

METACOGNITIVE TRAINING FOR DEPRESSION



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**A Short Manual for its Original Version (D-MCT)
and its Adaption for Older Adults (MCT-Silver)**

Lena Jelinek, Brooke C. Schneider, Marit Hauschildt & Steffen Moritz

The D-MCT and MCT-Silver modules can be obtained in many languages via:
www.uke.de/depression and www.uke.de/mct-silver

A donation based online training is available
in German (www.uke.de/e-dmkt) and English (www.uke.de/e-dmct)

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Acknowledgments

Foremost, we would like to thank our patients for their support and inspiration in helping us develop D-MCT and MCT-Silver. Their feedback was essential to improving and fine-tuning these trainings so that they may be most useful to those who may need them the most.

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Donations

In view of the challenging financial situation of many psychiatric hospitals, it is our goal to provide the international slides for metacognitive training for depression (i.e., D-MCT, German slides for D-MCT published by BELTZ) and all slides for depression in later life (i.e., MCT-Silver) free of charge. Your donation is essential to our work and will help to improve the lives of many individuals suffering from depression. We would be very grateful if you would support D-MCT and MCT-Silver by donating to our program.

We kindly ask especially practitioners and institutions for a small contribution before using the materials provided on our website (practitioners: 30€/€30; institutions: 100€/€100) in view of the amount of work and costs associated with the development of our program. Contributions can be made online (see website; <https://clinical-neuropsychology.de/donate/>; please specify Clinical Neuropsychology under “I donate for”).

All donations will be used to support the further development of the D-MCT and MCT-Silver (future tasks: translation of modules into other languages, creating new graphics, hiring students to conduct D-MCT and MCT-Silver groups in clinics). Upon request, we will send you a receipt for your donation (please send an email to Steffen Moritz [moritz@uke.de] and include your mail address). Donations may be made to the following account:

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Metacognitive Training for Depression (D-MCT)¹: A Short Manual for its Original Version and its Adaption for Older Adults (MCT-Silver)

Lena Jelinek, Brooke C. Schneider, Marit Hauschildt, & Steffen Moritz

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¹ The current manual represents the translated, revised and extended version of the following book chapter written in German on Metacognitive Training for Depression (D-MCT): Jelinek, L., Hauschildt, M., & Moritz, S. (2016). *Metakognitives Training bei Depression (D-MKT)*. In Stavemann, H. *Entwicklungen in der Integrativen KVT*. Weinheim: Beltz, 175-200.

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A note to our colleagues

Dear Colleagues,

Thank you for your interest in D-MCT and MCT-Silver! This manual was written for professionals (e.g., psychologists, psychotherapists, psychiatrists, psychiatric nurses, social workers, occupational therapists, etc.) conducting D-MCT and/or MCT-Silver in either group or individual settings with individuals with depression - “young” and “old”. You can download all international materials for D-MCT (10 languages) and MCT-Silver (currently available only in German) for free from our website: www.clinical-neuropsychology.de. The German slides for D-MCT, as well as an extensive German manual are published by Beltz (Jelinek, Hauschildt, & Moritz, 2015). Materials downloadable from our website include Power Point slides and the homework sheets for all eight modules of each training, general informational handouts and group rules. Concrete information about conducting the trainings, including short descriptions of the theoretical background for all modules, a brief description of the module content, as well as helpful tips are provided in this manual. We have been conducting D-MCT since 2009 and MCT-Silver since 2016. Over these years, we have gathered much experience and feedback running groups in both outpatient and inpatient settings and have conducted several randomized, controlled trials to date on D-MCT. Following a successful pilot study, the first clinical trial on MCT-Silver is currently being conducted and initial results are expected in 2020.

In Chapter 1, we provide an overview regarding the definition of metacognition, as well as some general information on the implementation of D-MCT and MCT-Silver. In Chapter 2, Jelinek, Hauschildt and Moritz give a brief description of the eight D-MCT modules and in Chapter 3, Schneider, Moritz, Bückner and Jelinek describe the modules that are specific for MCT-Silver. In Chapter 4, we provide an overview on empirical evidence for the trainings to date.

Despite our experience and efforts in developing these materials, it is clear to us that D-MCT and MCT-Silver are only valuable to the extent that they are implemented by you, our colleagues. We therefore, would greatly appreciate your feedback regarding the materials and, wholeheartedly welcome both critical, constructive comments and positive feedback! Please also do not hesitate to contact us directly with questions. We would greatly enjoy hearing about your experiences using the materials. Please feel free to contact us at the following E-mail addresses:

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We wish you every success in conducting the training!

1. Introducing D-MCT and MCT-Silver

by Lena Jelinek, Marit Hauschildt, Brooke C. Schneider, & Steffen Moritz

1.1 Introduction

Over the past years, the term “metacognition” has attracted increasing attention with regard to both basic research and the development of psychotherapeutic methods (Moritz, Lysaker, Hofmann, & Hautzinger, 2018; Moritz & Lysaker, 2018) concept of “meta-memory” to other domains and used “meta-cognition” to broadly describe knowledge about the regulation of one’s own cognitive processes (Flavell, 1976). Commonly, the term is defined as “thinking about thinking” (greek: meta = “beyond” and latin: cogitare = “to think”, also see Moritz, 2008, 2013). Metacognition is a complex construct encompassing multiple domains and layers of information processing, which Flavell distinguished into four components: (1) metacognitive knowledge, (2) metacognitive experience, (3) metacognitive goals, and (4) metacognitive actions. In addition to Flavell’s work, there are several heterogeneous definitions and applications of this term (Semarri et al., 2012).

Our understanding of metacognition follows Flavell and subsequent researchers such as Adher Koriat, who consider certainty of judgement and the role of doubt as essential metacognitive aspects (Koriat & Goldsmith, 1998). Thus, a broad definition of metacognition includes basic aspects of information perception and processing, as well as higher cognitive functions, and refers both to the content and the processes of cognition. A focus of our concept is to raise patients' awareness of cognitive biases that distort information processing, for example, depressed patients' tendency to underestimate their neurocognitive functioning. Moreover, other distortions in metacognition seem to be a stable characteristic of the depression (Faisner, Kriston, Moritz, & Jelinek, 2018; Ladegaard, Lysaker, Larsen, & Videbech, 2014; Ladegaard, Videbech, Lysaker, & Larsen, 2016), underlining the benefit of targeting metacognitions in depression.

1.2 Focus of Metacognitive Training (MCT)

The conceptualization of our metacognitive approach began in 2003 with “metacognitive training for psychosis” (MCT; Moritz, Krieger, Bohn, & Veckenstedt, 2017; Moritz et al., 2013) which has been shown to be effective in recent meta-analyses (Eichner & Berna, 2016; Liu, Tang, Hung, Tsai, & Lin, 2018). Since then, MCT has been repeatedly evaluated and versions have been developed for other psychiatric disorders (Moritz, 2013), for example, for depression (D-MCT, see Chapter 2 as well as Jelinek, Hauschildt, & Moritz, 2015 for the full German manual), borderline personality disorder (Schilling, Moritz, Kriston, Krieger, & Nagel, 2018), obsessive compulsive disorder (Jelinek, Zielke, et al., 2018), and bipolar disorders (Haffner et al., 2018). Most recently an adaptation of D-MCT, called MCT-Silver, was developed for older adults with depression (see Chapter 3; Schneider et al., 2018). Based on our previously described understanding of metacognition, the overarching goal of all metacognitive training variants developed by our group is making patients aware of empirically supported, disorder-specific cognitive biases and modifying these. This includes biases in information perception and processing, and specific dysfunctional beliefs, as well as assumptions about thoughts and strategies to better cope with such thoughts. Regarding Flavell’s components of metacognition, we aim at improving patients’ metacognitive knowledge, mostly by creating metacognitive experiences with the help of entertaining exercises (Moritz & Lysaker, 2018). Adopting an integrative approach, metacognitive training incorporates

compatible elements of other therapeutic approaches (Moritz et al., 2018), while also retaining MCT's unique structure and content.

In depression two types of cognitive biases may occur, which are similar to one another and not always readily distinguishable. One type, which is primarily addressed in classic CBT, are the "typical" cognitive errors such as overgeneralization. These refer to cognitive biases in the processing of individually relevant information. The other type occurs in the general processing of information with regard to *cognitive style*. Basic neuropsychological research has shown further cognitive biases in depression, for instance, selective remembering of negative information during depression (mood-congruent memory), as well as biased identification of emotions (for reviews, see Dalili, Penton-Voak, Harmer, & Munafò, 2015; Gaddy & Ingram, 2014). Both types of cognitive biases favor depressive information processing and are therefore central to the development and maintenance of depression. Certain metacognitive beliefs, such as "negative thoughts are dangerous", and coping strategies, such as rumination and thought suppression, are considered increasingly important in the pathogenesis of depression (for empirical data and similarities with Metacognitive Therapy [Wells, 2011] see below). Consequently, the "thinking about thinking" in D-MCT and MCT-Silver addresses both the *content* of thoughts and the *processes* of perception and thinking itself. Given that there is also a focus on addressing thought content, D-MCT and MCT-Silver are generally closer to classical CBT approaches to treating depression than to Wells' Metacognitive Therapy (Moritz & Lysaker, 2018). Taken together, through a meta-perspective, D-MCT and MCT-Silver aim to improve awareness of cognitive biases and the subjectivity of thinking in order to create distance from (negative) thoughts and to increase cognitive flexibility.

1.3 Indications for D-MCT and MCT-Silver

Based on our theoretical considerations in developing D-MCT, our longstanding experience in implementing it in various treatment settings (psychiatric outpatient clinic, psychiatric rehabilitation program, psychiatric inpatient clinic) and findings from clinical studies (Jelinek et al., 2016; Jelinek, Hauschildt, Otte, & Moritz, 2009; Jelinek, Faissner, Moritz, & Kriston, 2018; Jelinek, Moritz, & Hauschildt, 2017), we would like to offer some suggestions for its use, and point out limitations of the program. From our perspective, D-MCT and MCT-Silver conform to evidence-based guidelines for treatment of depression, for example, as formulated by the NICE guidelines and the German Society of Psychiatry, Psychotherapy and Neurology (DGPPN).

D-MCT and MCT-Silver have a number of unique features, both in terms of content and structure, which are decisive for the specific application and range of indication for the training. Specifically, both are low-threshold (i.e., are flexible so that the depth of content can be adjusted to the specific characteristics of the group), include playful elements, have a clear structure and have been designed as an open and modular group concept. The training can also easily be combined with other (CBT/third-wave) therapy elements and such elements have also been incorporated specifically in two MCT-Silver modules.

