

IN HUMAN COGNITIVE AND BRAIN SCIENCES



The *ReSource Project*

Background, Design, Samples, and Measurements

Second Edition

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TheReSourceProject

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The *ReSource Project* Background, Design, Samples, and Measurements

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Second Edition

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1 Introduction

This publication describes the origin, conceptual background, basic design, samples, methods, and measures including important descriptive statistics of the *ReSource Project*, a large-scale longitudinal study on the effects of mental training on subjective well-being, health, brain plasticity, cognitive and affective functioning, the autonomic nervous system, and behavior. The purpose of this publication is to provide a detailed description of the *ReSource Project* as important supplementary material and reference for all future peer-reviewed publications resulting from this study, as well as for the interested scientific reader.

The *ReSource Project* was funded by the European Community's Seventh Framework Program (FP7/2007-2013/ European Research Council (ERC), Grant Agreement Number: 205557) and the Max Planck Society and was carried out in the Department of Social Neuroscience at the Max Planck Institute (MPI) for Human Cognitive and Brain Sciences under the supervision of Prof. Dr Tania Singer.

Over 300 participants took part in this multi-method large-scale mental training study, either as part of one of the training cohorts or the retest control cohorts. Seventeen professional teachers taught them mental exercises and meditations, and the participants' training-related changes were repeatedly assessed using more than 90 measures such as questionnaires, behavioral experiments, as well as physiological assessments of the autonomic nervous system, virtual reality tasks, neuroimaging paradigms, and biological parameters.

In this volume, we report on the origin of the *ReSource Project*, the underlying theoretical and conceptual backbone of the *ReSource* training protocol, including the core exercises, the study design, the pre-piloted scientific measures as well as the recruitment process, the sample descriptions, and important descriptive statistics regarding, for example, number of practice hours, participation, and dropouts. Specific details on hypotheses, methods, and results will be described in peer-reviewed scientific publications by the researchers involved in this project.

The *ReSource Project*, which spanned over several years, was incomplete when the first edition of this book was published in early 2015. This is the 2nd edition and contains data of all cohorts and measurements. The first data set of the *ReSource Project* was assessed in April 2013, and the last data set of the follow-up measurements was obtained in February 2016.

2 The *ReSource* Project

2.1 Aim of the *ReSource* Project

Modern society has made tremendous progress towards more peaceful and democratic development, improved health, and subjective well-being, yet it is also characterized by economic and environmental crises, increasing levels of stress and depression related diseases, marked individualism, and increasing egoism. Social Science has tried to provide solutions to these problems and has developed various scientifically validated secular mental training programs that are partly based on meditation techniques inspired by Eastern contemplative traditions. Many of these usually 8-week long secular meditation programs focus on stress reduction through mindfulness training such as the Mindfulness-Based Stress Reduction (MBSR) and Mindfulness-Based Cognitive Therapy (MBCT) programs (Kabat-Zinn, 2003; Teasdale et al., 2014; Williams et al., 2000) or the cultivation of compassion (Singer & Bolz, 2013). Current research suggests that these secular mental training programs may have the potential to not only improve mental and physical health on individual levels, but also influence the development of prosocial motivation and cooperation.

The principal goal of this project is the multi-level and methodological scientific evaluation of the effects of a long-term mental training intervention that extends beyond the usual 8 weeks and trains different human capacities over a duration of 9 months (or to be precise, 39 weeks). The *ReSource* training protocol is composed of three distinct 3-month modules (Presence, Perspective, Affect) that focus on cultivating different kinds of mental and affective capacities, such as interoceptive awareness and attention (Presence), compassion, dealing with difficult emotions, and prosocial motivation (Affect), as well as meta-cognitive skills and perspective-taking on oneself and others (Perspective). Through a highly conservative study design (see Figure 4.1), we aim at testing the differential and specific effects of these modules on subjective and physical well-being, brain, body, and behavior.

To achieve this goal, we have designed a mental training protocol, named the *ReSource* training protocol (see Chapter 3), which is based on both traditional meditation exercises from contemplative origins in the East as well as different approaches from Western clinical psychology, and ensured that this program is fully secular in nature, that is, that it is devoid of any religious or spiritual context.

The name “*ReSource*” implies that the cultivation of these human capacities entails a build-up of *resources* in various domains (e.g., cognitive, affective, motivational, and social domains). At the same time, rather than acquiring completely new skills, cultivation is understood as a process through which we tap into qualities, motivations, and dispositions that are already present (e.g., “back to the source”) and may have just been forgotten or blocked by antagonistic motivations and habits.

Another important goal of the study is to investigate the plasticity of the social brain. Thus, even though plasticity research has a long tradition in fields such as psychology and neuroscience, little is known about the neural substrates underlying socio-affective or socio-cognitive plasticity. Moreover, the training of positive social affect, prosocial motivation, and compassion on the one hand, and perspective-taking on oneself and others and meta-cognitive abilities on the other hand, have not been investigated in great detail.

The overarching question is, whether long-term training leads to structural and functional brain changes and whether these are related to positive changes measured via subjective, hormonal, health-related, and behavioral paradigms.

In order to study subjective, neural, physiological, and behavioral changes induced by such mental training programs reliably, we specifically opted for an integrative interdisciplinary multi-level and multi-method approach in which we do not, as often done in previous studies, focus on only one or two measures (e.g., questionnaires or stress measures). We incorporated several questionnaires and many other measures from different scientific domains, such as computerized experiments, magnetic-resonance imaging (MRI), experience-sampling methods, virtual reality (VR) tasks for a more ecologically valid investigation of behavior, (stress) physiological measurements, as well as analyses of gene variants, immune markers, oxytocin level changes, cortisol profiles as well as telomere length variations (see Figure 2.1 for a rough overview and Chapter 8 for more details on the applied measures). In addition, we developed a range of new tasks, optimized for repeated measurements of socio-affective functions in longitudinal intervention designs as well as in other short- and long-term intervention programs.

Using a multi-method approach, as illustrated in Figure 2.1, we aimed to answer the following questions: How can differences in personality, early-life experience, and genetic make-up influence training, and how can different training practices induce differential structural and functional plasticity in the brain? Additionally, we asked how plasticity predicts changes in subjective well-being and everyday experiences, physical health, stress-reactivity, cognitive and social functions (e.g., attention, mind-wandering, empathy, compassion, and emotion-regulation), prosocial behavior, and cooperation. Using such an approach also allows the investigation of the relationship between first-person experience and third-person objective measurements, a goal which is subsumed under the heading of “neurophenomenology.”

In sum, through the *ReSource Project* we aimed at developing a scientifically validated secular mental training program that extended over several months and is based on different modules focusing on the cultivation of different attentional, cognitive, and socio-affective skills. The outcomes of the study may have implications far beyond the laboratory setting. If this training program proves to be effective in increasing social cognition, prosocial behavior, and in creating healthier individuals, it could serve as a scientifically tested basis for other training programs in businesses, organizations, hospitals, and educational settings.

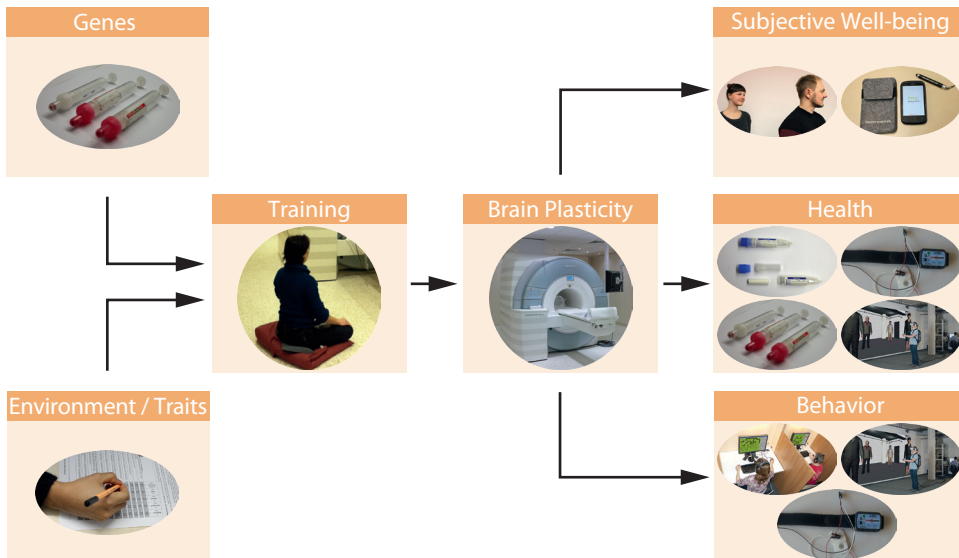


Figure 2.1 A rough overview of the multi-method approach of the *ReSource Project*. During the study a variety of methods were applied in order to assess data from the training and retest control cohorts on several levels of observation, including first-person as well as third-person methods. We applied biomarker analyses from blood samples and participants were asked to fill out a battery of questionnaires. Changes due to the mental training were investigated by means of experience-sampling, observer reports, physiological paradigms, behavioral computerized and virtual reality lab experiments as well as structural and functional scanning of the brain (see Chapter 8 for more details).

2.2 History and Inspiration

The *ReSource Project* was developed over several years. The original inspiration and basis of the study was the preceding work of the principal investigator, Tania Singer, in London and later in Zurich on the neural bases of empathy, compassion, and cognitive perspective-taking (Harrison et al., 2006; Klimecki et al., 2013; Klimecki et al., 2014; Lamm et al., 2011; Singer, 2006, 2012; Singer et al., 2004). After having discovered the neural basis of empathy in the brain (Singer et al., 2004), she aimed at investigating whether these social capacities could also be trained in healthy adult participants. Thus, after having moved to Zurich as Assistant Professor of Social Neuroscience and Neuroeconomics and later as Co-director of the Laboratory for Social and Neural Systems Research at the University of Zurich, Switzerland, Tania Singer applied for a grant to the European Research Council (ERC) entitled “Empathic Brain” in 2007 which was approved in June 2008 (ID#: ERC-205557) and commenced on September 1st, 2008. To prepare this large-scale longitudinal study, she started several cross-sectional studies regarding the short-term effects of compassion and empathy training in Zurich (Klimecki et al., 2013; Klimecki et al., 2014; Leiberg et al., 2011).

When she was appointed Director of the Department of Social Neuroscience at the Max Planck Institute (MPI) for Human Cognitive and Brain Sciences in Leipzig, Germany, she

decided to put the grant on hold for a year, from September 2009 until September 2010. During this time she moved to Leipzig and started to set up a new department with the relevant infrastructure and research staff needed to support this unique large-scale study.

The conceptual design of the training protocol for the *ReSource Project* was inspired by numerous sources Tania Singer encountered throughout her life and was adapted and extended over several years. Originally, the inspiration for this program was based on Tania Singer's preceeding work on empathy, compassion, and cognitive perspective-taking in London and Zurich. In particular, this research showed evidence of different neuronal pathways underlying a more affective understanding of others through empathy and compassion on the one hand, and a more cognitive understanding through cognitive perspective-taking and mentalizing on the other (Singer, 2006, 2012; Singer et al., 2004; Singer et al., 2006). At the same time, she started meeting and partly working with long-term meditation practitioners such as Buddhist monks, Matthieu Ricard and Barry Kerzin, and Benedictine monk Brother David Steindl-Rast, O.S.B., as well as meditation teachers such as Sharon Salzberg or Fred von Allmen with whom she was able to continuously discuss relevant concepts related to compassion and contemplative practice. Many other people and sources, such as books from or encounters as well as collaborations with spiritual masters, meditation practitioners, neuroscientists, psychologists, and therapists, contributed to the development of the theoretical backbone of the present training protocol. Most importantly, Tania Singer attended several meditation retreats over the last decade including, among others, the well-known retreat center *Meditation Center Beatenberg* in Switzerland and retreats of the *Insight Meditation Society* in Barre, MA, USA. These retreat participations were also an inspiration for several core exercises of the three modules, for example, the Breathing Meditation, the Loving-kindness Meditation, and the Observing-thoughts Meditation (see Chapter 3 for more details).

In addition, researchers such as Paul Ekman and Paul Gilbert influenced the protocol in its early stages. New insights were also gained by Tania Singer's attendance at conferences organized by the *Mind and Life Institute* with H. H. the Dalai Lama. The "Non-Violent Communication" program taught to her by Suna Yamaner and Regula Langemann was another central source of inspiration for some elements of the protocol (Rosenberg, 2003). Most importantly, however, the *ReSource* training protocol, especially the first module – Presence – was heavily influenced through the connection with and by the work of Jon Kabat-Zinn and his 8-week MBSR program (Kabat-Zinn, 2003, 2006; Stahl, 2010), this being the first secularized mental training program of its kind in the West that also allowed for the scientific investigation of its effects on mental and physical health.

Following this first developmental period, the protocol was further refined by an in-house "protocol development group" that met weekly over the course of a year (composed of Tania Singer, Boris Bornemann, Willi Zeidler, Christina Bochow, and Matthias Bolz) and occasionally included the assistance of experts during numerous in-depth workshops such as Tom Holmes, Marie Mannschatz, Kira Kay, and Johannes Latzel, among others.

In addition, a workshop entitled, “How to train compassion” took place in the studio of the well-known visual artist Olafur Eliasson in Berlin in July 2011. This event gathered well-known experts in the practice and study of compassion, ranging from compassion-meditation practitioners of contemplative traditions, to empathy and compassion trainers, therapists, and neuroscientists from all over the world with a focus on cultivating compassion. They came together in order to discuss how people can be trained to become more compassionate and how to accompany these efforts with scientific studies.

The multidisciplinary nature of the meeting resulted in a creative exchange about different practical methods to train socio-affective skills, scientific challenges, practice, innovation, and conceptual issues. At the end, there was mutual agreement among all participants about the desire to make this collective knowledge available to the public. This resulted in the free downloadable eBook “Compassion. Bridging Practice and Science” containing chapters written by the workshop participants as well as numerous videos of the authors, sound collages by Nathalie Singer, and artistic photos by Olafur Eliasson (Singer & Bolz, 2013).

In the last phase, the “protocol development group” finalized the secular 9-month training protocol together with a team of 17 experienced meditation teachers and psychotherapists, who were recruited for the *ReSource Project* (see Chapter 5 for the list of teachers), in many additional meetings and workshops over a period of 6 months. The week-by-week topics with the exact exercises and motivation talks were developed in detail. Each teacher had different additional expertise in psychotherapy, non-violent communication or Buddhist traditions, which were helpful for this last protocol development phase (e.g., Cognitive Therapy, Gestalt Therapy, Acceptance and Commitment Therapy, Hakomi Therapy, Internal Family Systems Therapy, Zen, Theravada, and Tibetan Buddhism).

The final version of the training concept is based on three thematically different modules, called Presence, Affect, and Perspective, each trained for about three months. The Presence Module was strongly influenced by the work of Jon Kabat-Zinn and his 8-week MBSR program (Kabat-Zinn, 2003, 2006; Stahl, 2010). The Affect Module was inspired by previous research carried out in our laboratory on the effects of loving-kindness, empathy, and compassion on subjective well-being and the brain (Klimecki et al., 2013; Klimecki et al., 2014; Leiberg et al., 2011) and was supported by contemplative teachers of Tania Singer such as Sharon Salzberg, Fred von Allmen, and Ursula Flückiger, and later during the protocol development, through input from Marie Mannschatz and Renate Seifarth. It was complemented by elements of the Self-Compassion program by Christin Neff and Christopher Germer (Neff, 2003). Finally, the Perspective Module was designed on the basis of a) previous research on cognitive perspective-taking, b) self-work rooted in the Internal Family Systems concepts (Schwartz, 1997) and through active cooperation with Tom Holmes (Holmes, 2007), as well as c) traditional contemplative meditation exercises (Mingyur & Rinpoche, 2010). The theoretical concept and the overall neurological basis of these three modules are described in more detail in Chapter 2.3. Training for each module was executed by means of two core exercises that are described in Chapter 3. The *Satori* Process is especially

noteworthy in the context of the development of “contemplative dyads” in the Perspective and Affect Module, as it focuses on contemplative dialogs (Chapman, 1988; Noyes, 1998) that were, in an altered form, also incorporated as core exercises in the present training protocol. Here, our gratitude goes to Clare Soloway and Kira Kay, two of Tania Singer’s teachers of the *Satori* Process. Moreover, dyadic exercises of the Affect Module were inspired by practices of gratefulness that are common in contemplative traditions (Steindl-Rast, 1984). These dyads help to cultivate inter-subjective facilities and social cognition via real personal contacts in a more direct way than via imaginary interactions that are common in single meditation practices. Important input for the development of the core dyads in the *ReSource* training came from Johannes Latzel with whom Tania Singer tested and further developed the Affect and Perspective Dyads (described in Chapter 3) during the *ReSource* training protocol development phase.

Our gratitude goes to countless individuals. We thank everyone who helped to inspire this work. The *ReSource* team is aware that none of this could have been developed without the interdependent emergence of ideas, and the work of many individuals as well as their wisdom and compassion.

2.3 Theoretical and Neuroscientific Background of the *ReSource* Model

The training program of the *ReSource* study aims at the cultivation of a balanced and compassionate way of living. Overall, the training is designed to aid participants in dealing with the challenges of everyday life in ways that are both personally and socially beneficial, drawing on the contemplative traditions and psychological knowledge mentioned above. For the purposes of scientific investigation, we have parceled the training into three separate modules, which aim at cultivating distinct capacities. This conceptualization is summarized in the *ReSource* Model (see Figure 2.3). In the model, the outer circle symbolizes the overall training goal, a balanced and compassionate way of living. It is important to note that “compassion” in this context should be understood as a general attitude to life, a way of relating to the “self”, others, and the world (Bornemann & Singer, 2013), rather than an emotional-motivational reaction to suffering (e.g., Goetz et al., 2010; Singer & Steinbeis, 2009).

The three colored circles in the model depict the three modules of the *ReSource* training program each of which is necessary to cultivate different capacities together leading to a compassionate attitude towards life. The three modules train fundamental capacities such as attention and interoception (Presence Module), socio-affective capacities such as care, gratitude, and compassion (in the narrower sense of the word as an emotional-motivational response), dealing with difficult emotions, and prosocial motivation (Affect Module), and socio-cognitive capacities such as meta-cognition, and perspective-taking on oneself and others (Perspective Module). For each of these modules, we recur to research showing distinct neural networks and psychological functions that underlie the respective capacities, making our distinctions not only conceptually but also psychologically and biologically

plausible. More specifically, the distinction of socio-affective and socio-cognitive abilities which is mirrored in the division of the training into an “Affect” and a “Perspective” module goes back to previous work from psychology and neuroscience (see Singer, 2012 for an overview). Research has shown that the brain networks which underlie affective phenomena such as emotion contagion, empathy, and compassion (e.g., Bernhardt & Singer, 2012; Bird et al., 2010; Chakrabarti et al., 2006; de Vignemont & Singer, 2006; Ernst et al., 2013; Iacoboni, 2009; Klimecki et al., 2014; Lutz et al., 2008; Singer & Lamm, 2009) are distinct from the brain networks which underlie cognitive phenomena such as mentalizing or taking the perspective of others (e.g., Corradi-Dell’Acqua et al., 2014; Decety & Lamm, 2007; Gallagher & Frith, 2003; Krall et al., 2014; Saxe & Kanwisher, 2003; Schlaffke et al., 2015; Siegal & Varley, 2002). In the following sections, we will briefly describe the scientific background of all three training modules.

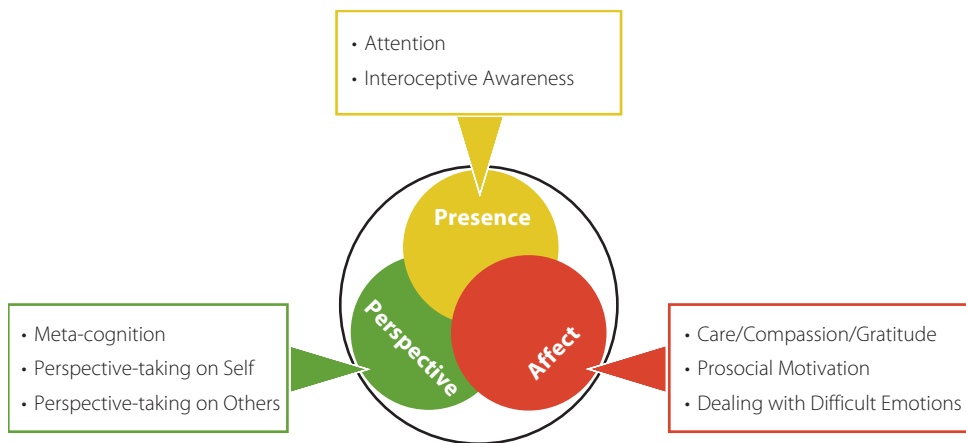


Figure 2.3 The *ReSource* Model. This figure depicts the cognitive and affective processes that each of the three modules of the *ReSource* training program aim to cultivate.

2.3.1 Presence Module

Many contemplative traditions contend that the capacity to be fully aware of the present moment is an essential prerequisite to a fulfilled and compassionate life (Hanh, 1990; Kabat-Zinn, 2009; Maas, 2006; Rahula, 1974). Psychological studies have recently found support for this traditional notion. For instance, a recent study used a smartphone application to contact participants and asked them about their current thoughts, feelings, and activities (Killingsworth & Gilbert, 2010). Unsurprisingly, subjects were happier when thinking about positive rather than about negative events. Intriguingly, though, subjects were happiest when their minds were not occupied by thoughts at all, that is, when they were fully immersed in the present moment. Clearly, thoughts that are unrelated to the present moment (mind-wandering) are often helpful or even necessary, for instance when planning for the future (Baird et al., 2011). However, mind-wandering may be detrimental to happiness. Excessive levels of mind-wandering, also termed rumination, are considered a hallmark of

depression (Papageorgiou & Wells, 2008). Mind-wandering also reduces our capacity to simultaneously process stimuli from the outer world (Christoff et al., 2009), which is crucial for effective compassionate action. Thus, it seems beyond dispute that the ability to choose whether or not to let attention stray from the present moment is beneficial. This ability of attending to the present moment, be it focused on breathing, environmental sounds, or other sensations, is trained in the first module of the *ReSource Project*, called Presence. The core psychological processes cultivated in this module are attention and interoceptive awareness (see Figure 2.3). In the following, we describe their roles in the Presence Module, as well as their underlying psychological functions and neural correlates.

