

Mindfulness-Based Cognitive Therapy in the treatment of recurrent suicidality

*Exploring if hypothesised mechanisms of change
in MBCT for recurrent depression are applicable
for clients with recurrent suicidal ideations and
behaviour*

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Abstract

The reviewed literature suggests suicidal cognitions is recurrent in nature, and how relapse is caused by cognitive reactivity as hypothesised by the differential activation hypothesis. Due to activation of mental nodes inheriting depressive and/or suicidal cues (either in the form of thoughts, mood, memories or body postures, a reactivation of a specific depressogenic and/or suicidal constellation, may be established. Increased abstract-analytical (and language-based) processing and a cognitive loop of depressogenic specific (contrary to implicit and holistic) cognitions is suggested to found the base in which the phenomenon of over-general memories, toxic self-discrepancies and rumination may arise. Suicidal individuals may be more sensitized to reactivation of discrepancy-based processing inducing self-discrepancies and hopelessness which may be linked to a deterioration of problem solving-abilities.

Mindfulness-Based Cognitive Therapy (MBCT), is a cognitive science-modification of Jon Kabat Zinn's Mindfulness-Based Stress Reduction (MBSR) subsumed under so-called third-wave cognitive behavioural therapies which emphasis on process rather than content, relationship to symptoms and on self-compassion is put to the fore. Reviewed literature suggests MBCT targets the mechanisms causing reactivation and discrepancy-based processing in depressed patients, and given the similitates between mechansism driving symptom maintenance and relapse between recurrent depression and recurrent suicidality, MBCT there is an emerging evidence base on MBCT administrated to clients who suffer from recurrent suicidality. Although preliminary, the evidence- base for MBCT administrated as a treatment for recurrent may be especially useful for patients struggling with recurrent suicidality. However, the body of evidence is still small, and there are few studies specifically targeting individuals with a previous history of deliberate self-harm, most commonly it has not been distinguished between patients struggling with suicidal cognitions and those also engaging in deliberate self-harm. Implications for future research are discussed.

Preface

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1 Background and aims

According to the International Association of Suicide Prevention (2006), suicide accounts for more deaths than all wars, terrorist acts and interpersonal violence combined. Suicide is considered a low prevalent phenomenon, still it accounts for at least as much as 1,5% of mortality and is the tenth leading cause of death worldwide (Hawton & van Heeringen, 2009). The official global counts of suicide is suggested to be highly underestimated, as countries differ in their death certification procedures for unexpected deaths, and in their requirements for the deaths being recorded as a suicide, as well as scarce data from rural countries (Hawton & van Heeringen, 2009). According to the national institute of public health in Norway, suicide counted for 614 deaths in 2016 (12 per 100 000), and the numbers tend to be stable over years (Folkehelseinstituttet, 2019). Several population based studies has revealed prevalence of suicidal ideation in the general population ranging from 5% up to 10% (Forkmann et al., 2014), in clinical samples the prevalence can be as high as 46,9% (Goldney, Wilson, Dal Grande, Fisher, & McFarlane, 2000). A causal relationship between psychological mechanisms that give rise to suicidal ideation (e.g. a feeling of being trapped with no sense of escape) and low mood is observed (Goldstein & Willner, 2002). More than half of all people who die by suicide is believed to meet the criteria for current depressive disorder, based on psychological autopsies (Cavanagh, Carson, Sharpe, & Lawrie, 2003), the association between depression and suicide is further demonstrated by prevalence studies that suggests 2,2% to 8,6% of those suffering from MDD at some point will die by suicide (May, Klonsky, & Klein, 2012). The population attributable ratio (PAR) for depression in suicidal behaviour is 80%, which implies that if depression is eliminated there should be an 80% reduction in suicidal behaviour.

Major Depressive Disorder (MDD) is acknowledged by the World Health Organization (WHO) as a major public health problem, and is projected to be the leading cause of disease burden worldwide by 2030 (World Health Organization, 2004).

Despite increased access to evidence-based treatments, increased use of antidepressant medication and increased emphasis on prevention, there seems to be no evidence that prevalence is changing according to Patten et al. (2016). The authors hypothesised that this is partly accounted for by the fact that depression now is more often understood as a chronic

phenomenon and thus the prevalence is not only manipulated by inflow of individuals with first onset single depressive episodes. Williams, Duggan, Crane, and Fennell (2005) argues depression and suicidal cognitions has shown to share several cognitive features. An understanding of MDD as a chronic, recurrent syndrome with a high risk of relapse to a clinically severe profile of re-emerging symptoms may imply suicidal cognitions and/or behaviour should be given specific interest. As recurring suicidality amongst those who have experienced suicidal cognitions and/or behaviour during any depressive episode is common (Williams 2008), each relapse thus possibly increases the risk of both suicidal behaviour and mortality by suicide.

The aim of this dissertation is to discuss the theoretical merit of and evidence base for Mindfulness-Based Cognitive therapy in the treatment of suicidality. The dissertation gives specific notice on the mechanisms of suicidal ideation (SI) and deliberate self-harm (DSH), and how the recurrence of SI and DSH may be linked to the same mechanisms that causes relapse to depression. A diagnostic framework of recurrent depression is chosen, as suicidal ideation and deliberate self-harm are commonly co-occurring symptoms to depression, and psychological autopsies shows 80% of those who die by suicide is believed to meet the criteria of a mood-disorder, most commonly in the depressive spectrum (Cavanagh, Carson, Sharpe, & Lawrie, 2003). As to relevant literature, my starting point has been Mark Williams' book Cry of pain (Williams, 2014) and Teasdale's differential activation hypothesis (Teasdale, 1988). The Integrated Motivational-Volitional model who aims to conceptualize the transition from suicidal ideation to an act of deliberate self-harm has served as a framework for exploring the different factors linked to suicidality (O'Connor, 2011). As for literature on mindfulness-based interventions, I started out with review-articles such as Kuyken et al. (2016) and van der Velden et al. (2015). Databases includes Google scholar, PubMed and PsycInfo.

The first part of the dissertation will focus on the phenomenon of recurrent depression. A cognitive science approach is chosen, and mechanisms of sustainment and reactivation of depression as hypothesised by Teasdale's differential activation hypothesis serves as the fundament. In the second part of the dissertation I have chosen to investigate whether a similar model is applicable to suicidal ideation and deliberate self-harm. Various problems regarding defining suicidal behaviour and addressing risk factors of such behaviour are also discussed. Williams' cry of pain model serves as a basis of which the formation of suicidality

is understood. In the third part of the dissertation possible mechanisms of recurrence of suicidality is discussed, and implications for treatment with MBCT.

1.1 What is the scope of problem?

Recurrent suicidal depression is a major global health problem with high prevalence. The high numbers are thought to be caused not only by inflow of individuals with a first onset depressive episode, but mainly caused by individuals experiencing relapses (Patten et al. 2016). Evidence suggests the nature of depression is the one of relapse (due to cognitive reactivation) and remission, with suicidal ideation as one of the most frequent recurring symptoms during relapse (Williams, Van der Does, Barnhofer, Crane & Segal, 2008).

2 A cognitive science account of depression

2.1 Major Depressive Disorder

In the World Health Organisation's International Classification of Diseases, tenth version (ICD-10), recurrent depressive disorder (F33) is described as recurrence of depressed episodes characterized by lowering of mood, reduction of energy, and decrease in activity. Self-esteem and self-confidence are almost always reduced, and ideas of guilt and worthlessness are often present. The classification of major depressive disorder in the diagnostic and statistical manual of mental disorders, fifth version (DSM 5), is similar to the one in ICD-10. In DSM 5 *recurrent thoughts of death (not just fear of dying), suicidal ideation without a specific plan, or a suicide attempt, or a specific plan for committing suicide* is included in the A criteria list.

In both ICD-10 and DSM 5 the range of severity in unipolar (depressive) mood disorders are classified as several discrete diagnoses, ranging from dysthymic mood and single, mild episodes to recurrent severe episodes of depression with psychotic symptoms. Judd and Akiskal (2000) argues that MDD is represented as a longitudinal clinical structure expressed by fluctuating symptoms along a continuum of symptomatic severity with a high risk of relapse, not discrete disorders as described by diagnose manuals (e.g. dysthymia). The high risk of relapse is illustrated by a 15 year follow-up study of 380 patients presented to mental health care sections in the US, 85% of the participant experienced recurrence after their index episode of depression (Mueller et al., 1999). Studies suggests subclinical dysthymic symptoms are common (Judd & Akiskal, 2000), and higher risk of relapse is associated with both subclinical symptoms when in remission, and number of full blown clinical episodes (Hardeveld, Spijker, De Graaf, Nolen, & Beekman, 2010).

One of the most cited model of depression is Beck's (1963) cognitive model of depression. Beck argued depression is a "thought disease", where depressogenic cognitions are latent diatheses to depression. Thoughts, behaviour and emotional response are mediated through ones thoughts, interpretations or meanings attributed to a given situation (Beck, Rush, Shaw,

& Emery, 1979). When a person is suffering from depression, these thoughts are predominantly negative about the self, the future and the surroundings (the depressive triad). Postulated by Beck (1963), all depressed people show this triad. Descriptively features of depressive cognition, according to this model, are hypothesised to be negativity (depressed peoples cognitions are more negative than non-depressed people experience), exclusivity (negative thoughts are pervasive and tends to exclude positive ones), and automaticity (the cognitions are repetitive, unintended and not easily controllable) (Haaga, Dyck, & Ernst, 1991). The negative thought content is derived from negative and/or depressogenic self-schemas, formed as a result of negative experiences while growing up (Lau, Segal, & Williams, 2004). The main assumption was that dysfunctional attitudes and negative self-schemas left the individual in a cognitive landscape of greater risk for relapse. These dysfunctional beliefs and cognitions would be activated when the person experienced stress-full events. Thus negative thinking and depressogenic self-schemas play a causal role in both onset and recurrence of MDD in a diatheses-stress model where a stress-full life event will activate latent depressogenic cognitions due to the persons dysfunctional processing. In order to activate the schema, the stimula will have to provide enough energy to exceed the activation threshold level required for the schema to be fully active (Scher, Ingram, & Segal, 2005). Indirect activation may also occur when a schema is set in action by a link to other fully activated schemas. Schemas are linked to each other based on various degrees of similar content (associative networks), and if the association is strong enough between two schemas, both can be activated even if a stimuli only trigger one of them (Lau et al., 2004). Given the assumption that dysfunctional attitudes could count as the underlying mechanism that causes recurrence of depression, it should be expected to find evidence of these schemas not only during an episode of depression, but whenever the person experienced similar events that were present when the schemas was formed. However, this prediction has not been validated by empirical studies. The vast majority of studies measuring dysfunctional attitudes (e.g. by the Dysfunctional Attitudes Scale (DAS)) in both groups of formerly depressed patients and healthy controls, identified no differences with regards to negative thought biases (Beck, 2008; Lau et al., 2004; Teasdale, 1983)