Specific indications for use of D-MCT and MCT-Silver:

Diagnoses

Both D-MCT and MCT-Silver were mainly developed for patients with a primary diagnosis of a unipolar depression (major depression, persistent depressive disorder). Use with comorbid depressive disorders (e.g., in which the primary diagnosis is an anxiety disorder) is also indicated. Given that we have not administered the interventions with patients with schizophrenia or bipolar disorder or those with cognitive impairment, such as dementia, these disorders are not included on the indication list (for MCT for bipolar disorder see Sondergeld et al., 2016). Based on our clinical experience, patients with mild cognitive impairment and cognitive deficits of other origins (e.g., mild brain injury) also benefit from the group; however, no studies have been conducted to empirically examine efficacy among these patients.






Timing in course of treatment

Due to the high flexibility in applying the training, there are plenty of options with regard to when it can be used over the course of treatment. In our opinion, D-MCT and MCT-Silver are particularly suitable for patients with first-episode depression, those who have little or no previous (psycho-) therapy experience or those who have not had therapy for some time. Due to its fun and playful elements, the interventions are also appropriate for patients with limited (psycho-) therapy motivation at the start of treatment. Symptom relief through participation in D-MCT and MCT-Silver may then serve to increase motivation for further treatment. The interventions are also well suited for use in acute inpatient settings due to their clear structure and design. In particular, the use of fun and unique exercises, which at the same time communicate information about depression, allow patients to experience small successes (see exercise examples below). Other key areas of potential application are follow-up care and relapse prevention.

Treatment settings

The training can be applied in outpatient, day treatment or inpatient settings. Specifically, the open group structure may also serve to improve the timely treatment of patients in an outpatient setting (e.g., to reduce waiting times). In psychiatric day care settings, D-MCT and MCT-Silver represent depression-specific group trainings to supplement and to deepen the psychiatric treatment program specifically by strengthening metacognitive competencies and reducing cognitive biases. Given its modular and structured, yet flexible approach, as well as content that can be presented by psychiatric nurses or staff other than psychiatrists or psychologists, MCT-Silver is particularly well suited for use in the many settings in which older adults are treated (e.g., primary care, nursing homes, long-term care facilities). Although it is important to point out that we have not (yet) conducted studies on MCT-Silver specifically in non-psychiatric settings.

Nonetheless D-MCT and MCT-Silver have the following limitations:

-  For patients experiencing moderate to severe depressive episodes, D-MCT or MCT-Silver should not be the sole intervention strategy and should not be used instead of (individualized) evidence-based interventions. The group setting and the content may pose excessive demands on patients with acute and severe depressive episodes (particularly those with psychotic symptoms).
-  Acutely suicidal outpatients should not participate in the groups. We suggest conducting a brief screening with potential participants regarding suicidal thoughts. Although especially passive suicidal thoughts are not uncommon among individuals with depression, individuals who have active plans to commit suicide and especially those who cannot agree to sustain from carrying out these plans should be referred for more intensive treatment.
-  Due to the central role of written information, sufficient knowledge of written and spoken English (or language in which the training is being administered) is essential for successful participation (currently other languages are available only for D-MCT).
-  Given that information is presented on slides, patients with significant vision impairment may have difficulty participating in the group. Those with hearing impairment may have difficulty hearing what the trainers or other participants are saying. Trainers may wish to consider whether they can supplement group content for these patients (e.g., by offering a printed version of the slides to patients with vision impairments or by allowing patients with hearing difficulties to sit near the trainers).
-  MCT-Silver: Although not a contraindication, per se, patients experiencing acute grief (e.g., immediately after the loss of a spouse) may find the group content to be either too generalized or may not be psychologically ready to consider some of the techniques discussed. In our experience, such individuals tend to perceive information particularly in MCT-Silver module 3 (i.e., acceptance) rather critically. Therefore, we suggest that trainers talk with such patients or their therapists prior to their start with the group and carefully consider if participation is suitable. However, loss is a normal part of life, to which people respond uniquely. Therefore, trainers should not automatically or generally exclude individuals who have recently experienced loss.

1.4 Information on the practical implementation of D-MCT and MCT-Silver

1.4.1 General information

1.4.1.1 Frequency, duration and number of participants

D-MCT and MCT-Silver are most commonly administered over eight, 60-minute modules (Jelinek et al., 2015). In some outpatient settings, the sessions have been stretched to 90 minutes in order to allow sufficient time at the beginning and end of the session (e.g., for the patients to get to know each other). Alternatively, for older adults with cognitive limitations or fatigue, a 30-minute session in which modules are presented over two sessions may be more appropriate. Depending on the indication and treatment setting, one to two modules should be administered per week. If offering two modules per week, the sessions should be scheduled with sufficient time in between to ensure participants have sufficient opportunity to practice and follow-up on the learned content. A group of three to ten patients has proven optimal.

1.4.1.2 Format (open group structure)

Content and structure of the presentation slides are designed for an open-group format (i.e., new participants can join at any session). Modules are thus independent from one another and important information is repeated in each module (e.g., explanation of the term metacognition). Still, depending on the exact treatment setting, trainers may decide to use the material for a closed-group setting and material may also be used for individual sessions.

1.4.1.3 Material and technical equipment

All necessary materials are provided as PDF files. The trainers present the slides, and printed copies of the homework sheets are given to the patients at the end of each session (or as a booklet including all homework sheets prior group attendance). Trainers will also need a computer or laptop and a projector to present slides to patients who are seated in a semi-circle around the wall/screen onto which the slides are projected.

1.4.1.4 Therapists/trainer

If sufficient resources are available, it is recommended that two trainers (e.g., psychotherapists) carry out the training. Due to their clear structure, therapists in training or nursing staff familiar with depression may also conduct D-MCT or MCT-Silver groups. It is preferable that the trainer(s) have some knowledge of therapeutic communication techniques and experience in moderating therapy groups.

1.4.2 Guiding motives in implementing the trainings

Positive reinforcement

An open, friendly and appreciative atmosphere is an essential element of the training. Trainers should promote this atmosphere and act and communicate according to this fundamental attitude. Humor is another key element to be used in appropriate situations by the therapist. An entertaining, interactive and playful approach to the training gives patients the opportunity to have positive experiences and encourages fun. Use every opportunity to provide positive feedback to individual patients and the group.

Collaborative

We carefully chose the term “trainers” to highlight the collaborative nature of MCT. While trainers are to present information to the group members, members are ultimately “their own expert” and draw from a wealth of knowledge based on their life experiences. Particularly older adults often appreciate acknowledgment of their knowledge and experiences and trainers should actively refer to this throughout the sessions, keeping in mind that the strategies in MCT represent just one (of the many ways) to improve depressive symptoms.

Individualize

Despite the clear structure of the training through its media-based format, the slides should in no way be presented in a rushed manner. Both the pace and extent of depth of the discussion of individual elements should always be tailored to the abilities of the respective (depressed, and therefore often slower) participants and their individual concerns. If necessary, individual exercises or examples can be skipped. The focus of the training is on communicating information and on carrying out practical exercises, but there should always be sufficient time for patients to share their personal opinions and examples.

Check for comprehension

Given that individuals with depression in general, may process information somewhat more slowly, may have attentional difficulties and older adults, in particular may experience other sensory impairments, trainers should be sure that all group members are hearing and understanding the information presented. This may mean taking more time to explain a particular exercise and to check for understanding. If trainers are uncertain, it is often helpful to explicitly ask group members before proceeding.

Motivate

The aim of D-MCT and MCT-Silver is not to provide participants with all existing information on depression or metacognition, but rather to create new experiences. Testing oneself and making mistakes are some of the most efficient ways to learn. Therefore, doubting and questioning often leads to insight. In many modules, a positive attitude towards errors is essential to the learning process. “Errors” are deliberately provoked to demonstrate general processes of cognition and information processing. To this end, it is necessary for trainers to avoid directive and teacher-like behavior. Rather, trainers should function as “imperfect models”.

Limit

While individualizing content remains a central element in implementing the training, limiting excessive and long-winded contributions of participants is also an essential task of the trainer. This is true in particular for complaints or comments that are rather general or non-specific to group content. Such contributions are not goal-oriented, and tend to be equally burdensome to all participants and may even confuse some other group members. Therefore, they should be acknowledged, but clearly limited through a re-focusing on relevant content.

1.4.3 Recurring structural elements of D-MCT and MCT-Silver

1.4.3.1 D-MCT

Opening of the session and the introduction

The participant information sheet is provided as preparatory information and includes the group rules. It may be downloaded from our website (<https://clinical-neuropsychology.de/d-mct-manual-english/>; file name: “information material and group rules”; Jelinek et al., 2015). If the training is used in an open group format (i.e., new patients can join at any session), we suggest conducting a brief general introduction to D-MCT after welcoming participants. To introduce participants to the content, the term “metacognition” should be explained. Ideally, this should be done by a more experienced participant and elaborated upon by the trainer if necessary. The following box gives an example.

Dialogue example (trainer)

“Meta” is the Greek word for “beyond/after”. “Cognition” is a general term for mental processes, such as attention, memory or planning and can be loosely translated as “thinking”. Taken together, this can be simplified as “thinking about thinking”. In metacognitive training, we will thus look at thought processes from a meta-perspective or a satellite position and discuss these. We will focus on thinking patterns that are relevant to the development and maintenance of depression.

Slide “satellite position”

Every D-MCT module begins with a slide illustrating the satellite position. It is explained that patients can look down at the “bad weather front of depression”. This is a quickly learned and easily remembered metaphor for the meta-perspective we take throughout the training. It refers to looking at one’s thoughts “from above” or “from a distance” to identify links between cognitive patterns and the development and maintenance of depression. The aim of D-MCT is to look critically at one’s own mental processes, identify possibilities and practice strategies to positively modify these processes and effectively use them to overcome depression.

Recapping previous content

Before starting to present the module, there should be time to briefly recap the content discussed in the previous module, and for participants to exchange examples of the discussed cognitive bias and to share experiences with applying the learnt strategies on the homework worksheets.