Attention

Attention stability is fundamental for contemplative practice. The cultivation of any mental quality requires that the subject is able to direct attention to an object of contemplation such as a sensation, situation, thought or feeling, and to maintain the focus on this object. This is the reason why most contemplative traditions focus on stabilizing the mind as a first step of mental training (e.g., Mipham, 2003). In the Presence Module, it is also this faculty of attention that allows a subject to recognize when the mind has wandered and redirect it back to the present moment.

Studies in psychology and neuroscience have differentiated several components of attention, and identified the neural correlates of the latter (for overviews see Posner, 2012; Raz, 2004; Raz & Buhle, 2006). Of primary importance for the *ReSource* training are wakefulness/alertness, conflict monitoring and resolution, reorienting, and sustained attention. Alertness or basic wakefulness refers to a state of mental preparedness and sensitivity to incoming stimuli. It is reflected in the global level of neuronal activity and glucose consumption throughout the brain (Thomas et al., 2000). Specifically, the brainstem and thalamic regions are involved in the excitation of the cortex (Balkin et al., 2002; Fan et al., 2005) and the locus coeruleus regulates norepinephrine levels throughout many cortical areas, serving as a neuromodulator which influences neural excitability (Aston-Jones & Cohen, 2005). A well balanced alertness, that is, one that avoids the two extremes of hypo-arousal (tiredness) and hyper-arousal (agitation), is seen as being essential in contemplative practice (e.g., Wallace, 2006), with evidence suggesting that even this most basic aspect of attention may be malleable through contemplative training (reviewed in Britton et al., 2014). It is also self-evident that such basic wakefulness is indispensable for being available to the present moment. Furthermore, both during practice and for staying present in everyday life, it is important that the individual notices when the mind has wandered and can guide it back to currently present inner or outer stimuli. This detection and resolution of a conflict between an intended or present-focused mental activity and competing mental processes ("distraction") can be conceptualized as *conflict monitoring and resolution*, and *reorienting* (Hasenkamp et al., 2012; Hölzel et al., 2011; Malinowski, 2013). This function is subserved by a network of predominantly frontal brain regions, crucially involving the anterior cingulate cortex and the dorsolateral prefrontal cortex (Fan et al., 2005; Konrad et al., 2005; Raz & Buhle, 2006; Ridderinkhof et al., 2004), as well as temporal-parietal brain regions involved in *reorienting*

(Corbetta et al., 2000; Giessing et al., 2012). Finally, for formal contemplative practice, vigilant or *sustained attention* is needed. This is the ability to remain focused on a task and meet its demands over longer stretches of time (more than several seconds), particularly when the task is repetitive or monotonous (Langner & Eickhoff, 2013). As many contemplative practices require sustained focus on objects that are neither intellectually nor emotionally stimulating, such as breathing, this type of stabilized focus is indispensable. Naturally, such prolonged attention has the previously described aspects of attention, alertness, conflict resolution, and reorienting, as prerequisites. Some researches have also conceptualized it as a specific type of alertness, namely tonic alertness (e.g., Sadaghiani et al., 2010). Accordingly, the brain correlations of sustained attention are vast, with a recent meta-analysis identifying the most consistently activated brain regions in sustained attention tasks to be predominantly right-lateralized and including the dorsomedial-, mid-, and the ventrolateral prefrontal cortex, as well as the anterior insula, parietal regions, and subcortical structures, such as the thalamus and the putamen (Langner & Eickhoff, 2013).

Interoceptive Awareness

Interoceptive Awareness comprises the awareness of signals from within the body, such as visceral, heart beat, or breathing sensations as well as the top-down processes involved in the perception of these signals, including biases, beliefs, and emotional or cognitive reactions (Cameron, 2001; Craig, 2002; Mehling et al., 2009). Contemplative traditions have widely recognized the importance of interoceptive awareness. While thoughts may relate to the past, or the future, as well as to absent or abstract entities, body sensations are always experienced in the present moment. They are thus an excellent vehicle for returning to the present moment (see also Hanh, 1990; Kabat-Zinn, 2009). Furthermore, the traditions contend that the body offers a space for learning about reality and gaining insight into the workings of the mind, particularly emotions (Hart, 1987; Hölzel et al., 2011; Kabat-Zinn, 1990; Kerr et al., 2013; Nanamoli & Bodhi, 1995). In line with this notion, research has demonstrated that interoceptive awareness plays an important role in emotional awareness and emotion regulation (Fustos et al., 2013; Herbert et al., 2011; Terasawa et al., 2013), as well as empathy (Lamm & Singer, 2010; Singer et al., 2009; Terasawa et al., 2014). It has also been related to self-awareness (Craig, 2009; Critchley et al., 2004; Park & Tallon-Baudry, 2014), and self-control of behavior (Herbert et al., 2013; Herbert et al., 2012; Herbert et al., 2007).

On the neural level, interoception is underpinned by the insula, a structure in the lateral sulcus, which has also been termed the “interoceptive cortex” (Craig, 2002). Corroborating the role of interoceptive awareness in emotion, activity in the insula has been connected to levels of emotional awareness (e.g., Lamm & Singer, 2010; Silani et al., 2008) and empathic responses (Bird et al., 2010; Klimecki et al., 2014; Lamm et al., 2011; Singer et al., 2004).

To summarize, interoceptive awareness is fundamental for self-awareness and serves as a vehicle for being in the present moment. It is also pivotal for awareness of emotions in one's self and others, as well as self-control of behavior, all of which are important capacities for the consecutive training modules.

2.3.2 Affect Module

The Affect Module of the *ReSource* study aims at the cultivation of three emotional-motivational capacities: care, compassion, and gratitude; dealing with difficult emotions; and the generation of prosocial motivation and behavior (see Figure 2.3).

Care, Compassion, and Gratitude

An important aspect of a balanced and compassionate way of living is an individual's ability to generate or be receptive to feelings of love, care, warmth, and benevolence towards oneself and others. This ability is probably rooted in biological systems that phylogenetically evolved for the care of offspring ("affiliative system"; Depue & Morrone-Strupinsky, 2005; "care system"; Panksepp, 2011). Mechanisms in these systems assure that caring for the offspring is intrinsically rewarding. The neurochemical basis of these affiliative and caring systems is associated with the release of dopamine, oxytocin, and endogenous opiates that induce states of reward but also of quiescence (Carter, 1998; Depue & Morrone-Strupinsky, 2005; Heinrichs et al., 2009; McCall & Singer, 2012). The neuropeptide oxytocin, for instance, is released during child birth and lactation (Handlin et al., 2009; Higuchi et al., 1985) and induces care-giving behavior of mothers (e.g., intensified attention, offering physical proximity) in humans and other mammals (Feldman et al., 2007; Lee et al., 2009; Levine et al., 2007; Pedersen & Prange, 1979). Oxytocin is also crucial for pair bonding in human adults (Ditzen et al., 2009; Walum et al., 2012). It mediates the calming and anxiolytic effects induced by the presence of close friends (Heinrichs et al., 2003), and promotes trust and generosity towards strangers (Kosfeld et al., 2005; Zak, 2008; Zak et al., 2007).

In parallel to this biologically oriented concept of a care system, many psychological theories of human behavior have identified care or nurturance as a basic motive (Heckhausen, 1989; Jackson, 1974; McDougall, 1932; Murray, 1938). The authors differentiate between care as the motive to give comfort, nurturance, and support from the superficially similar motive to affiliate, that is, to be accepted by others and belong to a social group (also see Reiss, 2004; Weinberger et al., 2010). An important difference between those motives is that affiliation is pursued in self-interest (the interest to profit from the connection in some way; also see Atkinson et al., 1954), whereas the motivation to care is by definition altruistic, as it is inextricably linked to the intention of profiting somebody else.

These systems of care and affiliation form the basis of what has been called "attachment" in developmental psychology (Bowlby, 1978), that is, a social bond between the care-giver and the infant including specific cognitive structures regarding the relationship ("inner working models") and affective programs. These cognitive-affective structures and programs that develop early in life in the relationship between care-giver and infant have been shown to later generalize to romantic relationships (Feeney & Noller, 1990; Hazan & Shaver, 1987) and the degree of trust and prosociality towards other people (Mikulincer, 1998; Mikulincer et al., 2003). Together with the findings on oxytocin discussed above, this pattern of generalization suggests that the human care system has its evolutionary origins in the care for the offspring, but may generalize from there to romantic partners, other types of pair bonds, and the attitude to fellow humans in general (also see de Waal, 1996; Hamilton, 1964).

When we speak of the cultivation of care, gratitude, and compassion we mean tapping into these innate systems that dispose individuals to care for others, which is often accompanied by a feeling of warmth, love, and connectivity that is in itself rewarding (Batson et al., 1987; Fisher et al., 2005; Klimecki et al., 2013; Nitschke et al., 2004b; Vrticka & Vuilleumier, 2012). The Buddhist tradition differentiates loving-kindness and compassion (e.g., Salzberg, 1995) and we follow this distinction in the *ReSource* Model and training program. Whereas loving-kindness implies the wish that others may be well and happy, compassion implies the will that they may be free of suffering. Although phenomenologically slightly different, neuroscientific results suggest that these two social emotions sprout from the same motivational-biological system (e.g., Klimecki et al., 2013; Nitschke et al., 2004a). This would be in line with the contemplative conceptualization which holds that compassion is the result of loving-kindness in the face of suffering (Ricard, 2008b, p. 105).

Recent imaging studies show that training of loving-kindness and compassion induces functional plasticity in a brain network encompassing the medial orbitofrontal cortex, the nucleus accumbens, the ventral striatum, the ventral tegmental area/substantia nigra, the globus pallidus, and the anterior cingulate cortex (henceforth referred to as “compassion-network”, Klimecki et al., 2013; Klimecki et al., 2014; Singer & Klimecki, 2014), areas which have previously been implicated in affiliation, positive affect, and reward (Haber & Knutson, 2009; Kringelbach & Berridge, 2009; Strathearn et al., 2009).

Dealing with Difficult Emotions

Classical psychological and neuroscientific literature on emotion regulation (e.g., McRae et al., 2009; Ochsner & Gross, 2008; Richards & Gross, 1999) describes various strategies for regulating negative affect, prominently suppression (reducing the emotions on an expressive and physiological level), distraction (thinking of something else or looking away), and reappraisal (cognitively reframing of the event to make it less distressing). When confronted with suffering, these strategies may seem unethical, as they deny the reality of the encountered suffering. They may also have adverse effects on health and cognitive processing (Richards & Gross, 1999), because functional bodily signals related to the encountered suffering are deliberately blocked, ignored, or misinterpreted. They may also lead to a subtle rebound of negative affect after the active regulation, as demonstrated by increased amygdala activity in the post-regulation phase (Lamke et al., 2014; Walter et al., 2009).

A compassionate treatment of difficult emotions, that is, one that is considerate towards oneself and others, instead, involves fully accepting the emotions and turning towards them with an attitude of curiosity and care. The effects of negative emotions on thoughts, feelings, and behavior may be buffered when the processing of the emotion co-activates the above mentioned compassion-network or care system (see previous subchapter). Activation of the care system while turning towards distressing stimuli and internal processes may serve as a safety cue which, in the long run, may facilitate dissolution of past conditionings that maintain the chain from inner or outer stimuli to dysfunctional thoughts, feelings, and behaviors (cf. Bouton, 2002; Christianson et al., 2012; Corcoran et al., 2005).

Neurally, we expect this type of emotion regulation to activate the above mentioned compassion-network, without leading to the prefrontal activity that is typically observed

in “classical” emotion regulation strategies linked to suppression or deliberate down-regulation of affect (e.g., Banks et al., 2007; Frank et al., 2014; Goldin et al., 2008). Similar to emotion regulation, we expect shorter or less pronounced activation in the amygdala (e.g., Frank et al., 2014). We do not, however, expect to observe a subsequent rebound of amygdala activity as sometimes reported for strategies like distraction or suppression (Lamke et al., 2014).

Prosocial Motivation

Compassion has been defined as a feeling of concern and a motivation to alleviate the suffering of others (e.g., Goetz et al., 2010; Singer & Klimecki, 2014; Singer & Steinbeis, 2009). Thus, it does not only refer to a feeling but crucially entails a motivation to act. Such a coupling of emotional concern and readiness to act has long been demonstrated for “empathic concern,” a construct that is closely related to compassion (Batson, 2009). Subjects who were empathically concerned with another person’s well-being were more cooperative (Batson & Ahmad, 2001; Batson & Moran, 1999), less vengeful (Rumble et al., 2010), and more willing to take an electric shock on the other person’s behalf (Batson & Coke, 1981). Short-term training programs of loving-kindness and compassion have been found to increase helping behavior in an ecologically valid computer game (Leiberg et al., 2011), as well as in a real life setting (Condon et al., 2013), and also prompted subjects to take costly action to reestablish violated fairness norms (Weng et al., 2013).

The integral role of action for compassion is also evident in the neurochemistry of the mammalian care system: Besides opioids, the care system also uses the neurotransmitter dopamine, which is tightly coupled to goal-directed behavior (Depue & Collins, 1999). Through the ventral tegmental area, the care system interacts with the seeking system (Numan & Insel, 2003; Panksepp, 2009, p. 13), which Panksepp has conceptualized as a “basic, positively motivated action system” (Panksepp, 2006, p.25). On the neural level, it has been shown that during loving-kindness meditation, experienced meditators activate parts of the precentral gyrus, an area which is critically involved in motoric preparation for action (Lutz et al., 2008). Taken together, the evidence underscores that the states of compassion and loving-kindness are inextricably linked to a motivation or a readiness to act, aimed at promoting the well-being and releasing the suffering of others.

2.3.3 Perspective Module

The Perspective Module complements the socio-emotional Affect Module by targeting socio-cognitive abilities. In this module, participants are taught to take perspectives within their own minds and of other people. The three core processes of this module are meta-cognition (perspective-taking on one’s own mental processes), perspective-taking on one’s self, and perspective-taking on others. All these processes require participants to assume a certain distance from and birds-eye perspective of events and thoughts, their identity, and sense of self. Previous research has conceptually and empirically linked all processes by showing that they foster each other or go back to similar cognitive abilities (Carruthers, 2009; Dimaggio et al., 2008; Koriat & Ackerman, 2010; Lockl & Schneider, 2007; Sodian & Frith, 2008).

Taken together, the Perspective Module aims at adding fluidity to the cognitive systems of participants by allowing them to see through the processes of identification with thoughts and notions of self and others. It enables them to play with these notions by detaching or de-identifying from what seems to be reality and adopting alternative perspectives (see Figure 2.3).

Meta-cognition

In cognitive psychology, meta-cognition denotes “knowing about knowing” or “thinking about thinking” or, more generally, awareness of our own cognitive processes (Akturk & Sahin, 2011; Flavell, 1979; Fleming et al., 2012; Fleming & Frith, 2014). Such an awareness is a pre-condition for evaluating and possibly adjusting our mental states, which makes the training of meta-cognition a well-established strategy in cognitively oriented therapies (Wells, 2000) and in educational contexts (Dimmitt & McCormick, 2012; Hacker et al., 2009; Sodian & Frith, 2008). Our conception of meta-cognition within the context of the *ReSource* Model goes somewhat beyond the aforementioned definitions (cf. the distinction between “second wave” and “third wave” in cognitive therapy; Öst, 2008). By meta-cognition, we mean the ability to observe thoughts as mental events, just as one would observe a passing cloud or another natural event, that is, observing thinking itself in a disidentified manner (see also Wells, 2006). This process of “creating space” around thoughts has also been termed “cognitive de-fusion” (Luoma & Hayes, 2002), because it involves breaking up the fusion, or coupling, between an arising thought and its immediate consequences within the organism, such as a successive cascade of thoughts, an arising emotion, or preparation of an action. De-fusion has been shown to lead to marked symptom reductions in a variety of psychological disorders, because it reduces the subjective believability of, for instance, depressive or compulsive thoughts (Bach & Hayes, 2002; Luoma & Hayes, 2002). In general, such a “decentered relationship with thoughts” (Wells, 2006) allows greater flexibility in response to arising thoughts and greater attention to signals that lie beyond them, such as perceptions or emotions.

The brain region that has been most consistently found to be involved in meta-cognition is the rostrolateral prefrontal cortex (rLPFC or BA10) (Fleming & Dolan, 2014; Fleming et al., 2012; Fleming et al., 2010; McCaig et al., 2011; Yokoyama et al., 2010), which makes anatomical sense as the rLPFC appears to be a highly integrative region that receives inputs from many other frontal areas, such as the cingulate and the anterior temporal cortex (Christoff & Gabrieli, 2000; Gilbert et al., 2006; Ramnani & Owen, 2004). Some studies have also implied adjacent dorsolateral prefrontal regions in meta-cognition (Rounis et al., 2010) as well as areas in the parietal lobe (Chua et al., 2006), particularly the precuneus (McCurdy et al., 2013). The neural correlates of meta-cognition may vary with the cognitive domain to which it is applied (Baird et al., 2014; Fleming et al., 2012) and may additionally comprise the brain regions involved in the original (non-meta-)cognition (Yeung & Summerfield, 2012).

As mentioned earlier, meta-cognition as trained in the Perspective Module goes beyond the cognitive processes investigated in the aforementioned imaging studies by particularly em-

phasizing the momentum of disidentification from thoughts and becoming more generally aware of inner mental states. The neural correlates of this particular process have, to our knowledge, not yet been studied. We speculate that such disidentified relation to thoughts and meta-awareness of the mind involves the meta-cognition areas named above, together with other areas implied in social cognition, such as the temporo-parietal junction, which allows one to step out of the currently assumed image of mental reality and assume an alternative perspective (see also Decety & Lamm, 2007; Mitchell, 2009). Finally, it is to note that all studies reviewed here relate to retrospective meta-cognition (e.g., evaluation of current thoughts or how accurately a task was performed), not to prospective meta-cognition (e.g., how well I am going to perform a task). Prospective meta-cognition could also be described as “beliefs about the self.” It relies on other neuronal structures, particularly the ventromedial prefrontal cortex (Fleming & Dolan, 2014; Schnyer et al., 2005), and is conceptualized under a different sub-process of the Perspective Module, described in the following section.

Perspective-taking on Self

Many contemplative traditions have questioned the way in which *the self* exists and posited that it does not exist as an independent, unified, and enduring entity (e.g., Gyatso, 2008). Modern neuroscience and philosophy are equally skeptical of the concept of *self*. Imaging research has shown that there is no “self center” in the brain, but that our subjective experience of selfhood is related to an interplay of several widely distributed regions of the brain (Gallagher, 2000; Gillihan & Farah, 2005; Hanson & Mendius, 2009; Klein et al., 2002; Singer, 2002; Turk et al., 2003). Although the idea of such a distributed self is theoretically easy to grasp, it may be quite difficult to comprehend in an experiential way, particularly in Western societies where the notion of an independent self has a strong cultural fundament. Psychotherapists have, however, recognized the importance of gaining a realistic understanding of *the self* and developed methods to foster it, such as Transactional Analysis (Berne, 2006), Schema Therapy (Young et al., 2003), and the Internal Family System Therapy (Holmes, 2007; Mones & Schwartz, 2007; Schwartz, 2008; Schwartz, 1997). Continually observing the inner dynamics of oneself through the concept of inner parts or roles may yield an embodied understanding of the change and interdependence that the experience of selfhood is subject to.

People who have such an interdependent view on *the self* (“interdependent self-construal”; Gardner et al., 1999) have been found to have closer and more committed relationships and show more prosocial behavior (Cross et al., 2000). The awareness of our inner diversity has also been termed “self-complexity” (Linville, 1985). Self-complexity has been found to serve as a buffer against stress-related diseases and depression (Linville, 1985; Linville, 1987; Rafaeli & Hiller, 2010) and reduces affective reactions and withdrawal tendencies resulting from defeat (Dixon & Baumeister, 1991). Finally, breaking up a strong identification with the self, or certain self-aspects of it, may reduce peoples’ reactivity to self-directed threat, and help them view themselves with more humor and less rigidity. On the societal level, this may serve to counteract increasing rates of narcissism (Twenge & Campbell, 2009) and concomitant increases in rates of “burnout-syndrome” and depression (Hasin et al., 2011).

Neurally, processes pertaining to *the self*, such as self-reflection, autobiographic memory retrieval, and processing of self-relevant stimuli, are related to activations in cortical midline structures, particularly the medial prefrontal cortex (Northoff & Bermpohl, 2004; Northoff et al., 2006; Sajonz et al., 2010; Schneider et al., 2008; Somerville et al., 2013a). Additionally, perspective-taking on the self critically requires the ability to detach from the currently activated aspect of the self and assume an alternative perspective. This process of detachment likely employs similar brain regions to those involved when we detach from our own perspective to that of another, such as the temporo-parietal junction, the precuneus, and the posterior cingulate (Amft et al., 2014; Amodio & Frith, 2006; Bzdok et al., 2013b; Corradi-Dell'Acqua et al., 2014; Krall et al., 2014; Mitchell, 2009; Saxe, 2009; Schlaffke et al., 2015; Singer, 2012), in addition to the aforementioned medial prefrontal cortex.

