4.97, p = .29$), mean duration of the sessions $\chi^2 (2, N = 102) = 1.84, p = .40$), or the profession of the health care workers $\chi^2 (2, N = 102) = 1.49, p = .48$).

Treatment integrity

The basis of our treatment was the workbook, which came in two versions: a participant version and a trainer version. Each of the sessions was structured by pre-determined goals and sub-goals. The trainers had a list to check each of these goals after every training-session. Every session was structured in three parts: (1) reviewing the homework, (2) discussing the new topics and (3) introducing homework for the next week.

Every trainer participated in the instructional training that we organized. Assessment of treatment delivery was carried out by audio taping every training session to be discussed in supervision contacts. Every training session was evaluated in several ways: participants filled in forms about the training in general, they judged the separate texts and the assignments in the manual, and they judged the trainers on critical aspects. We further enhanced treatment reception by discussing homework assignments.

In order to increase treatment enactment (applying what was learned in the training) we stressed the importance of involving support group members in the training and we invited each group member to bring a person from their support group. Another way to increase treatment enactment was the repeating homework assignment to explain the contents of the training to a person from their support group.

Randomization

The randomization was conducted by an independent statistician with the aid of a computer program (SPSS, random sample of cases procedure). The researchers received the outcome of the randomization by email and scheduled the participants accordingly. Participants were randomized in blocks of two patients, one receiving treatment as usual (TAU), and one treatment as usual plus our additional training (FOGT). We did not interfere in treatment as usual.

MEASURES

Suicidal ideation. With the Scale for Suicide Ideation (Beck, Kovacs, & Weissman, 1979) we assessed the presence and the level of suicide ideations. The SSI is a 19-item, clinician-administered structured interview that has demonstrated high reliability, with an internal-consistency coefficient (Cronbach's alpha) of .89 and a reported interrater reliability coefficient of .83.

Depression. The Beck Depression Inventory (BDI-II; Beck, Steer, & Brown, 1996) is a self-administered 21 item self-report scale measuring supposed manifestations of depression. The BDI-II takes approximately 10 minutes to complete. Internal consistency for the BDI-II ranges from .73 to .92 with a mean of .86. The BDI-II has a split-half reliability co-efficient of .93. BDI-II question 9 is a four items scale measuring suicidal ideation. This single item correlates high with the SSI ($r = .56-.58$; Beck & Steer, 1991).

Hopelessness. Hopelessness was measured with Beck's Hopelessness Scale (BHS; Beck & Steer, 1988), a 20-item measure pertaining to the global experience of hopelessness, modified from a simple True/False format to a 5-point Likert-style rating system. It has a strong internal consistency (.81 to .90 in different studies).

Symptoms and distress. We administered the Outcome Questionnaire 45 (OQ45; Lambert et al., 1996) to assess levels of experienced symptoms and distress. The OQ45 has been found to be useful for examining the effectiveness of psychotherapy over time (Kadera, Lambert, & Andrews, 1996) and is widely used for this purpose. The Dutch version of the OQ45 showed adequate psychometric properties (De Jong et al., 2007). The OQ45 is a widely accepted measure for quality of life.

Suicidal behaviour. We used a short self-developed questionnaire regarding suicidal behaviour. It contained five questions: during the last three months. "I deliberate harmed or hurt myself, without the intention to die", "I engaged in reckless behaviour, because I did not care anymore (like speeding, unsafe sex, fighting)", "I took too much medication, or other substances, to stop consciousness, without a death intent", "I tried to harm myself with the intention to die", "I have plans to commit suicide anytime soon". Participants were asked to state the presence of these behaviours (yes/no).

Worrying. The 16 items Pennsylvania State Worrying Questionnaire (PSWQ; Meyer, Miller, Metzger, & Borkovec, 1990) was used to assess worrying. Participants respond to each item using a Likert scale ranging from 1 = 'not at all typical' to 5 = 'very typical'. Good test-retest reliability (between .74 and .92), internal consistency (Chronbach's alpha between .86 and .95) and validity have been reported (Meyer et al., 1990, Molina & Borkovec 1994). Responses to each item are summed to produce a total PSWQ score with higher scores indicating more worrying.

Positive Future fluency. We used an adapted form of MacLeod's Future Thinking Task (FTT; MacLeod, Rose, & Williams, 1993), a verbal fluency tasks, asking participants to report what comes into mind after a directive is provided (e.g., "Can you tell me what comes into your mind when you think about a positive future?"). Participants had 1 minute time to produce as many thoughts as possible.

Psychiatric characteristics. The already available medical files of the participants were used to obtain information about DSM diagnoses, in order to screen for comorbid personality disorders.

Safety assessment and management

Several measures were taken to ensure safety for the participants in our study. Every patient saw a therapist during the course of the training, either alongside the experimental condition (TAU+FOGT), or in the control condition (TAU). During every session participants in the TAU+FOGT condition filled in a short questionnaire assessing the current level of suicidality. Either a high score, or the subjective evaluation of the trainer could lead to a notice to the responsible therapist.

Sample size and power estimates

The effect size deemed worthwhile to be detected by the study is $d = 0.5$. This is what is generally judged to be a clinically relevant effect size (Cohen, 1988). Power calculations based upon two-sides tests, a type I error $\alpha = 0.05$, a power of 0.80 and an effect size of 0.5, imply a minimum of 63 participants per group. We calculated power to be sufficient for both intention-to-treat and completers analysis. Expecting that 80% of the patients in the 'suicide ideations group' would be willing to participate (before randomization) and a drop out of 20% after randomization, we planned to include 75 patients in each of the two groups to maintain 63 completers.

Statistical methods

For our first and second research question, comparing TAU with TAU+FOGT on suicidal ideation, hopelessness, depression, worrying and symptoms and distress, we did a series of t-tests of the within-subject differences between assessment 1 and assessment 2 (right after the training) and between assessment 1 and assessment 3 (follow up 12 months after the first assessment). We used Bonferroni adjusted alpha

levels of $p = .0083$ (.05/6). Cohen's d effect sizes were calculated. The effects were calculated according the intention to treat principle. Missing data were imputed according to the expectation maximization method.

For our third research question, the subjective evaluation of the training, we calculated the means and standard deviations of the responses. Analyses of variance (ANOVA) were carried out to analyse the relationship between increased positive future thinking and the effect of the training (research question 4).

RESULTS

Participant flow

As depicted in diagram 1, the Consort flow diagram, 577 patients were approached in this study. 427 patients (74%) could not be included, either due to not meeting the inclusion criteria (105 patients, 18%), or because they did not participate (322 patients, 56%). Reasons for not participating were: refused to participate (69%), no response from patient (7%), or other reasons (like fear for travel), or reasons unknown (23%).

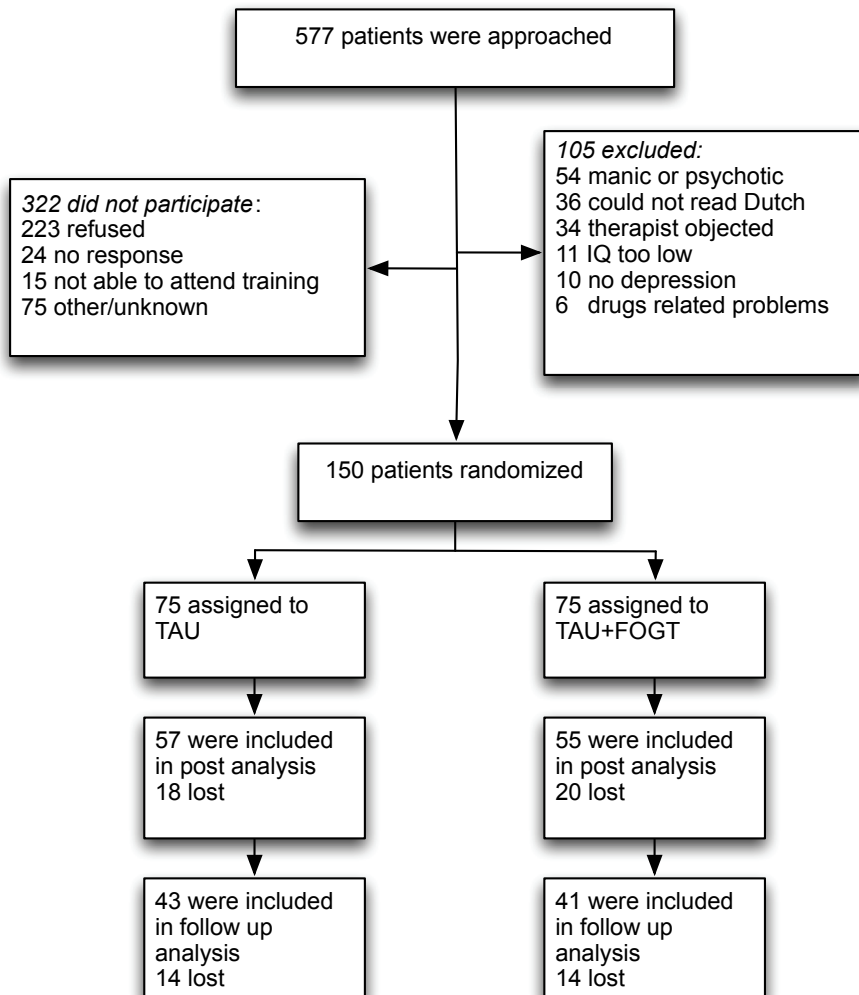
Demographic and clinical characteristics

Our sample consisted of patients who were either outpatients (63%), in day-treatment (34%), or inpatients (3%). 68% of these patients was longer than 3 months in treatment. The mean age of our participants was 41 years ($SD = 11.87$), 39% ($n = 58$) was male and 61% female ($n = 92$). About 24% of the participants had engaged in self-harming behaviour in the 3 months prior to the assessment. A total of 46% had been engaged in reckless behaviour, once or more often. One third had taken medication to attempt suicide at least once, and 24% attempted suicide in the prior three months ($M = 2.3$ times, $SD = 2.3$). One fifth of the participants had the plan to kill themselves in the near future. Almost every participant had prior suicidal thoughts in their lives before the current suicidal episode, most of them from their teenage years

on. The patients' characteristics are summarized in table 1. The majority of participants had a comorbid personality disorder (about 70%).