2.2 Differential Activation Hypothesis

The Differential Activation Hypothesis (DAH) is a response to the failure of empirically validate Beck's (1979) model of depressogenic schemas. The DAH draws on associative network theory and how mood can affect information processing and memory retrieval. Teasdale (1983) argue there should be no doubt negative thinking and biased information processing plays a crucial role in the mechanisms of depression, but the association between depression and negative thinking might best be understood as a reciprocal relationship, where negative cognitions is part of a cycle where depression increases the probability of just those cognitions which will cause further depression. Whilst the original sources of depressive onset might vary hugely, the crucial factor that determines whether the initial depression will intensify and persist is the cognitive pattern that is present once depressed (Teasdale, 1988). The Differential Activation Hypothesis (DAH) assumes that during early episodes of depression certain patterns are established between depressed mood and negative thinking (Lau et al., 2004). As a fundamental aspect of understanding the relationship between mood and other cognitive aspects of depression, Teasdale (1983) make use of Bower's associative network theory (Bower, 1981). This theory proposes that affects share some of the properties of propositional nodes in an associative network. Thus, emotions are central units that have strong linkages to other aspects of the network (behaviours, beliefs, events and themes) (Singer & Salovey, 1988).

The DAH makes several assumptions; (a) depressed mood negatively biases a range of cognitive processes, the interpretations of events and persons, and the generation of expectations concerning the future outcome of events (b) the effects of depressed mood on information processing increase the likelihood that both on-going events and material accessed from memory will be interpreted in ways that will increase depression (c) although there will be some similarities across most people in the ways in which cognitive processes are affected by depressed mood, there will also be differences between individuals in the specific nature of the cognitive processes affected, e.g. differences between individuals in the experiences, and their interpretation, that have previously produced depressed mood (Teasdale, 1988)

2.2.1 Mood-dependant memory and information processing

The Differential Activation Hypothesis (DAH) assume dysphoric mood affects information processing and memory, which in turn sustains low mood. What mechanisms is causing this feedback-loop? One factor is that individuals are more prone to retrieve information that matches the current mood state. This would imply that a person suffering from depression is at greater risk of retrieving negatively balanced information when the information is retrieved while in a mood state that matches the emotional tone in the information (Clark & Teasdale, 1985; Matt, Vazquez, & Campbell, 1992). Another aspect of how mood affects memory retrieval is that a depressed individual will be more likely to remember information learned in a similar mood-state, suggesting that the individual during a depressive episode are biased towards recall of information learned during an episode of depression. In other words, the depressed individual will more likely recall information learned while experiencing a cognitive bias towards negative thinking (e.g. descriptive and negative trait words towards oneself). This again may activate a cycle of negative cognitions which can serve as a basis of maintenance of the depressed mode of mind (Teasdale & Russell, 1983). These phenomenon are referred to as mood-congruent and mood-dependant memory (Lau et al., 2004).

Not only are individuals more prone to retrieve memories coloured by depression when experiencing low mood; they are also victims of another memory bias, a tendency to retrieve over-general memories. The phenomenon is related to a ruminative mode of processing, where depressed patients tend to generate memories that are over-general and referring to generic summaries of event instead of specific autobiographical memories (Thorsten Barnhofer, de Jong-Meyer, Kleinpass, & Nikesch, 2002). When asked to recall specific events after given a cue (for example sorry and happy), the individuals experiencing low mood struggled coming up with specific events, and instead recalled memories from a general level, like a summary of many events (e.g. “when I do something wrong” when given the cue “sorry”) (Thorsten Barnhofer et al., 2002; Swales, Williams, & Wood, 2001). Gjelsvik, Lovric, and Williams (2014) suggest that early stages of self-generated memory search involve use of abstract representations. This is due to a specific feature of top-down retrieval, in which relatively semantic (and thus abstract) cues are used as the first step in search for the memory. More verbal/abstract representations are used early in the process, and more modal (sensory/perceptual) code later. A tendency to passively avoid retrieval of negative affective aspects of episodic and autobiographical memory can in turn abort the memory search, due to an unwelcome emotional disturbance when fragments of negative specific memories are activated. The failing in retrieving a specific memory may lead to

further attempts to retrieve memories, which in turn produces sequences leading from one categorical memory to others, and thus a tendency to rely on abstract over-general memory will arise (Thorsten Barnhofer et al., 2002). The phenomenon of over-general memory can in turn be explained as a level of abstraction in content is expressed, and form the basis of a depressive and/or suicidal cycle of rumination.

The tendency to over-generalize memory when experiencing low mood, thus also offer an explanation to why rumination is so common during depression. In everyday-life we use discrepancy based processing with success, to weigh up alternative goals against their relative importance to a person, and then choose one for pursuit. For each candidate goal, three aspects are required to be held in working memory: (a) current situation (b) the goal, and (c) possible actions needed to close the gap between current state and goal state. When this model is used to address emotional problems, the result can backfire. For example, when trying to solve the problem “I am sad and want to be happy”, the mismatch between the current state (sad) and goal state (happy) make the person feel worse, and thereby increase the discrepancy so that the goal is even further away. The abstraction level of these language-based representations of current and goal state makes them not able to solve, and so the attempt to simulate an adequate behavioural response may have the opposite effect, and instead of offering a solution may cause a cycle of ruminative thoughts (Gjelsvik et al., 2014).

Emotions and thoughts clearly play together during an episode of depression, and this complicated relationship might contribute to the understanding of the persistence of depression. Teasdale (1988) posts that the normal cycle of depression is the one of relapse and remission, and DAH offers a model that draws on the relationship between mood and mind to explain the recurrence and persistence of MDD.

2.2.2 Interacting Cognitive Subsystems and Embodied Cognition

The tendency to ruminate and retrieval of overgeneral memory may then be understood as the result of too abstract-analytical information processing. Rooted in experimental psychology and Bower's (1981) associative network model, The Interacting Cognitive Subsystem (ICS) is a model that posts cognition should be distinguished into two levels of meaning, a specific (also put in terms of intellectual and cold processing), and a more generic and holistic level

(put in terms as emotional and hot processing). ICS were first described by Barnard (1985), later applied to the understanding of mood disorder and cognitive reactivity (Teasdale, 1993). The core of the model describes information processing as a process where information is transferred between different cognitive subsystems and mental codes, representing different memory stores based on distinct experience. Mental codes are described as propositional code (with a specific level of meaning, e.g. "Roger has brown hair") and implicational code (a generic level of meaning which does not map directly into language and is related to a sense or feeling, e.g. "something wrong" and "confidence"). According to ICS, only the generic level of meaning is directly related to emotion ("hot processing"). Teasdale (1993) argue how emotion production is the synthesis of patterns of implicational code extracted as prototypical of previous experience of a given emotion. This, in turn, is explained to be a consequence of how emotional reactions originate as biological response to certain sensory stimuli (e.g. facial feedback from childhood and throughout the lifespan). These emotional reactions regularly co-occur with constellations of other, unprepared stimuli. Thus, information codes consist of both sensory and semantic knowledge that co-occur in situations eliciting a given emotion, and will be represented as patterns of implicational code, related to cognitive schemas. Teasdale (1993) argue information is processed in different processing (sub) systems, e.g. sound of someone's voice are decoded in one part of the system, while the verbal utterances are being extracted in another part. Information from both levels then can be integrated in a different part of the system to derive higher order meanings inheriting both specific level of meaning, e.g. what is being said, and tone of voice.

Teasdale (1999) argue how information processing may consists of a cognitive loop, the "central engine" (different levels of specific meanings), and a "sensory loop" (bodily effects on sensory data/body-state). Relevant for depression, maintenance of a depressed state may be understood as the consequence of dynamic feedback between these loops and depending on continuous creation and regeneration of schematic models encoding depressogenic themes. For example, depressogenic schematic models (e.g. a sense of sadness) generate specific meanings (e.g. "I am always failing when I try to fix something", "I am never going to be able to fix my life" "I will always feel sad"), patterns of such meanings regenerate depressogenic schematic models closely similar to those from which they were derived (e.g. a sense of hopelessness). The sensory loop operates through effects of sensory feedback from the effects of depression on the body (e.g. lowering the head when thinking about how "I am never going to fix my life", or tension in shoulders and neck when thinking about previous

failures). These bodily feedbacks can in turn, in conjunction with contribution from the cognitive loop (specific meanings), regenerate further depressogenic cognitions as sensory information is closely linked due to recurring features of previously situations where specific meanings have been processed. Thus, a vicious cycle of discrepancy-based processing is formed with the quality of thinking *about* the self, *about* depressive thoughts and feelings *about* how to understand what is going on. Teasdale (1999) argues further this way of thinking (thinking about) is a marker of the central engine processing, where the influence mainly derives from propositional level of specific thought. An implication of this way to understand the depressive mode of mind, is that preventing the establishment of this depressive “mindlock” will reduce risk of relapse. Another important implication is that the depressive state may be reactivated both by thoughts, bodily sensations and mood as all these modalities are closely tied together during information processing. Closely related to ICS and mood dependent information processing, the Embodied Cognition (EC) assumes abstract representations are critically supported and biased by sensory and motor information. An even more radical version posts that cognition is an extended system distributed over the brain, body and environment, in which abstract representations are reduced to sensorimotor processes (Gjelsvik et al., 2014). EC assume that knowledge critically involves activation of simulation processes *as if* interacting with the world. During a given experience, the brain captures states across the modalities and integrates them with a multimodal representation stored in memory (in a generic level), not as abstract symbols but as re-enactments of perceptual, motor and other humans in the world including our own body (Barsalou, 2008). This breaks with the view of depression as in a causal relationship with thought-biases, based on a traditional understanding of cognition as something inherently amodal (thinking would be the same, whether it is a computer who does it, or a brain in a vat). This amodal view of cognition is characterized by a view of knowledge of the world as best described as semantic information about a category that is linked to other categories in a conceptual system. This position assume that people represent what is “out there” in abstract symbols, and that such knowledge controls other cognitive activity (such as language, thinking and memory), abstracted from the sensory/perceptual system into amodal systems (Michalak, Burg, & Heidenreich, 2012). An assumption within the frame of an amodal view of cognition is that body and mind are two objects capable of working regardless of one and the other, and thus do not take into account a possible reciprocal relationship between mind and body. Barsalou (2008) argues there is little empirical support for the existence of abstract representations, that it is unlikely that the brain contains amodal symbols, and if it does, they work together

with modal representations. If knowledge is stored distributed over several modalities, no simulation occurs without reinstatement of a “feeling tone”, body sensations and emotions that it associated with the concept in the past. And so, depression cannot simply be understood as an amodal “thought disease”, as there, per this perspective, is no such thing as abstract representation of thoughts extracted from the rest of the modalities.