Perspective-taking on Others

Perspective-taking on others refers to our ability to understand other people's mental states, such as thoughts, beliefs, intentions, or views. It has also been termed Theory of Mind (ToM), mentalizing, or cognitive perspective-taking (Frith & Frith, 2003; Gallagher & Frith, 2003; Mitchell, 2009; Saxe, 2009; Saxe & Kanwisher, 2003). This cognitive manner of relating to others can be both conceptually and neuroanatomically distinguished from affective ways, such as emotion contagion, empathy, and compassion (see Singer, 2012 for a review). Whereas affective ways of relating imply the presence of a vicarious feeling state, perspective-taking, or mentalizing, uses cognitive representations to model and understand the mental states of others. Application of perspective-taking in social situations can help to overcome a cognitive distortion that has been termed "egocentricity bias." This term refers to the ubiquitous tendency of humans to overestimate their own saliency relative to others, and to resort to their own experience or views when trying to infer what others feel, think, or value even though the other may be quite different from themselves (Beggan et al., 1988; Gilovich et al., 2000; Mullen, 1983). In summary, perspective-taking on others helps to overcome misunderstandings and to avoid conflicts, egocentricity, and resulting selfishness, and is an important precondition for successful communication and cooperation (Galinsky, 2002; Galinsky & Moskowitz, 2000; Paal & Bereukei, 2007; Sessa, 1996).

The brain systems underlying this kind of cognition have been intensely studied and include the medial prefrontal cortex, the temporo-parietal junction, the precuneus, and the posterior cingulate (Amft et al., 2014; Amodio & Frith, 2006; Bzdok et al., 2013a; Bzdok et al., 2013b; Corradi-Dell'Acqua et al., 2014; Krall et al., 2014; Mitchell, 2009; Saxe, 2009; Schlaffke et al., 2015; Singer, 2012).

3 The *ReSource* Protocol

3.1 Overview of the Training Protocol

All *ReSource* training modules, Presence, Perspective, and Affect, lasted for 3 months (13 weeks). Each started off with a 3-day retreat, in which participants were introduced to module topics and the scientific background. They were also familiarized with the two core exercises of the module, that is, the two exercises which were continually practiced throughout the module to target the core processes of the module as specified in the *ReSource* Model (see Figure 3.1.1).

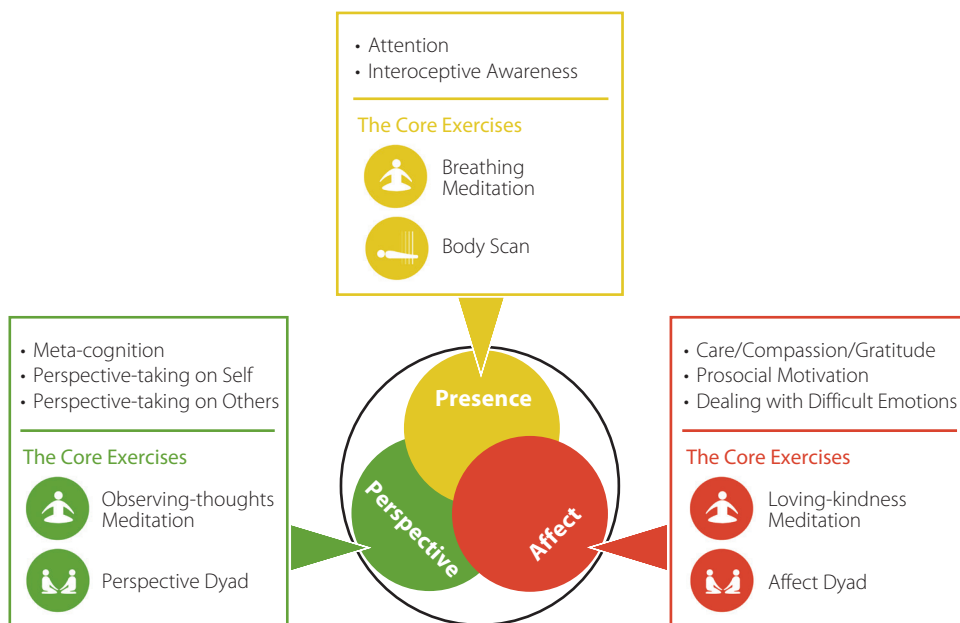


Figure 3.1.1 The respective core exercises of the three modules in the *ReSource* Project.

During the training period participants attended 2-hour weekly sessions, which were led by a team of two teachers. All sessions in every module followed approximately the same structure (see Figure 3.1.2). At the start of each session participants sat in silence for a brief period to facilitate preparation for the training. This was followed by a feedback session, in which currently experienced challenges or effects of the training were discussed, followed by the training of the two core exercises. After a break, specific training topics were addressed via a brief motivational talk, and additional corresponding practices could be

introduced. New topics were only introduced within the first 8 weeks of each module. In the remaining 5 weeks (when the testing period started), participants revisited previous topics to cover them in more depth, and addressed any difficulties with the practice or its transfer into everyday life.

Time	Type	
10 min	Meditation	
30 min	Feedback Session	
20 min	Contemplative Dialogue	
05 min	Break	
15 min	Motivation Talk	
25 min	Meditation	
10 min	Silence	
05 min	Organization & Buffer	

Figure 3.1.2 Example structure of a weekly training session. All weekly training sessions followed a similar structure.

The training was supported by a custom-made Internet platform and smartphone applications (apps) (see Chapter 4 for details). These allowed participants to stream guided meditation MP3 files and to do the dyadic core exercises. In each training module, participants were asked to practice 5 times per week for a minimum of 30 minutes a day (excluding practice time in the weekly sessions). This typically meant engaging in one of the core exercises for 20 minutes (Body Scan, Observing-thoughts Meditation, Loving-kindness Meditation) per day and in the other for 10 minutes (Breathing Meditation, dyadic exercises).

The following pages describe the core exercises of the training modules practiced throughout the 13-week course.

3.2 Presence Module: Core Exercises and Training Outline

The overarching goal of the Presence Module is to raise participants' awareness of the present moment and to prepare their minds for meditative exercises. This involves stabilizing the mind (attention) and heightening their awareness of the present bodily state (interoceptive awareness). Both processes are simultaneously trained in the two core exercises, Breathing Meditation and Body Scan.

Breathing Meditation (BM)

The Breathing Meditation is practiced, in slight variations, in almost all contemplative traditions (Hanh, 2011; Ramacharaka, 2008). The basic instruction is to focus attention on the sensations of breathing. Whenever attention has wandered, it is to be returned to the breathing sensations. The exercise requires participants to stay alert, to sustain their attention for longer stretches of time, and to resolve conflicts between upcoming mind activity and the

designated focus (attention component). It also trains the further development of interoception through focusing on breathing sensations.

Slight variations of the practice allow the quality of attention to be modified. For instance, while a focus on broader body regions, such as the abdomen, is said to increase stability of attention, a focus on narrower regions is said to increase vividness (e.g., Wallace, 2006). Occasional counting of breaths can be used to scaffold the practice (Wallace, 2006).

Body Scan (BS)

The term Body Scan was coined by Jon Kabat-Zinn (2006) but the practice itself can be traced back to the Satipatthana Sutta (Bodhi, 2005), which is the discourse of the establishment of mindfulness that has been attributed to the Buddha. The Body Scan is part of Vipassana Meditation (Hart, 1987), the core practice of Theravada Buddhism.

During this practice, participants mentally scan their bodies, that is, they successively pay attention to the sensations occurring in various parts of their body. Typically, this scanning will be done in a systematic fashion, for instance, starting at the tip of the toes, and gradually moving attention upwards to the top of the head. The exercise can be done in any position, but for beginners of this exercise, it is easiest to do it in the supine position, where relaxation facilitates access to body sensations. The exercise trains interoceptive awareness through continuous body focus as well as the deliberate direction of attention.

Outline of the Presence Retreat and Weekly Training Sessions

In the retreat, participants mainly practice the two core exercises, Breathing Meditation and Body Scan, as well as some complementary exercises such as walking meditation, or meditations on sound or vision, all aimed at facilitating awareness of the present moment. As this is the first retreat participants attend, they are also familiarized with the concept of a silent retreat, its rules and regulations, and how the structure may help them in their practice. They receive guidance for fundamental aspects of meditation, such as the sitting posture. Motivational talks address typical pitfalls and misunderstandings about meditation as well as the importance and challenges of maintaining regular practice.

The 13-week course deepens and extends participants' practice and helps them to integrate it both formally and informally into everyday life. Besides the core exercises, which are practiced in every session, specific sessions revisit attention to sounds and visual objects as other means of becoming aware of the present moment. Participants also learn a more holistic, less single-pointed meditation practice called *Open Presence*. A specific session addresses the experience of stress that may arise from the multiple scientific testing procedures that participants undergo from week 9 onwards, discussing how the acquired skills may help in these situations and how the testing situations are themselves an opportunity for practice.

The Presence Module has similarities to established "mindfulness" courses, such as MBSR (Kabat-Zinn, 2006; Stahl, 2010), in which participants also engage in Breathing Meditation and Body Scan. However, these courses typically train a set of skills which would be rubricated across all three modules of the *ReSource* Model. Besides attentional and

interoceptive processes, mindfulness as it is currently understood and taught in Western scientific and clinical contexts also comprises emotional aspects such as acceptance, and cognitive aspects such as meta-cognition and defusion (Hayes & Wilson, 2003; Mikulas, 2011; Stahl, 2010). These aspects are cultivated in later parts of the *ReSource* training, the Affect and the Perspective Module, respectively.

3.3 Affect Module: Core Exercises and Training Outline

In the Affect Module, participants cultivate the emotional and motivational aspects of a balanced and compassionate way of living. They familiarize themselves with an attitude of care, gratitude, and compassion. They also learn to accept difficult emotions and approach them with such an attitude. The sincere contemplation of these attitudes may lead to their endorsement for everyday behavior and ultimately to prosocial motivation. The two core exercises of the module are Loving-kindness Meditation and a dyadic, contemplative exercise (a contemplative dialogue), called the Affect Dyad.

Loving-kindness Meditation (LKM)

Loving-kindness Meditation is derived from the practice known as *Metta* Meditation. In Pali, *Metta* means loving-kindness, friendship, benevolence, or good will. The practice of meditating on *Metta* is mentioned in the earliest scriptures of Theravada Buddhism (Bodhi, 2005) and is common in many contemplative traditions, particularly in Buddhism (Ricard, 2008a; Salzberg, 1995). The training participant sits in a relaxed posture and connects to intentions of love, warmth, benevolence, and care. This can be done in various ways. In the retreat, participants are familiarized with methods to mentally connect to these intentions, for instance by bringing to mind the image of a baby, a cute animal, a person that makes them smile, places that evoke feelings of safety and comfort, or by concentrating on feelings of warmth in the body. Participants are given the opportunity to explore which of the methods work best to help them open up towards loving intentions. Participants then mentally turn towards others and extend the intention towards them. They usually start with themselves, and then turn towards a benefactor or a good friend, that is, people for whom feelings of love, benevolence, and care occur naturally or are evoked easily. They may then turn towards people to whom they feel neutral, people they have difficulties with, and ultimately all humanity or all living things. To stabilize the mind and focus on their intentions, participants mentally repeat phrases expressing these intentions, such as “May you be happy,” “May you be healthy,” “May you be safe,” and “May you live with ease.”

Affect Dyad (AD)

The second core exercise of the Affect Module is a partner-based exercise. The basic form and structure of the practice is inspired by the dyadic exercises that are the core elements of Satori Retreats (Chapman, 1988; Noyes, 1998).

Participants are paired and sit facing each other. One partner asks a question, which the speaker then contemplates aloud for a given time interval. The listener keeps his/her eyes on the speaker and, although listening attentively, does not respond, neither verbally nor

non-verbally, to what is being said. Importantly, the speaker answers the question from the moment, without any preconceived goals, while being in touch with whatever may be triggered by the question or the words he/she says. He/she tries to focus on his/her immediate experience rather than on intellectual understanding or abstract thoughts. The contemplative dialogue can thus be understood as a “loud meditation” in which the speaker voices whatever comes to mind regarding the question and the listener provides his presence for the other’s contemplation, helping him/her to remain focused.

In the Affect Module, participants contemplate situations that they found difficult and situations that they are grateful for. As described, they mainly focus on their own inner experience, that is, the feelings and body sensations that accompanied the situations.

In the weekly sessions, the exercise is done face to face. Participants also practice the dyadic exercise during the week. They are assigned different partners on a weekly basis and then have the choice to use a computer-based or smartphone-based application in which they can connect with their partners. The applications guide them through the dyad by supplying the instructions for the different phases on the screen and signal the beginning and end through electronic bell sounds.

The exercise is based on findings about the positive effects of social sharing of difficult situations (Frattaroli, 2006; Pasupathi, 2003; Rimé, 2007) as well as Vipassana traditions that emphasize acceptance of whatever arises, including difficult sensations or emotions. The practice of gratefulness, which is also embedded in the exercise, is common in contemplative traditions (Steindl-Rast, 1984) and has been shown to be effective in improving well-being and psychological health (Bartlett & DeSteno, 2006; Emmons & McCullough, 2003; Lyubomirsky et al., 2005).

Outline of the Affect Retreat and Weekly Training Sessions

In the Affect retreat, participants are introduced to the two core exercises. They also learn to work with emotions by simply being present with them and exploring their nature with curiosity and care. An important exercise for clarifying the difference between compassion and seemingly similar states is the guided meditation which contrasts empathy to compassion (Empathy vs. Compassion Meditation, ECM)(see Klimecki & Singer, 2012; Klimecki et al., 2014, for the scientific backgrounds of this practice). In this exercise, participants are able to experience the difference between empathy (defined as pure emotional resonance with the suffering of another) and compassion (defined as the recognition of the suffering in the other combined with the strong wish that this suffering might be alleviated). In the weekly sessions, participants gradually expand their practice of Loving-kindness Meditation, by successively including oneself, liked, neutral and disliked people, and finally everyone in their meditation. During the first weeks, there is a focus on self-compassion (e.g., Gilbert, 2009; Neff, 2011), which means turning towards oneself with an attitude of love and care. This also implies working with difficult emotions, such as anger, resentment, and fear, which may be obstacles to developing compassion. Letting go of resentments and negative judgment about self and others is also the focus of the Forgiveness Meditation (FM), which is repeatedly practiced throughout the course. This practice

incidentally facilitates the Affect Dyad, by making it easier for participants to turn towards difficult situations of the day and to rejoice in the positive aspects of their lives.

3.4 Perspective Module: Core Exercises and Training Outline

The Perspective Module is dedicated to the cultivation of meta-cognitive and socio-cognitive abilities. Participants learn to take a meta-perspective on their thoughts and on their own personality dynamics as well as mentally taking the perspective of others. Overall, the module is designed to add “fluidity” to the cognitive system, that is, allowing participants to understand the self-fabricated or constructed nature of their mental contents. This allows participants to question these contents, to deidentify from them and adopt alternative perspectives. The two core exercises of the module are the Observing-thoughts Meditation and a contemplative dialogue to facilitate perspective-taking, called the Perspective Dyad.

Observing-thoughts Meditation (OTM)

The practice of meditative observation of thoughts is common to many contemplative traditions (e.g., Krishnamurti, 1993; Ricard, 2008b). The participant sits with his/her eyes closed or an unfocused gaze and begins by becoming aware of his/her posture and breathing. He/she then pays special attention to his/her thinking. In the initial phases of the practice, he/she uses labels to classify the content of his/her thoughts. Labels may classify the thoughts along the dimensions of me/other, past/future, or positive/negative, but may also denote specific processes such as *judging* or may be generic such as *thinking*. Labeling thoughts helps participants to remain focused and to quickly detach from the thoughts rather than getting involved in them. The objective is to observe thoughts as mental events or natural phenomena, that is, as events that happen from within, rather than taking them for accurate depictions of reality. Later in the program, participants abstain from using labels and just observe the coming and going of thoughts without getting involved in them. Whenever the mind becomes blank or tense, participants may return the focus to their breathing. The practice is designed to help participants to deidentify from thoughts and to get a meta-perspective on them, thereby gaining insight into the workings of the mind and gaining greater flexibility with regard to successive thoughts, feelings, and behaviors.

Perspective Dyad (PD)

The Perspective Dyad is a partner-based exercise that was designed specifically for the *ReSource Project*. It is a playful and experiential investigation of the nature of *the self* and at the same time trains cognitive perspective-taking or Theory of Mind abilities in the listener. Buddhists and other contemplatives have long contended that *the self* does not exist as an independent, unitary, and permanent entity (Foster, 2009; Garfield, 1995; Gyatso, 2008; Hopkins, 1983; Tegchok, 2012). Several systems of psychotherapy have been developed which are based on the assumption that an experiential understanding of *the self* as non-unitary, interdependent, and changing may be more in line with reality and contributes to

psychological health (Berne, 2006; Holmes, 2007; Schwartz, 1997; Young et al., 2003)(see Chapter 2.3.3 for the psychological and neuroscientific background of this assumption).

The basis of *the self* work that participants engage in during the Perspective Dyad is the Inner Family System (IFS, Holmes, 2007; Schwartz, 1997). The IFS conceptualizes individuals as comprised of a multitude of “inner parts.” Inner parts are aspects of the personality or inner schemas. Examples of inner parts are the inner judge, manager, warmhearted mother, adventurous explorer, helpless puppy, or the rebel. There is no fixed set or number of inner parts; what counts is the idea of the person as a system of fluctuating mindsets, of inner setups including goals, typical cognitions, emotions, and behavioral tendencies associated with these parts. The participants receive support in identifying and updating inner parts throughout the course.

In the dyad, participants sit facing each other. One participant is the speaker and the other is the listener and the one asking the questions. As described for the Affect Dyad, the listener opens the space for the speaker to unfold his/her contemplation by listening attentively and not responding in any verbal or non-verbal way. The speaker describes a recent situation from the perspective of one of his/her inner parts. He/she may thus descend in her narration from the way he/she has actually experienced the situation and instead described the experience as it might have been if a certain inner part had been dominant in him/her. The listener tries to find out which part the speaker has inwardly assumed.

For the speaker, the exercise trains inner perspective-taking, that is, the ability to de-identify from a certain inner perspective and assume an alternative one. Through constant practice, participants may also become more aware of the multi-faceted, ever-changing nature of their personality and realize that there is a *self* beneath all inner parts that is not touched by those and has the non-judgmental quality of compassion. For the listener, the exercise trains perspective-taking of others, as the guess as to which inner part was voiced requires inferences from the uttered thoughts and perceptions to the underlying mental state and beliefs of the speaker.

As described for the Affect Dyad, the Perspective Dyad can be practiced by using custom-made computer-based or smartphone-based applications.

Outline of the Perspective Retreat and Weekly Training Sessions

Both core exercises are introduced and repeatedly practiced throughout the retreat. A large portion of the retreat is dedicated to familiarize participants with the concept of inner parts. Through several talks, guided meditations, pen and paper exercises, and personal consultations, participants are supported in identifying inner parts that are characteristic of them. Participants are encouraged to identify both positive inner parts, that is, parts in which they usually feel happy or strong, and difficult inner parts, that is, parts they typically evaluate as negative, distressing, or disruptive. The teacher team relies on their clinical psychological experience to discourage the work with very difficult parts, which may flood the participant with negative emotion, thereby hindering the exercise’s purpose, which is cognitive in nature. An additional dyadic exercise is used to further familiarize participants with the process of perspective-taking on other people (Inner Perspective Dyad, IPD). A group exercise is

used to help participants explore the nature of the state we call “center” or “self,” which is characterized by non-judgmental meta-awareness of the inner parts.

Over the weekly sessions, participants gradually refine their practice of the Observing-thoughts Meditation. They may successively drop the practice of labeling the content of thoughts as they can more easily assume a meta-perspective on thoughts and their dynamics. Motivation talks, discussions, and exercises focus on the central role that thoughts play in our lives. Participants reflect on the ways in which beliefs and convictions shape their lives, and how a different set of beliefs and convictions has to be taken into account when trying to understand other people.

Each week, participants have the chance to modify or exchange the inner parts they work with, and the updates are fed into the databases used by the computer- and smart-phone-based applications. Separate sessions discuss the process of perspective-taking on others, why it is important, how it is done, and how understanding others’ beliefs, thoughts, and motivation differs from approving of their behavior. Through additional exercises, talks, and experience sharing, participants deepen their contact to the “center” or “self.”

4 Design, Timeline, and Training Setting

4.1 Design, Cohorts, and Timeline

This chapter describes the design, including the respective training and retest control cohorts, as well as the timeline of the *ReSource* study.

As illustrated in Figure 4.1, we recruited two training cohorts comprising 80 and 81 participants (Training Cohort 1 (TC1), $N = 80$; Training Cohort 2 (TC2), $N = 81$), and one retest control cohort (Retest Control Cohort 1 (RCC1) with $N = 30$). Later, we recruited another training cohort (TC3, $N = 81$), which only underwent 3 months of training in the Affect Module, and a larger retest control cohort (RCC2, $N = 60$). One half of each cohort lived and practiced in Berlin and the other half was located in Leipzig. Due to the fact that RCC1 was underpowered for some analyses, both retest control cohorts were often combined, which is called RCC1&2.

The total overall time of the entire *ReSource* training for the first two mentioned training cohorts (TC1 and TC2) was 39 weeks (approximately 9 months). These 39 weeks were divided into the three modules, Presence, Affect, and Perspective, each lasting for 13 weeks. The first 8 weeks of each module were dedicated to teaching and developing the respective contemplative practices, while the final 5 weeks were used to repeat and deepen the practices as well as to assess scientific data. No new practices or contents were introduced in the final 5 weeks of each module.

The first two 9-month training cohorts underwent the training sequence in different orders to act as active control cohorts for each other. Thus, 80 participants (TC1) underwent the training in the module order “Presence-Affect-Perspective,” while the other 81 participants (TC2) trained in the order “Presence-Perspective-Affect,” thus functioning as control for each other at measurement time points T2 and T3. The retest control cohorts did not undergo any training; they only participated in the experiments and thereby served as passive control cohorts to assess effects of being tested multiple times at different time points.