Diagram 1

Consort flow chart



About 75% of the participants returned to have the second assessment and we had a response of 56% on the third assessment (no differences between TAU and TAU+FOGT). Only 40% of the patients eligible for inclusion participated in the study. Almost 10% of those patients were included in the TAU+FOGT condition, but never started with the training, and about 40% of the patients in the TAU+FOGT condition attended 6 sessions or less.

Table 1

Baseline characteristics of the 150 participants in the study

	treatment, N = 150		differences	
	TAU, n = 75	TAU+FOGT, n =75	χ^2	p
<hr/>				
Gender, n (%)				
male	27/75 (36%)	31/75, (41.3%)	11.45	0.10
female	49/75 (64%)	44/75, (58.7%)		
<hr/>				
			<i>t</i>	<i>p</i>
Age, years (<i>M</i> , <i>SD</i>)	41.54 (12.32)	42.51, (11.17)	-.426	.671
SSI (<i>M</i> , <i>SD</i>)	13.91, (8.68)	14.55, (8.56)	-.456	.649
BDI-II (<i>M</i> , <i>SD</i>)	34.25, (11.77)	35.41, (11.19)	-.613	.541
BHS (<i>M</i> , <i>SD</i>)	13.97, (4.16)	13.80, (4.04)	.263	.793
OQ45 (<i>M</i> , <i>SD</i>)	108.11, (15.65)	112.31, (16.24)	-1.60	.111
future thinking (<i>M</i> , <i>SD</i>)	10.42, (5.73)	11.97, (5.20)	-1.69	.094
<hr/>				

Note. TAU = treatment as usual, FOGT = Future Oriented Group Training, SSI = scale for suicidal ideation (suicidal ideation), BDI-II = Beck Depression Inventory II (depression), BHS = Beck Hopelessness Scale (hopelessness), OQ45 = Outcome Questionnaire 45 (symptoms and distress).

PRIMARY AND SECONDARY OUTCOME MEASURES

Research question 1: What is the additional effect of the training on suicidal ideation (primary outcome) and the secondary outcome measures?

On nearly all of the measures patients in both the treatment as usual (TAU) condition and in the experimental condition (TAU+FOGT) changed positively. We first examined the results of all the participants in the experimental condition, compared to treatment as usual, according to the intention to treat principle. The additional effect of the training on suicidal ideation ($d = .21$) was not statistically significant ($t(148) = -1.27$, $p = .207$). On BDI-II question 9 (suicidal thoughts or wishes) we found an effect ($d = .32$), which was not statistically significant ($t(148) = -1.95$, $p = .053$).

We also investigated pre/post changes and pre/follow-up changes, in four aspects of self-destructive behaviour: deliberate self-harm, reckless behaviour (for example speeding or unsafe sex), deliberate self-poisoning (the intentional self-administration of more than the prescribed dose of any drug; Harris, Hawton & Zahl, 2005), and suicide attempts. Each participant reported whether or not he or she engaged in this type of behaviour during the past three months. We dichotomized the scores and examined both improvement or not, and worsening or not, on an individual level (within-subjects). There were no significant differences between the two conditions in the number of patients who improved or worsened, apart from deliberate self-poisoning. We found an increase in deliberate self-poisoning in the TAU group. 23% (13/57) of the participants in this group reported to have taken too much medication or other drugs, without the intention to die, in the three months after the first assessment, while not having been engaged in this type of behaviour during the three months before the first assessment. This increase was not found in the experimental group: 3 out of 55 (5%) participants engaged in self-poisoning for the first time ($OR = 0.2$, 95% CI 0.05 – 0.73, $p = .01$).

The strongest effect of the training was found in symptoms and distress. This effect was both clinically meaningful ($d = .47$) and statistically significant ($t(148) = -2.89$, $p = .004$). Although there appears to be a trend towards additional improvement, none of the other effects were statistically significant (see table 1).

Table 2

Change in suicidal ideation, after 3 months and after 12 months, differences between treatment as usual, FOGT, and the adherers group (t-tests and effect sizes). Two measures

	pre/post (3 months)			pre/follow up (12 months)		
	TAU	TAU+FOGT	adherers	TAU	TAU+FOGT	adherers
	(n=75)	(n=75)	(n=47)	(n=75)	(n=75)	(n=47)
<i>Suicidal ideation</i>						
pre (M, SD)	14,63 (8.40)	14,70 (8.54)	14.76 (8.43)	14,63 (8.40)	14,70 (8.54)	14.76 (8.43)
post (M, SD)	10.60 (7.59)	8.85 (8.03)	8.03 (8.38)	11.12 (6.55)	9.88 (6.35)	9.88 (6.56)
t^1		-1.27	-1.96		-0.97	-0.89
p		.207	.093		.333	.375
d		.21	.32		.10	.16
<i>BDI-question 9</i>						
pre (M, SD)	1.53 (0.80)	1.69 (0.77)	1.61 (0.79)	1.53 (0.80)	1.69 (0.77)	1.61 (0.79)
post (M, SD)	1.18 (0.68)	1.08 (0.72)	1.13 (0.70)	1.14 (0.55)	1.06 (0.70)	1.10 (0.63)
t^1		-1.95	-2.58		-1.85	-2.00
p		.053	.011*		.067	.047
d		.32	.46		.30	.37

Note. TAU = treatment as usual, FOGT = Future Oriented Group Training, adherers = participants who attended > 6 sessions

¹ : between groups t-test, compared to TAU; d = Cohen's d (.20-.30 small effect, .50 medium effect, >.80 large effect)

* significant at .05 level

Not everyone completed the 10 sessions of the training. The mean attendance was 6.51 ($SD = 3.19$) sessions. To get an impression of the effect of dose (number of attended sessions) we examined the results of patients who attended 7 sessions or more (adherers). About 54% of all participants in the TAU+FOGT condition completed 7 or more sessions. This subsequently means that about 46% of the participants in the ITT analysis attended 6 or less sessions.

Analysis of the data from the adherers subgroup shows results similar to the ITT analyses, but with slightly better results. The effect on suicidal ideation was not significant ($d = .32$, $t(47) = -1.96$, $p = .093$, but suicidality measured with BDI-II question 9 ($d = .46$, $t(47) = -2.58$, $p = .011$) almost was. Depression also decreased ($d = .41$, $t(47) = -2.19$, $p = .031$), and the effect on symptoms and distress was comparable with the TAU+FOGT group as a whole ($d = .44$, $t(47) = -2.32$, $p = .022$), both not statistically significant after Bonferroni correction.

Research question 2: What are the additional effects of FOGT after 12 months?

To determine the effects of the training 9 months after it ended (12 months after the initial assessment), we assessed the participants a third time. As depicted in table 2 and table 3, only symptoms and distress levels differed between TAU and TAU+FOGT ($d = .33$, $t(75) = -2.04$, $p = .043$), but no longer statistically significant after Bonferroni correction.

Table 3

Changes in Depression, Hopelessness, Worrying, and Symptoms and Distress, after three months and after 12 months, differences between treatment as usual, FOGT, and the adherers group (t-tests and effect sizes)

	pre/post (3 months)			pre/follow up (12 months)		
	TAU	TAU+FOGT	adherers	TAU	TAU+FOGT	adherers
	(n=75)	(n=75)	(n=47)	(n=75)	(n=75)	(n=47)
<i>Depression</i>						
pre (M, SD)	35.31 (10.83)	36.23 (10.82)	35.43 (10.97)	35.31 (10.83)	36.23 (10.82)	63.72 (9.39)
post (M, SD)	29.51 (10.15)	27.64 (11.91)	24.93 (12.21)	28.60 (9.34)	26.79 (10.46)	25.51 (11.63)
t^1		-1.51	-2.19		-1.45	-1.54
p		.134	.031		.150	.126
d		.25	.41		.24	.27
<i>Hopelessness</i>						
pre (M, SD)	15.85 (4.33)	15.72 (4.21)	15.94 (4.19)	15.85 (4.33)	15.72 (4.21)	15.94 (4.19)
post (M, SD)	10.53 (7.83)	9.03 (7.13)	9.15 (6.58)	7.92 (7.63)	6.77 (7.07)	8.11 (7.16)
t^1		-1.09	-1.05		-.78	.07
p		.276	.294		.434	.944
d		.18	.20		.13	-.01
<i>Worrying</i>						
pre (M, SD)	65.10 (9.21)	64.36 (9.22)	63.72 (9.39)	65.10 (9.21)	64.36 (9.22)	63.72 (9.39)
post (M, SD)	59.03 (9.33)	57.21 (9.56)	57.51 (9.99)	57.08 (8.85)	56.25 (9.75)	57.25 (10.30)
t^1		-0.64	-0.07		-0.04	0.75
p		.523	.943		.966	.454
d		.10	.01		.01	-.27
<i>Symptoms and distress</i>						
pre (M, SD)	108.54 (14.58)	114.16 (13.59)	112.96 (15.18)	108.54 (14.58)	114.16 (13.59)	112.96 (15.18)
post (M, SD)	101.38 (17.48)	98.53 (17.70)	98.06 (18.70)	95.87 (13.88)	95.21 (16.00)	95.24 (17.52)
t^1		-2.89	-2.32		-2.04	-1.43
p		.004*	.022		.043	.156
d		.47	.44		.33	.26

Note. TAU = treatment as usual, FOGT = Future Oriented Group Training, adherers = participants who attended > 6 sessions; ¹ : between groups t-test, compared to TAU; d

= Cohen's d (.20-.30 small effect, .50 medium effect, >.80 large effect)

* significant at .0083 level

Research question 3: How do the participants evaluate the training?

We asked all the participants who attended the last session of the training ($N = 35$) to rate both the content and the organization of the training (12 questions, rating on a scale 0-10, 10 is maximum). The quality of the training in general was rated 8.20 ($SD = 0.99$). The mean score on 'did the training help you to feel better?' was 7.33 ($SD = 1.34$). Participants rated 'did the training help to increase control over your suicidality?' with 7.22 ($SD = 1.29$). Every participant who filled in the evaluation form would recommend the training to a suicidal friend.

An important finding was that participants commented that this had been the first occasion to talk about suicidal thoughts with fellow patients, and some of them told us they did not feel free to talk about their suicidality with their therapists. Another frequent point of feedback was that participants wanted more sessions, or follow up sessions after a period of time to share experiences.

Research question 4: Does TAU+FOGT increase positive future thinking more than TAU?