2.3 A collapse in problem solving abilities

Over-general autobiographical memory and discrepancy-based information processing may be linked to suicidality due to how it affects problem solving abilities. Consider the combination of too abstract analytical thinking due to discrepancy-based processing (“I am sad” “I want to be happy”) and the tendency to not be able to remember specific happy memories put together with reactivated cognitions and body states from former depressive episodes. This may set up a mode of mind and body that inhibit the ability to rationally solve interpersonal and every-day problems. It should therefore be expected to find a deterioration in problem-solving performances in individuals with a history of suicidality. Williams, Barnhofer, Crane, and Beck (2005) conducted a study of problem-solving performance assessed with Mean-Ends-Problem-Solving (MEPS), comparing participants with a history of depression and suicidal ideation to a group of participants with previous episodes of depression without suicidal ideation. These two groups were then compared to a group of participants who had no history of either depression or suicidal behaviour. As most of the research on problem-solving skills has been conducted soon after an act of deliberate self-harm, there is a lack of knowledge on to what extent poorer performance on MEPS should be considered as long-time traits (closely connected to the formerly described maladaptive cognitive core beliefs) or if it is a part of the formerly described reactive “mode of mind”. MEPS were measured both when the participants reported a neutral mood and after inducing lower mood. Participants with a former history of suicidal ideation produced significantly less effective problem solutions – but only after the mood-induction. There were no differences in problem solving-skills as measured with MEPS between the three groups before the mood-induction. The deterioration in effectiveness was, not surprisingly, moderated

by lack of specificity in autobiographical memory, sometimes referred to as the mnemonic interlock as conceptualised by Mark Williams (Thorsten Barnhofer et al., 2002). A key message from data like this is how suicidality may be considered a reactive phenomenon, much like depression, and is thus consistent with differential activation hypothesis.

2.4 Summary

Depression may be understood as a constellation of various symptoms established by a specific mode of information processing, characterized by overgeneral memory, maladaptive discrepancy-based processing and feedback processes between thoughts and body-states. Once this mode of information processing, a depressed “mode of mind”, has occurred, the individual is of greater risk of relapse. Links between thoughts with depressive content and negative emotions are established, and stored in the memory. Re-enactments of the individuals depressed mode of mind may then be triggered by events, thoughts, emotions and/or body-states similar to past experiences. Stronger links between the different nodes of depressive content is caused by recurrence. Subtle mood changes, specific body-states and/or thought content may reactivate the constellation of depressed content. A deterioration in problem solving abilities in previous suicidal individuals is empirically observed during a mood intervention aiming to induce low mood.

3 Suicidality

3.1 Defining suicidal behaviour

The lack of consensus in the field of suicidology on exactly what suicidal behaviour refers to, has made it somewhat difficult to articulate a clear agenda for the field. In Europe, the term Deliberate Self-Harm is used, to recognizing that not all episodes of self-injury involve suicidal intent (Kapur, Cooper, O'connor, & Hawton, 2013). The term deliberate self-harm (DHS) will be used here to refer to *an intentional, non-fatal act, whether physical, drug overdose, or poisoning, carried out in the knowledge that it is potentially harmful* (Kapur et al., 2013). Patients who engage in deliberate self-harm and suicidal behaviour is a highly heterogeneous group in terms of both severity and intent, and this broad definition does not distinguish between types of DSH based on different assumptions of underlying intent of the behaviour, e.g. non-suicidal self-injury, suicide attempt, etc. In North-America, the term Non-Suicidal Self-Injury (NSSI) is often used. In the 1960s the literature described an increasing number of adolescents presented to health care institutions that cut themselves to feel better, rather than seeking to die (Kapur et al., 2013). In the recent years, the diagnosis non-suicidal self-injury disorder (NSSID) was included in DSM-5 (Zetterqvist, 2015). One of the arguments following the inclusion of this diagnosis in the fifth version of DSM was that as this patients group did not necessarily meet the criteria for another diagnosis, e.g. borderline personality disorder, a diagnosis on NSSID would mean they could receive treatment (Kapur et al., 2013). However, as Kapur et al. (2013) points out, there is lack of high-quality large-scale and longitudinal studies, as well as few studies on grown-ups, that supports non-suicidal self-injury as a construct. An emerging body of evidence from the self-harm research do not support a grouping of self-harm patients into non-suicidal and suicidal. There are several reasons for this. The prefix “non-suicidal” is misleading, as there is a tremendous heterogeneity in medical severity, death intentions and suicidal thoughts both within an act of DSH, between episodes and between patients. For example, patients has reported to engage in self-harm without suicidal intent while experiencing suicidal thoughts

at the same time (Klonsky, 2011). A recent longitudinal study on the relationship between suicidal intent and lethality in DSH, found no association between whether patients perceived the episode to be a suicide attempt and the lethality of their self-harm (Gjelsvik, Heyerdahl, Holmes, Lunn, & Hawton, 2016). Research has also found there is a strong association between self-harm and suicide regardless of intent. A long-term follow-up study of 11 583 patients presented to hospital after deliberate self-harm found a marked increased risk of suicide compared to the general population (in the range of 0,7% first year, and 3% at 15 years later) (Hawton, Zahl, & Weatherall, 2003). Given data like these, difficulties arise with regards to labelling behaviours as clearly non-suicidal when they greatly increase the risk of future death by suicide. Furthermore, method switching is common (e.g. to switch between cutting and self-poisoning), especially among those who cut themselves. A study found that over 60% of those who cut themselves at their index episode changed methods, most frequently to self-poisoning (Lilley et al., 2008). The construct NSSI may also have implications for how these patients are met and treated by health-care givers. Kapur et al. (2013) argues that given the pressure on front-line clinical services, a danger is that the attempted suicide/NSSI dichotomy may have that effect that those with NSSI are given lower priority. This is problematic given that health care professionals tend to derive suicidal intent from medically severe deliberate self-harm (Hawton, Taylor, Saunders, & Mahadevan, 2011). Studies conducted on health service staff that are in contact with individuals who engage in DSH and attitudes towards them have found a marked tendency to see self-harm as an attention-seeking behaviour, especially when the DSH episodes were not medically severe (Saunders, Hawton, Fortune, & Farrell, 2012). These attitudes were also associated with the amount of empathy the staff experienced towards the patients. When the self-harm was thought to be attention-seeking behaviour, the staff felt less empathy towards them (Hawton et al., 2011). The emerging knowledge that self-harm with and without suicidal intent is two overlapping behaviours, in which both are associated with a range of adverse outcomes (Mars et al., 2014) should have implications for how researchers and mental health care providers approach this group. Thus, a key message from these data is that a trans-diagnostic approach to suicidal behaviour might be the best option for future research, treatment and classification of suicidal behaviour and deliberate self-harm. Throughout this dissertation the term *deliberate self-harm (DSH)* is used to contain suicide attempts, suicidal behaviour and non-suicidal self-injury, given the non-existing coherence between lethality and intent, and in line with the European tradition.

3.2 A paradigm shift

The former described conceptual confusion in the field of suicidology has had implications for how clinicians and researchers have approached risk factors and, in turn, prediction of suicide. The majority of research has aimed to map epidemiological risk factors and their correlates, but these findings are not necessarily meaningfully applicable to clinical practice. Klonsky and May (2014) put to the fore that a critical frontier for the suicide research should be to clarify exactly what outcome one is aiming to target. Within the field of suicidology, as Glenn and Nock (2014) posted, breakthroughs are needed with regards to both how to predict short-term risk and how to understand which factors contribute in the transition from suicidal ideation to an act of deliberate self-harm. Translational research may be an approach that can provide us with tools to better investigate and understand those mechanisms, identify mechanisms driving symptom maintenance and to apply such knowledge onto clinical innovation. Translational research is an interdisciplinary branch of the biomedical field that aims to translate findings in fundamental research into medical and clinical practice (“from lab to bedside”) (Woolf, 2008). As Brekke, Ell, and Palinkas (2007) argues, there is a 20-year gap between knowledge generated from the clinical research and the utilization of that knowledge in the mental health care section, the urgent need of translating fundamental research into clinical practice is demonstrated by the fact that mental health practitioners is lagging almost two generations behind science that should be informing their practice. Despite high prevalence of suicidal ideation, few reporting suicidal ideation goes on to engage in deliberate self-harm (DSH). Nevertheless, gauging suicide risk is a recurrent challenge in both general practice and in the mental health care. A problem is that although a large body of epidemiological risk factors have been identified, most of the established individual risk factors are of limited use in clinical settings simply because they are common in clinical populations. The tendency from epidemiological studies has been that a large body of individuals who is at risk is ignored (false negative), and an even larger body of individuals is categorized into risk when there is in fact no risk (false positive) (Pokorny, 1992). Well known and often cited risk factors such as having a psychiatric disorder, struggle with on-going substance abuse and poor social adjustment (May et al., 2012) does not explain *how* they contribute to a heightened risk, only that the presence of them makes the person in

greater risk of suicide. Klonsky and May (2014) argue that the most often cited risk factors for suicide are in fact risk factors for suicidal ideation, not DSH. In a large comorbidity survey, findings pointed towards how psychiatric disorders, such as depression and schizophrenia, predicted suicidal ideation. However, the odds ratio became very low when researcher investigated the relationship between psychiatric disorders and DSH (Kessler, Borges, & Walters, 1999). The lack of knowledge on characteristics predicting DSH in clinical populations is further demonstrated by the fact that even though known risk factors can account for 62,4% of the variance predicting ideation and 80% of the variance predicting DSH, these same risk factors account for only 7,1% of the variance predicting DSH among those experiencing suicidal ideation (Glenn & Nock, 2014). The same pattern can be applied to other risk factors; for example, the experience of hopelessness has shown to not discriminate ideators from those engaging in DSH (Hawton & van Heeringen 2009). One study has found hopelessness to be higher among bipolar patients currently struggling with an depressive episode engaging in deliberate self-harm than among controls, but hopelessness is equally experienced between those experiencing suicidal ideation, and those engaging in DSH (Acosta et al., 2012). Even more interesting is findings that do not support the often-cited risk factor impulsivity as a predictor for DSH. Impulsivity has shown to be equally common amongst ideators and those engaging in DSH, there has not been observed more impulsivity among those participating in self-harm (Klonsky & May, 2010).