Slide “Thinking and reasoning in depression”

To introduce the topics in modules 1, 3, and 5 (topic “thinking and reasoning”), the definition of “cognitive bias” is provided and the rationale for changing cognitive biases is provided (or repeated). We would like to emphasize that studies have demonstrated that many patients have deficits in their information processing, but this is not the case for every patient or every discussed cognitive bias. We also suggest that therapists intentionally refer to thoughts as “biased or distorted” or “helpful/realistic” and “less helpful/unrealistic” instead of as “right” or “wrong”.

Specific content of modules

The module-specific content follows the introduction. Recurring and alternating elements of the module include 1) explanations of D-MCT concepts, 2) clarification of content through presentation of real-life examples, and 3) playful and activating exercises to practice the learnt strategies. Although the relevance of all of the content for the development and maintenance of depression is empirically supported, specific content may not be equally important for each participant (for empirical data, please check the respective modules). Therefore, it is suggested that therapists inquire about the personal relevance of the module topic for each participant at the beginning of the module (“Are you familiar with this?”). When discussing topics that are less relevant for some participants, these participants may serve as functional role models for the group with regard to developing and applying helpful appraisals and functional strategies. In this way, group members themselves serve as an example of the variety of possible ways to think about and appraise situations. Such discussions also provide the opportunity to share varying perspectives.

Learning goals

Every module ends with a summary slide of the learning goals from that day’s session. At this point, it may be a relief to some participants to emphasize that *identifying* one’s own cognitive biases is a first and central step towards change. A change in thinking can occur only gradually. This is why D-MCT is referred to as a *training*. Patients should be positively reinforced for simply identifying a cognitive bias or dysfunctional coping strategy. Potential new dysfunctional beliefs, such as “now I’m also bad at thinking...my depression is my own fault” need to be counteracted by offering a dialectical perspective. This could include pointing out and validating that on the one hand cognitive biases and coping strategies originate and develop in a certain way and for certain reasons (they do not come out of nowhere, but through learning experiences and role models), while on the other hand, patients have the choice of whether they want to change the status quo and to try out new strategies and behaviors. Further goals of D-MCT are to increase patients’ awareness and ability to “defuse thoughts” and to (re)gain cognitive flexibility.

Final round

The session should end with a brief final round to consolidate the presented and learned information and to increase the motivation and commitment to practice the learned material. Ideally, the trainer directs one or two specific questions to each participant, such as “What was most important to you today?” or “Which of the presented strategies do you want to practice this week?”.

Written summary and follow-up

Participants receive a written summary of the discussed content (either at the end of each session or as a booklet after group registration). The follow-up/homework includes written exercises to consolidate the learned material and to support its application in everyday life.

1.4.3.2 MCT-Silver

The following structural elements of D-MCT and MCT-Silver are identical: Opening of the session and introduction; recapping previous content; specific content of modules; learning goals; final round and written summary and follow-up. Therefore, readers should refer to the points above, as these elements are also essential to MCT-Silver.

MCT-Silver differs from D-MCT in the following ways:

“Maze” metaphor

In MCT-Silver, a maze metaphor is used to introduce the concept of metacognition (“thinking about one’s thinking”). It is explained that when one is in the middle of a maze, it is difficult to know which way one should go in order to find the exit and there is a risk of getting lost. From a “bird’s eye view”, it is much easier to see where the exit lies and the likelihood of success (i.e., finding the exit) is much higher. Likewise, during a depression, it is difficult to gain distance from negative and ruminative thought patterns. Identical to D-MCT, the aim of MCT-Silver is to look critically at one’s own mental processes, identify possibilities and practice strategies to positively modify these processes and effectively use them to overcome depression.

Slide “Why MCT?”

At the beginning of the session, the hesitancy of some participants to engage in MCT-Silver is addressed by briefly acknowledging that depressive symptoms, from which many participants have been suffering for quite some time, will not instantly disappear just through mere participation in one or two MCT-Silver sessions. Rather, the empirically based information and exercises presented in MCT-Silver serve as an initial step toward changing these thought patterns and behaviors learned throughout one’s life, which contribute to depression. Participants are encouraged to keep an open mind, even when some exercises may seem “too simple” or “strange”. It is emphasized that participants ultimately serve as their own expert and can decide what is best for them, but the group provides an opportunity to try out new things or refresh skills already learned.

Lifephase-specific examples

Examples and information relevant to (most) older adults have been incorporated throughout the MCT-Silver modules. It is important to acknowledge that aging in and of itself is not a psychological disorder. Rather, due to the number of challenges and changes older adults face, and the (sometimes) decreased sources of positive reinforcement as a result of these changes, depressive symptoms may first develop in later life. Older adults are, however, very heterogeneous. Whereas some may be physically fit well into their 80s (and beyond), others will experience physical and sensory limitations. Additionally, whereas some will reap the rewards of establishing and caring for long-term relationships (e.g., with children), others will feel

increasingly isolated and lonely (or may have no children of their own). Therefore, it is important that trainers do not make generalizations and rather emphasize that information or examples may be relevant to some, but not all participants.

1.5 Manual Overview

In Chapter 2, each D-MCT module is briefly presented including a short theoretical background regarding the empirical basis for its incorporation into the training, examples of typical thoughts associated with the (meta)cognitive bias or behavior, a summary of the module content including general tips for administering the training, and (for most modules) examples of slides and exercises.

In Chapter 3, modules that are unique to MCT-Silver are briefly presented. In addition to the “typical” cognitive and metacognitive biases addressed in D-MCT, two modules have been newly conceptualized for MCT-Silver (module 3: Acceptance; module 4: Values). One module has been extensively adapted for MCT-Silver and includes some new content (module 8: Self-Worth). The content in modules 3, 4, and 8 are based largely on “third wave” interventions, many of which are now well established for the treatment of depression.

Table 1.1. D-MCT and MCT-Silver modules and topics

Module	Title	Main Topics	
		D-MCT	MCT-Silver
1.	Thinking and Reasoning 1	Mental Filter, overgeneralization	
2.	Memory	Distorted memories; Memory strategies	
3.	Thinking and Reasoning 2	“Should” Statements, disqualifying the positive, black-and-white thinking	
		Dealing with positive / negative feedback	Willingness to accept changes in life
4.	D-MCT: Self-worth MCT-Silver: Values	Self-worth	Defining and (re)discovering values
5.	Thinking and Reasoning 3	Magnification or minimizing, depressive attributional style	
6.	Behaviors and Strategies	Dysfunctional behavioral strategies: social withdrawal, rumination, thought suppression	
7.	Thinking and Reasoning 4	Jumping to conclusions, mind reading, fortune telling (catastrophizing)	
8.	D-MCT: Emotions MCT-Silver: Self-worth	Emotions	Self-esteem in later life

2. Metacognitive Training for Depression (D-MCT)

by Lena Jelinek, Marit Hauschildt & Steffen Moritz

2.1 Module 1: Mental filter & overgeneralization

2.1.1 Theoretical background

Studies have shown that people with depression preferentially process information with negative content (Gotlib, Kasch, et al., 2004; Gotlib, Krasnoperova, Yue, & Joormann, 2004; Nunn, Mathews, & Trower, 1997) and are worse at directing their attention away from this information (Gotlib & Joormann, 2010). Cognitive models refer to this tendency to filter out individual negative details and to attend to them exclusively as a “mental filter” (Hautzinger, 2013). It has also been demonstrated that the tendency to generalize failures is often associated with the development of depressive symptoms (Carver & Ganellen, 1983; Carver, 1998), but less often with anxiety (Ganellen, 1988) and that people with depression show a tendency to generalize autobiographical memories, which are characteristically unspecific (Liu, Li, Xiao, Yang, & Jiang, 2013; Sumner, Griffith, & Mineka, 2010; Van Vreeswijk & De Wilde, 2004). This exaggerated generalization is also evident in the use of language by many people with depression. Failures are often described using words such as “always” or “never”. This promotes a negatively connotated global perception of the world and an associated fatalism (“failing once means that I will always fail”).

In most modules, there are explicit questions on the slides prompting participants to share individual examples (“Are you familiar with this?”). The subsequent examples are a good way to check whether participants understood what has been discussed and to tailor the content to the group. However, no participant should be forced to share a personal example. Below are examples of participant comments to illustrate the module topics and potential group discussions.

Examples

Mental filter

“I always remember the overcooked veggies at the hospital, but now that I think about it more specifically, the dessert was also usually pretty good.”

Overgeneralization

“After driving accident free for ten years, I got a speeding ticket last week. Now I keep thinking, ‘I can’t even drive, I’m not a real man’.”

2.1.2 Content

In module 1, the cognitive biases mentioned above (“mental filter” and “overgeneralization”) are discussed from a metacognitive perspective. First, both biases are defined with the help of the participants and are illustrated with both general and individual examples. The dysfunctionality of these ways of thinking and their negative consequences for self-esteem, mood and behavior are identified and appraisals that are more helpful are gathered. This approach is generally equivalent with thought records used in cognitive therapy; however, D-MCT foregoes the lengthy discussion, as well as Socratic dialogue with individual patients. Foremost, patients should be enabled to quickly notice biased thoughts in their everyday life. They should learn to identify these as “one-sided” and “not very helpful” thoughts and label them accordingly on a meta-level as “cognitive biases”.



This concept applies to all other modules too. In the second part of the session, patients are presented with concrete strategies to modify such biased thoughts. First, patients may suggest their own helpful strategies, and then the trainer can clarify (or add to) these strategies and present further helpful strategies not mentioned by the patients. The following strategies are presented: concrete statements based in the “here and now”, changing perspectives, deliberate exaggeration. Each strategy is practiced using examples.

Summary

Module 1 focuses on identifying and modifying




- (1) selective perception and exaggeration of the negative aspects of a situation (“mental filter”)
- (2) “overgeneralization” of (single) negative experiences on a metacognitive level.

2.2 Module 2: Memory distortions & false memory

2.2.1 Theoretical background

Depressive disorders are often accompanied by moderate deficits in attention and memory (Beblo, Sinnamon, & Baune, 2011; Gotlib & Joormann, 2010; McDermott & Ebmeier, 2009). In depression, these deficits are generally temporary and abate when symptoms improve. These depression-related deficits are much less pronounced than in dementia and often secondarily intensified by rumination, low motivation and self-depreciatory thoughts. Studies have demonstrated that in addition to these more general neuropsychological impairments, patients with depression show biased memory. This results in a preference to remember negative (mood-congruent) events (Blaney, 1986; Gotlib & Joormann, 2010; Matt, Vazquez, & Campbell, 1992). These biases also affect so-called “false memories”. These are not pathological per se, but they refer to memories of non-presented information, events that did not occur or events that did not occur in exactly the way they are being remembered. Strikingly, people with depression remember more negative (as compared to positive or neutral) non-presented information compared to healthy people (Howe & Malone, 2011; Joormann, Teachman, & Gotlib, 2009; Moritz, Voigt, Arzola, & Otte, 2008).