Our underlying assumption was that TAU+FOGT would increase positive future fluency, and subsequently decrease suicidal ideation. We did not find a significant effect of the training on positive future thinking (table 4). Patients in the future oriented intervention condition did not generate more possible positive future thoughts after the training, than patients in the TAU condition. The number of attended sessions in the TAU+FOGT condition did not predict the increase of positive thoughts about the future ($b = -0.19$, $t(74) = 1.29$, $p = .200$).

Table 4

Changes in Positive Future fluency differences between treatment as usual, FOGT, and the adherers group (t-tests and effect sizes)

	pre/post (3 months)			pre/follow up (12 months)		
	TAU	TAU+FOGT	adherers	TAU	TAU+FOGT	adherers
	(n=75)	(n=75)	(n=47)	(n=75)	(n=75)	(n=47)
<i>Positive Future fluency</i>						
pre (M, SD)	9.37 (4.64)	10.67 (4.51)	10.86 (4.66)	9.37 (4.64)	10.67 (4.51)	10.86 (4.66)
post (M, SD)	10.20 (3.17)	10.48 (3.67)	10.47 (3.30)	10.47 (2.52)	10.71 (2.89)	10.77 (3.63)
t^1		-1.06	-1.38		-.94	-1.44
p		.290	.170		.351	.151
d		.17	.27		.15	.26

Note. TAU = treatment as usual, FOGT = Future Oriented Group Training, adherers = participants who attended > 6 sessions

¹ : between groups t-test, compared to TAU; d = Cohen's d (.20-.30 small effect, .50 medium effect, >.80 large effect).

DISCUSSION

The 150 patients who entered our study were found to have severe depressive symptoms (BDI-II mean of 35), most of them suffered from a comorbid personality disorder and almost all of them had a long history of suicidal ideation and suicidal behaviour. About ten percent of the participants reported that they planned to commit suicide anytime soon, but none of the participants did commit suicide during the project.

Our first research question, whether Future Oriented Group Training would help to decrease suicidal thinking, could not be answered unambiguously. In the intention to

treat analyses FOGT had no significant effect beyond TAU. However, in the adherer analyses FOGT did have an important effect on suicidality (BDI-II question 9, $d = 0.46$, $p = .011$). This effect persisted at one-year follow-up. The difference between intention to treat and adherer analyses is a function of the loss of subjects during the trial. Although intention to treat analyses are the most rigorous, they seem overly conservative when 54% of the patients completed 7 or more sessions (adherers). The adherer analyses may be biased through selecting out those with the most favourable response to treatment and this becomes more important with a larger loss of subjects. The answer to the first research question is therefore that FOGT may be beneficial to a part of this group of suicidal patients. We also found that our intervention helps suicidal depressed patients not to engage in deliberate self-poisoning. The participants in the training had a 5 times smaller chance of deliberate self-poisoning without death intent, than the patients in the treatment as usual condition.

With regard to our secondary outcomes, FOGT had a significant effect on our general measure of distress and psychiatric symptoms (both ITT and adherer analyses), and on depressive symptoms (adherers). FOGT did not have effects on positive future thinking, worrying or hopelessness, which were variables included as putative mediators of the effect of FOGT. Although not a formal instrument to assess quality of life, the results on the OQ45 indicate that FOGT helps to enhance how people perceive the quality of their daily functioning. And there is a growing acknowledgement of the importance of quality of life in clinical trials, because an increase in patients' subjective well-being motivates them to generalize what they learn during the treatment (Everitt & Wessely, 2003).

Our results indicate that a group treatment, aiming to focus on positive goals, addressing suicidality related cognitions and behaviour, is able to help decrease the level of symptoms and distress of suicidal patients. The treatment in the current form is easy to implement, can be administered without much extra training of the therapists. The participants rated the program positively. Every participant who filled in an evaluation form during the last session would recommend the training to a suicidal friend. Because we could not interview all participants on this aspect, this outcome may be biased.

Mechanism of change

Our underlying assumption was that the Future Oriented Group Training would help increase positive future thinking, and subsequently decrease suicidal ideation. Our data do not confirm this (research question 4), as FOGT did not enhance positive future thinking or hopelessness. If it is not an increase in positive future thinking, what was the agent of the change we found? Given the effects on depressive symptoms and on general measures of psychiatric symptoms, the intervention may have had effect by changing negative cognitions, contributing to a stronger decrease of depressive symptoms and distress than in TAU.

Limitations

Loss of potential participants was a problem in our study. As can be concluded from the loss of participants before randomization (participants flow chart), we were able to include about a third of possible candidates in our study. After randomization about 40% of the participants did not attend 7 or more session. Wierzbicki and Pekarik (1993) report a mean loss of participants of 48% in their meta-analysis of psychotherapy studies. Analysis of the non-adherent participants (less than 7 sessions attended) and the completers (7 or more) before the start of the intervention did not reveal significant differences, they could not be identified as a distinct group. There was a group of patients unable to partake because they felt, or were assessed by their therapists, to be too depressed or too vulnerable. This may influence the generalizability of our conclusions. Another problem was the loss of participants between assessment 1 and assessment 2, particularly since we used intention to treat analysis and missing data had to be imputed. We had a considerable loss of adherence to therapy (40%), and a loss of participants in the post intervention measurement (34%). This had consequences for the study in terms of limiting the validity and generalizability, but it reflects the clinical reality of the patients this intervention was developed for.

For those patients who are able to attend the majority of the sessions Future Oriented Group Training helps to decrease depression and improve quality of life. For some patients the intervention also reduces the chance to engage in deliberate self-

poisoning. The found effect sizes were small or medium at best, therefore this kind of training appears to be worthwhile, but needs more robust testing and further adjustment.

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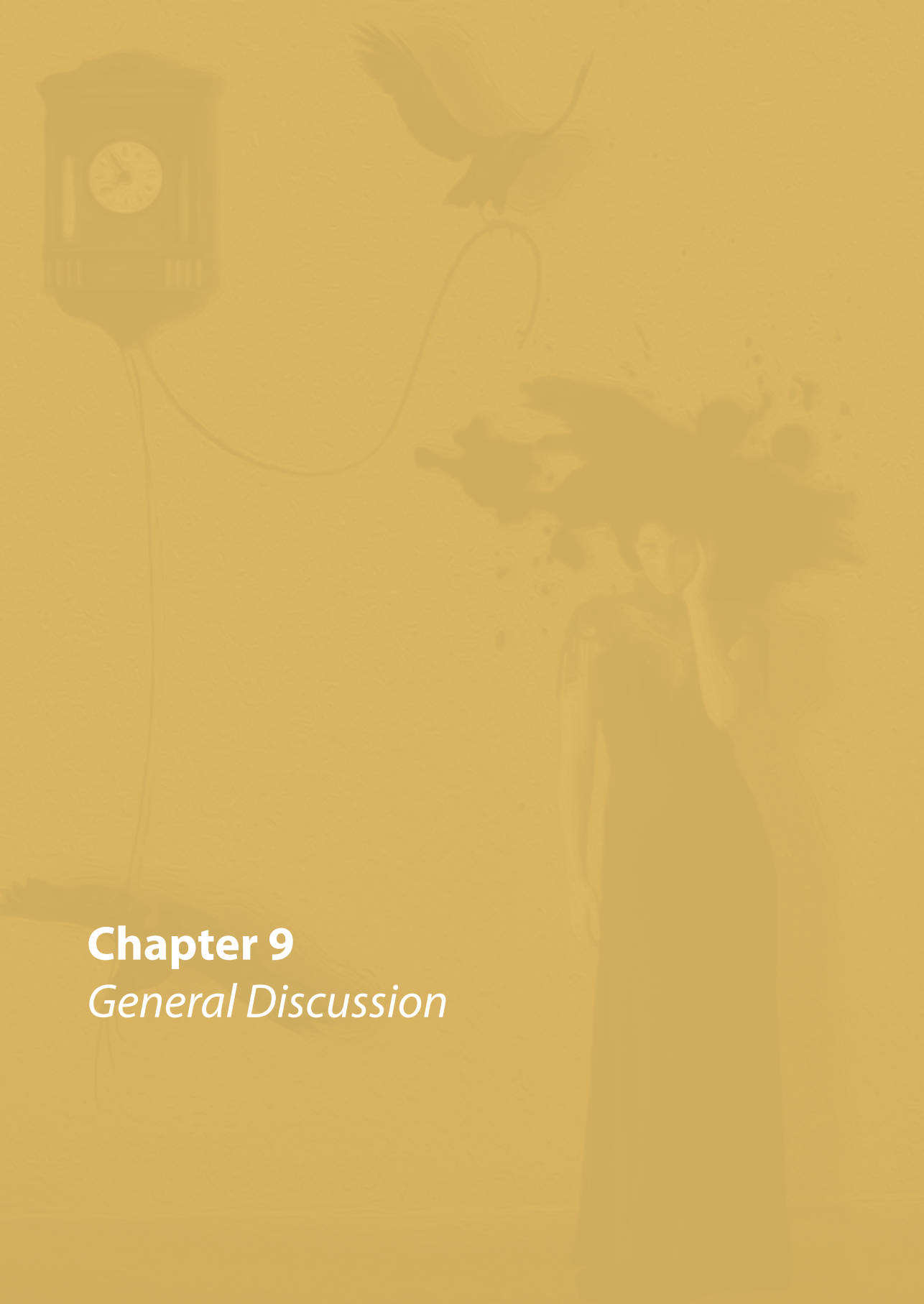
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Chapter 9

General Discussion

INTRODUCTION

Outline

We start this chapter by summarizing the outcomes of our study. Subsequently, we discuss the two major research questions of this project: (1) the contribution of time perspective and future thinking to the understanding of suicide ideation and (2) the evaluation of our future oriented training for suicidal patients. We address the implications and limitations of the study. The last section discusses future research possibilities.