A result is that suicide-risk assessment tools based on these assumptions, has failed to inherit both specificity (to avoid false positive) and sensitivity (to avoid false negative) enough to be able to predict whether a suicidal ideator is at high risk of engaging in severe deliberate self-harm or not. For example, SADPERSONS Scale (Patterson, Dohn, Bird, & Patterson, 1983), a much used screening tool for suicide risk for those who have self-harmed and for determining treatment needs in patients presenting to emergency departments, has failed to identify the majority of those in need of admission, and failed to predict repetition of self-harm. Saunders, Brand, and Hawton (2014), who conducted the study, concluded: “the scale shall not be used to screen self-harm patients (...)”, based on these findings. With this as a backdrop, it is possible to understand why incidence rates of suicidal behaviour is largely unchanged despite increased number of treatments, national guidelines and interventions on both individuals presented to the mental health care, and the public the past decades (Folkehelseinstituttet, 2019; Nock, Borges, Bromet, Alonso, et al., 2008; Nock, Borges, Bromet, Cha, et al., 2008). As Klonsky and May (2014) put to the fore, this may be traced

back to how the literature historically has conflated the question of why people feel suicidal, with the question of why people act on suicidal feelings. As we have seen, these factors have failed to contribute to the elaboration of assessments with a de facto predictive value of individual risk of a possible suicide. Therefore, in an attempt to capture the complex nature of the suicidal process, the tendency the past 25 years has been to move towards multi-factorial models. Most of them are cognitive in focus, and diathesis-stress in origin (O'Connor & Nock, 2014)

3.3 How does suicidal ideation arise?

Cry of Pain (Williams 2014) is a model that hypothesise that suicidal cognitions and DSH is a reactive response to a situation that consists of three dimensions; presence of defeat, perception of no escape and no rescue. Sense of rescue may be understood as psychological variables such as ability to positive future thinking and social support (Rasmussen et al., 2010). It builds on early escape-theory (where SI and DSH are understood as a result of a wish to escape from a hopeless and unbearable situation) (Baumeister, 1990), ethology research and Bower's (1981) theory of associative emotional network. When an individual finds itself in a state of arrested flight (experiences itself as defeat, humiliated and trapped in a situation with no viable escape options), the three components is believed to activate a biologically mediated helplessness-script (O'Connor, 2003). When attempts to solve problems is perceived as hopeless, a feeling of being powerless in escaping the situation occurs, and suicide may be experienced as the only solution. The presence of entrapment and defeat, and the formation of suicidal ideation are in turn linked to problem solving capabilities, memory biases, ruminative processes, future thoughts and goals, attitudes and social support.

Morrison & O'Connor (2008) conducted a review who aimed to investigate the relationship between rumination and suicidal ideation and deliberate self-harm. Even though some of the studies has been critiqued for measuring depression rather than rumination, the study concluded SI and DSH is linked to rumination, as rumination may be understood as a result of discrepancy-based processing. As posted in earlier paragraphs, discrepancy-based processing can be seen as result of trying to solve the problem of "feeling sad", but problems

arise when the individual struggles to retrieve specific memories and are prone to "cold processing" as described by Barnard (1985). This may explain why some individuals experiences comfort from suicidal ideation (Crane et al., 2013), as the thought of death may be understood as the "goal state", the only viable escape from the psych ache, as hypothesised by CoP. Williams and Swales (2004) argues suicidal patients are especially vulnerable to the establish a depressive mnemonic interlock, acting on as on an "automatic pilot". The combination of "mindless" non-awareness and a wish for things to be different transits into ruminative attempts to problem solve, and causes a "psychic pain" when the attempts to reduce, change or fix this pain fails. A factor who may contribute to explain how this constellation of cognitions and mode of processing is established (the "automatic pilot"), are findings that show higher scores in over general memory is associated with DSH (Williams & Broadbent, 1985). High scores in overgeneral memory are in turn associated with less effective solutions on MEPS, to complicate the picture further. The collapse in abilities to solve daily and interpersonal problems may contribute to explain how death for some individuals are established as a goal state/solution (Arie, Apter, Orbach, Yefet, & Zalzman, 2008) (Pollock & Williams, 2001). The link between suicidal ideation and depression is demonstrated by Williams, Van der Does, Barnhofer, Crane & Segal (2008) who found suicidal ideation is one of the most recurrent and consistent non-core symptoms of depression, and become reactivated as a part and the individuals specific relapse-signature. Studies also suggests the suicidal mode of mind can be activated and triggered by suicide-related words. Attentional bias towards suicide-related words were strongest amongst those with a recent history of suicidal ideation, the attentional bias did also predict deliberate self-harm over next 6 months (Cha, Najmi, Park, Finn, & Nock, 2010). These findings are in line with the DAH and ICS, who states if one modality is triggered, a former established specific mode of mind is reactivated. However, the suicide research over the years has tended to conflate the question of why some experience suicidal ideation with why some acts on such thought content. The search for individual psychological mechanisms that leads up to the transition from thought to action are a new field of research. Translational research and experimental psychopathology may be a feasible route to further investigate this phenomenon.

3.4 The transition from thoughts to action

Klonsky and May (2014) argues that a critical frontier in the suicide research is that an ideation-to-action framework should guide future research. In order to distinguish between those only experiencing suicidal thoughts, and those who will engage in DSH, predictors should be classified, they argue, into whether they contribute to a) heightened risk of suicidal ideation, b) heightened risk of DSH amongst ideators, or c) both. Some of the later models that aim to describe the lead up to an act of DSH emphasise this and conceptualises the suicidal process as multifactorial, considering the complex nature of the phenomenon. In the following paragraphs the often most used models that aim to target what mechanisms are at play in the lead up to an act of deliberate self-harm is discussed.

3.4.1 The Interpersonal Theory of Suicide

One of these models is The Interpersonal Theory of Suicide (Joiner, 2005). The model has a growing evidence base (O'Connor and Nock, 2014), and in a large body of studies it serves as a theoretical framework on how to understand the suicidal lead up. The model propose that the most dangerous form of suicidal desire is caused by the simultaneously presence of two interpersonal constructs, thwarted belongingness (e.g. feeling that you do not belong) and perceived burdensomeness (e.g. feeling a burden on others). The model is built on the premise that the *capability* to engage in DSH (acquired capability) is separate from the *desire* to engage in DSH (Van Orden et al., 2010). The model proposes that suicidal desire (e.g. suicidal ideation) is formed when the individual feels hopelessness with regards to belongingness and burdensomeness, though suicidal desire is not sufficient cause for DHS. Acquired capability (reduced fear of death, increased tolerance for physical pain) alongside a strong desire to die will, according to Joiner's model, increase the risk of DHS. The assumption is that to translate suicidal ideation into behaviour, acquired capability must be present. A habituation of suicidal thoughts and cognitions (e.g. what formerly occurred as painful and frightening seems less painful and frightening) may correlate with experienced comfort from suicidal thoughts (Crane et al., 2013), and thus may increase the risk of the translation from ideation to action.

3.4.2 The Integrated Motivational-Volitional model

Another model with an emerging evidence base (O'Connor and Nock, 2014) that aim to conceptualise the process in which DSH is formed, is the Integrated Motivational – Volitional model (IMV) (O'Connor, 2011). The model offers an integrated three-phase model of suicidal behaviour that both address background factors and triggers, formation of ideation and intention, and the translation of thoughts into DSH (O'Connor, 2011). Social-rank theory, arrested-flight and cry of pain hypothesis, as well as differential activation hypothesis and theory of planned behaviour form a theoretical framework of the model (O'Connor & Nock, 2014). IMV build on an assumption that in order to understand DSH, there is need to synthesize the growing evidence base from former models on which factors contribute to all three phases. O'Connor's (2011) integrated motivational-volitional model aims to conceptualize the process in which suicidal cognitions are formed, and how they translate into action. Central aspects in the motivational phase are the constructs of defeat and entrapment, as conceptualized in Mark Williams' (2014) model of suicidal ideation and behaviour as a Cry of Pain (CoP). As with Joiners model, the IMV emphasise the presence of other factors to conceptualize the transition from ideation to action. Volitional moderators such as capability, impulsivity, implementation intentions, access to means and imitation is described as moderators that, alongside threat-to-self moderators and motivational moderators, together account for a high risk of suicidal behaviour.