RCC1 started almost parallel to the first two training cohorts. Approximately a year later RCC2 started together with the third training cohort. TC3 was only trained in the Affect Module and served as active control for the Presence Module of TC1 and TC2.

TC1, TC2, RCC1, and RCC2 underwent four testing phases. The baseline testing phase is called T0. T1 to T3 were tested during the final 5–7 weeks of the respective training modules, or for the RCCs every 2 to 3 months. T4 was a voluntary follow-up testing phase that started

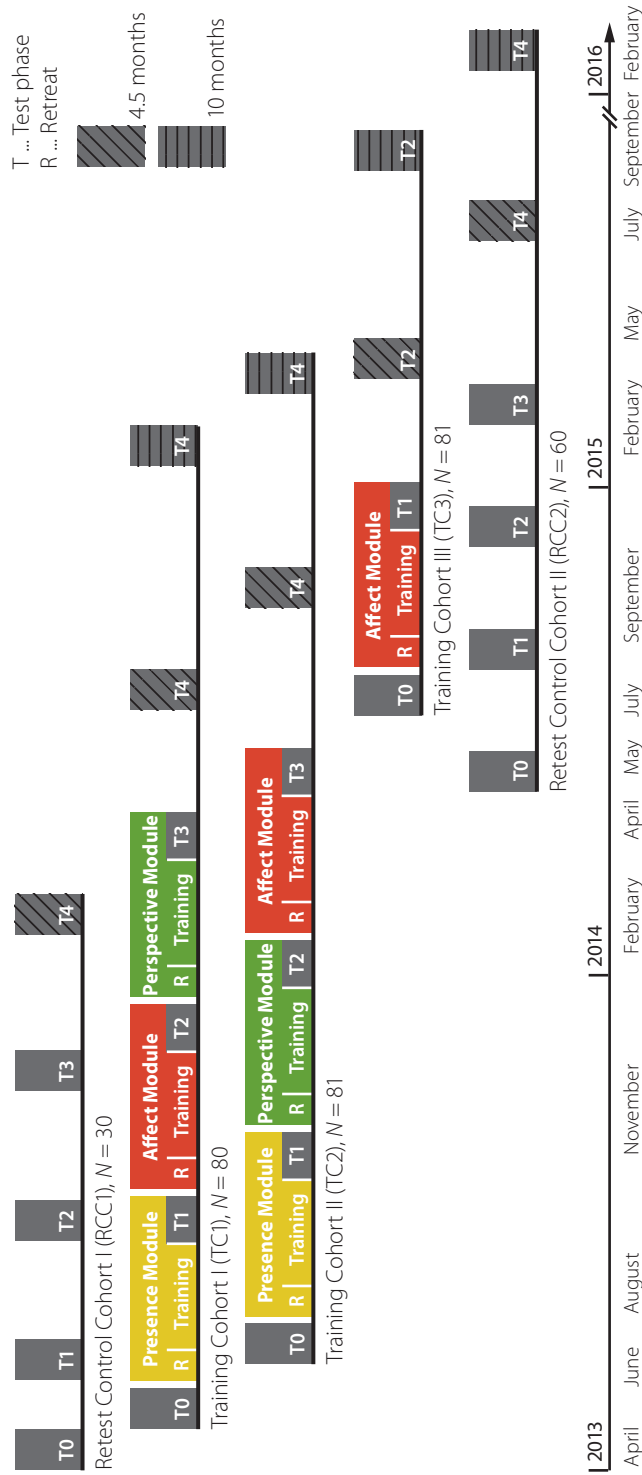


Figure 4.1 A rough overview of the study design of the *ReSource Project*. Two training cohorts were tested before the start of training (T0) and towards the end of each module (T1–T3). Please note that the order of the Affect and Perspective Modules was interchanged for TC1 and TC2. We had two retest control cohorts (RCC1, RCC2) that did not undergo any training. A later training cohort (TC3) was trained in the Affect Module only. T4 (and T2 for TC3) are follow-up testing phases that took place either 4.5 months or 10 months after the last training session. Due to a limited capacity of the scanner and VR laboratory at our institute, all cohorts proceeded in a shifted manner.

either 4.5 months or 10 months after the last official weekly training session of the third module. The follow-up testing for TC3 is called “T2” (see Figure 4.1 for an overview on the testing phases and the approximate timeline).

Figure 4.1 stresses the shifted design in the study. The individual cohorts started at different time points. For instance, the first retest control cohort (RCC1) started mid April 2013 and TC1 and TC2 shortly after in May and July, respectively. This design was chosen due to limitations in the scanner and virtual reality (VR) laboratory availability. Experiments in the scanner and in the VR lab could only be conducted in Leipzig, and it was only possible to run experiments with one participant at a time. Therefore, a maximum of three participants could be tested in those paradigms in one day. This, and the fact that approximately 190 (TC1, TC2, RCC1) participants needed to be scanned every 2-3 months, led to a fully booked scanner and VR schedule from Monday to Saturday from 8:00 am to 6:00 pm (see Chapter 9.2.8 for more details). This was also the reason for the delayed start of the cohorts TC3 and RCC2.

We have already mentioned the multi-disciplinary nature (see Figure 2.1) of this project. Data were assessed on many different levels, for example, from biological markers taken from blood samples to state and trait characteristics, behavior, and neuroimaging data. The measures and questionnaires will be listed in Chapter 8.

4.2 Training Setting

This paragraph describes the different training locations in which the *ReSource Project* took place.

As mentioned above, the first two training cohorts (TC1 and TC2) started with the Presence Module, and the order of the Affect and Perspective Modules was interchanged. The third training cohort (TC3) was only trained in the Affect Module (see Chapter 4.1 for more details on the design and timeline). After all training cohort participants had finished their baseline testing (T0), training commenced.

There were three different training settings for each module (see also Figure 4.2.1):

- a) A 3-day retreat in “HausRheinsberg” at the beginning of each module
- b) Two-hour weekly training sessions either in Berlin or Leipzig during 13 weeks of each module
- c) Daily solitary practice by means of an Internet platform or a smartphone application

The retreats for the 9-month training cohorts TC1 and TC2 took place from Friday to Sunday for each module. The 3-month training group (TC3) had their retreat from Monday to Wednesday. The respective training sessions started the week after the retreat. The first training cohort started training on the following Tuesday and the second training cohort met on Wednesdays. Each training cohort participant was asked to practice the core exer-

cises of the current module alone for 30 minutes for five days per week with the help of the Internet platform or smartphone application provided (see Figure 4.2.1). The scientific testing phases started in week 7-9, and lasted for the rest of the module. More details on the testing can be found in Chapter 9.2.

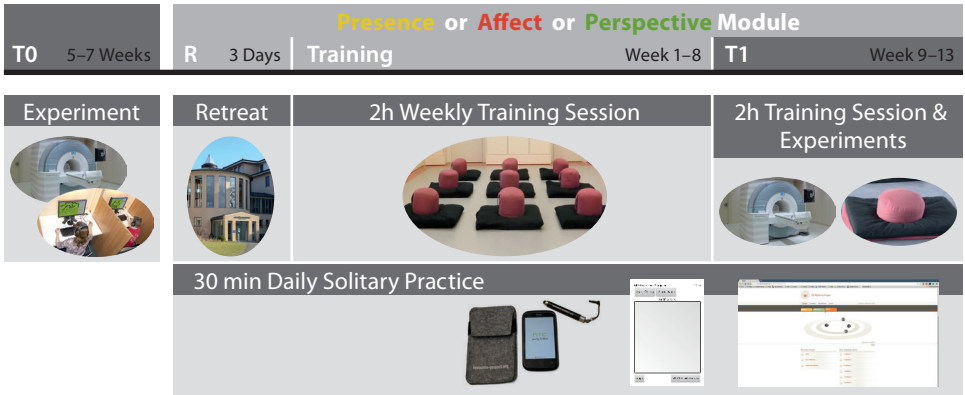


Figure 4.2.1 Overview of the training structure for all training cohorts during the *ReSource Project*. Every module started with a 3-day retreat that was then followed by 13 weeks of weekly training sessions that lasted two hours. During the entire study, participants were asked to practice alone for 30 minutes on a daily basis. The testing started on week 9 of each module (except for computer-based experiments, which started in week 7. See Chapter 9.2 for details).

Retreat-Center

We selected “HausRheinsberg Hotel am See” as our retreat center for all our 3-day-silent retreats during the study as they were able to host more than 100 people at a time (including participants, teachers, and staff members) (see Figure 4.2.2 for impressions). The “HausRheinsberg Hotel am See” focuses on rehabilitating people with physical disabilities and multiple impediments. Rheinsberg is situated about 20 km northeast of Neuruppin and 75 km northwest of Berlin. The address of the retreat center and exact dates of each retreat can be found in Appendix A1 and A2.

We booked most of the Hotel for our retreats and were guaranteed separate dining rooms. A large sports hall was used for the meditation training (see Figure 4.2.2A). Apart from the first two retreats (Presence of TC1 and TC2) and final retreat (Affect of TC3), each participant was given a single room, and no other guests were present at the Hotel. All meals were vegetarian.

Weekly Training Sessions

We offered several possible time slots for the 2-hour weekly training session for the training cohorts.

Training Cohort 1 (TC1): Tuesdays 10:00-12:00 am or 7:00-9:00 pm; Berlin and Leipzig;
 Training Cohort 2 (TC2): Wednesdays 10:00-12:00 am or 7:00-9:00 pm; Berlin and Leipzig;
 Training Cohort 3 (TC3): Tuesday 7:00-9:00 pm; Berlin and Leipzig; Wednesday 10:00-12:00 am; Berlin and Leipzig.

The initial group size for the training sessions was 20. The exact addresses for the weekly training sessions in Berlin and Leipzig can be found in Appendix A3 (see Figure 4.2.3 for photos of the training location in Leipzig or Berlin).



Figure 4.2.2 Impressions of the retreat center “HausRheinsberg Hotel am See.”



Figure 4.2.3 Photos of the training rooms at the Max Planck Institute for Human and Cognitive Brain Sciences, in Leipzig (left) and Berlin (right) for the weekly training sessions during the *ReSource Project*.

Daily Solitary Practice

In addition to the weekly mental training sessions, the participants were asked to train alone for 30 min at least 5 times per week. To facilitate and assess hours of regular individual practice, we developed an online *ReSource* platform. Participants were provided with login details in order to access MP3 audio files containing the guided meditations or dyadic exercises constituting the core exercises of each module. Participants were only able to log in to restricted areas of the respective module that they were currently training (see Figure 4.2.4A).

After the 9-month training was completed, all core exercises were fully accessible to the participants and they were able to freely choose which one to follow on a voluntary basis (except for TC3 that only practiced the contents of the Affect Module).

We previously recorded 8 variations of each meditation, that is to say, 4 teachers recorded a short and a long version of the respective meditation (short: 10 min BM, 20 min OTM/LKM/BS; long: 30 min BS, 60 min OTM/BM/LKM) (see Figure 4.2.4C). After answering questions (see Chapter 8.2 and Appendix E for details), participants could choose their preferred recording (see Figure 4.2.4D). Following the meditation, the participants again answered a few questions.

In addition to the platform, an android-based smartphone was provided. Four applications were installed on each smartphone:

- a *ReSource*-specific home screen (see Figure 4.2.4B)
- an app for meditations
- an app for dyadic exercises
- an app for experience-sampling questions (see later in Chapter 8.2 and Appendix E)

The customized home screen allowed easy non-distracting access to the relevant apps. The home screen was adjusted in a way that other functions such as phone calls, SMS function, and installation of other apps were disabled. The app for the respective core exercises was started via the button “Start Practice” on the home screen. The user chose the block in which he/she currently participated and then selected the exercise he/she wanted to do. The same questions as on the platform were asked before and after the core exercises.

The dyads were implemented using the Session Initial Protocol (Rosenberg et al., 2002). For the implementation of the platform, external software (URL: <http://www.mizu-voip.com/Software/WebPhone.aspx>) was used. For the mobile implementation the original android SIP-Stack was used to program the dyad application. Both versions of the dyad implementation were constructed in a way that they were able to interact with each other, so that each participant could choose whether to use the mobile or the platform independently from their partners. Participants were instructed to schedule their exercises and means of communication independently.

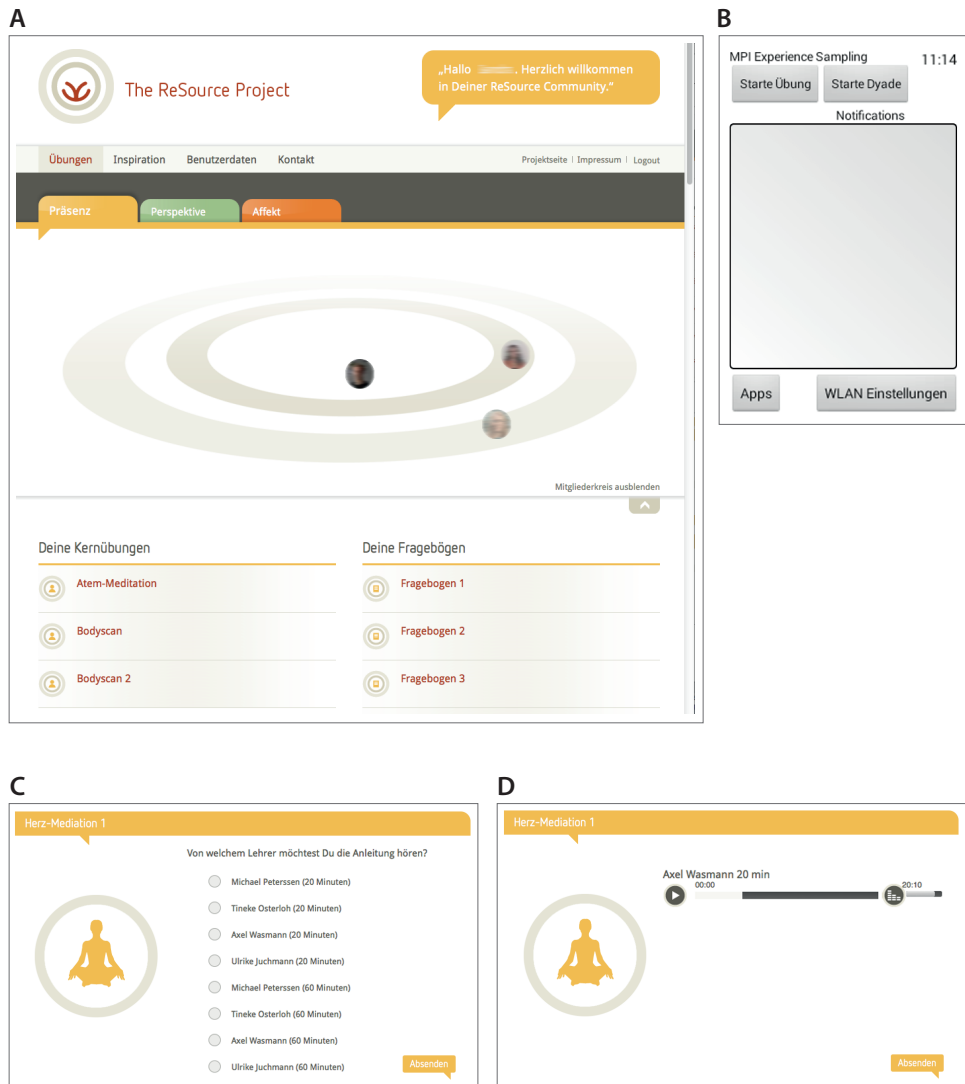


Figure 4.2.4 A) Overview of a closed area for a participant after login. The circles indicated which user of the group had recently been online. On the left exercises were presented, while the right shows the questionnaires that still needed to be filled out. B) Home screen on the smartphone. The buttons on the top started the meditation exercises (“Starte Übung”) or the dyad (“Starte Dyade”). C) Selection for the Loving-kindness Meditation. The teacher and length was selected via clicking on the radio button and then pressing the “Absenden [Next]” button. D) Playing the selected meditation by pressing the radio button.

5 Team of Researchers, Staff Members, and Teachers

5.1 Researchers and Staff Members

Throughout the preparation and execution of the *ReSource Project* many researchers contributed their input and inspiration to this large-scale study. This chapter lists researchers that were employed by the Department of Social Neuroscience at the MPI in Leipzig. Note that due to the longitudinal nature of the project, members of the group left and new personnel were hired over the course of the study. Listed below are the researchers (PhDs, Postdocs, and Senior Researchers) who participated in the development, execution, and analyses of the study up to the publication of this volume (in alphabetical order):

- ▶ Anne Böckler (Postdoc): 10/01/2012 – 09/30/2015
- ▶ Boris Bornemann (Graduate Student): 01/01/2013 – present
- ▶ Boris C. Bernhardt (Postdoc): 02/01/2011 – 08/31/2015
- ▶ Haakon G. Engen (Graduate Student): 02/02/2011 – present
- ▶ Veronika Engert (Senior Researcher): 09/01/2010 – present
- ▶ Pauline Favre (Postdoc): 02/01/2015 – present
- ▶ Joshua A. Grant (Postdoc): 01/01/2011 – 02/28/2015
- ▶ Lea Hildebrandt (Graduate Student): 09/15/2012 – present
- ▶ Philipp Kanske (Senior Researcher): 04/15/2012 – present
- ▶ Bethany E. Kok (Postdoc): 08/01/2012 – present
- ▶ Roman Linz (Graduate Student): 09/01/2015 – present
- ▶ Anna-Lena Lumma (Graduate Student): 10/01/2012 – present
- ▶ Cade McCall (Senior Researcher): 09/01/2010 – 03/31/2016
- ▶ Marisa Przyrembel (Postdoc): 05/01/2013 – present
- ▶ Lara Puhlmann (Graduate Student): 10/01/2015 – present
- ▶ Jonathan M. Smallwood (Senior Researcher): 02/01/2011 – 06/30/2013
- ▶ Fynn-Mathis Trautwein (Graduate Student): 10/01/2012 – present
- ▶ Anita Tusche (Postdoc): 10/01/2011 – 03/14/2014
- ▶ Sofie L. Valk (Graduate Student): 08/15/2012 – present
- ▶ Pascal Vrticka (Senior Researcher): 05/15/2014 – present

Besides the above named researchers, the department employed support staff of up to 17 people. These being lab managers, technicians, and radiographers (in alphabetical order):

- ▶ Astrid Ackermann (Labmanager, Berlin): 06/01/2013 – 05/31/2015
- ▶ Anna Berckhemer (Labmanager, Berlin): 09/01/2015 – present

- ▶ Matthias Bolz (Labmanager, Leipzig): 09/01/2010 – present
- ▶ Christina Bochow (Labmanager, Berlin): 07/01/2011 – present
- ▶ Henrik Grunert (Technical Assistant): 10/01/2011 – present
- ▶ Manuela Hofmann (Medical Technical Assistant): 10/01/2013 – present
- ▶ Torsten Kästner (IT Staff): 03/01/2013 – 31/12/2015
- ▶ Nicole Lorenz (Personal Assistant): 09/01/2010 – present
- ▶ Elisabeth Murzik (Psychological Technical Assistant): 11/15/2011 – present
- ▶ Sylvie Neubert (Medical Technical Assistant): 10/01/2011 – present
- ▶ Hannes Niederhausen (IT Staff): 05/01/2011 – 04/30/2016
- ▶ Nadine Otto (Psychological Technical Assistant): 06/15/2013 – 12/15/2014
- ▶ Nicole Pampus (Medical Technical Assistant): 10/01/2012 – 06/30/2015
- ▶ Kerstin Träger (Psychological Technical Assistant): 05/01/2013 – present
- ▶ Sylvia Tydecks (Psychological Technical Assistant): 11/01/2012 – present
- ▶ Willi Zeidler (Project Associate, Berlin): 07/01/2011 – 08/31/2015
- ▶ Sandra Zurborg (Scientific Assistant): 06/15/2011 – present

Furthermore, we employed many students and interns that assisted with the execution of the study and assessment of the data (these students were usually employed 10–20 hours per week).

5.2 Teachers

Between March and August 2012, meditation trainers for the *ReSource Project* were recruited. In response to an advertisement, recommendations by well-experienced meditation teachers, and personal contact, 76 potential candidates applied for the study. Selection criteria were the following:

- Long-term meditation and multi-faceted retreat experience
- Long-term teaching experience
- Education and training in contemplative traditions (e.g., Buddhism, Zen)
- Expert knowledge in personality development and self-awareness
- Education or expert knowledge in the field of psychotherapy such as: Gestalt Therapy, Conversational Psychotherapy (Rogers), Systemic Therapy, Non-violent Communication, Hakomi Therapy, Training in MBSR/MBCT;
- Excellent team player
- Eager to collaborate with other teachers from different contemplative traditions
- Eager to bridge the gap between science, therapy, and contemplative traditions
- Willingness to teach in a secular framework
- Warm and affectionate presence
- German speaking

Based on those criteria, 42 candidates were invited for group sessions, where the project was presented in detail. After the group sessions, 40 candidates were interested in participating in the project. They were invited to give a 30-minute test meditation session

to a group of around 8 test participants. Following each session the test participants filled out a questionnaire to evaluate the performance of each teacher. Based on the final rankings of these evaluations, 17 teachers were selected for the study. Additionally, based on their individual qualifications, teachers were assigned to teach at least one of the three modules of the *ReSource* study (in alphabetical order):

- ▶ Ulrike Anderssen-Reuster – Perspective
- ▶ Susanne Heil – Affect, Perspective
- ▶ Robert Hofberger – Perspective
- ▶ Günter Hudasch – Presence, Perspective
- ▶ Ulrike Juchmann – Presence, Affect, Perspective
- ▶ Gabriela Martens – Perspective
- ▶ Tineke Osterloh – Affect, Perspective
- ▶ Michael Peterssen – Affect, Perspective
- ▶ Alexandra Pfohlmann – Presence
- ▶ Birgit Schoenberger – Presence, Affect
- ▶ Lothar Schwalm – Presence
- ▶ Ruth Seehausen – Presence, Affect, Perspective
- ▶ Helga Ulrich – Affect
- ▶ Thomas Ulrich – Presence, Perspective
- ▶ Isabel von Roon – Affect
- ▶ Axel Wasmann – Presence, Affect, Perspective
- ▶ Isabella Winkler – Presence, Affect

6 Funding, Ethics, Clinical Trial Registration, and Participant Insurance

6.1 Funding

Tania Singer, as principal investigator, received funding for the *ReSource Project* from a) the European Research Council under the European Community's Seventh Framework Program (FP7/2007-2013/ ERC Grant Agreement Number 205557 to T.S.), and b) from the Max Planck Society.