Summary of the major outcomes

In chapter one we introduced hopelessness and a decrease in positive future thinking as core elements of the suicidal process. We examined suicide ideation and its treatment. The research design, the instruments and the research plan for the randomized controlled trial (RCT) were introduced. Chapter two described how the study was implemented. Our aim was to develop a concise, short intervention, which would be easy to implement in actual practice of mental health care and would be suitable for many patients with suicide ideations. In chapter three we summarized the basic elements of the training and their theoretical background. Problem solving, or goal orientation as we labelled it, cognitive therapy and risk reduction were the major elements. Our intervention aimed to help participants to increase their positive future thinking, and by that, decreasing suicidal ideations. In chapter four suicidal thinking was further elaborated on in a broader context. The significance of time perspective, one's cognitive tendency to focus on positive or negative elements from the past, the present, or the future, was investigated in chapter five. We compared suicidal to non-suicidal patients in terms of time perspective (ZTPI), personality (NEO-PI), severity of pathology (SIPP) and depression (BDI-II). We concluded that particularly a tendency to focus on negative memories is related to the severity of personality problems. Furthermore, we found a relationship between lower orientation towards the future and suicidality. In chapter six we confirmed the hypothesis that suicidal patients are less

able to produce positive future related thoughts. Furthermore, our data showed that suicidal patients are less capable to report positive thoughts about the present. The seventh chapter focused on time perspective profiles in the second and larger sample of patients. We distinguished a common pattern of ZTPI subscale scores (time perspective profile) in the group of depressed non-suicidal patients, illustrating a specific relationship with time among these patients compared to the suicidal sample: lower Past Negative, higher Past Positive and lower Present Fatalistic and slightly higher Future scores. Two suicidal clusters could be identified: one depressed subgroup (high Past Negative scores) and one more future oriented subgroup (higher Future, lower Past Negative and Present Fatalistic). We also found the ZTPI to be stable over time, indicating time perspective to be a trait-like characteristic. There were no differences between suicidal and non-suicidal patients regarding their focus on thoughts about life after death (Transcendental Future).

In chapter eight we focused on our second major research question, the effects of our future oriented group training (FOGT) for suicidal patients. We found that patients who were able to attend more than six sessions (adherers) showed an additional decrease in suicidal ideation (BDI-II question 9), and some additional effect on suicidal ideation was found on the SSI scores (Cohen's $d = .2$ to $.3$). But this was not statistically significant. The adherers group reported additional effect on depression ($.4$) and FOGT proved to significantly decrease symptoms and distress, indicating a higher level of Quality of Life after the training than in the treatment-as-usual (TAU) group. We found no effect on self-destructive behaviour, but FOGT appeared to decrease the risk of deliberate self-poisoning.

In the next paragraph we more extensively discuss the outcomes of this study and relate them to existing literature and research.

RESEARCH QUESTIONS

Research question 1: "What do 'time perspective' and 'future thinking' contribute to the understanding of suicidal ideation?"

In order to answer this question, we divided the discussion in the traditional three time zones: past, present and future. Obviously, the past time zone deals with memories, whereas future thoughts are looked upon as expectancies. In this discussion we chose to look upon present thinking as worrying. Repetitive thinking (Watkins, 2008) either related to the past (“Why did this happen to me”), the present (“This is unbearable”), or the future (“I will never get over what has happened”). Kerkhof and Spijker (2011) come to the conclusion that worrying and rumination may be proximal risk factors for suicidal behaviour. Although covering the three time zones, the activity worrying takes place in the present, and we discuss it therefore in that paragraph.

The Past

The past plays an important role in psychopathology. One of the cornerstones in treatment of most psychological problems is our assumption that earlier experiences can drastically affect later behaviour. Therefore these experiences must be stored somewhere in one’s memory system. Not everything can be retrieved, but chunks and pieces, either deliberately or incidentally, consciously or unaware, can be remembered again by reactivation experiences (e.g., Spear, 2007, in Roedinger III, Dudai & Fitzpatrick). When we ask patients to talk about their past, we induce a memory retrieval system, which is affected by one’s current mood (Isen, Shalke, Clark, & Karp, 1978). People remember information that is congruent to their present emotional state better than other information. And they weave both episodic and semantic details into a narrative of the experiences (Addis & Tippit, 2008). People create stories based upon these biased and incomplete bits and pieces, whereas we know that depressed patients have a tendency to overgeneralize what they remember (Williams & Broadbent, 1986).

In our study we found that people who were stronger focused on the negative past to be more neurotic, less extravert and they had lower scores on conscientiousness, than those who were not focused on the negative past. These patients had a higher chance of being depressed and suicidal. Patients who were more positively focused on the past reported to be less neurotic, more extravert, more open for new experiences and they scored higher on conscientiousness. A past positive orientation

was related to a lower chance of being depressed and being suicidal (chapter 5). This was confirmed in another patient sample, in which suicidal thinking was related to a tendency to focus on negative information from the past, and to focus less on positive past orientation (chapter 7). We found no significant differences between suicidal depressed and non-suicidal depressed patients, when we asked them to verbalize as many thoughts about the past as possible on a fluency test, neither when it came to positive, nor negative material (chapter 6). We were able to distinguish a healthy time perspective profile, a combination of scores in terms of the Zimbardo Time Perspective Inventory (ZTPI), in which the past plays an important role. This so-called balanced profile is a combination in which people are less oriented on Past Negative, more on Past Positive, they are less Present Fatalistic oriented and score higher on Future (chapter 8).

We can conclude that a tendency to focus on negative material from the past as a thinking style (time perspective) is more important than the conscious available verbal material one can produce (verbal fluency). It appears that a general focus on what was good about the past has a protective function. This confirms studies on the influence of nostalgia, or reminiscence about the past (Sedikides, Wildschut, Routledge, & Arndt, 2008). As Victor E. Frankl put it, when describing how he helped fellow victims to survive the ordeals of the German concentration camps: "I also mentioned the past; all its joys, and how its light shone even in the present darkness" (Frankl, 2006). When the present situation is hard to cope with, a tendency to cling onto the nostalgic past is helpful to guard against suicidality.

The Present

What role plays the present in the suicidal mind? The present is where and when our lives take place. All of our participants reported symptoms of a depression, with a mean score of 35, indicating that severely depressed patients were included in this study. The participants in our study showed high levels of pathological symptoms and distress, and they worry a lot. Depressed patients are preoccupied with their own worlds, and they focus on their idiosyncratic information (Smith & Greenberg, 1981; Ingram & Smith, 1984; Smith, Ingram, & Roth, 1985). These patients show a

heightened awareness of internally generated information. They pay more attention to their own stream of ideas, and they appear to evaluate this information to be more important than non-depressed individuals. In their overview of the theoretical assumptions behind rumination, Papageorgiou and Wells (2003) assume that the theory of Alloy and colleagues, the concept of stress-reactive rumination to refer to the tendency to ruminate on negative inferences following stressful life events, is thought to occur prior to the onset of depressed mood. Whereas emotion-focused rumination, as suggested by Nolen-Hoeksema (1991), is thought to occur in response to a depressed mood. Depression begins with stress reactive rumination (Robinson & Alloy, 2003), while emotion focused rumination is triggered by a depressed mood. This ruminative state is characterized by self-focusing, but ruminative thoughts are not necessary self-relevant. Individuals may ruminate about their own lives, but also about life in general, or even about more abstract notions.

Negative memories are easier accessible (Williams & Broadbent, 1996; Lloyd & Lisham, 1975), and we know that the frequency with which memories are rehearsed (thought and talked about), affects how well and for how long events are remembered (Bluck & Li, 2001). When people ruminate, they repeat the easily accessible negative information over and over, creating even stronger memories. According to Lavender and Watkins (2004) ruminating increases negative future thinking in depressed patients. These authors describe ruminating as focusing on the self, being unable to avoid the painful affect when thinking about the future, which aggravates hopelessness. Davis and Nolen-Hoeksema (2000) suggest that rumination may be characterized as an inflexible cognitive coping style, based upon an underlying idea that rumination is a functional way to analyse the past and prepare for the future (Matthews & Wells, 2000). But that is apparently not the case. Self-focused, ruminative dysphoric patients generate less effective solutions to interpersonal problems and are more pessimistic than controls (Lyubomirsky & Nolen-Hoeksema, 1995). They produce more negative memories (Lyubomirsky, Caldwell, & Nolen-Hoeksema, 1998) and get stuck in what Ward, Lyubomirsky, Sousa, and Nolen-Hoeksema (2003) describe as 'behavioural paralyses': an inability to act upon their plans for the future. Ruminative people become repetitive, passive and helpless. But not just behaviourally paralyzed. They are also trapped in repetition of their thoughts, limiting the content of the material that can be used in envisioning future scenarios,

while this ability to flexibly combine features of previous experiences is central in constructing different hypothetical future scenarios (Schacter & Addis, 2007). And one of the main characteristics of suicidality is cognitive rigidity, or mental inflexibility (Ellis & Rutherford, 2008; Marzuk, Hartwell, Leon, & Portera, 2005).

According to Ochsner et al. (2004), rumination can be seen as maladaptive reappraisal, mentally worsening the situation. This kind of rumination refers to a focus on a specific cognitive content. Suicidal patients appear to focus their attention toward stimuli related to suicide (Becker, Strohbach, & Rinck, 1999). Rumination also contributes to global negative self-judgments when people highly analyze themselves, according to Rimes and Watkins (2005), and Watkins and Teasdale (2001). Worrying involves rumination about whether or not future negative events will occur (MacLeod, 1994), and therefore is a form of future thinking. And the study by Sherman, Cialdine, Schwartzman, and Reynolds (1985) acknowledges that imagining an event makes it more likely to occur. The cognitive content of the worrying suicidal patient is highly emotional, which makes it almost impossible not to think these thoughts (Bowers & Farvolden, 1996). Worrying in the present absorbs most of the available cognitive space, hardly any room left for hope-giving positive future thinking (e.g., Williams, Segal, & Teasdale, 2001). Suicidal patients show a lack of positive thoughts about the present, measured with a fluency test (chapter 6). We found an increase in present fatalism to be related to a higher risk time perspective profile (chapter 8). But further analysis of the data of our patients versus not-patients sample showed that, when controlled for the effect of negative past thinking, the role of present fatalism as a thinking style decreases (chapter 6). Therefore suicidal patients worry more, repeating negative memories, hardly corrected by positive ideas about the present. While feeling less in control, these present fatalistic patients showed to be more neurotic, scoring lower on conscientiousness, and less capable of collaborating with other people to solve problems or lower stress (chapter 5).

The future

Prior research has shown that there are differences between healthy individuals and depressed suicidal patients when it comes to future thinking. Whereas people in

general predict positive and optimistic futures (Markus & Nurius, 1986; Armor & Taylor, 1998; Newby-Clark & Ross, 2003), depressed patients judge future positive and negative scenarios to be equally likely (Pyszcynski, Holt, & Greenberg, 1987), and suicidal patients appear to overemphasize the negative aspects of the future. According to Holman and Silver (1998) empirical evidence suggests that as one's sense of the future diminishes, one's focus on the past is increased.