3.5 Habituation

However, these, and similar models (for a review, see O'Connor and Nock, 2014), do not offer a satisfying explanation to why some people act on suicidal feelings while others do not. Furthermore, some of the volitional moderators, e.g. access to means and imitation, are not individual markers, but factors that might be most useful to be targeted by the society from a public health perspective (e.g. regulations on media coverage of suicide, government regulations of access to drugs like paracetamol). Other moderators, as Klonsky and May (2014) point out, are factors that are linked to heightened risk of suicidal ideation, not

specifically to suicidal behaviour, and do not distinguish between ideators and those who also engage in DSH. Both Joiner's model and the IMV puts the capacity to engage in DSH to the fore, e.g. habituation, reduced fear of death and heightened tolerance to physical pain, as factors that heightens the risk of a transition from ideation to action. This may be explained by findings who support suicidal ideation is one of the most recurrent non-core symptom in an individuals personal relapse-signature during recurrence (Williams et al., 2008), and also by the fact that DSH seems to be a recurrent phenomenon once an individual has taken the step from ideation to action (Hawton, Zahl, Weatherall, 2003). However, little is known about why some people experience habituation while others do not, and which role habituation play in the suicidal lead up. More specific markers are required to enhance the understanding of what characterises those who act on their suicidal thoughts. The novel work on suicidal imagery and "flash forwards" (Holmes, Crane, Fennell, & Williams, 2007) aimed to investigate whether suicidal cognitions also could appear as mental imagery, echoing flash-backs in Post-Traumatic Stress Disorder (PTSD). If so, this might imply one route to acquired capability, as repeatedly experiencing suicidal content may provide one form of habituation (Crane, Shah, Barnhofer, & Holmes, 2011). Habituation might be more likely to be caused by mental imagery than verbal thoughts, as imagery has shown to be causal in determining future behaviour (e.g. the behaviour is more likely to occur and more likely to appear probable), by generating cues to action due to mental rehearsals (Libby, Shaeffer, Eibach, & Slemmer, 2007) and intensify goal-driven behaviour (Pham & Taylor, 1999). Mental imagery have also shown to have a more powerful impact than verbal processing on emotion (Holmes & Mathews, 2005). 15 participants in a sample of formerly suicidal patients (Holmes et al., 2007) reported suicide related imagery with sensory qualities, which was rich in detail, real, and compelling. The patients were more likely to experience imagery than verbal cognitions for two categories; "what might happen if I die", and "suicidal plans". Crane et al. (2011) intended to replicate the study in a larger community sample of previously depressed patients (27 participants). In this sample, all of those with a history of DSH reported imagery. Furthermore, more severe "worst-point" suicidality was associated with reduced image-related distress, and greater comfort from suicidal imagery. Comfort from suicidal cognitions have also been investigated by Crane et al. (2013), who reported that a minority of participants experienced comfort from suicidal cognitions. However, comfort was associated with a more severe clinical profile. Even though it is not clear whether or not the phenomenon of suicidal "flash-forwards" bridges suicidal ideation and DHS, a message from the studies is that if suicidal "flash-forwards" functions in the same way as imagery related to

other behaviours (enhancing the likelihood that the behaviour will occur), this should be of particular concern. The construct of flash forwards represents an interesting choice of avenue to proceed down in the research on DSH, researchers are still on the cusp of understanding the phenomenon.

4 Summary and implications for treatment

The reviewed literature suggests depression and suicidal cognitions is recurrent in nature, and how relapse is caused by cognitive reactivity as hypothesised by the differential activation hypothesis (M. G. Williams et al., 2008), the interacting cognitive subsystem model (Teasdale, 1999) and embodied cognition (Gjelsvik et al., 2014). Due to activation of mental nodes inheriting depressive and/or suicidal cues (either in the form of thoughts, mood (or a “sense”), memories or body postures, a reactivation of a specific depressogenic and/or suicidal constellation, a mode of mind may be established. Increased abstract-analytical (and language-based) processing and a cognitive loop of depressogenic specific (contrary to implicit and holistic) cognitions is suggested to found the base in which the phenomenon of over-general memories, toxic self-discrepancies and rumination may arise. Suicidal individuals may be more sensitized to reactivation of discrepancy-based processing inducing self-discrepancies and hopelessness (Hargus, Crane, Barnhofer, & Williams, 2010), which may be linked to a deterioration of problem solving-abilities. Conducted experiments on individuals with a history of suicidality compared to control groups has shown a collapse in problem solving abilities after a mood induction (M. G. Williams et al., 2005). This discrepancy-based, ruminative way of thinking may contribute to a sense of being defeat and entrapped with a sense of no viable escape or rescue, a state of arrested flight. Models aiming to conceptualize the suicidal process, e.g. The Cry of Pain hypothesis (J. M. G. Williams, 2014) and the motivational-volitional model (O'Connor, 2011) emphasis this experience of being defeat and entrapped as central in the formation of suicidal ideation and present prior to DSH. Several clinical studies support this notion (O'Connor, 2003; Rasmussen et al., 2010; Slade, Edelmann, Worrall, & Bray, 2014). Thus, suicidal ideation may be a result of an inability to remember specific positive events, a cognitive “mind-lock” of negative rumination due to failed attempts to problem-solve and a sense of eternal captivity in the experienced “psych ache”.

Despite the growing evidence base supporting multifactorial models who aims to conceptualize the transition from ideation to action, there are still lack of knowledge on how to distinguish between those only experiencing suicidal ideation and those engaging in DSH.

Both Joiner (Van Orden et al., 2010) and O'Connor's models (O'Connor, 2011) suggest habituation might be one route. It is plausible to think habituation might occur when an individual is repeatedly exposed to suicidal cognitions, due to reactivation of schematic models. The transition from thoughts to action still may be viewed as the black box of suicide research.

However, when a transition from suicidal cognitions to suicidal behaviour has occurred, the individual is at high risk for several episodes of deliberate self-harm. Longitudinal studies posts DSH, regardless of intent, is the strongest predictor for future death by suicide (Gjelsvik et al., 2016; Hawton & van Heeringen, 2009; Hawton et al., 2003). The picture is further complicated by data that suggesting there is little to no correlation between (death) intent and medical severity in DSH (Gjelsvik et al., 2016). As suicidality seems to be a recurrent phenomenon triggered by cognitive reactivity, much like depression, it may be plausible to target the mechanisms that are believed to play a causative role in the relapse of "suicidal mode of mind" when providing treatment. The rumination caused by too abstract-analytical thinking and lack of ability to solve discrepancy-based problems may cause a sense of helplessness and inhibits the ability to short-circuit the suicidal mode of mind that keeps them locked in a vicious cycle, and a key problem then, might be how patients that experience suicidal cognitions and engage in DSH may feel as if they have no choice, experiencing a sense of an "automatic pilot". If one could short-circuit this rigid vicious cycle of automatically derived overgeneral memories, bodily sensations and reactivation of schemas associated with former experiences of suicidality, it may help these individuals to not feel as if they are caught in a suicidal headlock.

4.1 Prevent relapse

According to the reviewed literature, there seems to be a growing body of evidence who supports the idea of suicidal ideation as a recurrent phenomenon, sharing several features with the mechanisms that make depression recurrent. However, an obvious difference between thought content and bodily states on one side and deliberate self-harm on the other

side, is that DSH involves a transition from thoughts about death and self-harm, to actual behaviour on these thoughts. As the research field not yet have established an evidence base, nor is there consensus in the field on what causes this transition (O'Connor and Nock, 2014), this imply recurrent suicidality best be approached by preventing relapse, and thus target the mechanisms that seems to make “the suicidal mode of mind” cognitive reactive. The on-going research on how habituation might play a role in the suicidal lead up also imply this (O'Connor, 2011; O'Connor and Nock 2014)), as a prevention from relapse then can prevent further habituation in possible future episodes. Furthermore, according to both the interpersonal theory of suicide and the IMV, the individual psychological mechanisms such as thwarted belongingness, hopelessness and a feeling of being trapped with no viable escape are closely connected to dysphoric mood which in turn also support this (Hawton & van Heeringen 2009).

Given findings that support how suicidality and depression tends to be increasingly reactive for each experienced relapse, a clinical focus on preventing relapse may be given specific interest and thus also imply a focus on preventing relapse should be put to the fore.

How a suicidal mode of mind in the present of dysphoric mood are sustained once present may also be of concern. Partly due to findings who support that in order to prevent a full-blown episode when one modality is reactivate (e.g. mood, thoughts, bodily postures), even subtle changes may trigger reactivation in individuals who have experienced several previous episodes. A feasible route may be to recognize those subtle changes at an early stage, and be aware when the discrepancy-based automatic pilot is in control in order to the “nip the recurrence in the bud”.

4.1.1 Bottom-up and top-down

According to the reviewed literature, core mechanism maintaining and causing relapse may then be roughly divided into cognitive reactivation closely linked to associative networks including several modalities, and discrepancy-based processing related to retrieval of over-general memories, abstract-analytical thinking and rumination.

The combination of these mechanisms may imply the problem should be targeted in to ways. Discrepancy-based processing might be understood as top down processing on steroids gone wrong, and in order to short-circuit the frantic top-down problem solving mode causing sustainment of rumination and discrepancy-based processing, one route might be to activate several modalities (i.e. more than thought content). The theories on embodied cognition (Barnard, 1985; Teasdale, 1983; Gjelsvik et al., 2014) posts how thoughts cannot be separated from bodily reactions, and thus if thoughts and bodily sensations are in a reciprocal relationship, it makes sense to target for example bodily sensations through introspection to generate a bottom-up process who might contribute to short-circuit the abstract-analytical state of mind the individual is trapped in. One way to do this is by training patients in mindfulness-skills. In the later years, different kinds of mindfulness-based interventions have been implemented in the mental health care system, the effectiveness of these interventions are supported by a growing body of evidence.

5 Mindfulness

5.1 What is mindfulness?

Mindfulness has its roots in the ancient Buddhist psychology. Mindfulness is an English translation of the word “pali” from ancient texts, which connotes with the words awareness, attention and remembering. Engaging in meditation with the purpose of bringing attention to the present moment has been adopted by the western culture and, relevant for this dissertation, applied to psychological interventions. Jon Kabat-Zinn, a pioneer in the field of transforming this ancient Buddhist psychology into modern therapeutic interventions, defines mindfulness as “The awareness that emerges through paying attention on purpose, in the present moment, and nonjudgmentally to the unfolding of experience moment to moment”. As we understand, mindfulness is not a new concept or a new theory, neither in the western culture. As Siegel, Germer, and Olendzki (2009) state, “It’s part of what makes us human – the capacity to be fully conscious and aware”. The adaption of Mindfulness to clinical interventions has proven successful, and is illustrated by the fact that mindfulness is included in several evidence-based treatments. In the so-called third-wave cognitive behavioural therapies (e.g. acceptance and commitment therapy, dialectical behaviour therapy), it is often even described as a core-skill (Hayes, 2004; Linehan, Armstrong, Suarez, Ailmon, & Heard, 1991).