Examples

-  “Earlier, I could finish a long novel in just one weekend. Now I can barely finish one article in a women’s magazine” (example of concentration problems in everyday life)
-  “I feel like I can’t remember anything anymore; I can’t trust my memory anymore. This is a sign of dementia!” (example of dysfunctional belief)
-  “I often have to look for my reading glasses. I keep putting them just anywhere in my apartment and often they’re not where I thought they were, although I was sure I knew where I had put them!” (example of false memory in everyday life)

2.2.2 Content

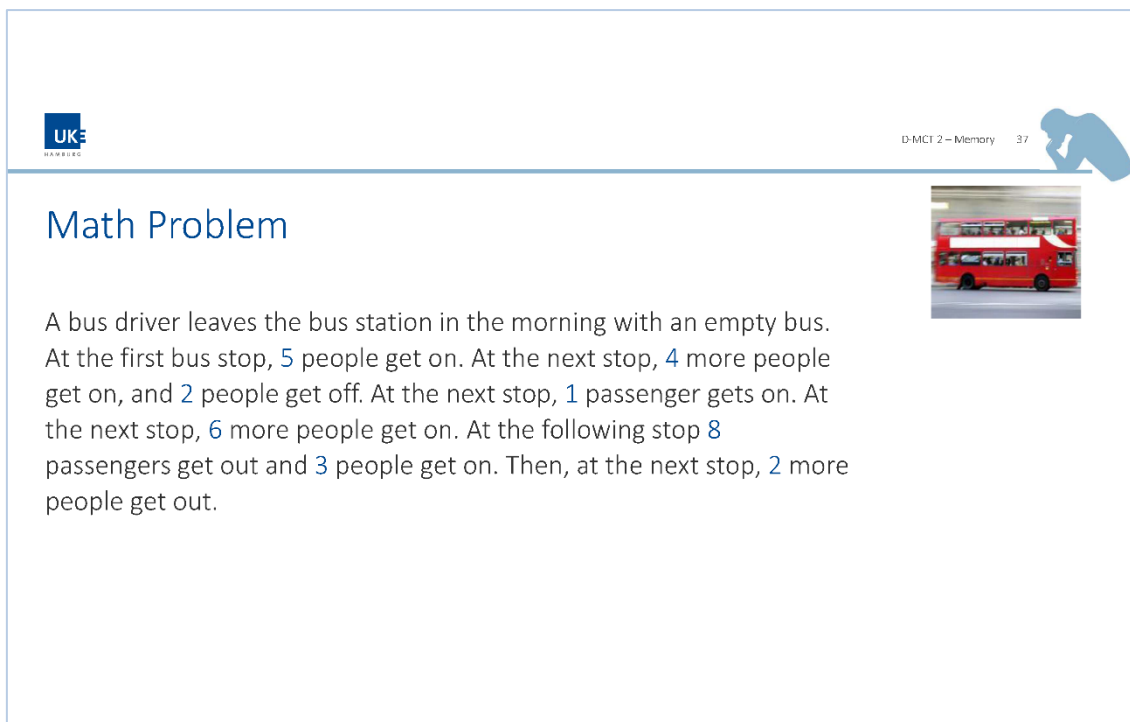
In module 2, the group is asked about memory and concentration problems. An exercise about the selectivity of attention (see slides and example below) is used to illustrate the occurrence of these issues. Additionally, these issues are identified as temporary symptoms. This should ease patients’ unfounded worries (e.g., worrying one definitely suffers from a degenerative memory disorder). Further exercises encourage patients to reflect on widespread assumptions about memory, such as the assumption that it works like a camera. Instead, our memory works constructively and is prone to errors. In this context, patients are informed about the concept of “false-memories”, which is further illustrated by exercises.

The focus is on mood-congruent (negative) remembering, including false memories. It may be the case that such selective negative memories or false-memories are considered further “evidence” supporting depressive processing. Finally, specific strategies to counteract selective memory (e.g., joy diary), general memory deficits (e.g., organization, notebook, memory aids) and

overgeneralization (e.g., asking others about how events in the past really were or actively searching for counterevidence) are presented

2.2.3 Example slide and exercise

To illustrate the concentration and memory problems in depression, patients are invited to a “math exercise”, which is presented on a slide and read aloud by the trainer (see Figure 2.1).



Math Problem

A bus driver leaves the bus station in the morning with an empty bus. At the first bus stop, 5 people get on. At the next stop, 4 more people get on, and 2 people get off. At the next stop, 1 passenger gets on. At the next stop, 6 more people get on. At the following stop 8 passengers get out and 3 people get on. Then, at the next stop, 2 more people get out.

Figure 2.1. Slide example from module 2.

Contrary to what participants expect, the next slide asks for the number of stops, not the number of passengers remaining on the bus. As our attention is selective and most participants focus their attention on the number of passengers on the bus, most cannot remember the number of stops. Reflecting on the exercise may playfully demonstrate the relationship between concentration (or attention) and memory and provide an explanation for memory problems in depression. To illustrate, we additionally use the metaphor of a “spotlight”. This is used to demonstrate that human attention may only be directed at a few objects at a time, much like a spotlight, and most other things remain “in the dark”. Related to the math task, this means that our attention may be selectively focused on either the number of passengers *or* the stops. Next, it is clarified how this exercise relates to the symptoms of depression. As inner processes, such as rumination or worry, often take up all of our attention, the spotlight is directed inwards and less on external events. Consequentially, this attention is “missing” for our surroundings, which are then only poorly remembered later on.



Summary

Module 2 focuses on

(1) normalizing and explaining reasons for (subjective) memory and concentration problems associated with depression and providing helpful strategies to compensate for these (perceived) problems

(2) improving awareness of memory biases (mood-congruent remembering, increased likelihood of negative “false-memories”, overgeneralization of positive memories).

2.3 Module 3: “Should” statements, disqualifying the positive, & black and white thinking

2.3.1 Theoretical background

Studies have shown that a perfectionistic thinking style contributes to the onset of depressive symptoms (Egan, Wade, & Shafran, 2011; Graham et al., 2010). This perfectionism manifests in the form of rigid rules and norms, which are often apparent through verbalizations, such as “one must...”, “one should...” or “one cannot...”. Such statements are referred to as “should” statements. Negative, dysfunctional perfectionism is associated with dichotomous thinking (Egan, Piek, Dyck, & Rees, 2007) and has been demonstrated in patients with depressive symptoms (Litinsky & Haslam, 1998; Teasdale et al., 2001). In cognitive models, this bias is referred to as all-or-nothing thinking (Hautzinger, 2013) and describes the tendency to think in terms of black-and-white. Patients who use this strategy often think that an expectation is either fulfilled 100% or not at all, a face is either beautiful or ugly, a dinner delicious or disgusting. Furthermore, studies have shown that individuals with depression have difficulty accepting positive feedback (Bogdan & Pizzagalli, 2006; Eshel & Roiser, 2010) and tend to have a higher acceptance of negative feedback (Cane & Gotlib, 1985). This is in line with the clinical observation that patients often have difficulties accepting praise and judge positive feedback to be less relevant than negative. In cognitive models this is referred to as *negating the positive*.

Examples

Should–statements “I should feed my children only homemade food (otherwise I’m a bad parent).”

All-or-nothing thinking “If I don’t make it out of bed by 7 am, the entire day is ruined and I might as well stay in bed.”

Disqualifying the positive “After an interaction with a client, my colleague complimented my conversation skills. I replied, ‘Well, after three years on the job you could do it just as well!’”

2.3.2 Content

In module 3, two typical depressive biases “should” statements and “negating the positive” are discussed with relevant examples. We start with “should” statements and examine their costs and benefits. Then, “all-or-nothing-thinking” is also introduced. The aim is to encourage patients to question the functionality of their exaggerated demands and their “all-or-nothing-thinking”. This may help them to set realistic standards and modify their expectations during depressive episodes accordingly. Next, the cognitive bias “disqualifying the positive” is discussed with the help of two examples (“You are being criticized” and “You are being praised”). The focus here is on the two typical depressive thinking patterns “accepting negative feedback” and “rejecting positive feedback”. Together more helpful appraisals for real-life examples of these biases are considered. To consolidate this, strategies to accept praise are developed (e.g., not devaluing praise, viewing praise as a gift).

Summary

Module 3 focuses on

- (1) identifying and modifying inflexible norms or exaggerated standards (“should” statements)
- (2) identifying instances of “all-or-nothing” thinking and developing appropriate assessment standards.

Further, on a metacognitive level, we assess whether positive experiences or positive feedback are devalued or rejected (“disqualifying the positive”) by the participant, which is indicated by patients’ difficulties accepting praise.



2.4 Module 4: Self-worth & perfectionism

2.4.1 Theoretical background

Self-esteem plays an essential role in the onset and maintenance of depression (Sowislo & Orth, 2013). More specifically, *low* self-esteem appears to promote the development of depressive symptoms (Orth, Robins, Meier, & Conger, 2016; Orth, Robins, Trzesniewski, Maes, & Schmitt, 2009). The role of diminished self-esteem in depression has been demonstrated using self-report questionnaires, such as the Rosenberg Self-Esteem Scale (RSE, Rosenberg, 1965); however, findings from implicit measures, such as the implicit association test (IAT) are mixed (Wegener et al., 2015).

Example

“People like me who don’t work are worthless. I get nothing done and contribute nothing to society.”

2.4.2 Content

Module 4 focuses on self-esteem. Together with the trainer, the group members develop a definition of the term and identify the outwardly visible and not visible characteristics of high self-esteem. Next, different sources of self-worth are introduced according to the bookshelf metaphor by Potreck-Rose (Potreck-Rose, 2006; Potreck-Rose & Jacob, 2003). According to this, self-worth is drawn from different sources. Self-esteem suffers if one continuously focuses only on their weaknesses and shortcomings and ignores strengths and other positive sources of self-esteem. These and other patterns of thinking that counteract a stabilization of self-esteem (e.g., perfectionism, unfair comparisons) are presented and helpful strategies for strengthening self-esteem are developed (e.g., consciously recognizing strengths by examining different sources of self-esteem; reducing unfair, one-sided comparisons; keeping a joy diary; regularly engaging in positive activities).