The retrieved, generalized and remodelled memories form the basis of ideas about the future. The prediction of the future is based upon these prior 'experiences' (Tooling, 2002), through imagination (Szpunar et al., 2007) and mental time travel (Suddendorf & Corballis, 1997; Suddendorf & Corballis, 2007). As Schacter and Addis (2007) pointed out, this connection between remembering and foretelling can also be found in the similarity between brain networks activated when remembering the past and imagining the future.

Negative information from the past is easily retrieved, and is being used as building blocks for future scenarios. And when we know that the ease with which the prediction can be constructed determines the subjective probability judgment for the event (Kahneman, Slovic, & Tversky, 1982), we understand why depressed patients can be so hopeless. They do not construct future possibilities, but they expect and predict the repetition of what they experienced before. The future is grim, because it is built upon a dark foundation of retrieved negative information.

This was confirmed by our findings on the role of decreased positive future fluency, as reported in chapter 6. The suicidal mind is affected by less positive information about the future. And suicidal patients worry more than non-suicidal patients do, as one of our conclusions was. They repeat negative information without the ability to imagine positive future outcomes. Therefore, it is understandable that they report to be more hopeless about the future. We found both decreased positive future fluency and increased negative present fluency, to be rather stable over time. We also concluded that suicidal patients have a tendency to focus on negative information from their past, less on past positive information. They feel more fatalistic about the present, and they are less focused on the future (chapter 7). This cognitive tendency, called time perspective, proved to be stable over time.

We also investigated Transcendental Time perspective in our study, an extension of time perspective theory, regarding thoughts about life after death. While most related studies focus on religion and suicidality, we used the broader concept transcendental future thinking. In our sample of patients in psychiatric care, we found no differences between suicidal and non-suicidal patients on transcendental future thinking. This might reflect the differences found in studies on suicidality and religion: a positive effect (Fabricatore, Handal, Rubio et al., 2004; Gibbs, 1997), no effect (e.g., Hills & Francis, 2005), or negative effects (Exline, Yali, & Sanderson, 2000; Zhang & Shenghua, 1996). The future, also after death, for people who consider committing suicide, might be experienced as attractive (no more suffering), as repelling (expected judgment of God), or with indifference. Further research using an instrument that discriminates between these three is needed.

Research question 2: “Can Future Oriented Group Training help to increase positive future thinking and decrease suicidal ideation?”

We based the training upon the assumption that the observed association between decreased positive future thinking and suicidal ideation could be affected. Possibly partly because of the above-mentioned temporal stability, it appeared not an easy task to foster positive future thinking in therapy, as we concluded in chapter 8 when discussing the outcomes of our randomized controlled trial. We concluded that we found no evidence to support the hypothesis of the association between increase of positive future thinking and decrease of suicidal ideation. Participants who reported to feel less suicidal, less hopeless and less depressed, showed no significant increase in positive future thinking. This brings us to the important distinction that we made during the training between positive future thinking and realistic future thinking. Our goal was never to promote daydreaming, fantasizing, or unrealistic wishful thinking. Most of the depressed and suicidal patients in our study, and in everyday practice, are restricted in capabilities and possibilities. They have to deal with the burden of their past and their limitations in the present. With our intervention we aimed to stimulate realistic prospection, based upon more realistic assumptions, more realistic interpretations, less affected by prior experiences.

For the general group of patients who we included, future oriented group training in the current format did not help to reduce suicidal ideation, and it did not help to feel less hopeless. At least not right after the training. Things were different when we examined the dose effect: the participants who were able to attend at least 7 sessions did better. And the data from the smaller sample, 9 months after the training, were more hopeful and indicated a longer-term effect, particularly when the dose (number of attended sessions) was taken into account. Participants who attended 7 sessions or more did significantly better nine months after the training than patients in the treatment as usual condition.

Prolonging the training, to assist participants to practice what they learned and to experience change, could possibly strengthen this. Although not our primary outcome measures, the positive effects of FOGT on depression and well-being were promising. This indicates, along with the positive evaluation of most of the participants, that patients find it valuable to engage in the training, and it helps them to feel better, or less miserable, about their lives. Our hypothesis, yet to be investigated, is that some of the participants have learned to take a more active position in life, trusting in a stronger internal locus of control.

In table 1 we summarize choices to further improve the future oriented group training. We made a distinction between the feedback we got from either participants or trainers and our own assumptions evaluating the project.

One of our original assumptions when developing the training was to make the intervention easily and quickly as possible accessible for most patients with suicidal ideas. We therefore chose to have heterogeneous groups of depressed suicidal patients, independent from underlying psychopathology. Our experience is that this made it possible to start new groups relatively easy, because we had enough candidates in our institutes. We feared that differences between the participants would be too big, but that was hardly ever a problem during the sessions. We feel that by delivering a work-group like structure, the one thing they had in common, suicide ideation, offered enough collectiveness. The differences between group members were not a problem, partly because the disclosure of individual emotional laden experiences was curbed by the trainers.

Table 1

Potential improvements of the training

	feedback from	our assumption
	participants/trainers	
homogeneous groups	-	-
prolonging the training	√	√
individual version of the training	-	√
follow up sessions	-	√
integration in individual therapy	√	-
stronger focus on balanced time perspective	-	√

Note. √ = positive, - = not received as feedback/ not advised

Many participants and trainers let us know they felt that prolonging the training would be advisable. Sometimes the pace was too high according to some participants, they felt they had to read a lot and it took time to do their homework assignments. Knowing that fear of failure is a major problem in this group, we offered simple texts and exercises, but we experienced that once a participant could not keep up with the homework, this could lead to dropout, or undesirable negative self-evaluation. The additional effect of a slower pace, the content of the training delivered in for instance 15 weekly sessions, could be further investigated in future research.

A way to improve the training could be to organize follow-up sessions, for instance every month, for a year. To follow-up on the basic elements of the training and to stay in touch with both psychiatric care and with fellow group members. It would give the opportunity to help patients further apply what they have learned in everyday life.

Some patients had difficulties integrating what they learned in the training in their regular treatment. We stimulated both participants and individual therapists to talk about the content of the training, but this was not formally integrated, like it is done in for example Dialectical Behaviour Therapy. This would probably enhance the quality of the treatment, improve the effects and possibly lower the dropout, but such a

treatment programme is hard to implement, it is costly and not suitable for the heterogeneous group the training aims to reach. We do think that informing the individual mental health care workers about the training and how to assist their patients who participate in the training could further improve the quality of the future oriented group training.

One aspect of the training was to focus on a helpful balance between looking back, living in the present and motivating oneself to focus on the positive future. The name of our training, but the content as well, might imply a narrow focus on the future. As we have concluded in chapter seven, lower Past Negative, higher Past Positive and lower Present Fatalistic scores are important as well. Maybe additional exercises, particularly regarding the past, could add to the overall effect.

The last improvement we want to mention is a stronger focus on self-discrepancies. After the early feedback we got we did we added a paragraph to the workbook on acceptance and mourning about loss, but maybe we should pay more attention to letting go unreachable or inappropriate goals. Sometimes by taking time to consciously mourn for the loss of what could have, or should have been, but never will. A stronger emphasis on this aspect in the training might be helpful.

Practical implications

A clinical study like ours needs to address the implication for everyday practice in psychiatry. The data we discussed above tell us that a time-limited training, delivered as an add-on intervention, complementary to all of the different therapies our patients receive, has a supplementary effect on suicidal ideation, depression and quality of life. The participants do a little better than patients in the control condition (TAU). As reported in chapter eight, those participants who filled in an anonymous evaluation form during the last session were positive about the training (8.2 out of 10).

Apart from the data we learned a lot about therapy for suicidal patients. Although hesitant at first, most participants were able to talk about their suicidal tendencies in a group, without ending up in a suicidal crisis. No serious suicidal crisis could be related to participating in the FOGT, and to our knowledge no participant in either TAU or

TAU+FOGT committed suicide. When we randomly analysed the audio recording of the sessions, we came to the conclusion that the intervention appeared easy to implement. The trainers were able to deliver the training as intended. This was affirmed by the feedback we received from the trainers after the sessions. Some trainers and departments decided to keep delivering the training after the study ended, before they had knowledge of the final results.

Our study stresses the importance of decreased positive future thinking in suicidal patients. The hypothesis that it is essential to explore thoughts about the future, and subsequently help patients to reconstruct possible positive future scenarios, has not been confirmed by our study unambiguously.

Implications for theory and research

We were able to distinguish two important factors in suicidal thinking. First, a specific thinking style, in which thinking about negative past experiences, decreased thinking about pleasant memories, and less orientation on the future is dominant. We also concluded that suicidal patients come up with less verbal material regarding positive memories, that they more easily produce negative thoughts about the present and less positive thoughts about the future. We related these findings on a theoretical level to increased hopelessness and thus, higher levels of suicide ideation. In the next paragraph we hypothesize how memories, expectations and suicidal thinking could be related.

A possible pathway: the mental construction of the future

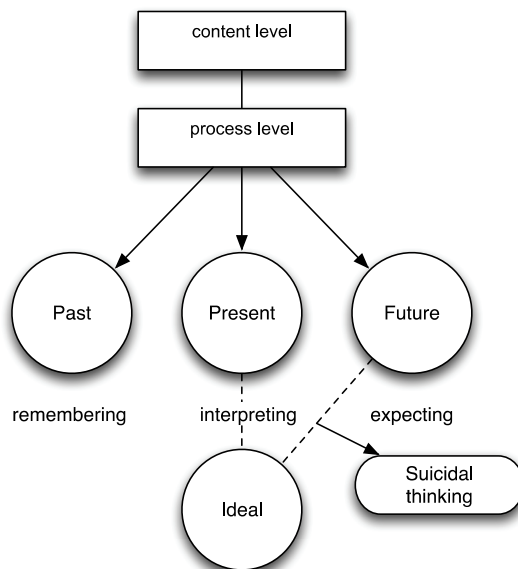
What is the relationship between hopelessness, future thinking and suicide? Why would a hopeless person, unable to imagine future positive scenarios, commit suicide? We postulate that one way of understanding suicide is that positive future thinking is needed to bridge the gap between a current negative self-evaluation, and how a person feels he wants to be, or needs to be. From a self-discrepancy perspective (Higgins, 1997), suicide can be understood as the result of an expected

continuation of an unbearable difference between the present unliveable self and one's ideal self. As discussed in chapter three, elements based upon discrepancy theory were implemented in the intervention.