5.1.1 Assessment of mindfulness

Even though the wider concept of mindfulness (paying attention in the present moment) is easy to grasp, mindfulness is a subtle and somewhat elusive construct, which is proven hard to define in concrete terms (Baer, Walsh, & Lykins, 2009). Mindfulness points to something pre-conceptual, an emphasis on bottom-up, rather than top-down processing (Siegel et al., 2009). Some argue that mindfulness may be understood and described both as *a state* and as *a set of skills* (Brown & Gordon, 2009). The understanding of mindfulness as a set of skills

has offered researcher a possibility to operationalize mindfulness in a way that can be assessed with e.g. self-report questionnaires. This, in turn, has led to the development of measures of mindfulness in the recent years. The Five-Facet Mindfulness Questionnaire (Baer, Smith, Hopkins, Kristetemeyer, & Toney, 2006) studied several mindfulness questionnaires, and found them to be internally consistent and significantly correlated with each other. Factor analysis suggested a five-factor solution including the facets; *observing* (includes noticing, external and internal stimuli), *describing* (with words), *acting with awareness* (in contrast to “doing mode” and “automatic pilot), *nonjudging of inner experience* (refers to taking a no evaluative stance towards thoughts and emotions) and *non-reactivity to inner experience* (referring to the ability to allow thoughts and feelings come and go). These facets are related to a specific *mindfulness trait*, related to personality traits, which is significantly negatively correlated with psychological symptoms as well as positively correlated with psychological well-being (Baer et al., 2009). A relevant question then, is whether it is possible to cultivate mindfulness skills through mindfulness interventions.

5.1.2 State mindfulness and decentering

Mindfulness has also been described in terms of a specific *state*. This is conceptualized to occur during meditation when the attention is intentionally directed to thoughts, sensations and emotions with an attitude of curiosity, acceptance and openness (Baer, Walsh, & Lykins, 2009). Meditation practice thus may contribute to the cultivation of mindfulness. Shapiro, Oman, Thoresen, Plante, and Flinders (2008) describes this cultivation as an intentional and non-judgemental awareness of moment to moment experience. Through investigating the effects of specific mindfulness programs (such as MBSR), their findings pointed towards increased level of attention and awareness, and mediated reductions in perceived stress and rumination. *Decentering* is a construct closely connected to the state of mindfulness and refers to the ability to observe one’s thoughts and feelings as temporary events rather than reflections of reality. A result of such decentering is disengagement from habitual, evaluative conceptual processing, closely connected to abstract-analytical discrepancy based processing. Segal, Williams, and Teasdale (2013) argue that decentering is one of the main reasons CBT reduce relapse, the patients are taught to take a wider perspective on thoughts, and, thus if such decentering did not take place, the patients would be left arguing with themselves about

whether their thoughts were true or not. Related to metacognitive processing, decentering is believed to contribute to how the individual disconfirm dysfunctional interpersonal schemas through the ability to see how they influence the interpretations of interactions with other people and how they shape their reality – and thus acknowledge how this interpretations not necessarily reflects the truth (Fresco et al., 2007). Fresco et al. (2007) describes decentering as an effortful activity which is present in healthy individuals, and through the elaboration of the Experience Questionnaire assessed decentering through two subscales, decrease in rumination and enhanced ability to take a wider perspective. Decrease in rumination is linked to an increased access to autobiographical memories, as retrieval of overgeneral memories is closely connected to the ruminative processes of depression (T Barnhofer, R., Kleinpass, & Nikesch, 2002). Watkins, Teasdale, and Williams (2000) found significant reduced overgeneral memory relative to control questions before interventions in a group of depressed patients.

6 Mindfulness-Based Cognitive Therapy

6.1 Overview

Mindfulness-Based Cognitive Therapy (MBCT), is a cognitive science-modification of Jon Kabat Zinn's Mindfulness-Based Stress Reduction (MBSR) program, a group based intervention developed with the aim of teaching participants with chronic pain diseases, mindfulness skills (Segal et al., 2013). Subsumed under so-called third-wave cognitive behavioural therapies (Hayes, 2004; Linehan, Armstrong, Suarez, Ailmon, & Heard, 1991) which emphasis on process rather than content, relationship to symptoms and on self-compassion is put to the fore. Mindfulness-based cognitive therapy (MBCT) is designed as a prophylactic treatment for recurrent depression. It aims to a) enable participants to increasingly recognize the automatic activation of habitual dysfunctional cognitive processes, e.g. depressogenic rumination. b) decenter and disengage from these dysfunctional processes by redirecting attention to the unfolding of thoughts, emotions, and bodily sensations in the present moment. c) develop a meta-awareness and become able to observe thoughts and feelings as temporary and automatic events in the mind instead of as facts or true descriptions. d) relate to the change and flux of thoughts, feelings, and physical sensations with a non-judgmental and compassionate attitude. MBCT is a group based program over 8 sessions, each session with its own curriculum and theme. It combines training in mindfulness-skills with evidence based cognitive behavioural techniques for acute depression. Builds on theory from CBT, that cultivated and learned skills offered the patients to see thoughts as mental events rather than facts. The rationale is that by cultivating mindfulness skills the participants should be able to see their thoughts and feelings as passing mental events rather than reflections of truths, and thus being able to decenter from maladaptive cognitive behaviour. Participants are encouraged to get familiar with their own relapse signature, and instead of engaging in discrepancy based problem-solving behaviour (rumination) take a stance and a wider perspective on what arises in the present moment, and bring a sense of compassion and acceptance to what is there. Most of the time during sessions is spend practicing mindfulness. By the end of the program participants are motivated to

build their own mindfulness program. In the following section the program is described in detail (Barnhofer and Crane, 2009), in order to show how each session teach specific skills whom all targets mechanisms that may cause relapse and sustainment of suicidal depression.

Session 1 – The automatic pilot

The aim of the first session is to make the participants more aware of how often we function in the automatic pilot, and what the effects of being mindful are. Participants participate in *the raisin exercise*, a mediation exploring sensory features and *body scan*, a 45-minute guided meditation in which the participants move their attention through the body, attending to sensations that arise. Skills learned during this session is to begin experience the shift from doing mode to being mode. Home practice: mindfulness every day, practice the 45-minute body scan at least 6 days.

Session 2 – Dealing with barriers

The aim of the second session is to explore initial experiences of the practice of meditation, and the metacognitive perspective is introduced. Participants participate in a guided *body scan* meditation, and a cognitive *thoughts and feelings exercise* who aims to teach the skill of reflecting on the associations between thoughts, feelings, body sensations and behaviours from a metacognitive perspective. Home practice: Notice pleasant experiences in the daily life, and give specific notice to thoughts, feelings and bodily sensations that arise in these occasions. Practice the 45-minute body scan at least 6 days.

Session 3 – Mindfulness of Breath

The aim of the third session is to introduce the breath as vehicle for reconnecting with the present moment when the mind has wandered to difficult thoughts, emotions or bodily sensations. Another aim is to explore reconnection with the breath and staying with difficult experiences as an alternative to engaging in attempts at problem solving. Participants engage in a *sitting meditation* with focus on attending to the constant changing in sensations of the breath, and the body as a whole. *Yoga stretches* and *mindful walking* are also introduced, where participants are encouraged to observe changing bodily sensations in movement, and practice redirecting attention to the body and the constant shift of sensations in the present moment. Participants also learn *the three-minute breathing space*. Skills learned are reconnecting to the body when the mind wanders, and to begin generalize the practice of mindfulness into everyday life. Home practice: On altering days practice yoga stretches,

mindful walking and sitting meditation. Participants also practice the 3-minute breathing space on three pre-determined occasions every day. Participants are asked to notice events or moments they experience as unpleasant, and observe the thoughts, feelings and bodily sensations that arise.

Session 4 – Staying present

The aim of the fourth session is to explore new ways of relating to intense or emotionally charged thoughts, feelings and sensations. Participants participate in a *Sitting meditation/hearing meditation*, focusing on either sights or sounds, returning gently to these sensations whenever the mind wanders. A *Sitting meditation* in which the focus is initially on the breath, then moving to the body as a whole. Participants explore intense sensations with an attitude of openness and curiosity, rather than changing position to alleviate discomforts. *Automatic thoughts questionnaire*, participants read through it to explore the most common dysfunctional and common symptoms that occur in depression. Skills learned are to include sounds as the object awareness, practice shifting out the automatic pilot and turning to different aspects of the present moment experience. They also begin to explore the possibility of staying with difficult sensations, adopting an attitude of acceptance and curiosity. The questionnaire teach the participants to recognize negative and dysfunctional thoughts. Home practice: Sitting meditation practicing shifting the attention to different objects such as sound, thoughts and choice-less awareness. Breathing spaces.

Session 5 – Allowing/letting be

The aim of the fifth session is to begin to develop a radically different relationship to experience, where all experiences are allowed and accepted. Participants participate in a 40-minute guided *sitting meditation*, where they first bring attention to the breath, to body sensations, to sounds and to thoughts. Then participants are invited to notice mind-wandering, and if the mind returns repeatedly to certain thoughts, sensations or feelings. Participants are encouraged to explore how difficulty arise during meditation, and how it is expressed in the body. To become aware of tensions or other bodily sensations associated with difficulty, and to use the breath as a vehicle to stay with these experiences in an open way, breathing in and out of the regions where difficulties are manifesting themselves. When thoughts or sensations no longer pull for attention, participants are encouraged to come back to whatever the current focus of the meditation is. By the end, participants are invited to practice this by deliberately bringing difficulty to mind. Skills learns are to begin to explore

the possibility of staying with and accepting difficult thoughts, images, memories, emotions and body sensations as well as observe how difficulties manifest themselves in the body. Home practice: Guided sitting meditation following the format of the sitting meditation in the class, and sitting in stillness, and unguided 40-minute meditation in which the patients guide their own practice.