2.4.3 Example and exercise

Making unfair comparisons with other people may contribute to a feeling of low self-esteem (e.g., a “newbie” who compares him/herself with the CEO who has much more work experience). To illustrate these biases, we present the names of several famous persons (e.g., Robbie Williams, David Beckham, Angelina Jolie) together with the question, “What do these people have in common?”. Generally, they are quickly identified as “stars”. However, it is usually less well known that all of them suffered or suffer from psychiatric problems (background information is later presented). In discussing the exercise, it should become clear that drawing the conclusion that a star has a “perfect” biography most often involves unfair or one-sided comparisons. If we compare ourselves with stars, for example with regard to money, success or fame, most people fare less well than them. However, “nobody is perfect” and it is likely that if making comparisons in other areas of their lives, stars would not fare as well.



Summary

Module 4 focuses on improving self-esteem through

(1) decreasing and modifying the cognitive biases that contribute to low self-esteem (e.g., focusing on one's weaknesses, perfectionistic thinking style, making unfair comparisons with others)

(2) increasing strategies to strengthen one's self-esteem (e.g., emphasizing one's strengths by considering different sources of self-esteem; keeping a joy diary; engaging in positive activities).

2.5 Module 5: Magnification or minimizing & depressive attributional style

2.5.1 Theoretical background

People with depression hold pessimistic expectations of their own performance, and compared to those without depression, they judge their actual performance more negatively (Cane & Gotlib, 1985; Garber & Hollon, 1980). In the classical framework of Beck's cognitive biases, this is referred to as *magnifying* the extent and the consequences of one's own mistakes and problems and *minimizing* one's own capabilities (Hautzinger, 2013). There is evidence that compared to people without depression, people with depression tend to attribute failures to themselves and successes to external circumstances or other people (Ball, McGuffin, & Farmer, 2008; Mezulis, Abramson, Hyde, & Hankin, 2004; Sweeney, Anderson, & Bailey, 1986). This *depressive attribution style* is a key element of Seligman's revised theory of learned helplessness to explain depression (Abramson, Seligman, & Teasdale, 1978; Peterson & Seligman, 1984).

Examples

Magnification and minimization

- 👉 "A letter was returned because I didn't put enough postage on it. I should have known better – it was very negligent of me not to weigh it. I can't do anything right."
- 👉 "Having your apartment nicely decorated is nothing special; anybody can do it. You just put some things in it."

Attributional style

Positive event: A friend says, "You backed that car into the parking space really well!"

- 👉 "No, the parking space was just really big. Plus, I had a good driving instructor."

Negative event: At a baking fundraiser less money is collected than expected.

- 👉 "I should have put more effort into it. I could have baked a different cake, smiled more and been nicer while selling them. I should have told more of my friends about it."


2.5.2 Content

In module 5, the cognitive biases mentioned above ("magnification and minimization" and "attributional style") are discussed from a metacognitive perspective. To introduce the bias "magnification and minimization", we begin with a short exercise. Patients are asked to name two things they did that went well or poorly that day (if the group meets in the morning, trainers may also ask patients about things from the previous day). They are also asked to judge whether it was easier for them to name a "failure" than a "success", and which one they think about more. This and the following examples in the slides usually illustrate well that while depressed, one's own failures often receive more attention, while successes or abilities are understated or ignored. In the second part of the module, we discuss characteristics of attributional style in depression. An example is used to evaluate the negative consequences of such an attributional style for mood and behavior. At the end, a balanced attribution is presented, which includes several possible relevant internal and external factors that also played a role in the situation (for exercise see Figure 2.2).

2.5.3 Example slide and exercise

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A friend did not wish you happy birthday

Why might the friend not have wished you happy birthday?

What do you attribute this to?



Situation or coincidence?

Another person or other people?

Yourself?

Figure 2.2. Example of slide in module 5.

In the last block of exercises in this module, ideas for a more balanced attributional style are developed with the help of the examples provided (see Figure 2.2). There is never “one” right answer for the example. Rather, the goal is to discuss different solutions and identify possible causes involving the categories “myself”, “others”, and “circumstances”. Remember that these three categories are theoretical and may overlap. For groups with depression, we suggest to begin looking for the causes of a negative event (e.g., “a friend doesn’t congratulate you for your birthday”) in the categories “others” or “circumstances”, and to begin with “oneself” when looking for causes of a positive events (e.g., “receiving a gift”).

Summary

Module 5 focuses on identifying and modifying biases in





- (1) judging one’s own abilities and shortcomings (exaggerating the degree and consequences of one’s mistakes and problems; understating one’s own abilities)
 - (2) attributional style (internal attribution of failures and monocausal causes)
- from a metacognitive perspective.

2.6 Module 6: Dysfunctional behavioral strategies

2.6.1 Theoretical background

Dysfunctional behaviors play a crucial role in the development and maintenance of depressive disorders. Among these “social withdrawal” is particularly important (Boivin, Hymel, & Bukowski, 1995; Lara, Leader, & Klein, 1997; Seidel et al., 2010). Over the last decade, studies on the role of unhelpful cognitive strategies have shown that both *ruminatio*n (Rood, Roelofs, Bögels, Nolen-Hoeksema, & Schouten, 2009) and *thought suppression* (van der Does, 2005) are relevant to the pathogenesis of depression. Positive and negative metacognitions about rumination and thought suppression are also part of the metacognitive therapy by Wells (Matthews & Wells, 2000; Wells, 2011). Additionally, *dysfunctional metacognitions* about social withdrawal are addressed in module 6.

Examples

-  “I should only get together with other people when I am in a good mood.”
-  “Rumination helps to solve my problems.”
-  “I cannot control my thoughts.”
-  “I must not think negative thoughts.”

2.6.2 Content

In this module, rumination, suppression of negative thoughts and social withdrawal are introduced as understandable, but ultimately dysfunctional strategies. Patients have the opportunity to share their own experiences. In addition to the strategies themselves, dysfunctional meta-assumptions about these strategies are discussed in order to modify them (e.g., “Does rumination help you solve problems?”). Thought suppression is identified as a common, but dysfunctional strategy against rumination, and an exercise to illustrate this is provided (“Don’t think about an elephant”). The point of this exercise is to demonstrate to patients that this strategy is not helpful in handling rumination. Next, a mindful breathing exercise is offered as a functional strategy. The second part of the module addresses social withdrawal. Here, we present the vicious circle of inactivity in depression and identify steps to increase activity.

Summary

Module 6 focuses on


- (1) reducing dysfunctional coping strategies (rumination, suppressing negative thoughts, social withdrawal) and meta-assumptions.
- (2) increasing functional strategies and meta-assumptions.

2.7 Module 7: Jumping to conclusions, mind reading, & fortune telling (catastrophizing)

2.7.1 Theoretical background

Individuals with depression have a more pessimistic outlook of the future than those without depression and expect more negative occurrences to happen in the future (Alloy & Ahrens, 1987; Miranda, Fontes, & Marroquín, 2008; Strunk & Adler, 2009). For example, a study found that highly depressed participants expected more negative, undesirable events than which actually occurred (Strunk, Lopez, & DeRubeis, 2006). This corresponds to the cognitive bias of *catastrophizing* (Hautzinger, 2013), which together with the attempt to *read the presumed negative thoughts of others* (Hautzinger, 2013), is summarized as *jumping to conclusions* in cognitive models. This concept refers to the tendency to interpret events negatively without explicit evidence to support this (one-sided negative) reasoning.

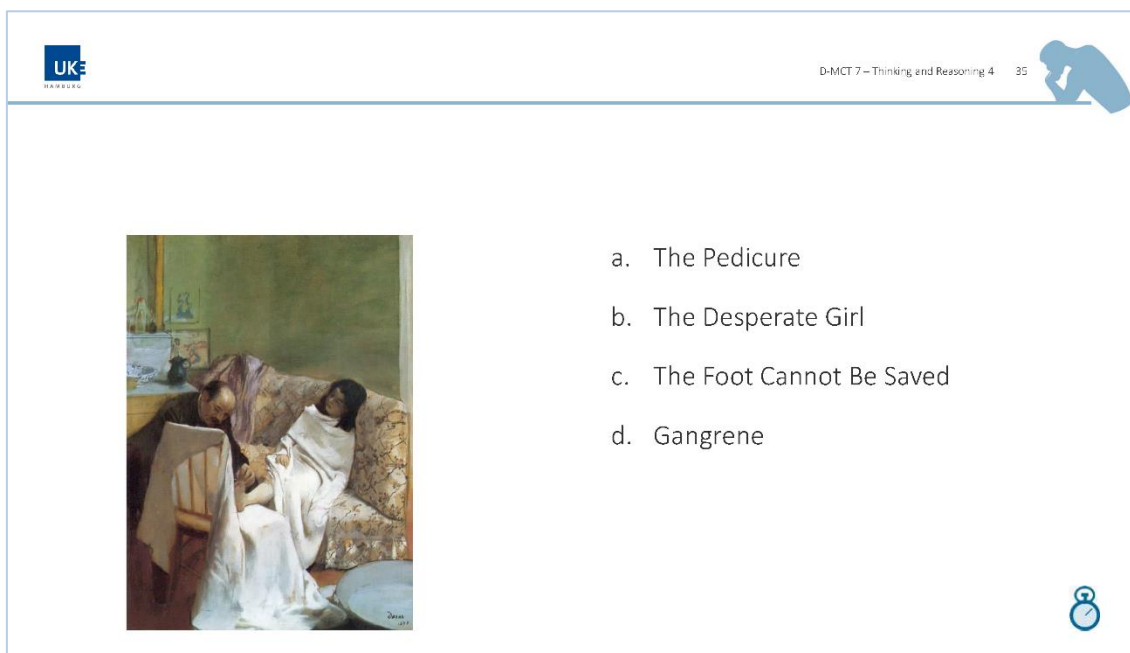
Example

 “I always expect the worst. This holds for what others think about me, but in particular for what could happen in the future. It helps me to not be disappointed by myself or others.”