6.2 Ethics Approval

The study was approved by the Research Ethics Committee of the University of Leipzig (Ethik-Kommission an der Medizinischen Fakultät der Universität Leipzig), number 376/12-ff and the Research Ethics Committee of the Humboldt University in Berlin (Ethikkommission der Humboldt-Universität zu Berlin, Mathematisch-Naturwissenschaftliche Fakultät II, Institut für Psychologie), numbers 2013-02, 2013-29, and 2014-10.

The study was carried out in compliance with the Declaration of Helsinki. Participants gave informed written consent, were paid for their participation, and were debriefed after the completion of the study.

6.3 Clinical Trial Registration

The study was registered with the Protocol Registration System of ClinicalTrials.gov under the title "Plasticity of the Compassionate Brain" with the ClinicalTrials.gov Identifier: NCT01833104.

6.4 Participant and Accident Insurance

We insured participants for personal accident cover with HDI-Gerling Industrie Insurance Company.

Gruppen-Unfall-Vers. Firma Nr. 39-132504-03476 (HDI-Gerling Industrie Vers.-AG)

Probanden-Versicherung Nr. 39132504 03452 390 413000 (HDI-Gerling Industrie Vers.-AG)

7 Recruitment, Sample Description, and Dropout

7.1 Recruitment of Study Participants

The recruitment and screening procedure for the *ReSource Project* was a multi-step process in order to inform participants in an appropriate manner, screen for eligibility, and ensure motivation for a large-scale, one year, longitudinal study, including extensive scientific testing. Participants were recruited via various means, for example, flyers, local newspaper articles and advertisements, TV and radio announcements, as well as flyers in public transportation systems in Leipzig (see Table 7.1 for details). Participants for TC1, TC2, and RCC1 were recruited in Winter 2012/2013 and for TC3 and RCC2 in Winter 2013/2014. Figures 7.1.1 and 7.1.2 show the flyer from the recruitment phase in Winter 2012/2013 and the translated texts for both recruitment periods. Table 7.1 lists recruitment media used and numbers of interested candidates that became aware of the study by the respective means.

Winter 2012/2013 – Source	#	Winter 2013/2014 – Source	#
Through recommendation	1149	Through recommendation	828
Interview Article in Berliner Zeitung (local newspaper, Berlin)	400	Newspapers and magazines	625
Other	350	Other	417
Article in Leipziger Volkszeitung, LVZ (local newspaper in Leipzig)	144	Radio	88
Kreuzer (local magazine in Leipzig)	16	Flyer	63
Flyer in Berlin and Leipzig	97	Poster in local transportation system of Leipzig (Tram)	48
Zitty (local magazine in Berlin)	86	Article in Tagesspiegel (newspaper in Berlin)	39
SEIN (magazine)	69	Kreuzer Online (local magazine in Leipzig)	17
Radio / TV ads	59	TV ads	17
Article in Gehirn und Geist (Spektrum), magazine	36	Article on heute.de (national TV channel)	2
Poster in local transportation system of Leipzig (Tram)	33		
Announcement at conferences	27		
TAZ (Newspaper)	25		
Article and ad in Leipziger Volkszeitung Online	14		
TOTAL	2595	TOTAL	2144

Table 7.1 The table above indicates the number of participants, both in Leipzig and Berlin, that applied for the *ReSource Project* in the two recruitment phases in Winter 2012/2013 and Winter 2013/2014 for each medium.



Versuchs MitGefühl





Sind Sie interessiert an alltagsbegleitendem mentalen Training und Meditation?

Das ReSource Projekt macht Sie mit verschiedenen Methoden der Schulung von mentalen und sozialen Fähigkeiten vertraut.

- Sie werden von einem Team erfahrener Lehrer unterrichtet.
- Sie können in Leipzig oder Berlin teilnehmen.
- Die Teilnahme am Training ist kostenfrei.
- Der Zeitaufwand für die wissenschaftlichen Tests wird vergütet.
- Sie leisten einen wertvollen Beitrag für die psychologische und neurowissenschaftliche Forschung.

Information und Anmeldung
www.resource-project.org

Max-Planck-Institut für Kognitions- und Neurowissenschaften Leipzig

Prof. Dr. Tania Singer
Abteilung Soziale Neurowissenschaft




Figure 7.1.1 Flyer (in German) for the recruitment of participants in Winter 2012/2013

A Winter 2012/2013

Are you interested in integrating mental training and meditation in your everyday life?

The one-year long ReSource Project will familiarize you with various methods of training mental and social skills.

- You will be instructed by a team of experienced teachers.
- You can participate in Leipzig or Berlin.
- Participation in the training is free of charge.
- The time spent on scientific testing is paid.
- You will make a valuable contribution to the psychological and neuroscientific research.

Information and registration
www.resource-project.org

B Winter 2013/2014

Are you interested in integrating mental training and meditation in your everyday life?

The ReSource Project will familiarize you with various methods of training mental and social skills.

- You will be instructed by a team of experienced teachers.
- You can participate in Leipzig or Berlin.
- Participation in the training is free of charge.
- The time spent on scientific testing is paid.
- You will make a valuable contribution to the psychological and neuroscientific research.

Information and registration
www.resource-project.org

Figure 7.1.2 Translated texts for the participant recruitment in Winter 2012/2013 (A) and 2013/2014 (B).

Via the above mentioned means, putative participants were directed to the *ReSource* website (www.resource-project.org), where they found specific information regarding the study and an online application form (see Appendix B1 and B2 for details of the English and German texts respectively). The online application form included a questionnaire in order to screen for demographic data, time constraints (training sessions, retreats), as well as for physical and mental health criteria (exclusion criteria).

Exclusion criteria for the study were as follows:

- ▶ Not between 20 and 55 years old
- ▶ No computer access at home/no Internet connection
- ▶ Not meeting our MRI safety standards (irremovable metal in the body, tattoos on the upper part of the body, permanent make-up, pregnancy or lactating mothers, obesity, diabetes, neurological disorders, head trauma with loss of consciousness, peripheral vascular diseases, peripheral arterial diseases, Reynaud's diseases, involuntary motor disorders, epilepsy, insulin pumps, orthodontic retainer, inner ear implants, pacemakers, drug pumps, cerebral water drainage)
- ▶ Regular spiritual practice in the last 2 years
- ▶ Regular meditation practice in the last 2 years, participation in meditation retreats
- ▶ Does not speak/understand German fluently
- ▶ Chronic pain
- ▶ Psychotherapy in the last 2 years
- ▶ Allergic to adhesive tape
- ▶ Smoking more than 5 cigarettes per week
- ▶ Drugs and alcohol abuse
- ▶ Diagnosed mental disorders (unless symptom-free for more than two years)
- ▶ Intake of medication influencing the regulation of the HPA-axis (e.g., cortison-containing products)
- ▶ Medications (that affect central nervous system function, psychotropics, opiates, corticosteroids, medications for anxiety, depression, or other psychological problems) (see Appendix C3 for examples)
- ▶ Studies or studied psychology

Subsequently, potential participants completed a battery of mental health questionnaires and were excluded if they scored above a pre-determined cut-off on measures of a specific mental illness (more details and references to the following questionnaires can be found in Appendix E).

- ▶ Major (ICD-10) Depression Inventory (MDI), exclusion from mild to severe
- ▶ Toronto Alexithymia Scale (TAS-20), exclusion if > 60
- ▶ State-Trait-Anxiety Inventory; STAI X2-Trait, exclusion if > 56
- ▶ Patient Health Questionnaire-D (PHQ-D), see manual for analyses
- ▶ Prescreening question for the Structured Clinical Interview for DSM-IV for axis II personality disorders (SCID-II), as a basis for a psychological interview

Once putative participants passed the first screening, they received a second set of questionnaires that served as a basis for grouping participants into training and retest control cohorts at a later stage of the process (more details on the following questionnaires can be found in Appendix E).

- ▶ Demographic Data: age, gender, marital status, children, education, city, income
- ▶ Test d2 – Revision (d2R)
- ▶ Ten Item Personality Inventory (TIPI-10)
- ▶ Self-Compassion Scale (SCS)
- ▶ Perceived Stress Scale (PSS-10)
- ▶ Five Facet Mindfulness Questionnaire (FFMQ)
- ▶ Mental Health Continuum Short Form (MHC-SF)
- ▶ Compassion for Others scale (COSN)
- ▶ Major (ICD-10) Depression Inventory (MDI)
- ▶ Toronto Alexithymia Scale (TAS-20)
- ▶ State-Trait-Anxiety Inventory; STAI X2-Trait

Participants were invited to an obligatory information evening at the Institute after having passed the screening questionnaires successfully. They were informed about general aspects of the study, the necessary time commitments, and the testing requirements. Participants were shown an example of the type of core exercises they were expected to do during the study. After confirming their continued interest to take part in the study by e-mail, individual phone interviews were scheduled with each potential participant. During the phone call, participants were given the opportunity to ask individual and specific questions and were asked whether it was manageable timewise to participate in the weekly training session, the experiments and retreats as well as to integrate the exercises into their daily lives. Following the phone call, a face-to-face mental health diagnostic interview with a trained clinical psychologist was scheduled. The interview included a computer assisted version of the Structured Clinical Interview for DSM-IV Axis-I disorders (SCID-I) (First et al., 2012), the DIA-X (Wittchen & Pfister, 1997) and the German version of the SCID-II for Axis-II disorders (Gibbon et al., 1997; Wittchen et al., 1997). Participants were excluded if they fulfilled the criteria for an Axis-I disorder within the past two years, if they at any point fulfilled the criteria for schizophrenia or other psychotic disorders, bipolar disorder or substance dependency, or if they fulfilled the criteria for an Axis-II disorder.

The final part of the recruitment procedure required participation in a mandatory in-house information session with a physician, who briefed putative participants on the magnet resonance imaging (MRI) technique with a 3-tesla scanner. The examination procedure was explained and participants were re-checked for contra-indications within the scope of the MRI examination. Participants who fulfilled all recruitment criteria were then eligible to be assigned to the study. All successful participants gave written consent for their participation. Figure 7.1.3 and 7.1.4 show an overview of the recruitment process in Winter 2012/2013 and Winter 2013/2014, respectively. Of more than 2000 interested candidates only 200-300 met all the inclusion criteria for the study and were used to assemble the cohorts (see next chapter for more details).

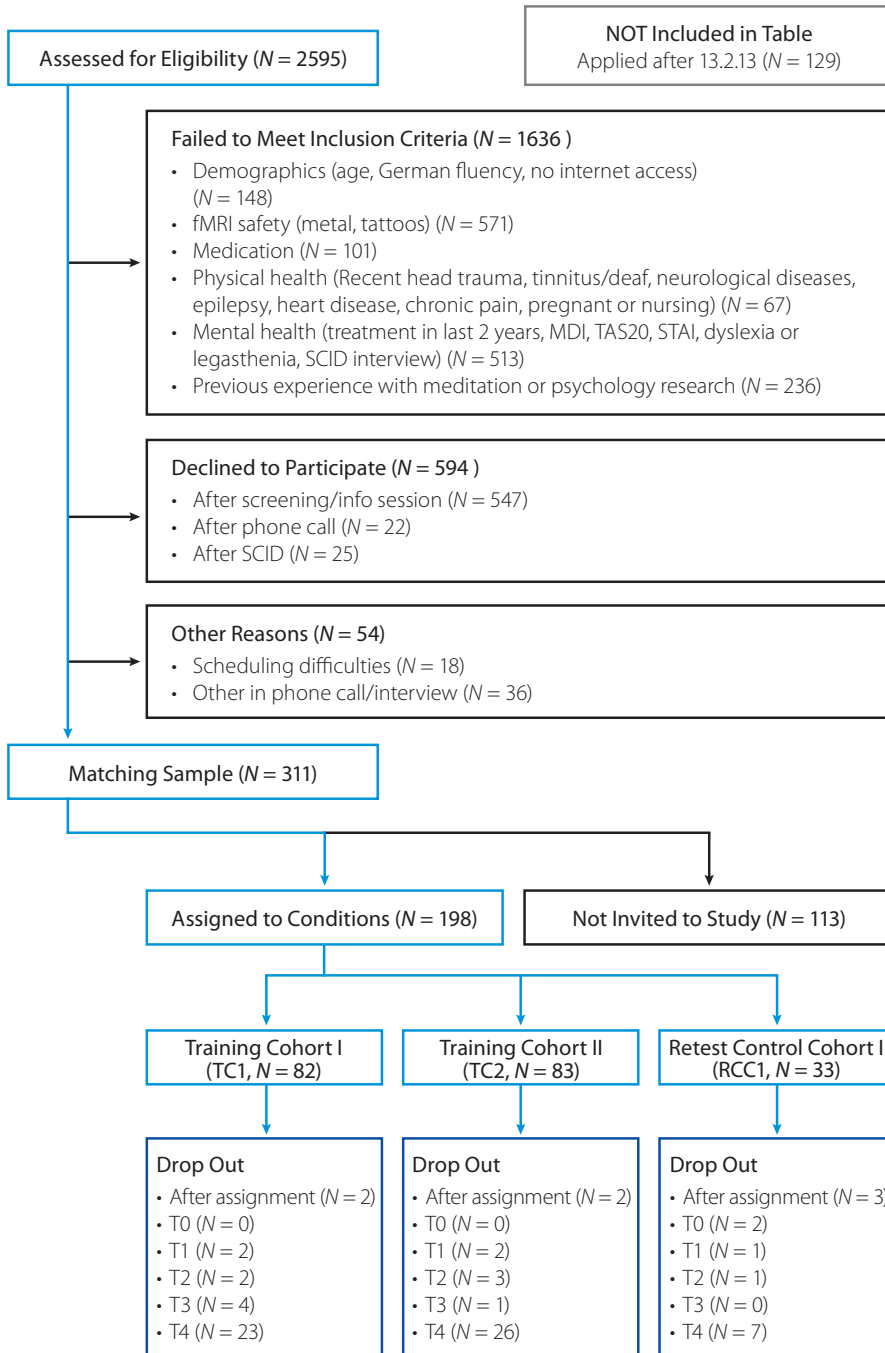
Recruitment Period 2012/2013

Figure 7.1.3 This figure shows the recruitment process for cohorts TC1, TC2, and RCC1 that started in Winter 2012/2013. Of 2595 interested people in Berlin and Leipzig, 311 met the inclusion criteria and 198 were assigned to cohorts.

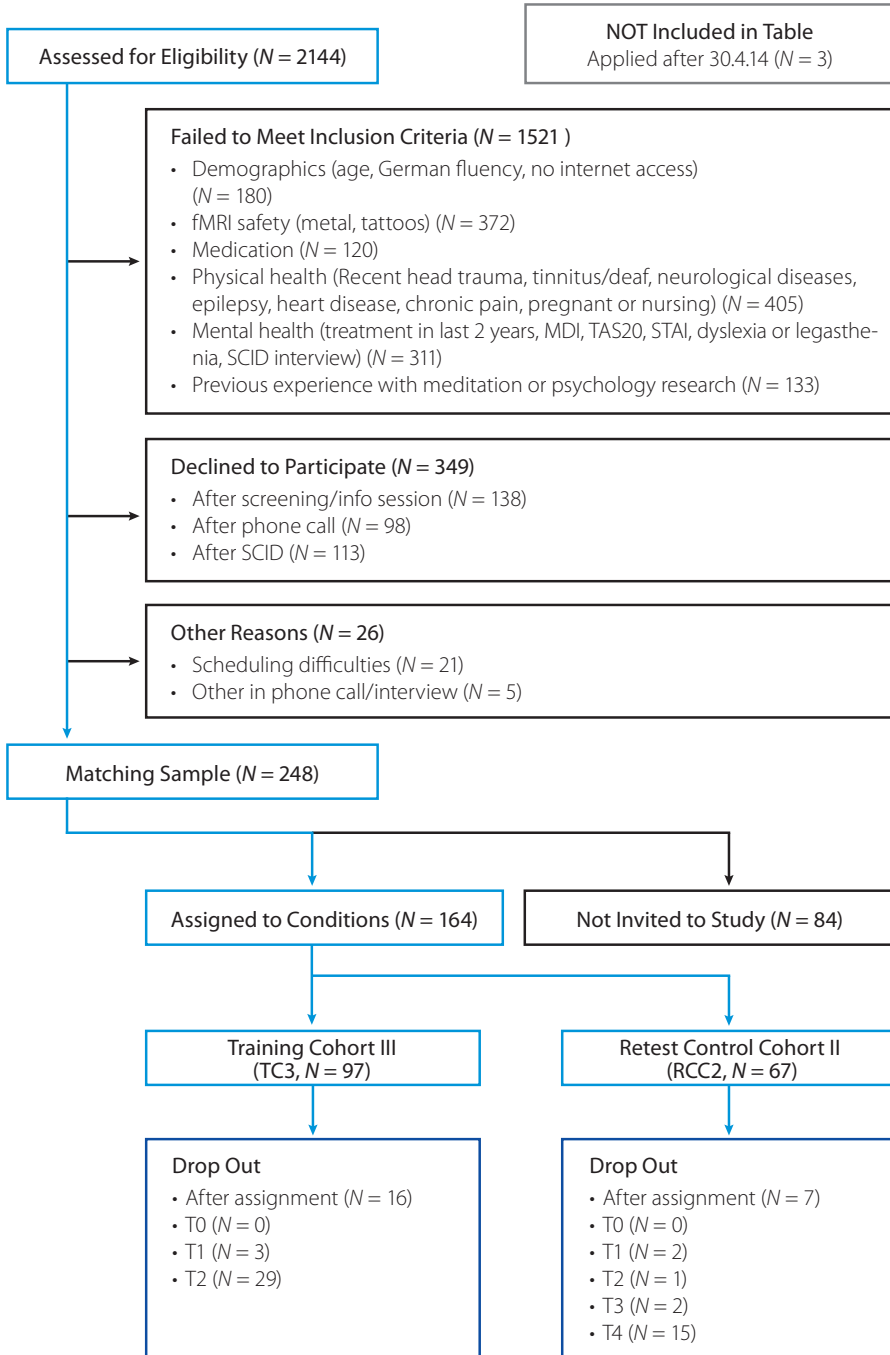
Recruitment Period 2013/2014

Figure 7.1.4 This figure shows the recruitment process for cohorts TC3 and RCC2 that started in Winter 2013/2014. Of 2144 interested people in Berlin and Leipzig, 248 met the inclusion criteria and 164 were assigned to cohorts.

7.2 Final Sample Selection and Description at T0

7.2.1 Study Sample Selection

A total of 2595 people applied for the study in Winter 2012/2013. Of this group, 311 potential participants met all eligibility criteria. From the latter pool, 198 were randomly selected as the final sample. Participants were selected from the larger pool of potential participants and assigned to cohorts using bootstrapping without replacement, creating cohorts that did not differ significantly in demographics (age, gender, marital status, income, and IQ) or self-reported traits (depression, empathy, interoceptive awareness, stress level, compassion for self and others, alexithymia, general mental health, anxiety, agreeableness, conscientiousness, extraversion, neuroticism, and openness). A significant difference between cohorts was defined as an omnibus test with a p -value smaller than 0.1. Seven participants dropped out of the study after assignment but before data collection began, leaving 30 participants in RCC1, 80 in TC1, and 81 in TC2. Descriptive statistics for the cohorts are shown in Appendix C1. A list of scale abbreviations linked to full names is given in Appendix E1.3. See Figure 7.1.3 for data on applicants who were excluded by various criteria.

A total of 2144 people applied for the study in Winter 2013/2014. Of these interested people, 248 potential participants met all the eligibility criteria. From the latter pool, 164 were then randomly selected as the final sample. Participants were selected from the larger pool of potential participants and assigned to cohorts using bootstrapping without replacement, creating cohorts that did not differ significantly from the Winter 2012/2013 cohorts or from one another in demographics (age, gender, marital status, income, and IQ) or self-reported traits (depression, empathy, interoceptive awareness, stress level, compassion for self and others, alexithymia, general mental health, anxiety, agreeableness, conscientiousness, neuroticism, and openness). A significant difference between cohorts was defined as an omnibus test with a p -value smaller than 0.1. The control cohorts (RCC1, RCC2, and RCC1&2) were significantly lower in extraversion than TC3; participants in the control cohorts were also more likely to have children than participants in TC3. Twenty-three participants dropped out of the study after assignment but before data collection began, leaving 81 participants in TC3 and 60 in RCC2. Descriptive statistics for the cohorts are shown in Appendix C1. A list of scale abbreviations linked to full names is given in Appendix E1.3. See Figure 7.1.4 for data on applicants that were excluded by various criteria.

7.2.2 Sample Description at T0

Descriptive statistics for the self-report measures by group are provided in Appendix E1.4. Variables were transformed if the Fisher-Pearson coefficient of skewness was greater than a pre-determined threshold of 0.6. A transformation was accepted if it reduced skewness to less than 0.332, a threshold indicating significant skewness given the sample size (Doane & Seward, 2011). If skewness could not be acceptably reduced, the non-parametric Kruskal-Wallis Rank Sum Test was used to compute group differences. For categorical variables, the Chi-Square Test was used. Because transformations can result in asymmetric error estimates when variables are back-transformed to their original scales, variance in the table is expressed via 95% confidence intervals rather than standard deviations.