Session 6 – Thoughts are not facts

The aim of the sixth session is to encourage participants to reduce their identification with thoughts and to begin to relate to thoughts, including difficult thoughts, as mental events. The participants engage in a guided *sitting meditation*, in which thoughts form the object of awareness. Thoughts are observed arising and passing away, rather than being sought. The meditation is supported with metaphors, imagining thoughts such as a cinema screen, clouds passing by or leaves on a river. Participants are invited to bring to mind a difficult thought, and to adopt the same attitude of openness and non-judgemental awareness to the impact of the thoughts on the body, and to stay with and observe these sensations. Participants are also introduced to *ambiguous scenarios*, a cognitive exercise. The skills learned in this session is to further develop the ability to stay with difficult thoughts, and to practice becoming aware of the bodily responses to difficult thoughts, and to attend to these as a form of grounding, rather than resorting to attempting to suppress or problem-solve the content of difficult thoughts. Home practice: Shorter guided meditations, and breathing spaces.

Session 7 – How can I best take care of myself

The aim of the seventh session is to explore how awareness can be used to guide skilful action. The participants engage in a guided *Sitting meditation*, as outlined before. They also are encouraged to do *Reflection on daily activities*, to list daily activities and to divide them into those that lift mood, give energy and are nourishing, and those dampen mood and drain energy. Participants work in small groups exploring how to increase the occurrence of nourishing activities, and reduce the occurrence of depleting activities. In groups they also work on identifying their own warning signs, the personal *relapse signature*, and what to do when relapse threatens. Skills learned are to further develop the ability to attend in the present moment during meditation practice, and to reflect on the consequences of different activities on mood and well-being. To be familiar with one's relapse signature, provides the participants with an opportunity to develop a plan to implement in such situations, such as

taking a breathing space, reflecting on how things are in the moment and making conscious choice about how to respond.

Session 8 – Using what has been learned

In the last session participants participate in a guided *Body scan, reflection* on their initial intentions in coming to classes and what they have learned as well as potential obstacles for future practice. Participants also give *feedback* on their experience in class. The class closes with a *Brief sitting meditation*. They are encouraged to aim for daily practice even for very brief periods of time, and introduced to the idea of beginner's mind, how it is always possible to restart practice even after a long break.

6.2 MBCT and recurrent depression – current evidence base

An appraised individual patients data-meta analysis from randomized trials conducted by Kuyken et al (2016), replicated findings suggesting clear evidence MBCT was associated with a significant reduction in the risk of depressive relapse, compared to TAU. Findings from the meta-analysis also posts the treatment effects of MBCT is larger in participants with higher levels of symptoms at baseline. The meta-analysis also suggests MBCT might be particularly helpful for those still struggling with significant depressive symptoms, and points out how several trials have found that MBCT may be more effective for people whose depressive symptoms fluctuate and/or who report a history of early adversity, in line with emerging consensus that the greater risk for relapse the more beneficial MBCT seems to be. (Kuyken et al 2016). A systematic review of 23 clinical trials conducted by van der Velden et al. (2015b) aimed to investigate mechanisms of change in MBCT, as theoretically proposed in the manual. These mechanisms of change were identified as i) increased ability to recognize automatic activation of habitual dysfunctional cognitive processes (e.g. rumination) ii) ability to decenter and disengage from these by redirection the attention to the present moment, iii) develop a meta-awareness and thus being able to observe thoughts and feelings as temporary events, and iiiii) relate to the change and flux of thoughts, feelings and physical

sensations non-judgementally and compassionate. The review concludes there is support for all these mechanisms. With a growing evidence-base describing the benefit from MBCT as an intervention for patients with recurrent depression, the program is currently recommended as a prophylactic treatment for depression in several national clinical guidelines. (van der Velden et al., 2015a).

As MBCT originally was developed for depression, most of the evidence that exists is on this, although there is a growing evidence base on MBCT in the treatment of recurrent suicidal depression. Also, as previous paragraphs have posted, recurrence of depression and recurrence of suicidality is strongly linked together. Evidence suggests that MBCT do successfully teach participants ways to “nip recurrence in the bud”.

6.3 MBCT and recurrent suicidality

6.3.1 Issues that need particular concern when treating suicidal clients

During pilot course of MBCT with patients suffering from recurrent suicidal behaviour, Williams, Duggan, Crane, and Fennell (2005) identified issues that need particular concern and might lead to small alterations of the program. An increased emphasis on identification of individual relapse signature leading up to the beginning of a suicidal crisis and creation of action plans in case of relapse. This includes giving the participants a clear sense of whom to contact in the event day of suicidal crisis. The participants were also given an extended repertoire of grounding meditations focusing on moment to moment awareness, as an increased emphasis given to externally focused meditations. Chesin et al (2015) conducted a pilot-study on outpatients struggling with SI and DSH, in line with Williams et al they added an evidence based safety planning component to the original MBCT-program (MBCT-S c Chesin et al., 2015), a brief one session-intervention that incorporates several evidence-based suicide risk reduction strategies, culmination in an individual written safety plan. Participants then attended the eight-session group based MBCT-program, and did a systematic review and rehearsal of the safety plan throughout the treatment. Small alterations like these may be a

feasible way to make the MBCT-program safer and more suitable for individuals struggling with SI and DSH.

6.3.2 Emerging evidence

MBCT was originally designed as a prophylactic treatment for recurrent depression. However, clinical trials and reviews has shown that MBCT is particularly effective for patients who still has significant depressive symptoms, and patients who report a history of early adversity (Kuyken et al., 2016). This may partly be explained by data suggesting MBCT does not makes people less reactive, but the effect arises when self-compassion is enhanced, alongside enhanced ability to meta-awareness (Kuyken et al., 2010). Recurrent suicidal ideation and behaviour share features with this group, as they are characterized by an attentional bias that makes them sensitized to reactivation. Other characterizations include ruminative attempts to problem-solve, and an occurring psych pain due to failed attempts to reduce, change or fix pain due to a suicidal mode of mind (Williams & Swales, 2004). This emotional dysregulation may be explained in terms of a discrepancy based processing. As decentering has shown to be successful in deceasing this discrepancy based processing mode, this may be of particular interest for individuals struggling with suicidality. Crane, Duggan, Hepburn, Fennell, and Williams (2008) hypothesised MBCT protect against self-discrepancies in two ways, first by the result of being an observer of their own mental process and develop an attitude of acceptance and openness, allowing cognitions to come and go rather than trying to change them. Secondly, by preventing over-engagement with self-discrepancies, by limiting the extent to which accessibility of self-discrepancies increase in response to mood and external events, thus protecting against re-activation of latent self-discrepancies. Authors argue how an emphasis on self-acceptance and self-kindness may help the individuals change and re-evaluate their goals for self-regulation and favour a more functional and realistic alternative. Thus, a protection from re-emergence of self-discrepancies should be likely to occur due to changes in the content of self-descriptions.

Hargus, Crane, Barnhofer, and Williams (2010) aimed to examine evidence for how MBCT altered a shift in mode of processing in a group of former suicidal patients, the hypothesis was operationalized as i) to what extent clients describe their prior problems in an over-

general way, and ii) the extent to which there was evidence of lack of meta-awareness. If so, one should expect to find MBCT would increase specificity with which patients describe symptoms in the period leading up to a suicidal crisis, and that following MBCT, there should be evidence of higher levels of meta-awareness in descriptions of relapse-signature. Findings suggested the patient's ability to describe early symptoms and signs related to earlier suicidal crisis were improved. The patients also experienced increased levels of meta-awareness. A study conducted by Crane et al. (2008) focusing on self-discrepancies in a group of previously depressed patients with a history of suicidal ideation and behaviour compared to a waiting list condition. Authors measured self-discrepancy by identifying unhelpful self-guides using a self-description questionnaire and compute difference in number of unhelpful self-guides from pre to post treatment. Unhelpful self-guides were defined as i) those who implied a need to change characteristics that is regarded as stable, e.g. "be attractive", ii) implied criticism of current state, e.g. not be easily hurt, iii) appeared to be overly contingent on external factors, e.g. be rich, iiiii) implied the subjugation of own needs for others, e.g. to be acceptable to others, and iiiiii) implied non-acceptance of normal fluctuations in mood, e.g. to always be in control. Findings suggested that MBCT prevented re-emergence of self-discrepancies in two ways, by reducing the tendency to engage in self-discrepancies which were momentarily primed, and by encouraging change in the content. There was no difference between the two groups pre-test. At post-test the MBCT group had significantly lower levels of self-discrepancies. Change in levels of depression was not associated with change in level of self-discrepancies, although cross-sectional associations between levels of ideal self-discrepancy and depressed affect were observed both at baseline and at follow up. This would suggest a change in self-discrepancy arises following a period of treatment, and are likely to be distinct from mood-state effects on the accessibility of self-discrepancies. Thus, authors suggest that one effect of MBCT may be to alter self-regulatory functioning by reducing the extent to which self-discrepancies associated with depression and suicidality re-emerge.

7 Discussion

7.1 MBCT and possible mechanisms of change in suicidality

In the following paragraphs, I will discuss whether the findings in the emerging evidence base on MBCT for recurrent suicidality imply whether the program may be an effective treatment for this group of clients. The focus will be on the hypothesised mechanisms who is at play and contributing to sustainment and relapse. I will also discuss whether the program, may be suitable for clients not in remission, and is it can be used as a trans-diagnostic treatment for recurrent suicidality. Specific interest is also given to whether or not the hypothesised mechanisms of change may help prevent deliberate self-harm.

7.1.1 Short-circuit cognitive reactivation of constellations of suicidal cognitions

In line with reviewed literature and former paragraphs, one aim for treatment should be to prevent relapse by preventing cognitive reactivation to a suicidal mode of mind. The MBCT-program is especially well suited for this, and given the close relationship between reactivation of depression and suicidality, a large body of evidence supports the program is also effective in doing so. Participants are trained to get familiar with their own specific relapse-signature during the treatment, and encouraged to make their own plan for how to take action in case of a relapse on the rise.