2.7.2 Content


Module 7 focuses on two aspects of hasty reasoning in depression: “mind reading” (usually the negative thoughts of others) and “catastrophizing”. Both cognitive biases are defined together before each bias is illustrated with general examples. For example, possible interpretations of the following situation are discussed: “People stand together and laugh – someone in the group turns and looks at you”. First, dysfunctional, then functional interpretations are discussed before the consequences of these different interpretations are presented. Following this introduction to the topic, an exercise is presented to examine to what extent we are able to read the thoughts of others, if at all (see slide and exercise examples). The second half of the module addresses “catastrophizing”. An example of catastrophizing and alternative ways of thinking are presented. The module ends with a general exercise on jumping to conclusions. Using a series of images, the potential negative consequences of jumping to conclusions are highlighted. Three images are shown one after the other, but in reverse order. The participants are asked to assess the four response options provided regarding the plausible progression of the events of the story. The correct option initially appears unlikely compared with the others. Taken together, the module should illustrate that it is often not helpful to rely on one’s very first assessment as it may be biased and lead to a one-sided, and incorrect interpretation.

2.7.3 Example slide and exercise



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- The Pedicure
- The Desperate Girl
- The Foot Cannot Be Saved
- Gangrene




Figure 2.3. In the exercise depicted above, patients are asked to guess the correct title of the painting (A is correct; The Pedicure; Edgar Degas, 1873).

People with depression often try to read the minds of others. Whether this is at all possible is explored with patients in an exercise. Patients are asked to “read the mind of the artist” and choose the correct title of the painting from a list of options (see Figure 2.3). We deliberately chose paintings and titles that lead to jumping to conclusions (and to choosing the wrong title). If the exercise is conducted with a group, the participants are asked to decide on one title. Afterwards, arguments for and against the different title options are discussed. After revealing the correct title, elements of the painting that offer hints as to the correct title or rule out a wrong option can be highlighted. As with all MCT exercises, it is important to make sure patients do not perceive guessing the wrong title as a failure and that the atmosphere in the group remains positive. The aim here is to demonstrate how difficult it is to identify others’ (in this case the artists’) thoughts, irrespective of whether one is depressed or not.

Summary


Module 7 focuses on identifying and modifying of the cognitive bias “jumping to conclusions” (specifically, reading the negative thoughts of others and catastrophizing) from a metacognitive perspective.

2.8 Module 8: Perception of feelings & emotional reasoning

2.8.1 Theoretical background

Studies have shown that compared to individuals who are not depressed, people with depression show differences in identifying emotional facial expressions. Faces with negative expressed emotions, such as anger or sadness, seem to be preferentially processed (Gotlib, Kasch, et al., 2004; Leyman, De Raedt, Vaeyens, & Philippaerts, 2011), whereas positive facial expressions are processed superficially (Joormann & Gotlib, 2006; Yoon, Joormann, & Gotlib, 2009). Neutral facial expressions are misinterpreted more often (Douglas & Porter, 2010; Naranjo et al., 2011). The negative appraisal of ambiguous emotional expressions correlates with a worse prognosis regarding relapse rate and remission of depression (Hale, Jansen, Bouhuys, & van den Hoofdakker, 1998).

Example

 “I think I can read my wife’s facial expressions very well. I have known her for so many years that I know exactly when she dislikes something.” A question posed by other participants: “Yes, but do you know whether she just doesn’t really like it that much or completely hates it? That can make quite a difference and may easily cause an argument.”

2.8.2 Content

Module 8 focuses on identifying specific emotional expressions. We begin by presenting the image of a person with their arms crossed and ask patients to interpret it. Patients should be asked to share different interpretations of this body posture and identify what information would help to deduce the correct interpretation. In the next step, “primary” emotions are named and participants are asked to name which emotions are shown by different facial expressions. The exercises demonstrate that (emotional) facial expressions are easily misinterpreted. It is also emphasized that current mood states influence the interpretations of others’ expressions. Another exercise is used to illustrate that when one is, for example, in a negative mood, one may tend to interpret signals from other people as negative or rejecting. To avoid hasty or wrong judgments for which there are significant consequences, it is important to include as much information as possible in an interpretation (e.g., situational factors, pre-existing knowledge about the person) and rely only on single details (such as crossed arms). To address dysfunctional metacognitions about feelings (e.g., “it is not acceptable to have negative emotions”), information regarding the evolutionary rationale of emotions is presented at the end of the module.

2.8.3 Example slide and exercise

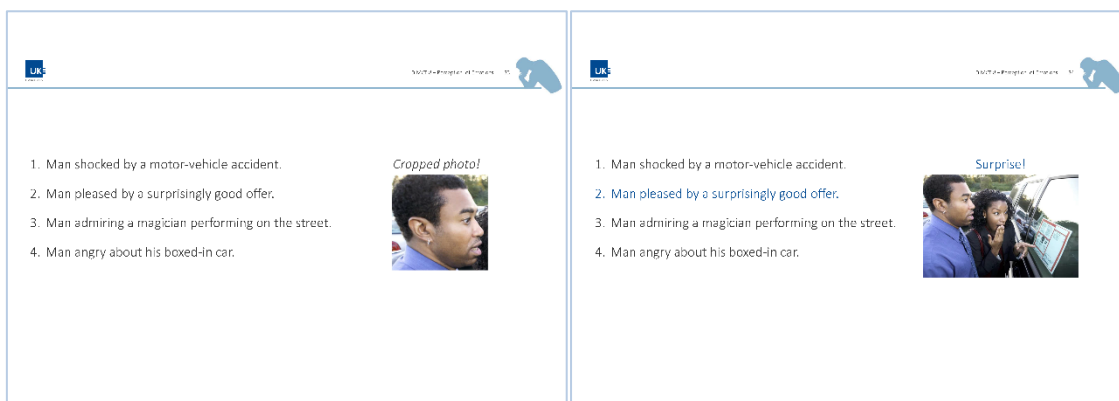


Figure 2.4a. Slide example module 8
(Picture piece)

Figure 2.4b. Slide example module 8
(Context and emotion)

In this exercise, participants are shown only part of a photo in which a person's face is shown expressing a certain emotion (see Figure 2.4a). Four interpretation options are offered below the photo (context and expressed feeling). The participants are asked to discuss which of the four options they consider most likely and to choose one. Once the discussion is finished, the "solution" is presented on the next slide (see Figure 2.4b). Sometimes it may be helpful to explicitly emphasize that ambiguous images were selected for this exercise, which are not straightforward to interpret. The aim is to show how facial expressions may easily be misinterpreted. To make a definite and unambiguous judgment, it is helpful to gather more information.

Summary

Module 8 focuses on identifying emotional expressions and modifying dysfunctional meta-assumptions about emotions.

3. Metacognitive Training for Depression in Later Life (MCT-Silver)

by Brooke C. Schneider, Steffen Moritz, Lara Bücken, Lena Jelinek

The content of MCT-Silver modules 1, 2, 5, 6, and 7 are nearly identical to the D-MCT modules (compare Table 1); however, some examples and exercises have been changed to increase their relevance for older adults and the formatting has been adapted. Thus, the content for these modules (with the exception of a comment regarding memory for Module 2) are not discussed in this chapter and trainers should refer to the respective D-MCT chapters for information on the theoretical background and content summaries for these modules, as well as slide examples and a summary of the module goals. The adaption of age-specific exercises and examples should be readily apparent and we do not believe there is a need to more thoroughly discuss these examples. It is, however, strongly recommended that trainers who are experienced with D-MCT spend some time reviewing the new examples and particularly the focus of the examples before presenting MCT-Silver modules for the first time. Below content that significantly differs between D-MCT and MCT-Silver is presented; specifically, modules 3, 4, and 8.

3.1 Module 2: Memory in older adults with depression

Although MCT-Silver content for module 2 is very similar to that for D-MCT, given that many older adults report memory concerns, we would like to highlight some information regarding cognitive changes specifically in older adults with depression. Subjective cognitive impairment is consistently and positively associated with the presence of affective symptoms among older adults (Hill et al., 2016). Many older non-depressed adults express significant concerns about developing dementia or other causes of irreversible cognitive changes; however, it remains unclear to what extent subjective memory complaints may be associated with actual cognitive impairments or predict cognitive changes (Brailean, Steptoe, Batty, Zaninotto, & Llewellyn, 2019; Montejo Carrasco et al., 2017; Reid & MacLulich, 2006). Whereas domains such as memory, executive functioning and processing speed experience more significant declines, general knowledge and vocabulary remain intact or even improve well into the later years of life (Salthouse, 2010).


Although not directly stated in the MCT-Silver slides, cognitive changes occur uniquely for each person and also occur differently for individuals with neurocognitive disorders (e.g., mild cognitive impairment, dementia) versus healthy individuals. If patients have specific questions about dementia, trainers can refer to them to dementia-specific resources (e.g., websites of the American Alzheimer's Association, the Alzheimer's Society or Dementia UK) as this information is not included as part of the MCT slides. In the absence of a full neuropsychological assessment, participants should not be provided with assurance that cognitive difficulties are completely attributable to depression, but should be encouraged to speak with their primary care physician, neurologist, psychiatrist or other doctor regarding cognitive concerns.

3.2 Module 3: “Should” statements and acceptance

3.2.1 Theoretical background

Studies have demonstrated links between low distress tolerance and depressive symptoms, as well as an inverse association between distress tolerance and experiential avoidance (Feldner et al., 2006; Zettle et al., 2005). Experiential avoidance refers to attempts to avoid (typically negative) thoughts, feelings, physical sensations and other internal experiences. Older adults have been shown to use emotional regulation strategies such as suppression more frequently than younger adults, which is a form of experiential avoidance. Although avoidance provides short-term relief from negative stimuli, this coping style increases the likelihood that such negative thoughts, feelings and sensations will return (negative reinforcement). Acceptance and Commitment Therapy (ACT) proposes that psychological symptoms are often caused or exacerbated by (dysfunctional) strategies to avoid distress associated with difficult situations or painful thoughts and memories (e.g., experiential avoidance; Hayes, Wilson, Gifford, Follette, & Strosahl, 1996). Therefore, getting “caught up” in avoiding negative emotions often serves to exacerbate rather than reduce distress, whereas allowing painful feelings and emotions to be present (e.g., through “acceptance”) can ultimately lead to reduced suffering. Acceptance has been conceptualized as opening oneself to experiencing the reality of the present moment (Fruzzetti, A. E., & Erikson, 2010; Harris, 2009). Third-wave approaches, such as ACT, are being increasingly integrated with traditional cognitive behavioral therapies (Fruzzetti, A. E., & Erikson, 2010) and studies demonstrate the effectiveness and acceptance of third-wave approaches among older adults (Kishita, Takei, & Stewart, 2017; Wetherell et al., 2016). Acceptance may play a particularly important role in successful aging as older adults face several changes over which they have little or no control (e.g., medical illness, loss of significant others, functional limitations; Wetherell et al., 2011). Problem-focused coping for such events in the context of limited resources and time may be maladaptive (Isaacowitz & Seligman, 2002). Use of acceptance as a coping strategy was positively associated with higher quality of life in cross-sectional studies of older adults living in retirement communities (Butler & Ciarrochi, 2007), as well as better health outcomes among individuals with diabetes (Gregg, Callaghan, Hayes, & Glenn-Lawson, 2007).