In order to discuss the specific role of temporal thinking in suicidal ideation, we present the outline of a model, combining the different relevant components. We discriminate two overarching levels in temporal thinking: the content level, containing the building blocks of information, and the process level, describing how this information is assimilated. This distinction between content and process is widely accepted in cognitive psychology (Rajaram, in Roediger III et al., 2007). In their publication Wenzel, Brown, and Beck (2008) emphasize the interaction between situational hopelessness, attentional fixation and underlying suicidal schemas. This combination of factors is roughly comparable to what we propose. Experiences in the present trigger affective responses and automatic thoughts with suicide intent, based upon underlying core beliefs.

The product of temporal thinking could be described as a cognitive construction of one's past life (remembering), one's present life (interpretation), or assumptions about future life (expectation). So people think about themselves within a temporal context, particularly when they evaluate their lives, as is generally being done in suicidal thinking. And when we know hopelessness is based upon these cognitive constructions, we need to know more of how they originate.

When we have a closer look at the *content level*, it appears that negative information is dominant. Negative episodes in one's life are relatively more easily remembered (Newbly-Clark & Ross, 2003), probably because they are given more attention in order to be coped with their consequences (Baumeister, Bratslavsky, Finkenauer, & Vohs, 2001). Another aspect is that negative experiences need to be remembered in order to protect us from future danger.



Some scientists assume that a major function of our memory system is to store information that helps us to learn to be aware of imminent danger (Suddendorf & Busby, 2005; Suddendorf & Corballis, 2007). Others emphasize the importance of autobiographical memory in self-functions, like the sense of continuity (Bluck & Alea, in Sani, 2008), and the social and directive functions (Bluck & Alea, 2002). One of the most important functions of episodic memory is that it allows us to think about, and simulate, the future (Atance, in Dere et al., 2008). We remember in order to be able to predict hazard, because this aids us in our survival. If it were important to remember the past in faithful detail, then we might have expected a more efficient system to have evolved, according to Suddendorf and Corballis (1997).

When we think about this *processing level*, several possible sources can be suggested. In our study we mainly focused on Zimbardo's time perspective, as a generic automated script-like cognitive structure, personal and mostly unconscious. But there are of course other possibilities, like Wenzel, Brown, and Beck's (2008) core beliefs, or Young, Klosko, and Weishaar's (2003) schemas from schema therapy.

Limitations

Our core assumption was that suicide ideation would be related to an inability to mentally construct positive future scenarios. As we discussed above, such a mental picture is the outcome of a complex interaction between different factors. We used a modified version of MacLeod's Future Thinking Task to assess verbal fluency, as has been done before in research, but alternatives should be considered. Another frequently used instrument is the AMT (autobiographical memory test, Williams & Broadbent, 1986), which assesses memory content using cue words. We should address some limitations of these 'tell me what's on your mind' methods though. First of all, as summarized by Rose and Sherman (2007) "though explicitly considered and reported expectancies are surely influenced by underlying patterns of association, they are also influenced by many other factors including a host of self-promoting and self-presentational concerns that may distort or conceal the accurate expression of expectancy". Sometimes people are not able or willing to say what's on their minds; deliberately, or without being aware of it. Whether a verbal fluency method, with a set time limit, measures one's ability to produce plans about the future: likely, confident, concrete, accessible and explicit (see Olsen et al., 1996), is unclear. Let alone what the relationship between plans and eventual future behaviour is. Prospective and longitudinal research is needed to further investigate this.

One limitation regarding generalizability was the high number of people who were not included in the study in the first place. Patients we invited, sometimes directly and sometimes through their therapist, but who decided not to participate. We do not know if this is a particular group of suicidal patients. Are they too depressed? Too demoralized? Or did they not feel suicidal anymore soon after the initial screening? We were not able to investigate this group, nor did we follow up on the participants lost during the project. Neither the people who dropped out of the training, nor the patients who did not attend the second or third assessment. We know that a few participants decided to stop attending the training because they found it hard to cope with fellow suicidal patients in the group. Some patients told us they stopped attending the training because it did not help them, others thought to do so much better that they found further attendance after a few sessions unnecessary.

We asked participants who attended the last session to evaluate the training and as we have seen most of them were positive about the training and the improvement. We did not gather information about how the patients who did not attend this last session evaluated the training, which could have led to a bias in the overall score.

FUTURE RESEARCH

A direct consequence of that we discussed in this chapter would be to aim future research on the following questions:

- What is the interaction between what we termed content versus processing level? Research on the role of specific suicide cognitive schemas is sparse.
- Is it meaningful, particularly in a clinical sample, to further subdivide the Future scale of the ZTPI into a positive and a negative subscale, to develop a better understanding of the negative aspects of future thinking (see Carelli, Wiberg, & Wiberg, 2011)
- Would a prolongation of the training, either longer sessions or more sessions, lead to a greater effect on the main parameters (suicidal thinking, hopelessness and depression)?
- Which patients profit most from the current intervention, or interventions similar to this one (subgroup analysis)?
- Can the training be integrated in treatment as usual, or should it be delivered as an add-on intervention?
- The current intervention aimed to enhance realistic future thinking; would a therapy focusing on integrating the other time frames past and present (and possibly transcendental future thinking) be more effective? (e.g., Zimbardo, Brunskill & Ferreras, *undated*; Zimbardo, Sword, & Sword, 2012)
- Prospective research on the role of perceived self-discrepancies could further support our hypothesis.

FINAL THOUGHTS

Our study contributes to the research in suicidology. Intervention studies, particularly RCTs investigating suicidal ideation among patients with severe psychiatric problems, are rare. This study acknowledged how difficult it is to treat suicidal ideation. Thoughts about suicide do not change easily, but we have proven that a specific intervention, combining elements that are not uncommon in treatment, does significantly affect depression and distress in depressed and suicidal patients. These moderate positive results do give rise to further research in this field.

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Nederlandstalige samenvatting

Dutch summary

Translation of the first paragraph of chapter 8

In hoofdstuk een hebben we hopeloosheid en afname in positief toekomstdenken geïntroduceerd als kernaspecten in het suïcidaal proces. We zijn ingegaan op het begrip suïcide ideatie en de behandeling daarvan. Het onderzoeksdesign, de instrumenten en het onderzoeksplan gebruikt in deze gerandomiseerde klinische studie (RCT) zijn geïntroduceerd. Het tweede hoofdstuk beschrijft de manier waarop de studie is geïmplementeerd. Het was ons doel een bondige, korte interventie te ontwikkelen die gemakkelijk te implementeren zou moeten zijn in de praktijk van de reguliere geestelijke gezondheidszorg. Een methode die beschikbaar zou moeten zijn voor een brede groep patiënten in de GGZ. In hoofdstuk drie hebben we de primaire onderdelen van de training besproken, samen met hun theoretische achtergrond. Probleemoplossing, of doelgerichtheid zoals we het genoemd hebben, cognitieve therapie en risicovermindering waren de belangrijkste elementen. Onze interventie had tot doel suïcide ideatie te verminderen, door het stimuleren van positief (of beter gezegd: realistisch) toekomstdenken. In hoofdstuk vier is verder ingegaan op suïcide ideaties in een bredere context. In het vijfde hoofdstuk is het belang van tijdsperspectief, iemands tendens zich in zijn denken te richten op positieve of negatieve zaken uit het verleden, het heden, of de toekomst, verder uitgediept. We hebben suïcidale patiënten vergeleken met niet-suïcidale patiënten op het gebied van tijdsperspectief, persoonlijkheid, ernst van de pathologie en van depressie. We kwamen tot de conclusie dat een tendens om je te focussen op negatieve herinneringen gerelateerd is aan de ernst van de persoonlijkheidsproblemen. Verder vonden we een relatie tussen een lagere toekomstgerichtheid en suïcidaliteit.

In hoofdstuk zes werd onze hypothese bevestigd dat suïcidale patiënten minder dan niet-suïcidale patiënten in staat zijn positieve gedachten over de toekomst te genereren. Daarnaast lieten onze bevindingen zien dat suïcidale patiënten minder goed in staat zijn positieve gedachten over het heden onder woorden te brengen. Het zevende hoofdstuk richtte zich op tijdsperspectief-profielen, in een tweede grotere steekproef. We onderscheidden een specifiek patroon van ZTPV (tijdsperspectief) subscores onder niet suïcidale depressieve patiënten. Een kenmerkende verhouding tussen de drie tijdsframes (verleden, heden en toekomst) in vergelijking met suïcidale patiënten: lagere Negatief Verleden, hogere Positief Verleden en lagere Fatalistisch Heden scores, met licht verhoogde Toekomst scores. We konden twee kenmerkende suïcidale clusters onderscheiden: een ernstiger depressieve subgroep (hogere

Negatief Verleden scores), en een toekomst georiënteerde subgroep (hogere Toekomst scores, lager Negatief Verleden en lager Fatalistisch Heden). We vonden dat tijdsperspectief, gemeten met de ZTPV, stabiel is over de tijd, wat een indicatie kan zijn voor tijdsperspectief als karaktertrek. We vonden geen verschillen tussen suïcidale- en niet-suïcidale proefpersonen op het gebied van gedachten over leven na de dood (Transcendentiaal Toekomstdenken).

In hoofdstuk acht richtten we ons op de tweede onderzoeksvraag, namelijk het effect van onze Toekomstgerichte groepstraining voor suïcidale patiënten (TGT). We concludeerden dat patiënten die vaker dan zes van de tien bijeenkomsten aanwezig waren minder suïcidaliteit rapporteerden op vraag 9 van de BDI-II. Hoewel we enig aanvullend effect vonden op suïcide ideatie (Cohen's $d = .2$ tot $.3$), was dit effect niet statistisch significant. De groep van mensen die vaker dan zes keer kwamen waren minder depressief ($d = .4$) en door TGT verminderde de last en de symptomen die ze hadden, een indicatie voor een verbeterde kwaliteit van leven dan in de groep deelnemers die alleen de gebruikelijke behandeling kregen. We vonden geen verschillen op het gebied van parasuïcidaal gedrag, behalve dat TGT beschermend lijkt te werken tegen overmedicatie zonder doodsintentie.

In het afsluitende negende hoofdstuk zijn de uitkomsten op de onderzoeksvragen besproken in een wat breder kader, zijn de theoretische en praktische implicaties aan bod gekomen, evenals de beperkingen van het onderzoek en enkele ideeën over vervolgonderzoek.