Although studies have shown MBCT might not alter/reduce the degree on which patients experience reactivity, the program increases self-compassion and the ability to decenter from

the suicidal and/or depressed cognitions. Therefore, the effective component at play might not be to make the clients less reactive. By not focusing on the need to change how thoughts and mood interact and instead they are offered the possibility to relate differently to what emerges when experiencing unpleasant thoughts, sensations, mood etc. And thus in the end get the effect that even if subtle changes in for example mood still triggers suicidal cognitions, the clients may have cultivated a skill to see these cognitions as mental events rather than solutions.

As suicidal patients are especially prone to experience high scores on reactivity, and given the risk related to habituation when repeatedly experiencing suicidal verbal thoughts and imagery, it is not given this mechanism will prevent possible future episodes of DSH among those who in the past have engaged in such behaviour.

Unfortunately the empirical research on the effect of MBCT suffer from the same problem as the vast majority of the suicide research, there are few studies who not conflate suicidal actions with suicidal cognitions. However, patients engaging in DSH are recognized by higher scores on subclinical symptoms as well as more severe “worst point” clinical profile with regards to depressive symptoms, and the evidence on MBCT for depression has shown the program is especially effective for this group, which in turn might be applicable to those who engage in DSH.

7.1.2 Emphasis decentering from discrepancy based processing

Even if there is hard to articulate a clear understanding on the relationship between suicidal cognitions and deliberate self-harm, several models emphasize certain aspects related to suicidal cognitions as part of the motivational phase of the suicidal process. For example, the state of arrested flight as hypothesised in the Cry of Pain model. CoP is in turn closely connected to rumination and discrepancy-based processing, as well as a collapse in problem-solving abilities when experiencing low mood. One way MBCT targets this problem, is the programs effect on mood dependant memory and information processing. MBCT has shown to decrease overgeneral memory, which in turn might help prevent rumination and

discrepancy-based processing. Reviewed literature on embodied cognition and interacting subsystems might help to shed light over which mechanisms is at play when engaging in mindfulness, as mindfulness is believed to increase embodiment, and may work over several modalities. This might be of particular interest for a group struggling with recurrent suicidality, these patients may benefit less from a “top-down”-approach to their problems due to how they seem to have more difficulty handling and working with thought-content, as illustrated by higher scores on retrieving over-general memories, how they seems to struggle with every-day problem solving, as well as higher scores on negative self-discrepancies.

When these patients are trapped in a suicidal mnemonic interlock, a better way to emphasis change may be to go by a route of bottom-up processing. Embodied cognition and ICS states discrepancy-based processing is formed not only by thought content, just as important are bodily sensations, subtle emotions and feeling “tones” by a feedback loop between cerebral structures and bodily sensations. The strong ability to cling to abstract/analytical thinking might indicate this group need help to stay in touch with bodily sensations as well.

Mindfulness focus on wholeness and body, emphasis bottom up – processing, and thus involves implicational code, not only language based abstract representations. It emphasis body posture associated with dignity and self-compassion, thus aims to target sensory/motor cognitions which is pre-conceptual and not easily accessible through top-down processing. By altering how sensory data effects the cognitive loop, mindfulness may enhance the availability to generic schematic knowledge and thus decrease language-based, discrepancy-based problem solving. As body sensations is part of what is reactivated, this is targeted in the sessions, for example in the fourth session when participants are encouraged to focus on the body as an alternative to discrepancy-based processing, e.g. by shifting the object of awareness to other than thought. In the sixth session the participants are guided through meditations who aim to relate to bodily sensations as a form of grounding in the present moment, and throughout the program the participants are trained in experiencing how thoughts manifest in the body, and how changes in the body effects changes in thought content and the other way around. Put in other terms, MBCT offers an alternative route, through the body, instead of top-down processing. This in turn has shown to teach the participants how to take a stance and decenter from, for example, a feeling of being trapped and an experience of hopelessness, e.g. by realizing how this experience may not be the truth, when grounding to the present moment through the body make it possible to decenter from the cognitive loop of abstract-analytical language based processing problem solving, and thus

offer the patients the possibility to enhance problem solving abilities due to the reduction in toxic self-discrepancies and maladaptive language-based goal-driven rumination.

7.1.3 MBCT and possible mechanisms of change in deliberate self-harm

As posted in the former paragraphs, there are few studies investigating whether mindfulness and MBCT is effective in terms of preventing deliberate self-harm. Although pre-liminary, one study on administering MBCT to an out-patients group struggling with recurrent DSH showed a decrease in DSH even though the scores on depression and reactivity did not change. According to the IMV and the interpersonal model of suicide, a motivational phase and/or a desire to die should be present if action may take place, and thus targeting individual psychological markers and feelings such as hopelessness and defeat in theory may prevent DSH. As thoroughly discussed in previous paragraphs, unfortunately we do not know what causes the transition from these individual markers to an act of DSH. However, MBCT has proven successful in short-circuiting the “automatic pilot” and to decenter from this mood of mind which in turn offers the possibility to take actions in which will enhance well-being as a alternative to being stuck in a suicidal mnemonic interlock. In the seventh session, self-compassion is specifically addressed, and the participants learn skills on how to take action in their daily lives to enhance well-being by noticing which specific actions and events are experienced as nourishing and gives energy, and encouraged to give specific notice to these events. Cultivating the capability to be mindful present in pleasant experiences in the daily life as well as learning to decenter from suicidal thoughts and cognitions, may offer the participant a skill that puts the urge to act on suicidal cognitions “on hold”. This may be effective preventing DSH, given the knowledge how the majority of patients engaging in self-harm act within a 10-minute time-frame after the cognitions first appears. This skill can be further emphasised in the program by including several shorter grounding meditations, such as has been done in some studies.

7.1.4 Is MBCT suitable for clients not in remission?

Although preliminary, a few studies suggest it is (for example MBCT-S administered to outpatients). The few studies who exists, emphasis a few alterations of the program, by adding interventions such as elaborating individual safety plans and teaching several short grounding meditations which may come in handy during acute crisis. One important question is whether it safe to administer MBCT (even with alterations such as elaboration of a safety plan) to clients not in remission. There are several arguments who propose it is. First, there might not be meaningfull to distinguish between patients in remission and patients not in remission, given how reactive suicidal depression has shown to be. If even subtle changes in mood can trigger suicidal cognitions, it makes little sense to divide people into “healthy” or “in remission”, and “struggling with ongoing suicidality”. Symptoms has shown to fluctuate after the index episode, and there is nevertheless an ongoing risk of relapse and thus acute suicidality amongst clients in “remission”. Secondly, when giving specific notice to whether clients feel worse when allowing suicidal thoughts to come and go during meditation instead of suppressing them, research findings has shown no adverse effects from this, as stated in former paragraphs of this dissertation. The phenomenon of allowing the suicidal cognitions come and go, greeting them with openness and curiosity, has been referred to as “inviting the monsters in for tea” (Sears, 2015) and offers the patients a radically different way to relate to suicidality.

7.1.5 MBCT as a trans-diagnostic treatment for recurrent suicidal clients?

Several of the studies mentioned in “emerging evidence” do not specifically target recurrent *depressed* suicidal patients, but emphasised on suicidality reactivated by low mood (e.g. residual symptoms, low mood due to other illnesses) Due to the strong link between factors believed to play a role in the lead up to a suicidal crisis and low mood/depression (e.g. thwarted belongingness, perceived burdensomeness and findings who suggests 80% of those who die by suicide will be eliminated if depressed symptoms were eliminated, it would be possible to argue reactivity due to low mood (without being characterised as an episode of clinical depression) may be common to suicidal ideation/DSH in general. Though important to mention, MBCT originally was developed as a prophylactic treatment and has several

limitations, E.g. lack of individual therapy, it is group based, depending on high compliance etc.

8 Concluding remarks and implications for future research

For centuries it has been put considerable resources in to mapping out epidemiological risk factors who can predict suicide. In the later years, we have seen a paradigm-shift from focusing on epidemiological risk factors, to focusing on individual, psychological markers. However, researchers are only in the cusp of understanding these mechanisms, and the biggest question of them all, why some people act on suicidal cognitions and some do not, are yet to be answered.

Mainly because of the lack on consensus in the field (e.g. how American researchers distinguish patients who engage in self-harm into non-suicidal self-harm and suicide-attempts, whilst European researchers do not), and due to how patients who have suicidal cognitions with no former history of DHS are merged together with patients who have suicidal cognitions *and* a former history of DHS in some research experiments, it has been challenging to navigate in the literature. This goes especially for the paragraphs aiming to shed light over the evidence-base for using MBCT as a treatment for suicidality, and for the paragraphs aiming to investigate whether the mechanisms that is at play during the lead up to an act for DSH. This is partly accounted for by the fact that the often-cited risk factors used, also in the multifactorial models aiming to conceptualize the suicidal process, in some studies has showed to predict suicidal cognitions and DSH, but not DSH amongst those who experience suicidal cognitions. Hopefully future research will provide us with a more clear articulation of these phenomenon.

The evidence- base for MBCT administrated as a treatment for recurrent suicidal patients is still small, and same problems experienced when navigating in the field of individual risk factors and mechanisms causing DSH, goes for the research investigating MBCT for suicidal patients. There are few studies specifically targeting individuals with a previous history of DSH, most commonly it has not been distinguished between patients struggling with suicidal cognitions and those also engaging in DSH. The black box of suicide research seems to be

whether or not those who make the transition from suicidal cognitions to an act of deliberate self-harm share specific psychological features (e.g. habituation), if the main factor causing the transition are external (e.g. access to means), non of these, or a combination. We simply do not know. Thus, even if the emerging evidence-base do suggest clients struggling with recurrent suicidality are taught skills during the MBCT-sessions who seems to be effective and prevent relapse, it is not possible to answer whether this happens because MBCT specifically targets mechanism that is at play during a lead up to an act of deliberate self-harm, or whether it is because suicidality is strongly linked to depression and dysphoric mood, and by treating symptoms of depression, the suicidal symptoms are also treated.

MBCT was originally developed for depressed patients in remission, and the aim was to train participants in skills that was hypothesised to prevent relapse. However, an emerging body of evidence points out MBCT might be more effective on those not entirely in remission, those who have reported the most severe symptom-profile, and those who have experienced the largest number of relapses. This might imply one path for future research on MBCT.

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