Example

 “These days due to my medical problems, I don’t even have the energy to make my own bed. It makes me so mad that I just give up and try not to think about it.” (Example of experiential avoidance through thought suppression; unhelpful coping (avoidance) by not asking others for help).

3.2.2 Content

Like in D-MCT, the first half of module 3 covers “should statements” and “black and white thinking”. The last slide (“Discover your flexibility”) serves as a good segue to the second topic “Coping with negative feelings”. A definition of successful aging and examples of psychological suffering (e.g., rumination and worry) are provided. Particularly aspects of one’s life, which are unchangeable or are perceived as such, may be difficult to cope with. The metaphor of a “fork in the road” is provided to illustrate that participants have a choice with regard to suffering. Here it should be emphasized that whereas negative thoughts and worries may still be present, it is the “letting go” of the struggle with these negative thoughts and feelings and a commitment to living

in the “here and now” that are essential to take the second (ultimately less psychologically painful) path. The term “acceptance” is then introduced. Because acceptance can be easily misconstrued as blindly accepting all situations without question, we suggest using of the term “willingness” or “openness” as much as possible, which better emphasize the ultimate goal of acceptance. The broken leg metaphor then illustrates the futility of getting “caught up” in negative feelings and participants are encouraged to examine whether there are areas of their life in which they could practice more “willingness” or “openness” (see Figure 3.1). At the end of the module, drawing from the selective optimization and compensation theory (Baltes, 1997), participants are asked to identify ways in which acceptance may lead them find better solutions to the problems in their lives – for example, for an older patient who is limited in his ability to do woodwork due to arthritis, acceptance may mean working for shorter periods at a time, focusing on just one project, going to the doctor again to optimize arthritis care or recruiting the help of family members, friends or others (e.g., for small, detailed woodwork pieces).

3.2.3 Example slide and exercise

Willingness in everyday life

Can you think of similar examples from your life?

- In which areas of your life would you like to be more open to negative feelings?
- If you could create more willingness for negative feelings in these areas, how could your life be different?

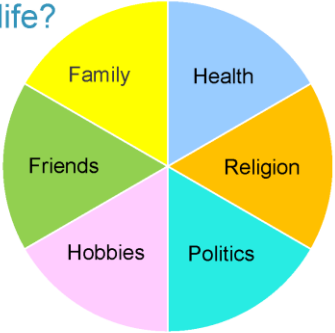


Figure 3.1. Exercise from module 3. Participants are examining areas of their life in which they can practice more openness to (i.e., acceptance of) the negative feelings in their lives.



Summary

Module 3 focuses on



- (1) identifying and modifying rigid norms and expectations (e.g., “should” statements, “all-or-nothing” thinking)
- (2) introducing the concept of and providing psychoeducation about psychological “acceptance”, willingness and openness
- (3) providing examples of (active) acceptance of unchangeable aspects of (later) life and encouragement of participants to reflect on how they may practice acceptance in their own lives.

3.3 Module 4: Values

3.3.1 Theoretical background

Value-based living is associated with increased well-being and distress tolerance, as well as improved ability to cope with specific life stressors, such as chronic illness and grief (Ciarrochi, Fisher, & Lane, 2011; Davis, Deane, & Lyons, 2015; Smith et al., 2018). As defined by the ACT framework described above, values are “statements about what we want to be doing with our life [...] leading principles that can guide us and motivate us as we move through life.” (see Harris, 2009, p.189). Importantly values are differentiated from goals such that whereas goals focus on the future and are achievable (e.g., running a marathon or not eating meat), values focus on the “here and now” and provide rather a general guide for the way one wishes to live (e.g., living a healthy lifestyle; Harris, 2009). Research has demonstrated that disengagement from *unattainable* goals is associated with reduced psychological distress, including depressive symptoms, while refocusing on *attainable* goals can promote well-being and positive affect (Wrosch, Scheier, & Miller, 2013). There is also longitudinal evidence that disengagement from unattainable goals among older adults with functional disabilities leads to lower levels of depression (Dunne, Wrosch, & Miller, 2011).

Examples

-  “Ever since my husband passed away, I just sit at home. We used to do everything together, now I don’t know what to do with myself.”
-  “Now that I have my walker, I don’t want others to see me like this and it’s such a nuisance. I haven’t been to any of my activities in months.”

3.3.2 Content

In module 4, the concept of values is first presented using a sailing metaphor. It is explained that during depression, those affected often lose sight of their values (e.g., due to the low motivation or indecision characteristic of depression). The concept of values is then defined by listing what values are (e.g., freely chosen) or are not (e.g., rules). Concrete examples of values versus goals are then presented and participants are asked to reflect upon their own values and goals. Because some depressed older adults are hindered by unhelpful assumptions such as “You can’t teach an old dog new tricks”, brain teasers are first presented to inspire participants to think of old problems in new ways. Next, participants are presented with several questions as well as an exercise, which may help them clarify their values in different areas of their life (see Figure 3.2). Trainers are encouraged to allow time for participants to carefully consider their values and share them with the group. It is helpful to tell participants that they can continue thinking about their values outside of the session. If participants have difficulty identifying values, the “Who Am I” exercise helps them to step outside of traditional roles to consider all possible areas of their lives and all the varying roles they have (or have had). The next exercise “Identifying values – what is important to me?” serves to illustrate that it is normal (and good) that not all values have utmost priority. In the final slides, it is discussed how participants can begin to practice living a value-based life by taking an initial small (and perhaps to others imperceptible) step in the direction of their goals. This change may be behavioral (e.g., calling a friend), but may at first occur only internally (e.g., beginning to think about and plan how to reach a goal). In order to reduce the tendency some individuals with depression have to set overly high expectations for themselves,

it may be emphasized that the goal of the present module is to simply become more aware of their values. This is the critical (and sufficient) first step – because as discussed in module 3 holding overly high expectations can lead to frustration and ultimately backfire.

3.3.3 Example slide and exercise



Determining your values

Now it's your turn! With the help of the examples, please consider your values in the following areas:

The slide features a central pie chart divided into six segments: Family (yellow), Health (light blue), Religion (orange), Politics (teal), Hobbies (pink), and Friends (green). Surrounding the chart are seven rounded rectangular boxes, each containing a value statement and color-coded to match a segment of the pie chart:

- To create a comfortable and welcoming home (yellow)
- To be informed about current events (teal)
- To actively maintain my friendships (green)
- To learn about new cultures and countries (pink)
- To live a religious life (orange)
- To lead a healthy lifestyle (light blue)

Figure 3.2. Exercise from module 4 providing participants with examples of values from different areas of life and encouraging them to identify their own values.

Summary

Module 4 focuses on

- (1) psychoeducation about values versus goals and identification of values and goals
- (2) promotion of insight regarding participants' own values and reflection on to what extent participants live a value-driven life (versus values being overshadowed by depressive symptoms)
- (3) presentation of strategies to help participants in living a value-oriented and value-driven life



3.4 Module 8: Self-esteem

3.4.1 Theoretical background

Up to half of individuals with depression report having frequent distressing intrusive images of memories or imagined events (Moritz et al., 2014; Patel et al., 2007). A range of mental imagery dysfunctions have been documented among individuals with depression, including excessive intrusive negative mental imagery, impoverished positive imagery and an overgeneral memory (Holmes, Blackwell, Burnett Heyes, Renner, & Raes, 2016). Such deficits have negative effects on mood, as well as self-esteem, specifically with regard to negative images depressed individuals have of themselves (Dainer-Best, Shumake, & Beevers, 2018). Departing from traditional cognitive-behavioral therapy, positive mental imagery strategies may be superior to verbal strategies alone (Holmes, Mathews, Dalgleish, & Mackintosh, 2006). Imagery techniques may help patients gain more control over their negative mental images leading to increased self-efficacy and reduced feelings of helplessness and despair. Randomized controlled trials on imagery interventions have yielded positive effects on depressive symptoms (Brewin et al., 2009; Dainer-Best et al., 2018; Moritz et al., 2018) and acceptance of imagery techniques has been demonstrated among older adults (Murphy et al., 2015).

Longitudinal studies suggest that self-esteem tends to decrease beginning between 50 and 60 years of age and that low self-esteem serves as a risk factor for depression throughout the lifespan (Orth et al., 2009; Orth, Robins, & Widaman, 2012; Orth, Trzesniewski, & Robins, 2010). Older adults may hold negative views of aging, which are associated with depression and hopelessness (Laidlaw, 2010; Laidlaw, Kishita, Shenkin, & Power, 2018; Laidlaw & Kishita, 2015). For example, older adults may assume that they have few “good years” left or that depression is a normal part of aging. Thus, life events may be viewed through a “negative filter” such that negative experiences congruent with one’s aging expectations are selectively attended to. Working with patients to correct negative assumptions about aging and provide a more balanced view of aging may reduce depressive symptoms (Haslam et al., 2012; Laidlaw & Kishita, 2015).

Examples

-  “There’s nothing positive about getting older. Everything is just going to keep going downhill.”
-  “I feel so worthless now. I keep thinking about how old and helpless I look with my walker.”

3.4.2 Content

Module 8 is adapted from module 4 of D-MCT and also deals with self-esteem, but expands upon this to address potential negative attitudes and stereotypes regarding aging and to help participants consider alternative (i.e., more positive) concepts of aging. Module 8 begins with slides from D-MCT first defining self-esteem and then discusses the outwardly visible aspects of self-esteem. The connection between posture and mood is demonstrated through an exercise in which group members are asked to try out different “negative” and “self-confident” postures. (*Note:* It is not necessary that participants are mobile for this exercise – it can also be done while sitting in a chair. Participants can, alternatively, practice going through the room using a walker and/or wheelchair, if space allows.). While it is not expected that self-esteem will “miraculously”



improve due to this one exercise, it should be presented as a first and easy step toward improving one's self-esteem.