Acknowledgements

There are a lot of people who helped me in this project. There is something like 'order' in language, there are supposed to be first and last words in sentences. In my mind, in my personal reality, there are just a lot of contributors. My parents have been there for me during these latest steps in my personal and professional development, but they have been there all the time and wherever I went (and believe me, it was quite a trip). I wrote something in Dutch for them on the next page. My partner Loes, who was able and willing to give up a part of our mutual life because I wanted this all for myself. We talked a lot, she supported me, and she endured it to spend many evenings, weekends and vacations, with me minding my own business. I will deliver the rest of the words and thanks to her personally.

Of course Ad Kerkhof and Aartjan Beekman need to be thanked, professors in their fields of knowledge and great people to work with. I always wondered how on earth it was possible that they were willing to spend so much time with me. We laughed a lot talking about suicide, about my professional journey, and about running. They taught me to be a scientist, instead of the part-time philosopher I used to be.

A reason for me to study suicide lies in all the people I met during my professional career who struggled with suicidal thoughts. Most of these people made it, somehow, with and most of the times without my help. Some did not survive their suicidal thoughts. I would like to thank all these people for trusting me to talk about this perhaps most private matter and teaching me about life and death.

I wish to thank my colleagues in De Rembrandthof who did all the work, while I was chasing my Future Thinking dream. And all the other contributors who told me where to look, what to read, and how to do it.

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¹ In English the Dutch title drs is omitted, and only the highest title is stated (e.g., prof.).

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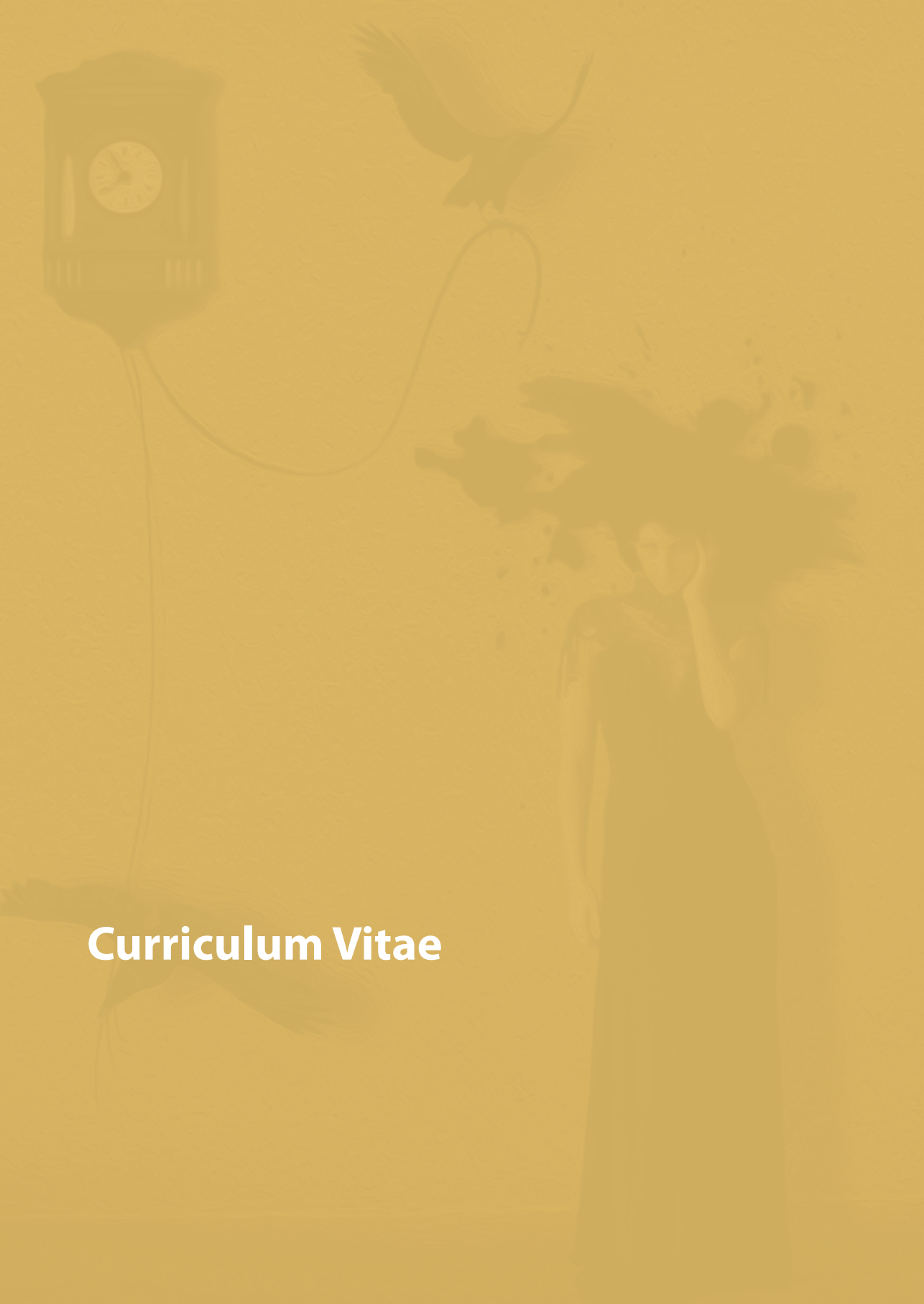
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DANKWOORD

Voor mijn vader en moeder

Tussen al deze ingewikkelde Engelse woorden wil jullie graag bedanken voor de mogelijkheden die ik van jullie in mijn leven heb gehad om te worden wat ik geworden ben. Of ik nou wilde schaken, wilde surfen, zeeman wilde worden, verpleegkundige of psycholoog, jullie hebben me de ruimte gegeven en zijn achter me blijven staan. Die steun en ruimte om mezelf te zijn was het belangrijkste wat ik als kind nodig had. Dat ik nu doctor in de psychologie ben geworden is maar een klein stukje van veel meer waarin jullie belangrijk zijn geweest – en nog steeds zijn. *Bedankt ma, bedankt pa!*



Curriculum Vitae

Wessel van Beek was born in 1967 in Veenendaal, the Netherlands, where he, after some rambles, currently lives again. He followed secondary school, two years of nautical college in Amsterdam, to subsequently get a Bachelor's degree as a nurse (HBO-V) and graduate with credit. During the last year of this study he decided to study clinical psychology and philosophy at the University of Utrecht. He graduated with a thesis about a systems oriented approach of the dismissal procedure in clinical psychiatry. He did not finish his philosophy study (yet).

During his study and after graduation Wessel worked as a psychiatric nurse in emergency psychiatry and on a ward with children and adolescent patients. After that he was a psychotherapist-in-training in PTC De Viersprong (Halsteren), at the RIAGG Dordrecht and in a neuropsychiatric institution (Laren). He started working at an emergency and short-term treatment ward, in combination with a ward for clinical treatment of personality disorders. This gave him the opportunity to finish his registration as a psychotherapist (client-centered therapy and systems therapy).

Subsequently he started working in mental health centre De Rembrandthof (Hilversum) as a psychotherapist in the programme for personality disorders. After several trainings and courses (Structural Interview, STEPPS, DBT, MBT, schema therapy, psychodiagnostics) Wessel decided to combine his daily work with suicidal patients with his long existing interest in 'time', and presented prof. dr. Kerkhof the outline of a promotion plan. This led to collaboration with professor Kerkhof and professor Beekman, and this thesis as the final result.

Currently Wessel combines his work at GGz Centraal with psychotherapy in his private practice, in collaboration with his partner Loes, and activities as a teacher and trainer in several educational settings (RINO, Cure & Care Development). In 2013 he hopes to present the Handbook of Time Perspective, as one of the editors and authors.

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Appendix

Experimental Instruments

In the study we used four instruments that were either translations of existing versions (ZTPI and TFTPI), a modification and translation (TFT) and an original questionnaire (Self-destructive behaviour).

Zimbardo Tijdspectief Vragenlijst (ZTPV)

Dutch version of the Zimbardo Time Perspective Inventory (ZTPI – Zimbardo & Boyd, 1999). The ZTPV is a verbatim translation of the original ZTPI. Our translation was corrected by a bilingual Dutch/English speaker, who approved the corrected second version.

(see next page)

Instructie

Lees elke vraag en beantwoord zo eerlijk mogelijk: “Hoe karakteristiek of waar is dit voor u?” Kruis het passende antwoord aan, aan de rechterkant. Vul alle drie de pagina's in.

		helemaal niet waar	neutraal ▼			helemaal waar
		a	b	c	d	e
1.	Ik vind feestvieren met vrienden één van de belangrijke plezierige dingen is in het leven.					
2.	Gebouwen, geluiden of geuren uit mijn kindertijd zorgen vaak dat heerlijke herinneringen terugkomen.					
3.	Het lot bepaalt veel in het leven.					
4.	Ik denk vaak aan wat ik anders had moeten doen in mijn leven.					
5.	Mijn beslissingen worden vaak beïnvloed door anderen en zaken om me heen.					
6.	Ik ben van mening dat iemand's dag elke ochtend van te voren moet worden gepland.					
7.	Het doet me een plezier om aan mijn verleden te denken.					
8.	Ik doe dingen impulsief.					
9.	Ik maak me geen zorgen als dingen niet op tijd gebeuren.					
10.	Als ik iets wil bereiken, stel ik doelen en bepaal ik welke middelen ik nodig heb om dat doel te bereiken.					
11.	Als ik de balans opmaak is er veel meer goeds dan slechts te herinneren over mijn verleden.					
12.	Wanneer ik naar mijn favoriete muziek luister ben ik vaak helemaal de tijd kwijt.					
13.	Het noodzakelijke werk vóór een geplande einddatum doen is belangrijker dan de plezierige dingen van vandaag doen.					