We conducted all possible two-way tests between control and training groups using false discovery rate (FDR) correction to control for false positives due to multiple testing. For the vast majority of variables (221 of 224) there were no significant differences between groups. Participants in TC3 scored significantly lower on the “Awareness” subscale of the FFMQ than did participants in RCC1&2 and RCC2. Participants in TC3 scored significantly higher on the overall ADHD symptoms questionnaire than participants in RCC1&2, and also scored significantly higher than RCC1&2 and RCC2 on the “Hyperactivity” subscale of the ADHD measure. No other differences were apparent.

7.3 Dropout from the *ReSource Project* and Sample Description after Dropouts

7.3.1 Dropout from the *ReSource Project*

The table below indicates the dropout of participants from the entire *ReSource Project*. The cohort, time point of dropout, city, and reasons (if reported) are indicated.

Because some participants were dropping out during a testing period that lasted for several weeks, we decided to indicate those as dropouts of the following time point as some of the data sets had already been completed. For instance if a participant dropped out during a testing phase of T0 but had already completed many data sets, we indicated this person as a dropout of T1 to simplify the table. We also distinguished between a dropout (D) and exclusion (EX) due to medical reasons for instance. In summary, the total sample size at the beginning of the study was $N = 332$. The total number of dropouts/exclusions during the baseline testing and training phases was $N = 26$ (7.83%). During the follow-up measurements an additional $N = 100$ participants withdrew from the study, leading to a total of 37.95% ($N = 126$) of dropouts/exclusions at time point T4.

RCC1	City (N)	Reason (N)	D or EX (N)
T0	BE(2)	M(2)	EXBS(2)
T1	LE(1)	DisC(1)	D(1)
T2	LE(1)	M(1)	D(1)
T3	none	none	none
T4	LE(4)	ND(4)	D(4)
	BE(3)	ND(3)	D(3)
Total (N)	4+7		
TC1	City (N)	Reason (N)	D or EX (N)
T0	none	none	none
T1	LE(2)	DisC(1), M(1)	D(1), EX(1)
T2	LE(2)	T(1), ND(1)	D(2)
T3	LE(1)	O(1)	EX(1)
	BE(3)	T(2), M(1)	D(3)
T4	LE(6)	ND(6)	D(6)
	BE(17)	ND(16), O(1)	D(17)
Total (N)	8+23		

TC2	City (N)	Reason (N)	D or EX (N)
T0	none	none	none
T1	BE(2)	T(1), DisC(1)	D(2)
T2	LE(3)	T(1), DisC(1), M(1)	D(3)
T3	LE(1)	ND(1)	D(1)
T4	LE(14)	M(1), ND(13)	D(14)
	BE(12)	ND(12)	D(12)
Total (N)	6+26		
TC3	City (N)	Reason (N)	D or EX (N)
T0	none	none	none
T1	BE(2)	T(1), M(1)	D(1), EX(1)
	LE(1)	O(1)	EX(1)
T2	LE(13)	O(1), ND(12)	D(13)
	BE(16)	M(2), T(1), O(1), ND(12)	D(16)
Total (N)	3+29		
RCC2	City (N)	Reason (N)	D or EX (N)
T0	none	none	none
T1	LE(1)	T(1)	D(1)
	BE(1)	DisC(1)	D(1)
T2	LE(1)	ND(1)	D(1)
T3	LE(1)	O(1)	D(1)
	BE(1)	T(1)	D(1)
T4	LE(6)	T(2), M(2), O(2)	D(6)
	BE(9)	ND(2), T(7)	D(9)
Total (N)	5+15		

Table 7.3 This table indicates the dropout of participants from the entire *ReSource Project* and the respective time point (T0–T4), city (LE for Leipzig and BE for Berlin), and reason if disclosed. The reasons are clustered into the following categories: M = medical, DisC = discomfort with study or experiments, ND = no disclosure, T = time constraints, O = other (e.g., moving to another city). The right column indicates whether participants voluntarily dropped out (D) or whether they were excluded by us (EX, EXBS = exclusion before start).

The total number is given for participants who left the study. The first number indicates the dropout during the training phase (T0–T3, or T0–T1 for TC3), while the second number indicates the dropout of participants during the follow-up period.

7.3.2 Sample Description by Time Point after Dropouts

Sample descriptions were calculated by time point (T0, T1, T2, T3, and T4). Descriptive statistics for the cohorts by time point are shown in Appendix C1. Descriptive statistics were calculated using participants' self-reports at recruitment with data from dropouts excluded, in order to illustrate how the composition of the original sample changed as participants left the study.

At T0, cohorts did not differ significantly on any of the measures described in section 7.2.1, with two exceptions: The control cohort RCC2 was significantly lower in extraversion than

TC3; participants in the control cohorts (RCC2 and RCC1&2) were also more likely to have children than participants in TC3. See descriptive statistics in table Appendix C1.

At T1, cohorts did not differ significantly on any of the measures described in section 7.2.1, with two exceptions: The control cohort RCC2 was significantly lower in extraversion than TC3; participants from RCC2 were also more likely to have children than participants in TC3. See descriptive statistics in table Appendix C1.

At T2, cohorts did not differ significantly on any of the measures described in section 7.2.1, with one exception: The combined control cohort (RCC1&2) was significantly lower in self-compassion than TC2. See descriptive statistics in table Appendix C1.

At T3, cohorts did not differ significantly on any of the measures described in section 7.2.1. See descriptive statistics in table Appendix C1.

At T4, cohorts did not differ significantly on any of the measures described in section 7.2.1, with two exceptions: The combined control cohort (RCC1&2) was significantly lower in self-compassion than TC2; TC1 was significantly lower in conscientiousness than TC3. See descriptive statistics in table Appendix C1.

7.4 Partial Dropout from Certain Types of Experiments

Table D1 in Appendix D indicates the partial dropout or exclusion of participants from specific experiment types (e.g., no MRI or no VR experiments) that were assessed during the *ReSource Project*. The cohort, time of dropout/exclusion, city, and reasons (if reported) are indicated. The respective experiments and measures are listed in Chapter 8. Please note that these partial dropouts/exclusions do not explain data loss due to missed experiments or technical issues. These will be reported in the respective articles. Moreover, some participants dropped out of a specific task due to discomfort (e.g., only one of the MRI/VR paradigms, such as the pain paradigm). However, these are not listed in this volume.

8 Measures

As previously mentioned, the project used a multi-disciplinary and multi-method approach to assess whether mental training could alter stress responses, physical health, resilience, attention, perception, emotional experience, prosocial behavior, subjective experience, and brain structure and function.

To summarize, we assessed the baseline and putative changes of study participants with a large battery of questionnaires, computer and MRI tasks, and virtual reality tasks during every testing phase (T0–T3, and T0–T1 for TC3, and follow-ups). Additionally, smartphones were used for experience-sampling in participants' everyday life and they also answered weekly questions in addition to daily questions before and after the respective core exercise at home (the latter only for the training cohorts). This chapter lists all measures used in the *ReSource Project*. Some details regarding questionnaires and the exact questions can be found in Appendix E (see also Chapter and Figure 9.2 for an overview). Detailed descriptions of methods will be published in the respective articles.

8.1 Trait and State Questionnaires

Appendices E1.1–E1.3 include lists of the 65, state and trait questionnaires that were administered during the study. A list of names, abbreviations, references, and time of administration is given.

Most questionnaires were filled out online via the Internet platform (otherwise listed as “paper/pencil [P/P]”). Some questionnaires were only filled out during the recruitment and screening phases (“screening [SCR]”). Apart from a few exceptions, most questionnaires were filled out during all testing phases (“T0–T4”). Questionnaires labeled “grouping (GROU)” were used to match our cohorts at the beginning of the study. Questionnaires with the label “observer (OBS)” were filled out by the observer cohort (see Chapter 9.2.5).

The questionnaires were accessible online from the beginning of each testing phase (week 9). Participants were allowed to answer them at their own pace at home within a 5-week period. Observers also answered a few demographic questions and questions regarding the relationship to the study participant. Table E1.1 also indicates which questionnaires already existed in German and which were translated prior to the study (“G” for German or “TR” for Translation).

8.2 Core Exercise Questions, Weekly Questions, and Experience-sampling Questions

Participants were asked to answer very short questions online before and after their core exercises. The questions for meditation exercises were different from questions for the dyadic

exercises. In addition, the participants answered a few questions once a week online, and during experience-sampling days they answered a set of questions several times a day. All questions are listed in German and English in Appendices E2–E5.

8.2.1 Pre and post Meditation Questions

The pre and post meditation questions were administered in a pseudo-randomized manner of three blocks (A, B, and C, some questions overlap) so that training participants received a different set of questions per selected daily meditation. A sequence of blocks was created using the following constraints for each week: For the first three meditations, each block had to be filled out at least once. For each subject, the position in the sequence advanced after a successful meditation. The same is true for the next three meditations in that week. If a participant meditated more than seven times, the position was reset back to zero (see example below in Table 8.2.1). The specific questions for each block are listed in Appendix E2. In general, the questions for the participants were about the content of their thoughts, their motivation to do the exercise, their mood, emotions, bodily sensations, and how the exercises were experienced.

Meditation Counter of Week X	1	2	3	4	5	6	7
Example 1 - Block of Questions	A	B	C	C	B	A	C
Example 2 - Block of Questions	B	C	A	B	A	C	A

Table 8.2.1 Example of the pseudo-randomized administration of the specific question blocks for the meditation exercises. Two examples are shown. Each block had to be filled out in a random order in the first 3 meditations of a week and the second 3 meditations.

8.2.2 Pre and post Dyadic Exercise Questions

Before and after practicing dyadic core exercises, training participants were asked questions online. The set of questions did not change but differed for the Affect Dyad and for the Perspective Dyad. The specific questions for the two dyads are listed in Appendix E3. Generally, the questions for the participants were about the closeness to their dyadic partner, motivation to do the exercise, their feelings and emotions, bodily sensations, and specific questions about the content of the respective dyad.

8.2.3 Weekly Questions Online

Appendix E4 lists all the weekly questions that participants filled out online. The participants answered all questions on a weekly basis during the entire project (T0–T3, not during the follow-up). They were available online from Wednesday morning to Thursday evening.

8.2.4 Experience-sampling Questions

Together with saliva samples for a diurnal cortisol profile, participants received experience-sampling questions via a smartphone application. They did this on two weekdays during each testing period. Morning questions were answered upon waking each day whereas other questions were presented afterwards, approximately every two hours (a maximum of seven times). The questions are listed in Appendix E5.

8.3 Feedback Questionnaires

The training cohorts filled out feedback questionnaires regarding their specific training experiences after each module (T1–T3). After the completion of the training, they filled out another general feedback questionnaire (T3, T1 for TC3) regarding the study as a whole and the teachers. A T4 questionnaire which assessed the participants' experiences and meditation practices in the months between T3 and T4 (or T1 and T2 for TC3) was completed after the official training of the study had ended and participants were free to decide whether they wanted to continue practicing or not. All questions in German and English can be found in Appendix H11 and H12, and first data description is reported in Chapter 10.3 and Appendix H.

8.4 Behavioral, Imaging, Biological, Physiological, and Virtual Reality Experiments

Table 8.4 below lists all experiments that were done on a behavioral level, by means of magnetic resonance imaging (MRI), or in the virtual reality (VR) environment. Moreover, it lists all biological and physiological measures are listed.

In summary, we applied 4 structural MRI paradigms, 6 functional MRI paradigms, 4 virtual reality tasks, 12 computer tasks, 5 (economic) games, and 9 physiological measures (autonomic nervous system responses, stress physiology). In addition, we organized the assessment of a variety of biological markers and several gene polymorphisms from blood sample preparations, and participants could give qualitative interviews on a voluntary basis.

Table 8.4 Name of Measure or Task	Category	Reference
MRI-based Cortical Thickness (mprage)	Structural MRI	(based on Dale et al., 1999; Dale & Sereno, 1993)
T1-mapping (mp2rage)	Structural MRI	(based on Bock et al., 2013)
Automatic Amygdala Volumetry	Structural MRI	Partially adjusted; (see also Kim et al., 2011; Kim et al., submitted)
Tensor-based Morphometry (DTI)	Structural MRI	(based on Leow et al., 2006)
Resting State	Functional MRI	(based on Biswal et al., 1995)
Regulation and Generation of Emotions (RAGE)	Functional MRI	New
Emotional Anticipation (EmoAnt)	Functional MRI	(Adapted from Somerville et al., 2013b)
Modulation of Pain Perception	Functional MRI	New; (partially based on Atlas et al., 2010; Zeidan et al., 2012)
The EmpaToM	Functional MRI	New; (Kanske et al., 2015, 2016)
Cued flanker task (CueFla)	Functional MRI	New; (partially based on Corbetta et al., 2000; Fan et al., 2005)
Emotional Attentional Blink	Behavioral	New; (Engen et al., 2015); (partially based on Schwabe et al., 2011; Stein et al., 2009)
Emotional Task Switching	Behavioral	New; (partially based on Genet & Siemer, 2011)

Table 8.4 Name of Measure or Task	Category	Reference
Emotional Granularity	Behavioral	New; (partially based on Toivonen et al., 2012; Tugade et al., 2004)
Donation Task	Behavioral	(Adapted from Hare et al., 2010; Tusche et al., 2016)
Perceptual Threshold and Meta-Cognition	Behavioral	(Adapted from Fleming et al., 2010)
Stop Signal Response Time Task (SSRT)	Behavioral	(Adapted from Boehler et al., 2012; Logan et al., 1984)
Social Discounting	Behavioral	(Adapted from Jones & Rachlin, 2006)
Self-Complexity Task	Behavioral	New; (partially based on Linville, 1985; Linville, 1987)
Self-Reference Task	Behavioral	(Adapted from Rogers et al., 1977)
Mind-Wandering during Choice Reaction Time Task (CRT) & Working Memory Task (WM)	Behavioral	(Smallwood et al., 2009a; Smallwood et al., 2009b)
Working Memory Task	Behavioral	(Adapted from Sternberg, 1966)
Visual Spatial Perspective Taking Task	Behavioral	(Samson et al., 2010)
Zurich Prosocial Game	Game	(Leiberg et al., 2011; Böckler et al., 2016)
Trust & Risk Game	Economic Game	(Adapted from Berg et al., 1995; Böckler et al., 2016)
Dictator Game	Economic Game	(Adapted from Wattenberg et al., 1989; Böckler et al., 2016)
2 nd Person Punishment Game	Economic Game	(Adapted from Fehr & Fischbacher, 2004; Böckler et al., 2016)
3 rd Person Punishment Game	Economic Game	(Adapted from Fehr & Fischbacher, 2004; Böckler et al., 2016)
The Panopticon	Virtual Reality Task	New; (McCall et al., 2016)
The Crowded Room	Virtual Reality Task	New; (McCall et al., 2016)
The Affect Gallery	Virtual Reality Task	New; (McCall et al., 2016)
Room 101	Virtual Reality Task	New; (McCall et al., 2016)
Physiological Signature of Meditation States	Physiology	New application; (Bioharness Devices validated by Johnstone et al., 2012a, 2012b)
Physiological Resting Baseline (ECG, EDA, and breathing)	Physiology	Standard procedure (e.g., Cacioppo et al., 2007; Kok & Fredrickson, 2010)
Local Power Biofeedback	Physiology	New
Heart Rate Biofeedback	Physiology	New; (Partially based on McKinney & Gatchel, 1982)
Heart Beat Perception Task	Physiology	(Adapted from Schandry, 1981)
Socio-Affective Video Task (SoVT) with physiological measurements	Behavioral, Physiology	(Adapted from Klimecki et al., 2013)
Trier Social Stress Test (Cortisol, alpha-amylase, heart rate, heart rate variability)	Behavioral Stress physiology	(Kirschbaum et al., 1993)
Diurnal Cortisol Profile	Stress physiology	(Smyth et al., 1997; Stone et al., 2001)
Long-term cortisol levels from hair samples	Stress physiology	(Stalder & Kirschbaum, 2012)

Table 8.4 Name of Measure or Task	Category	Reference
Plasma levels of immune markers: interleukin-6, C-reactive protein, brain-derived neurotrophic factor (pre-post TSST, T0-T4);	Biological	(Steptoe et al., 2008)
Plasma oxytocin levels (TSST, pre-post meditation)	Biological	(Jezova et al., 1995; Meyer-Lindenberg et al., 2011)
Telomere lengths (+ number of Neutrophils, Lymphocytes, and Monocytes)	Biological	(Cawthon et al., 2003; Epel, 2009; Njajou et al., 2009)
Oxytocin Receptor Gene (OXTR); rs53576	Gene polymorphism	(Chen et al., 2011, Kim et al., 2010; Meyer-Lindenberg et al., 2011)
Arginine-Vasopressin-Receptor Gene (AVPR1A); microsatellite polymorphisms, RS1 and RS3	Gene polymorphism	(Knafo et al., 2008; Meyer-Lindenberg et al., 2011; Meyer-Lindenberg et al., 2008)
Catechol-O-Methyltransferase (COMT) Gene; rs4680	Gene polymorphism	(Bevilacqua & Goldman, 2011; Diatchenko et al., 2006; Drabant et al., 2006; Smolka et al., 2005)
Serotonin-transporter 5HTTLPR Gene (SCL6A4 polymorphism); S/L allele and rs25531	Gene polymorphism	(Sonuga-Barke et al., 2011, Lonsdorf et al., 2011; Lotrich & Pollock, 2004; Schinka et al., 2004; Sen et al., 2004; Smolka et al., 2007)
Monoamine-Oxidase Gene (MAOA); rs6323	Gene polymorphism	(Aleman et al., 2008; Buckholtz et al., 2008; Jabbi et al., 2007; Meyer-Lindenberg et al., 2006)
μ -Opioid Receptor Gene (OPRM1); rs1799971	Gene polymorphism	(Copeland et al., 2011; Lee et al., 2011; Lotsch et al., 2006; Way et al., 2009)
Neuropeptide Y (NPY); rs5573, rs5574, rs16139, rs16147	Gene polymorphism	(Mickey et al., 2011; Zhou et al., 2008)
Tryptophan Hydroxylase-2 Gene (TPH2); rs4570625	Gene polymorphism	(Brown et al., 2005; Canli et al., 2005a; Canli et al., 2005b; Gutknecht et al., 2007; Reuter et al., 2008; Reuter et al., 2007)
Gene for alpha-subunit of L-type Calcium channel Cav1.2 (CACNA1C); rs1006737	Gene polymorphism	(Erk et al., 2010; Ferreira et al., 2008)
Gene for alpha-subunit of nicotinic acetylcholine receptor channel (CHRNA4); rs1044396	Gene polymorphism	(Greenwood et al., 2009; Markett et al., 2011; Markett et al., 2010; Parasuraman et al., 2005; Reinvang et al., 2009)
Deletion mutation of alpha-2-beta Adrenoreceptor gene (ADRA2B)	Gene polymorphism	(Rasch et al., 2009)
Cannabinoid-receptor 1 Gene (CNR1); rs6454674, rs806380, rs806377, rs1049353;	Gene polymorphism	(Chakrabarti et al., 2006)
Dopamine D4 receptor gene (DRD4); rs1800955; VNTR Exon 3 repeat allele	Gene polymorphism	(Banaschewski et al., 2010; Gizer et al., 2009)
Dicarboxylate/amino acid cation sodium transporter (DAT1); rs27072; VNTR repeat allele	Gene polymorphism	(Banaschewski et al., 2010; Gizer et al., 2009)
Voluntary Interviews about the Subjective Experiences during the Study	Interview	New
Voluntary Elicitation Interviews	Interview	(Petitmengin, 2006; Varela & Shear, 1999)

Table 8.4 Overview of behavioral, biological, physiological, and MRI measures assessed in the *ReSource Project*.

9 Study Procedure and Data Assessment

This chapter describes when and how often tasks and measures were assessed during the *ReSource Project*. Additionally, a brief description of the pilot studies conducted prior to the *ReSource Project* is given. These were conducted to assure development and adjustment of tasks, validation of translated questionnaires, as well as testing procedures, the training protocol, teachers' performance, and the online core exercises.

9.1 Piloting of Paradigms and the Training Protocol

As most paradigms and tasks were newly developed or adapted from existing paradigms, they had to be piloted. We also developed new elements for our mental training program and developed our meditation Internet platform and smartphone applications to facilitate participants' practice at home. Therefore, we had several piloting phases. One group of participants was recruited for the piloting and validation of the research paradigms and online questionnaires, and two further groups were recruited to test parts of the training protocol and the technical means for the exercises.

9.1.1 Piloting of Scientific Paradigms

The aim of the scientific pilot phase was to optimize the tasks and allow for any necessary changes and adjustments before the study commenced, to train for the task processes and instructions as well as the timing. For the pilot of the research paradigms there were a total of 319 participants with a mean age of 28.82 ± 9.27 (142 m (mean age $\pm$ SD: 28.79 ± 8.3), 177 w (mean age $\pm$ SD: 28.84 ± 10.0). However, not all participants did every piloting experiment that was conducted. The table below shows an overview of the pilot sub-samples in terms of participant numbers and age distribution. All experiments were conducted between December 2012 and April 2013. We tested the questionnaire battery that was implemented on the Internet platform, most of the behavioral paradigms, the physiological paradigms, the virtual reality tasks, the MRI paradigms, and the experience-sampling smartphone application. This pilot phase was only carried out in Leipzig.