In the next section, "Self-esteem and Aging", quotations are presented regarding how different famous individuals view the aging process to stimulate discussion on how participants themselves view aging (see Figure 3.3). It is then stated that many people in western societies hold rather negative attitudes toward aging and that due to cultural pressures to remain "young and (and thus) attractive", the positive aspects of aging are often forgotten or minimized. Here the goal is not to minimize the negative aspects of aging, which are the reality of some group members. These should also be acknowledged if brought up by group members, but it should be emphasized that aging is not *exclusively* negative. Especially for younger trainers, it is often helpful to draw upon the wisdom and experience of group members in this section of the module.

In the final section of module 8, participants have the opportunity to practice an imagery exercise in which they address possible negative mental images they have with regard to themselves. Whereas some participants will immediately understand and join in this exercise, others may be more hesitant or may not be able to readily identify an image. These participants may be encouraged to try out the exercise anyway to learn the technique. Importantly, this exercise alone requires 10-15 minutes or more depending on the time needed to discuss the exercise at the end. Trainer should therefore, not begin with the exercise if there is not sufficient time left in the session to complete the exercise in its entirety.

Following is a suggested script, which trainers may use to conduct the exercise:

"In the next exercise, you will be asked to identify and transform a negative image you may have of yourself. For example, some individuals with depression have indicated that they see themselves as a helpless, weak chick, which needs to be protected, a slow, slimy snail, which just wants to retreat into his shell or a statue, which has a tough exterior to protect itself and distance itself from others. These are just examples."

"Please close your eyes and take a few moments now to identify negative mental images you may have of yourself. Perhaps you identify with one of the images already mentioned or perhaps your negative image of yourself is completely different. You do not necessarily need to choose an inanimate or non-human object. Perhaps you hold the image of a very negative version of your current self – perhaps you imagine yourself as worn down, disheveled or very unattractive. Try to picture the negative image or symbol of yourself in as much detail as possible – try to use all of your senses. Think not only about how you might look, but also about how you might smell,...feel (externally or internally),...if there are any particular tastes that you notice,...or sounds." *Note to trainers:* This is often difficult for patients who have never thought of negative images. Allow participants at least a few minutes to complete this part of the exercise as well as the points below.

"Keeping your eyes closed, in the next step, try to identify a positive image with which you would like to identify. This could be a beautiful red rose, which smells wonderful, an invincible Superman who is not afraid of anything or perhaps a proud horse, which trots through life. Again, the positive image could be a positive image of yourself – even overly positive in which you look even more attractive, strong or fit than you actually are. Again, take some time to identify this image in as much details as possible. Think not only about how you might look, but also about how you might smell,...feel (externally or internally),...if there are any particular tastes that you notice,...or sounds."

“Now you can open your eyes. In the last step, try to think about how you could make a transformation from the negative image to the positive image. Similar to a bad painting, which can be painted over to become something beautiful. Here, the goal is not to simply replace one image with another, but to truly make a transformation. Think about all the steps that the negative image could go through in the transformation. For example, the ugly, helpless chick can be slowly transformed into a proud eagle, which no one can mess with. Or the statue can break out of its tough exterior to become a Superman.” *Note to trainers:* This step is often not so obvious to participants and may need to be explained more thoroughly with further examples.

“Now close your eyes again and try to transform your own personal negative image to your own positive image – remember and think of all five senses. How can you transform the object so that it is in all aspects more positive? Remember, the goal is not to simply repress the negative image but rather to transform and change it.”



“Once you have completed the transformation in your mind, take notice of your body. Sit up straight if you can, roll your shoulders back and push out your chest. You may feel like a Phoenix rising from the ashes.”

“In addition, you can formulate a positive sentence or statement that reinforces and fits with this image. For example, ‘I am allowed to be strong and proud.’ Think about a statement that fits your image best.”

In general, encourage group members to individualize the images as much as possible – they should not automatically use the examples provided in the slides, but of course may do so if they are fitting or if they cannot develop their own image. To boost detailed processing, participants are asked to close their eyes while picturing images. Many participants find this exercise to be challenging. This is normal and it is recommended that trainers suggest that participants take time to practice this exercise until the next session – the exercise conducted in session is merely an introduction to the concept of mental imagery.

3.4.3 Example slide and exercise

There are many different opinions about getting older...

Ingmar Bergmann (Director)		“Old age is like climbing a mountain... The higher you get, the more tired and breathless you become, but your views become more extensive.”
Joan Collins (Actress)		“Age is irrelevant unless you’re a bottle of wine.”

(Ingmar Bergman, 1966 by Joost Evers, „Joan Collins beim Monte-Carlo Television Festival (2012)» by Frantogian)



Figure 3.3. Exercise from module 8 in which quotations from famous older adults such as Ingmar Bergmann and Joan Collins are presented. Participants are then asked to share their own positive and negative beliefs and assumptions about aging.

Summary

Module 8 focuses on

- (1) defining self-esteem and its components, including bodily aspects such as posture and mental imagery
- (2) presentation of strategies to identify and change negative mental images connected with low self-esteem. Identification of positive mental representations of oneself
- (3) identification and modification of negative assumptions and beliefs about aging and identification of positive aspects of aging.

4. State of research

by Lena Jelinek, Brooke C. Schneider, Marit Hauschildt & Steffen Moritz

4.1 D-MCT

The feasibility, acceptance and efficacy of D-MCT was first examined in an open-label pilot study with 104 patients with depression (Jelinek, Otte, Arlt, & Hauschildt, 2013). In this study, D-MCT was offered once a week in a psychiatric outpatient clinic. A parallel pharmacological and/or psychotherapeutic treatment was permitted. Before and after completion of the eight-week training, patients filled out several questionnaires to quantify depressive symptoms and depressive biases. Depressive symptoms improved significantly over the course of the training at a medium effect size (Cohen's d between 0.56 and 0.73). Improvements on measures of cognitive biases, self-worth and rumination were also observed (effect sizes between $d = 0.26$ and 0.64).

Based on this data, the training was further developed, a manual was written in German (Jelinek et al., 2015) and D-MCT was evaluated in an RCT. In this follow-up study, 84 persons with depression were randomly assigned to D-MCT or an active control group (control: health training consisting of walking and psychoeducation on health-related topics) and assessed immediately before the start of the program, after its completion, 6 months (Jelinek et al., 2016) as well as 3.5 years later (Jelinek, Faissner, et al., 2018). All patients were participating in an intensive psychiatric outpatient rehabilitation program. We found that immediately following completion of D-MCT and 6 months later, the D-MCT group improved significantly more than the control group (with a medium to large effect, $\eta_p^2 = .049 - .114$). Additionally, at the six-month follow-up, more patients from the D-MCT group were in remission (38.7% vs. 13.8%, pre-post difference was significant at a trend-level). D-MCT was also superior with regard to reduction of cognitive biases and improvement in quality of life. For the 3.5-year follow-up assessment, superiority of D-MCT was not found in the primary analysis, but in secondary post hoc analyses a greater mean change in their HDRS score from baseline to the 3.5-year follow-up was found in the D-MCT group at a medium effect size ($d = 0.47$; $p = .015$). In these analyses superiority was also found with regard to self-rated depression severity (BDI), dysfunctional cognitive beliefs, and positive and negative metacognitive beliefs as well as physical and psychological quality of life.

To evaluate whether D-MCT also improves the cognitive biases targeted in the training and to assess mechanisms of change, we used the Metacognition Questionnaire 30 (MCQ-30, Wells & Cartwright-Hatton, 2004), its subscales (Jelinek et al., 2013; Jelinek, Van Quaquebeke, & Moritz, 2017), as well as a visual false memory paradigm (Moritz, Schneider, Peth, Arlt, & Jelinek, 2018). In these studies metacognition improved over the course of treatment (also see above) and first evidence was found that particularly a decrease in the MCQ subscale Need for Control (NFC) mediates outcome on depression in the D-MCT (Jelinek, Van Quaquebeke, & Moritz, 2017). Regarding false memories, patients in the D-MCT group produced fewer high-confident false memories after treatment than patients in the control treatment, underscoring that metacognitive training meets its aim to attenuate the impact of false judgments.

In addition to efficacy data, we highly value patients' perspective; that is, how the training is evaluated and accepted by patients. We also use patients' feedback to improve and revise the training. Subjective appraisal of the training was assessed in the first pilot study, as well as in the RCT described above. Both studies showed high rates of acceptance, with better ratings for the D-MCT than for the control condition in the RCT (Jelinek et al., 2017).

4.2 MCT-Silver

The feasibility, acceptance and efficacy of *D-MCT* in older adults was examined in an pilot study with 116 patients with depressive symptoms (Schneider et al., 2018) A further goal of the study was to identify whether a modification of the D-MCT materials for older adults was necessary; therefore, only D-MCT content was presented in this pilot study (MCT-Silver had not yet been developed). In this study, D-MCT was offered as an add-on intervention to older adults (55 years and older) completing an intensive in- or outpatient treatment program. There were no formal inclusion or exclusion criteria for the study other than age; however, staff psychiatrists were requested to not refer patients with significant cognitive impairment, psychosis or active suicidal intentions. Patients were allowed to enter or stop participation in the group at any point and were often discharged from the treatment program before completing all eight modules. Before and after beginning the group, patients completed the German version of the Center for Epidemiological Studies Depression Scale (CES-D; the *Allgemeine Depressionsskala*) to quantify depressive symptoms, as well as the short version of Dysfunctional Attitudes Scale-18B (DAS-18B) to measure depressive cognitive beliefs.

Depressive symptoms improved significantly over the course of the training at a medium to large effect size (Cohen's d between 0.50 and 1.06) and 49.1% of completers no longer met the cutoff for depression on the CES-D. Improvements were also observed on the DAS-18B total score (Cohen's $d = 0.33$). Acceptance of the intervention was overall good. Most participants indicated that they found the intervention to be useful (84.0%), enjoyable (64.3%) and an important part of their treatment (75.0%). Few participants reported negative outcomes (i.e., side effects; 5.5%). Nonetheless, the subjective ratings of D-MCT among older adults were relatively lower than those provided in previous studies with younger adults (Jelinek, Moritz, et al., 2017) and approximately 12% reported that their thinking became "more chaotic and confused" over the treatment period. These lower acceptance ratings in combination with informal feedback from patients, as well as clinician observations that some examples in D-MCT were not appropriate for older adults, provided the impetus for the development of MCT-Silver (see above for description of modules). At the time of writing this manual, our research group is currently conducting an initial randomized controlled trial comparing the efficacy of MCT-Silver with an active control group.

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