14.	Omdat 'het komt zoals het gaat', doet het er niet zo toe wat ik doe.					
15.	Ik houd van verhalen over hoe het was in 'die goede oude tijd'.					
16.	Pijnlijke ervaringen uit het verleden blijven zich herhalen in mijn hoofd.					
17.	Ik probeer alles uit mijn leven te halen, dag voor dag.					
18.	Het maakt me van streek als ik te laat ben op mijn afspraken.					
19.	Ideaal gezien zou ik elke dag leven alsof het mijn laatste was.					
20.	Blij herinneringen over goede periodes komen makkelijk in mijn gedachten.					
21.	Ik kom mijn verplichtingen naar vrienden en autoriteiten op tijd na.					
22.	Ik heb mijn deel van mishandeling en afwijzing wel gehad in mijn leven.					
23.	Ik beslis op het moment zelf.					
24.	Ik neem de dag zoals die komt, in plaats van die te plannen.					
25.	Het verleden heeft te veel onplezierige herinneringen waaraan ik liever niet denk.					
26.	Het is belangrijk om spanning in mijn leven te brengen.					
27.	Ik heb fouten gemaakt in het verleden die ik graag ongedaan zou maken.					
28.	Ik heb het idee dat het belangrijker is plezier te hebben in wat je doet, dan het werk op tijd te doen.					
29.	Ik word nostalgisch als ik over mijn jeugd denk.					
30.	Voor een besluit te nemen, weeg ik de kosten tegen de baten af.					
31.	Risico's nemen zorgt er voor dat het leven niet saai wordt.					
32.	Het is belangrijker om me te richten op hoe het leven verloopt, dan op waar het naar toe gaat.					
33.	Dingen komen haast nooit uit zoals ik verwacht had.					
34.	Het is moeilijk voor me om onplezierige beelden uit mijn jeugd te vergeten.					

35.	Als ik aan doelen en uitkomsten moet gaan denken, haalt dat het plezier en de gang uit wat ik aan het doen ben.					
36.	Zelfs wanneer ik plezier beleef aan het hier-en-nu word ik teruggeworpen tot vergelijken met soortgelijke ervaringen uit het verleden.					
37.	Je kunt niet echt plannen voor de toekomst, omdat er zoveel verandert.					
38.	Mijn levenspad wordt gecontroleerd door zaken die ik niet kan beïnvloeden.					
39.	Het helpt niet om je zorgen te maken over de toekomst, omdat je daar toch niets aan kunt veranderen.					
40.	Ik maak taken op tijd af door stapje voor stapje vooruitgang te boeken.					
41.	Ik merk dat ik afhaak wanneer familieleden praten over hoe de dingen vroeger waren.					
42.	Ik neem risico's om spanning in mijn leven te brengen.					
43.	Ik maak lijsten van dingen die ik nog moet doen.					
44.	Ik volg vaak meer mijn hart, dan mijn hoofd.					
45.	Ik ben in staat verleidingen te weerstaan, wanneer ik weet dat er nog werk is te doen.					
46.	Ik merk dat ik helemaal in beslag genomen wordt door de opwindende van het moment.					
47.	Het leven van vandaag is te ingewikkeld, ik zou liever het eenvoudigere leven uit het verleden leven.					
48.	Ik verkies spontane vrienden boven voorspelbare vrienden.					
49.	Ik houd van familie rituelen en tradities die regelmatig herhaald worden.					
50.	Ik denk over de slechte dingen die gebeurd zijn met me in het verleden.					
51.	Ik blijf werken aan moeilijke of oninteressante taken, als die me helpen vooruit te komen.					
52.	Geld besteden aan de pleziertjes van vandaag is beter dan sparen voor de veiligheid van morgen.					
53.	Vaak helpt geluk meer dan hard werken.					

54.	Ik denk over de gemiste kansen op goede dingen in mijn leven.					
55.	Ik vind het fijn als mijn intieme relaties gepassioneerd zijn.					
56.	Er is altijd tijd om mijn werk alsnog af te krijgen.					

Transcendentale Toekomst Tijdspectief Vragenlijst (TTTV)

Dutch version of the Transcendental Future Time Perspective Inventory (TFTPI – Boyd & Zimbardo, 1996). The TTTV is a verbatim translation of the original TFTPI. Our translation was corrected by a bilingual Dutch/English speaker, who approved the corrected second version.

Lees elke vraag en beantwoord zo eerlijk mogelijk: “Hoe karakteristiek of waar is dit voor u?” Kruis het passende antwoord aan, aan de rechterkant.

a = helemaal niet waar

b = een beetje niet waar

c = neutraal

d = een beetje waar

e = helemaal waar

	a	b	c	d	e
1. Alleen mijn stoffelijke lichaam zal ooit sterven					
2. Mijn lichaam is alleen maar een tijdelijke plek voor wie ik echt ben					
3. De dood is slechts een nieuw begin					
4. Ik geloof in wonderen					
5. De evolutietheorie verklaart op een juiste manier waarom mensen zijn ontstaan					
6. Mensen bezitten een ziel					
7. Met wetenschap kun je niet alles verklaren					
8. Ik zal verantwoording moeten afleggen voor mijn daden als ik sterf					
9. Er zijn goddelijke wetten waar mensen zich aan zouden moeten houden					
10. Ik geloof in geesten					

Tijd Fluency Test (TFT)

Modification of the Future Thinking Task (FTT – MacLeod, personal communication). The original instructions were translated into Dutch. Whereas the FTT only asks for thoughts about the future, we added both the past and the present.

Past		Present		Future	
				<ul style="list-style-type: none"> - next week - next year - next 5-10 years 	
negative	positive	negative	positive	negative	positive
expected influence		expected influence		probability of	
on the future ¹		on the future		occurring ²	
emotional significance ³		emotional significance		emotional significance ⁴	

We started the TFT by asking about the future, first positive (three different time-zones: next week/next year/next 5-10 years, in this order) then negative (next week/next year/next 5-10 years). We then literally repeated the responses patients gave and asked them to estimate the probability that this would occur, and how emotional significant this would be. Both on a 7 point Likert scale. We then asked about positive thought or ideas from the past, negative ones, and subsequently participants were asked to assess the influence of these memories on the future and the significance of the memories. This was repeated for thoughts about the present.

¹ "How will this experience affect your future?"

² "How probable is it that this will occur?"

³ "How significant is this for you?"

⁴ "How significant will this be for you if it will occur?"

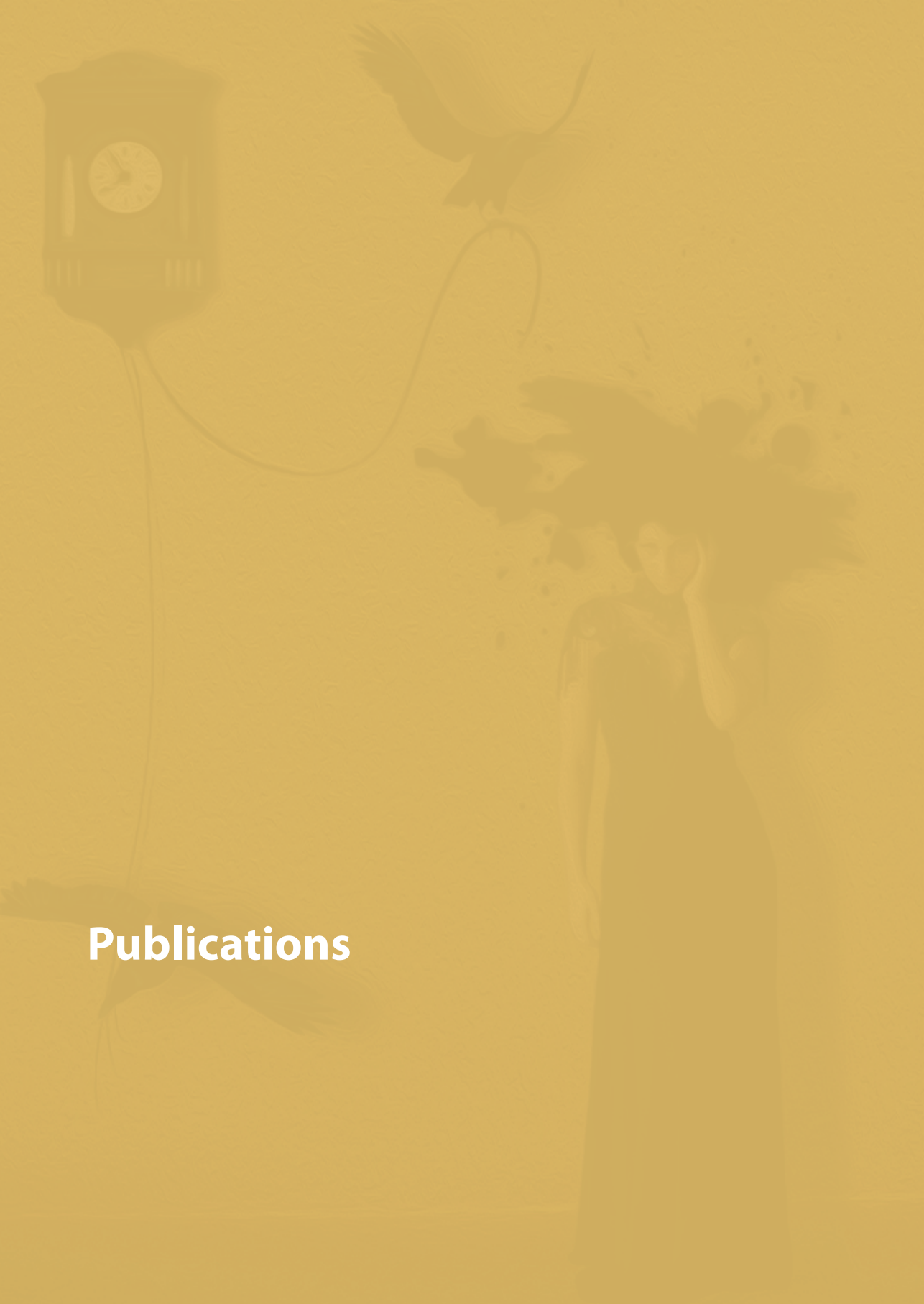
Vragenlijst Zelfdestructief gedrag

This Self-destructive behaviour questionnaire consisted of 5 questions regarding self harming and suicidal behaviour. The items were based upon existing literature on self-destructive behaviour.

De afgelopen drie maanden:

(omcirkel het juiste antwoord)

1. Heb ik mezelf opzettelijk beschadigd of pijn gedaan zonder dat ik daar dood aan wilde gaan	ja	nee
2. Heb ik roekeloos gedrag vertoond omdat het me allemaal niks meer kon schelen (bijvoorbeeld veel te hard rijden, onveilige seks, ruzie zoeken)	ja	nee
3. Heb ik te veel medicatie genomen of andere dingen gedaan om van de wereld te zijn, zonder dat ik dood wilde	ja	nee
4. Heb ik geprobeerd mezelf iets aan te doen, met de bedoeling dat ik er dood aan zou gaan	ja	nee
5. Bent u op dit moment van plan u zelf binnenkort iets aan te doen?	ja	nee



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