Paradigms	Total N (Age (mean $\pm$ SD))	N of male subjects (Age (mean $\pm$ SD))	N of female subjects (Age (mean $\pm$ SD))
Questionnaires online	70 (32.79 $\pm$ 10.74)	23 (31.83 $\pm$ 9.51)	47 (33.25 $\pm$ 11.35)
First behavioral battery	35 (33.09 $\pm$ 11.58)	12 (34.42 $\pm$ 12.01)	23 (32.39 $\pm$ 11.56)
Second behavioral battery	73 (34.08 $\pm$ 11.74)	27 (34.37 $\pm$ 10.27)	46 (33.91 $\pm$ 12.63)
Virtual Reality tasks	70 (34.21 $\pm$ 11.45)	29 (34.27 $\pm$ 10.63)	41 (34.17 $\pm$ 12.13)

Paradigms	Total N (Age (mean±SD))	N of male subjects (Age (mean±SD))	N of female subjects (Age (mean±SD))
Self-reference Task	55 (25.52 ± 4.9)	27 (26.26 ± 3.28)	28 (24.82 ± 4.9)
Donation Task	41 (36.58 ± 12.56)	18 (36.05 ± 11.90)	23 (37.00 ± 13.30)
Physiological paradigms	51 (32.92 ± 11.11)	19 (34.53 ± 11.30)	32 (31.97 ± 11.13)
Experience-sampling	32 (34.60 ± 11.54)	10 (36.00 ± 11.50)	22 (33.95 ± 11.77)
The EmpaToM (PC only)	116 (27.71 ± 9.11)	57 (29.60 ± 9.79)	59 (27.85 ± 8.39)
Repeated measure of EmpaToM (PC only)	65 (26.33 ± 7.00)	33 (26.30 ± 5.11)	32 (26.36 ± 8.57)
MRI paradigms	25 (33.44 ± 10.05)	12 (34.00 ± 9.79)	13 (32.92 ± 10.67)

Table 9.1.1 Number of participants, gender distribution, and age (mean ± SD) of participants during the pilot phase of the scientific paradigms.

9.1.2 Piloting of the Core Exercises of the Training Protocol

After conceptualization and development of the *ReSource* training program, it was rehearsed between January and March 2013 at the satellite lab “Haus 5” in Berlin. The 8-week training of each Module (Presence, Affect, and Perspective) was temporally condensed and tested over a period of 4 weeks. Therefore, instead of one practical 2-hour session per week, two training sessions were performed on two separate days. A team of two teachers instructed each training session. Each module started with an intensive 2-day full-time retreat that took place in “Haus 5.” Approximately 10 to 15 test participants (see Table 9.1.2 for more details) attended all of the modules and at the end of the training filled out questionnaires to evaluate their individual experience of the program content and teachers’ professional performance. Based on these questionnaire results, and the individual experience by teachers and MPI team members, the training program was adapted and revised in several meetings from February to June 2013.

Pilot Phase	Total N (Age (mean±SD))	N of male subjects (Age (mean±SD))	N of female subjects (Age (mean±SD))
Overall	33 (51.93 ± 9.62)	6 (55.83 ± 5.77)	27 (51.07 ± 10.16)
Presence	13 (53 ± 7.27)	3 (52 ± 3)	10 (53.27 ± 8.16)
Affect	10 (53.8 ± 9.77)	1 (66)	9 (52.44 ± 9.31)
Perspective	14 (50.71 ± 12.63)	3 (48.27 ± 13.07)	11 (59.66 ± 5.5)

Table 9.1.2 Number of participants, gender distribution, and age (mean ± SD) of participants during the pilot phase of the training protocol.

9.1.3 Piloting of the Technical Means for the Dyadic Exercises

In July 2013, two short pilot phases were organized to debug the technical means of the dyadic exercises and to obtain conceptual and technical feedback.

Twenty-eight participants (age: 37.14 ± 11.59) agreed to test the Affect Dyad and 25 (age: 35.56 ± 11.91) participants tested the Perspective Dyad for 2 weeks each (see table 9.1.3 for

details on gender distribution). This was done via the Internet platform and the smart-phones. At the beginning of each pilot period, two of our meditation teachers gave a theoretical introduction regarding the purpose and structure of the dyads, and demonstrated an example. After this, the technicalities were explained by one of our programmers and participants were grouped as dyadic partners.

Participants were asked to test the dyad 5 times each week with their partner and to alternate between the platform and the smartphone. An intermediate meeting was scheduled after the first week in order to fix technical problems if necessary and to change partners. After each week, participants were asked to fill out a feedback questionnaire to report theoretical and technical issues.

Pilot Phase	Total N (Age (mean $\pm$ SD))	N of male subjects (Age (mean $\pm$ SD))	N of female subjects (Age (mean $\pm$ SD))
Affect Dyad	28 (37.14 $\pm$ 11.59)	7 (39.29 $\pm$ 11.16)	21 (36.43 $\pm$ 11.91)
Perspective Dyad	25 (35.56 $\pm$ 12.71)	13 (33.00 $\pm$ 10.53)	12 (38.33 $\pm$ 14.68)

Table 9.1.3 Number of participants, gender distribution, and age (mean $\pm$ SD) of participants during the pilot phase of the Affect and Perspective Dyad.

9.2 Data Assessment during the Study

In summary, the data collection began in week 9 of each module. One exception is the assessment of the behavioral data, which started in week 7. The baseline testing (T0) was done 5–7 weeks before the start of the first retreat. Figure 9.2 shows an overview of when specific task categories were obtained during each module. Below, the task categories are explained in more detail. See Appendix F for another overview table. Data regarding the time lags between certain types of measurements (e.g., MRI, VR, behavior, and physiological data) are reported in Appendix J.

9.2.1 Trait and State Questionnaires

Participants were asked to fill out a questionnaire battery online at home during the respective testing phases (T0–T4). They were able to allocate their time preference, but were instructed not to fill out all questionnaires at once and to take a break after one hour. The questionnaires were presented in a different sequence each time. See Appendix E1 for details on the questionnaires.

9.2.2 Questions during the Core Exercises

The questions before and after each core exercise were presented online or via the smartphone application. Participants had to answer these as part of their daily exercise routine. See Appendices E2 and E3 for details on questions.

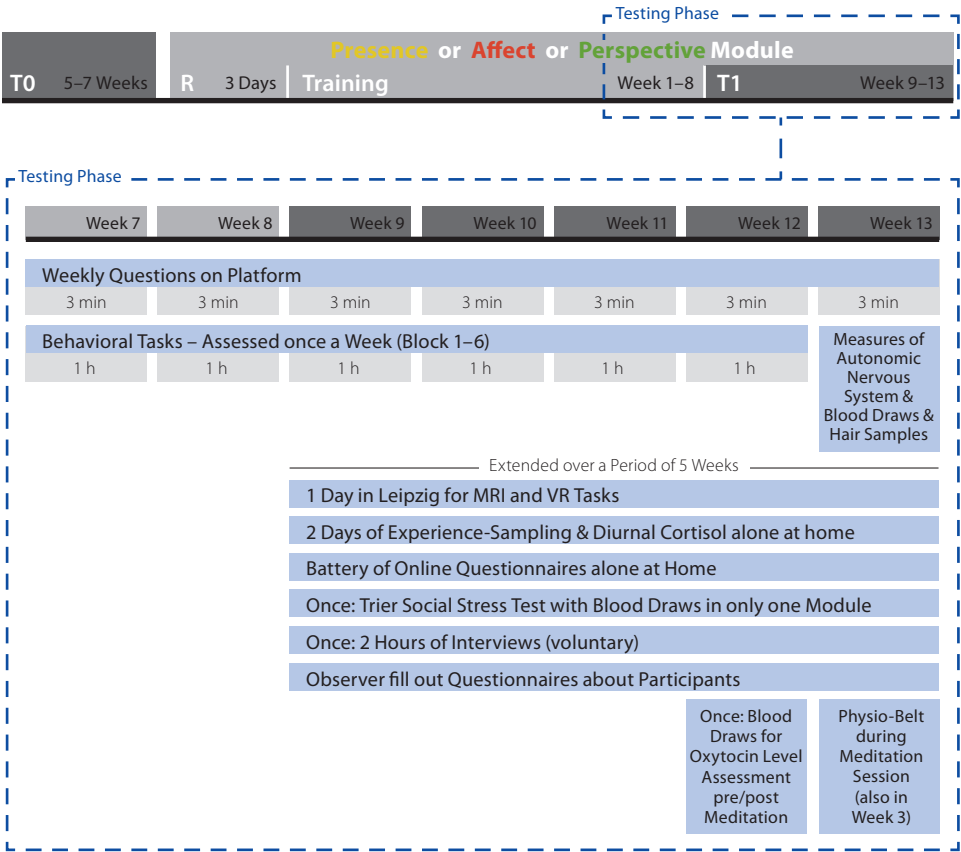


Figure 9.2 This figure shows an overview of the experiments that were assessed during the testing phases of the training cohorts. In summary, behavioral testing started in week 7, while all other measures were obtained between weeks 9 and 13 of each module. Details can be found in the main text.

9.2.3 Weekly Questions

All cohorts filled out the weekly questions from T0–T3. They were presented online after login over two consecutive days. See Appendix E4 for details on the questions.

9.2.4 Feedback Questionnaires

Training cohorts filled out feedback questionnaires after each training module and one general feedback questionnaire at the end of the study. Another feedback questionnaire at T4 was filled out if participants volunteered for the follow-up measurements. See Appendix H11 and H12 for a summary of all questionnaires and Chapter 10.3 and Appendix H for first analyses.

9.2.5 Observer Questionnaires

After participants were selected and had agreed to take part in the study, they were asked to nominate observers: people in their lives who could provide additional information about them while they were engaged in the training. Participants were asked to only nominate observers with whom they interacted at least once a week and to give potential observers an information leaflet with a stamped return envelope. The letter explained the purpose of the *ReSource Project* and outlined the responsibilities of an observer. If the observer was willing to participate, they returned a signed copy of the enclosed consent form and kept one for their records. Observers' participation was confidential and participants were not informed whether an observer had responded. Participants could hand out information leaflets to as many possible observers as they wanted, but were free to opt out of nominating observers.

Participating observers received an e-mail linked to an observer survey, which they completed during the time period when participants were completing baseline measurements and during each other testing period of the participants (T0–T4).

The table in Appendix E1.1 indicates which questionnaires the observers (OBS) filled out alongside some demographic questions.

Overall, 51.2% of participants nominated at least one observer who agreed to observe (for a by-cohort breakdown of response rates, see Table 9.2.5). The average number of observers per participant, among participants who nominated at least one observer, was 1.5. Gender did not appear to affect rate of observer responses: 53.3% of men and 49.7% of women received responses from at least one observer. Of those who received responses, 25.3% of women and 20.7% of men received responses from more than one observer (see Table 9.2.5). As shown in Appendix C2, observer characteristics did not differ significantly across groups.

Variable	RCC2	TC1	TC2	RCC1&2	TC3	<i>p</i> value
Total invitations returned	42	63	70	59	59	
At least one observer	53%	48%	59%	49%	49%	0.40
Of participants with observers: More than one observer	42%	58%	44%	34%	50%	0.11

Table 9.2.5 Response rates by experimental cohort. *P*-values are derived from chi-square tests comparing proportions in RCC2, RCC1&2, TC1, TC2, and TC3.

9.2.6 Computer-based Experiments

The behavioral paradigms were divided into 6 different blocks (see Table 9.2.6.1 for the allocation of computer tasks into blocks). Participants completed one block per week starting at the 7th week of training (T1–T3) or 6 weeks before training (T0). During T1–T3, each block was completed one hour before the start of the weekly training session. If a participant missed one session, an alternative time slot during the same week was offered. Table 9.2.6.2 lists the block randomization of the computer tasks in Berlin and Leipzig for all cohorts. Due to time constraints in the T0 testing phase, two blocks were combined each time (&).

Block	Computer-based Experiment
1	Mind-wandering, Emotional Attentional Blink
2	Working Memory Task, Donation Task, Stop Signal Response Time Task (SSRT)
3	Emotional Task Switching, Emotional Granularity
4	Self-Complexity Task, Visual Spatial Perspective Taking Task
5	Self-Reference Task, Perceptual Threshold and Meta-Cognition, Social Discounting
6	Games (Zurich Prosocial Game, Trust Game, Dictator Game, 2 nd Person Punishment Game, 3 rd Person Punishment Game)

Table 9.2.6.1 Allocation of different computer-based experiments into 6 blocks.

City	Cohort	Block Order T0	Block Order T1-T4
Leipzig	TC1	6&5-4-3-2-1	6-5-4-3-2-1
	TC2	5-4&6-1-3-2	5-4-6-1-3-2
	50% of RCC1	6&5-4-3-2-1	6-5-4-3-2-1
	50% of RCC1	5-4&6-1-3-2	5-4-6-1-3-2
	50% of TC3	6&5-4-3-2-1	6-5-4-3-2-1
	50% of TC3	5-4&6-1-3-2	5-4-6-1-3-2
	50% of RCC2	6&5-4-3-2-1	6-5-4-3-2-1
	50% of RCC2	5-4&6-1-3-2	5-4-6-1-3-2
Berlin	TC1	1-2-3-4-5&6	1-2-3-4-5-6
	TC2	2-3-1-6&4-5	2-3-1-6-4-5
	50% of RCC1	1-2-3-4-5&6	1-2-3-4-5-6
	50% of RCC1	2-3-1-6&4-5	2-3-1-6-4-5
	50% of TC3	1-2-3-4-5&6	1-2-3-4-5-6
	50% of TC3	2-3-1-6&4-5	2-3-1-6-4-5
	50% of RCC2	1-2-3-4-5&6	1-2-3-4-5-6
	50% of RCC2	2-3-1-6&4-5	2-3-1-6-4-5

Table 9.2.6.2 Randomization of the 6 behavioral blocks in Leipzig and Berlin across all cohorts. Please note that we combined two behavioral blocks ("&") during the T0 baseline testing phase due to time constraints.

9.2.7 Physiological Measures

Physiological measures of the autonomic nervous system were generally assessed during the last week of each training block (T1–T3) or in the last week of the initial testing phase (T0). We obtained data from the following paradigms during the same experimental session: Physiological Resting Baseline (electrocardiogram (ECG), electrodermal activity (EDA), and breathing), Local Power Biofeedback, Heart Rate Biofeedback, Heart Beat Perception Task, and the Socio-Affective Video Task with physiological measurements. Participants were scheduled for small group appointments because a maximum of 4 people could be tested simultaneously with the equipment.

The paradigm that investigates the physiological signature of meditation states was assessed in all training cohorts by means of a bioharness device. These data were obtained during the weekly training session in weeks 3 and 13 (T1–T3).

9.2.8 MRI Experiments and Virtual Reality Paradigms

During the final 5 weeks of each testing phase, participants were invited for one day (Monday–Saturday) for the MRI and VR tasks in Leipzig. To avoid several trips from Berlin to Leipzig for Berlin participants, we agreed on a single MRI/VR day per testing period with 2

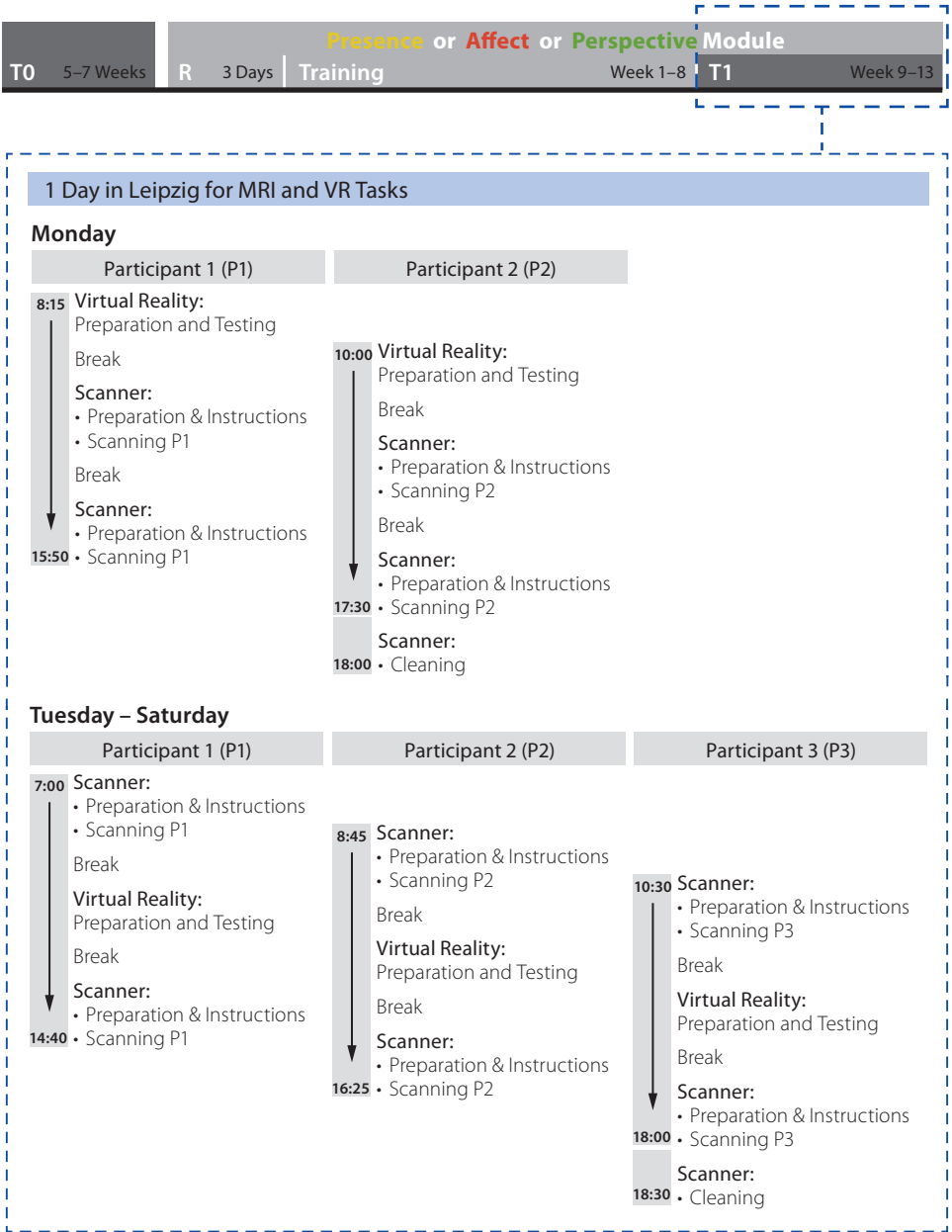


Figure 9.2.8 The figure shows how the shifted scanner and virtual reality task organization was arranged from Mondays to Saturdays. On Mondays, we were only able to test two participants, though for the rest of the week we tested three participants a day. Each participant had two scan blocks and one virtual reality block. In between there were breaks and instruction phases.

MRI blocks and one VR block in a day. The total scanning time of the two blocks amounted to about 2 hours 20 minutes. Between testing blocks participants had a break of 45 minutes minimum. We tested 3 participants per day from Tuesday to Saturday and 2 participants on Mondays. From Tuesday to Saturday, participants followed the order “Scan-break-VR-break-Scan.” However, Monday morning was usually reserved for the maintenance of the MRI scanner and therefore participants followed the order VR-break-Scan-break-Scan (see Figure 9.2.8 for details).

The scanner blocks were named A and B. All scanning tasks were allocated to one of the blocks (see Table 9.2.8.2 for details). Participants were matched on age, gender, and city for the MRI block randomization. Half of the participants always finished Block A before Block B while the other half did the blocks in reverse order. Each participant was always tested in the same allocated order (see Table 9.2.8.1).

Cohort	Order of Scan Block (T0–T4)
50% of each cohort	A-B
50% of each cohort	B-A

Table 9.2.8.1 Randomization of scan blocks across all cohorts. 50% of each cohort followed the order A-B while the other half had their scanning in the reversed order. The cohorts were matched.

The RAGE paradigm was shortened after T0 with a focus on the emotion generation part. RCC1, TC1, and TC2 were not tested with the RAGE paradigm at T1 but only at T2–T4. There was one difference for the cohorts TC3 and RCC2 in the described scan block allocation. As TC3 only had two major testing periods (besides a follow-up at a later time point), all participants of TC3 did the shorter RAGE paradigm at T1 and half of RCC2 did the RAGE at T1, while the other half did it at T2. TC3 and RCC2 were re-matched for the shorter RAGE version based on age, gender, income, MDI, IRI, FFMQ, d2, PSS-10, SCS, COSN, MHC-SF, STAI-X2, and FBL (see Appendix E1.1 for details and references on the questionnaires).

T0	MRI Task	T1	MRI Task	T2–T4	MRI Task
Block A	• Resting State • The EmpaToM • Field Map • MPRAGE (Structural) • Pain Paradigm • MP2RAGE (Structural)	Block A	• The EmpaToM • Field Map • MPRAGE (Structural) • Pain Paradigm	Block A	• The EmpaToM • Field Map • MPRAGE (Structural) • Pain Paradigm
Block B	• RAGE • Field Map • CueFla • EmoAnt • DTI (Structural) • Field Map DTI • FLAIR (Structural)	Block B	• Resting State • Field Map • MP2RAGE (Structural) • CueFla • EmoAnt • DTI • Field Map DTI	Block B	• Resting State • Field Map • MP2RAGE (Structural) • CueFla • EmoAnt • DTI • Field Map DTI • RAGE (short version)

Table 9.2.8.2 Allocation of the respective MRI tasks into blocks A and B during T0, T1, and T2–T4. Please note that TC3 and 50% of RCC2 had already done a short RAGE version at T1 (not shown in this table).

9.2.9 MRI Data Acquisition

Brain images were acquired on a 3T Siemens Verio scanner (Siemens Medical Systems, Erlangen), equipped with a 32-channel head coil.

Structural images were acquired using MPRAGE (TR = 2300 ms; TE = 2.98 ms; TI = 900; flip angle = 9°; GRAPPA factor = 2; 176 sagittal slices; matrix size = 256 × 256; FOV = 256 mm; slice thickness = 1 mm, voxel size = 1 × 1 × 1 mm) and MP2RAGE (TR = 2300 ms; TE = 2.98 ms; TI1 = 700; TI2 = 2500; flip angle 1 = 4°; flip angle 2 = 5°; GRAPPA factor = 3; 176 sagittal slices; matrix size = 256 × 256; FOV = 256 mm; slice thickness = 1 mm, voxel size = 1 × 1 × 1 mm) sequences.

A T2-weighted structural FLAIR sequence was acquired at T0 only for diagnostic screening purposes (TR = 10000 ms; TE = 89.00 ms; flip angle = 180°; 26-28 transversal slices; FOV = 220 mm; matrix size = 256 × 256, slice thickness = 4.0 mm, voxel size = 0.9 × 0.9 × 4.0 mm, iPAT factor = 2).

Images for tractographic analyses were acquired using a diffusion-weighted sequence (TR = 8900 ms; TE = 90 ms; 63 sagittal slices; FOV = 210 mm; matrix size = 110×110; slice thickness = 1.9 mm, voxel size = 1.9 × 1.9 × 1.9 mm).

Field Maps were acquired for unwarping of the diffusion-weighted sequence (TR = 515 ms; TE1 = 4.00 ms; TE2 = 6.46 ms, flip angle = 60°; 57 transversal slices; FOV = 210 mm; matrix size = 110×110, slice thickness = 2.1 mm, voxel size = 1.9 × 1.9 × 2.1 mm).

For all Resting State and functional imaging (The EmpaTom, Pain paradigm, CueFla, EmoAnt, RAGE) tasks, we employed a T2*-weighted gradient EPI sequence that was optimized (Nichols et al., 2005) to minimize distortions in medial orbital and anterior temporal regions (TR = 2000ms, TE = 27ms, flip angle = 90°, GRAPPA factor = 2; 37 slices tilted at ~30° from the AC/PC axial plane, FOV = 210 mm, matrix size = 70×70, voxel size = 3 × 3 × 3 mm, 1 mm interslice gap). Each run began with three dummy volumes that were discarded from further analysis.

In each block, field mapping was performed for the purposes of EPI unwarping (TR = 488 ms; TE1 = 4.49 ms; TE2 = 6.95 ms, flip angle = 60°; 37 sagittal slices; FOV = 210 mm; matrix size = 70×70, slice thickness = 3.0 mm, 1 mm interslice gap, voxel size = 3 × 3 × 3 mm).

9.2.10 Experience-sampling

Experience-sampling data were assessed from participants on two consecutive weekdays during each testing phase. For instance, if a participant chose to do the experience-sampling in testing week 1 during their T0 phase, they were asked to do the sampling during the same weeks of T1-T4. Ideally sampling was done from Tuesday to Wednesday or Wednesday to Thursday. However, if another experiment was scheduled during these days or participants were unavailable, they were asked to do the sampling on alternative days.

9.2.11 Plasma Oxytocin Level Assessment Pre- and Post-Meditation

Blood samples were taken for oxytocin level assessment in week 12 during the time of the training session (i.e., during the Affect Module [T2] for TC1, during the Perspective Module [T2] for TC2, and during the Affect Module [T1] for TC3).

9.2.12 Hair Samples and Blood Samples for Biological Markers

Blood samples were taken in the last week of a testing period. This happened after the physiological data assessment session in order to minimize the efforts of the participants. The blood samples were taken for gene variant analyses (T0 only) as well as for assessment of cytokine plasma levels and telomere length analyses (T0–T4). In addition, hair samples for long-term cortisol assessment were taken in the same session.

9.2.13 Trier Social Stress Test (TSST)

Out of 332 original *ReSource* participants, 313 were subjected to the Trier Social Stress Test (TSST), a psychosocial laboratory stressor involving free speech and mental arithmetic under social pressure. The remaining 19 participants either dropped out of the study before stress testing took place ($N = 14$) or were unavailable on the day of stress testing ($N = 5$). Because the TSST involves elements of deception, each participant took part in the TSST only once, by individual appointment. Saliva samples were obtained during the TSST for cortisol and alpha-amylase analyses, and blood samples were drawn for cytokine and oxytocin level analyses. Additionally, a continuous electrocardiogram (ECG) was assessed and psychological stress was measured via paper-pencil questionnaires.

Groups of participants were tested at different training phases of the study. Therefore, cohorts were re-matched for the cross-sectional TSST-design based on age, gender, city of residence, educational status, income, relationship status, children, depressed mood (MDI), trait anxiety (STAI-X2), chronic stress (PSS-10), and the number of smokers (see Appendix E1.1 for details and references on the questionnaires). See Table 9.2.13 for time points of cross-sectional stress testing in relation to the *ReSource* training timeline and cohort membership of each participant.

2013	T0 ($N = 43$)	T1 ($N = 46$)	T2a ($N = 44$)	T2b ($N = 47$)
Cohort	$N = 27$ (19 f) from RCC1 $N = 8$ (3 f) from TC1 $N = 8$ (5 f) from TC2	$N = 24$ (16 f) from TC1 $N = 22$ (11 f) from TC2	$N = 44$ (24 f) of TC1	$N = 47$ (31 f) of TC2
2014	T0 ($N = 49$)	T1 ($N = 66$)	T2 ($N = 18$)	
Cohort	$N = 19$ (11 f) from RCC2 $N = 30$ (16 f) from TC3	$N = 20$ (11 f) from RCC2 $N = 46$ (32 f) from TC3	$N = 18$ (9 f) from RCC2	

Table 9.2.13 Time points of cross-sectional stress testing for the Trier Social Stress Test (TSST)

9.2.14 Interviews

Training participants were given the opportunity to participate in qualitative interviews. Participation was on a voluntary basis at the end of each module. Interview sessions were split in a phenomenological elicitation interview and an interview about the subjective experience during the study.

10 Results: Attendance, Daily Practice, and Questionnaire Data

10.1 Attendance of Weekly Training Sessions

This chapter reports on participants' attendance of TC1, TC2, and TC3 of the weekly training sessions in Berlin and Leipzig for each module. The figures below show the actual attendance vs. the expected attendance as a percentage (the usual group size was 20 before dropout). Morning and evening groups in Leipzig and Berlin are shown separately. The dropout over time is considered. Participants attended $M = 91.12\%$ ($SD = 8.37\%$) of their weekly sessions, which equates to missing $M = 1.15$ ($SD = 1.09$) sessions per 13-week module. Specifically, they missed an average of $M = 1.33$ ($SD = 1.04$) sessions in the Presence Module, $M = 1.13$ ($SD = 1.04$) in the Perspective Module, and $M = 1.00$ ($SD = 1.14$) in the Affect Module.

Attendance of TC1 in Presence

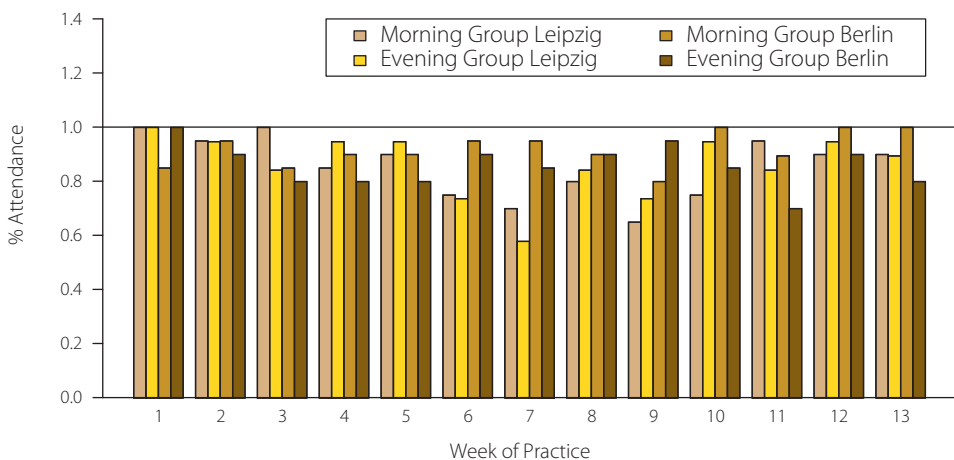


Figure 10.1.1 This figure shows the percentage of attendance to the weekly training sessions of TC1 during the Presence Module. Morning and evening groups in Leipzig and Berlin are shown separately.

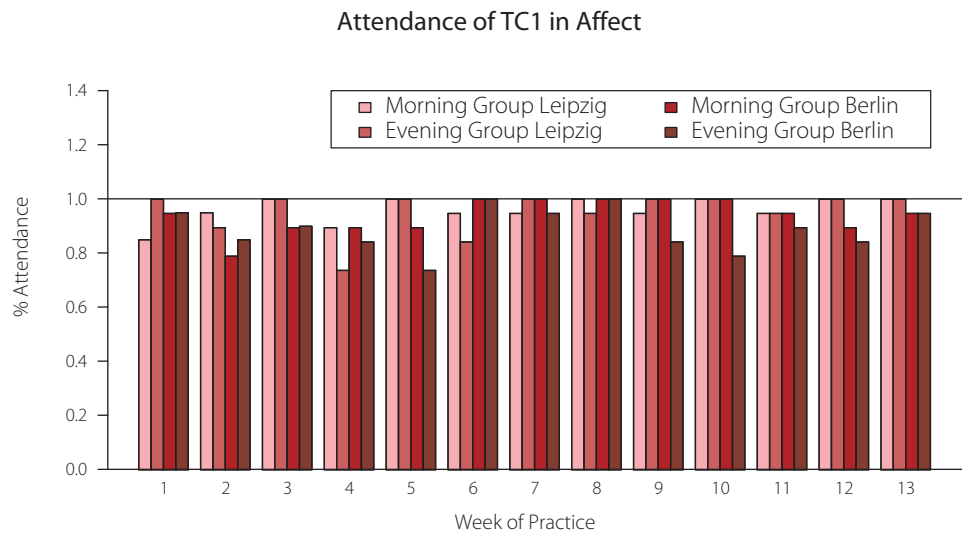


Figure 10.1.2 This figure shows the percentage of attendance to the weekly training sessions of TC1 during the Affect Module. Morning and evening groups in Leipzig and Berlin are shown separately.

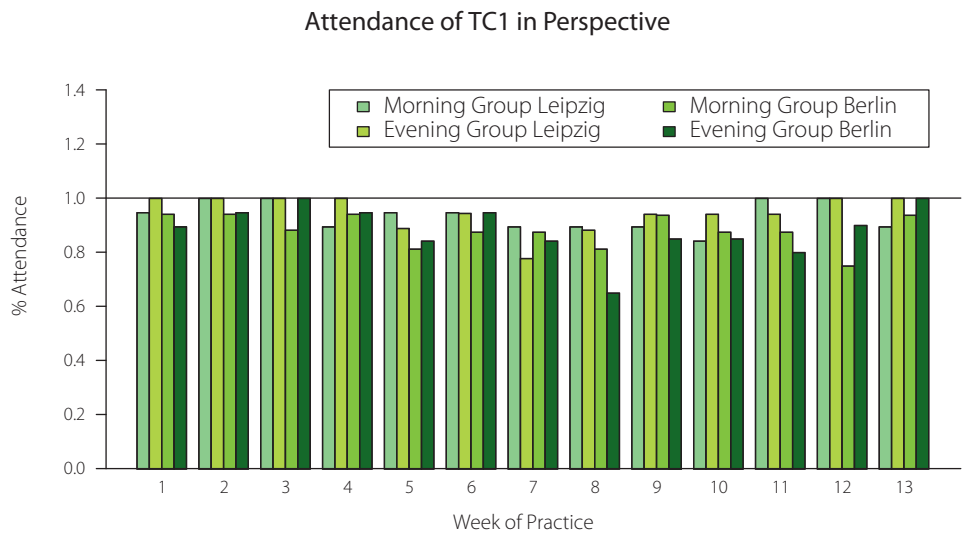


Figure 10.1.3 This figure shows the percentage of attendance to the weekly training sessions of TC1 during the Perspective Module. Morning and evening groups in Leipzig and Berlin are shown separately.

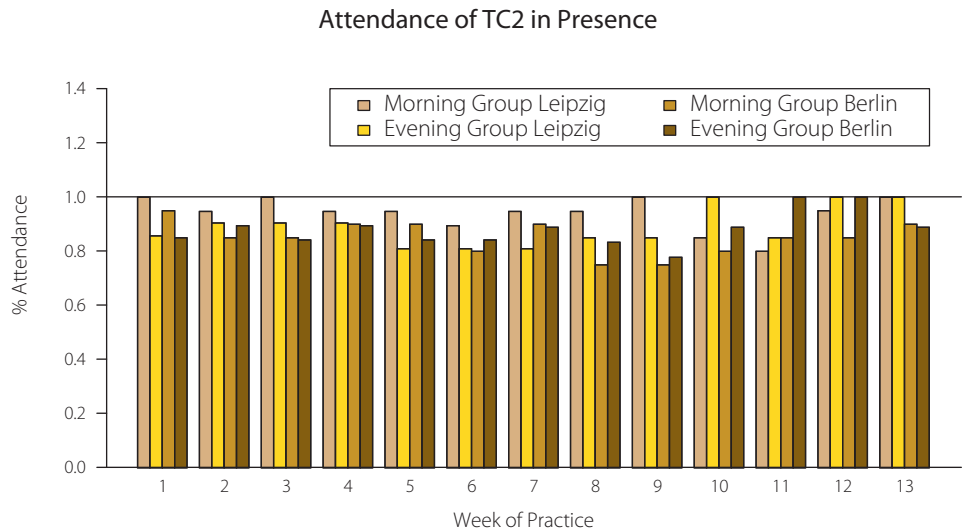


Figure 10.1.4 This figure shows the percentage of attendance to the weekly training sessions of TC2 during the Presence Module. Morning and evening groups in Leipzig and Berlin are shown separately.

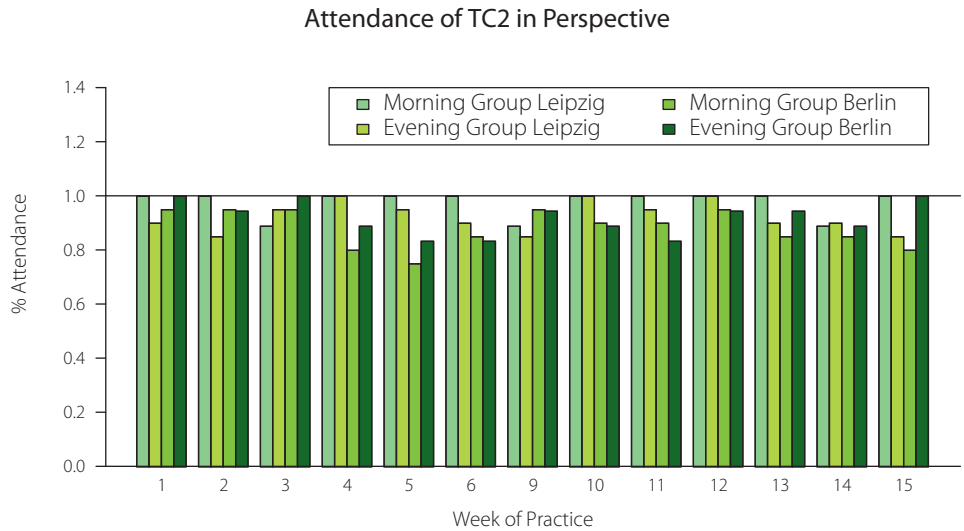


Figure 10.1.5 This figure shows the percentage of attendance to the weekly training sessions of TC2 during the Perspective Module. Morning and evening groups in Leipzig and Berlin are shown separately.

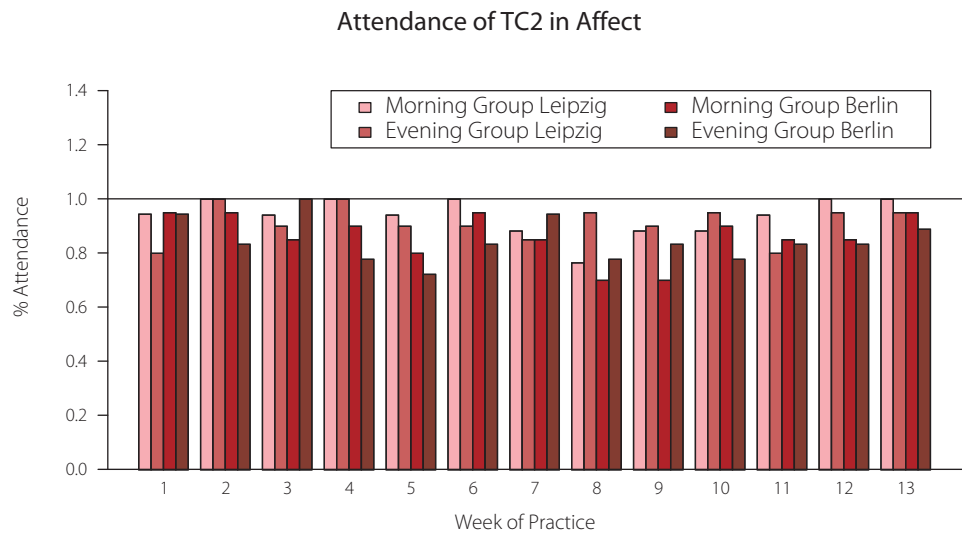


Figure 10.1.6 This figure shows the percentage of attendance to the weekly training sessions of TC2 during the Affect Module. Morning and evening groups in Leipzig and Berlin are shown separately.

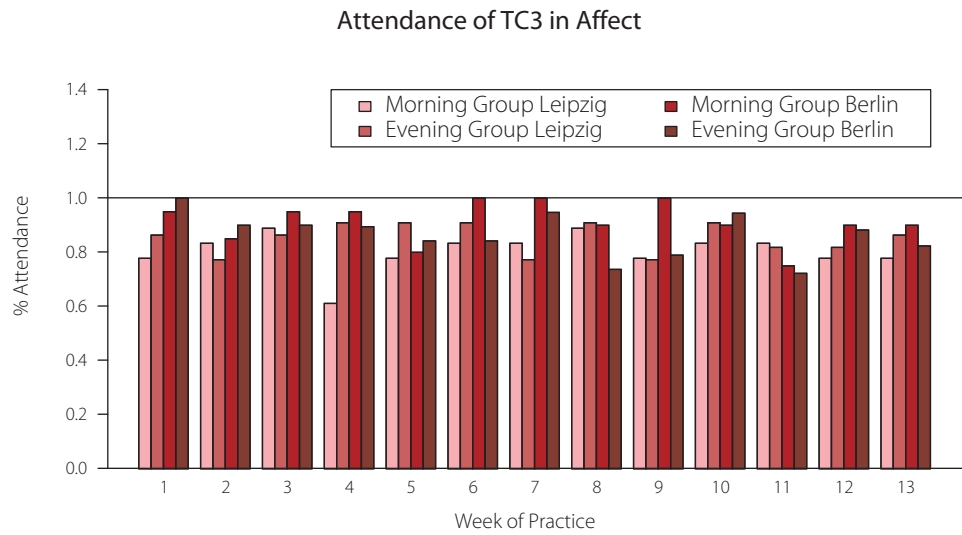


Figure 10.1.7 This figure shows the percentage of attendance to the weekly training sessions of TC3 during the Affect Module. Morning and evening groups in Leipzig and Berlin are shown separately.

10.2 Amount of Individual Training Practice

This section reports on the amount of practice of the online core exercises across cohorts (TC1, TC2, and TC3). Participants were asked to train each core exercise 5 times per week on a solitary basis. Figures 10.2.1 and 10.2.2 show the number of successfully finished exercises per week (mean and standard deviations; see Chapter 3 for details of exercises) for all 3 modules. The numeric data can be found in Appendix G2. Additionally, in Appendix G1, the data of successfully finished core exercises is shown as box plots (see Figure G1.1–G1.7). Table G3 in the appendix lists all public holidays in Leipzig and Berlin as well as other major occurrences that could have affected participants' training of the core exercises.

Note that the last week of each module was always shorter due to the upcoming retreat (gray data points). TC2 had a break due to the Christmas and New Year vacation period in the Perspective Module (week 6 to 8, in gray). Also, the first two weeks of the Perspective Module of TC2 were affected by server difficulties that resulted in a lack of reliable data assessment for the Perspective Dyad (also in gray). Please also note that some of the post dyad questionnaires of the Perspective and Affect Dyads were lost due to technical difficulties or user error. Therefore, the data in Figure 10.2.1, 10.2.2, and Appendix G represent the completed dyadic exercises, even though in some cases post-dyadic questions were missing. TC3 only started the practice of the Affect Dyad in week 2 as their retreat was from Monday to Wednesday instead of a weekend, and they received the technical introduction for the dyad during their first weekly training session which took place the week after the retreat.

In summary, participants practiced the Breathing Meditation $M = 4.45$ times ($SD = 1.22$) per week and the Body Scan $M = 4.11$ times ($SD = 1.19$) per week, on average in the Presence Module. Average practice times were $M = 14.27$ minutes ($SD = 3.62$) for the Breathing Meditation and $M = 25.23$ minutes ($SD = 4.29$) for the Body Scan. In the Affect Module, participants practiced Loving-kindness Meditation $M = 3.63$ times ($SD = 1.39$) per week for an average of $M = 24.48$ minutes ($SD = 4.95$). The Affect Dyad was practiced $M = 3.68$ times ($SD = 0.70$) per week. In the Perspective Module, participants practiced the Observing-thoughts Meditation $M = 3.59$ times ($SD = 1.30$) per week for an average of $M = 25.19$ ($SD = 5.91$) minutes. The Perspective Dyad was practiced $M = 3.16$ times ($SD = 0.66$) per week.

Data Preparation for Statistical Analyses

Data points from the 3 weeks before, during, and after the Christmas vacation period were excluded as participants had not been asked to practice during this time. Data points for the first two weeks of the Perspective Dyad in TC2 were excluded due to technical difficulties that prevented participants from practicing the dyadic exercise. Data points from the 13th week of all modules (i.e., week 15 of the Perspective Module of TC2) were excluded because these were only partial weeks and thus, produced artificially low averages. No data points were available for the first week of the Affect Dyad in TC3 as participants did not begin the dyadic exercises until the second week. In order to account for skewness in the participation rate data, the number of sessions per week was transformed using the square root.

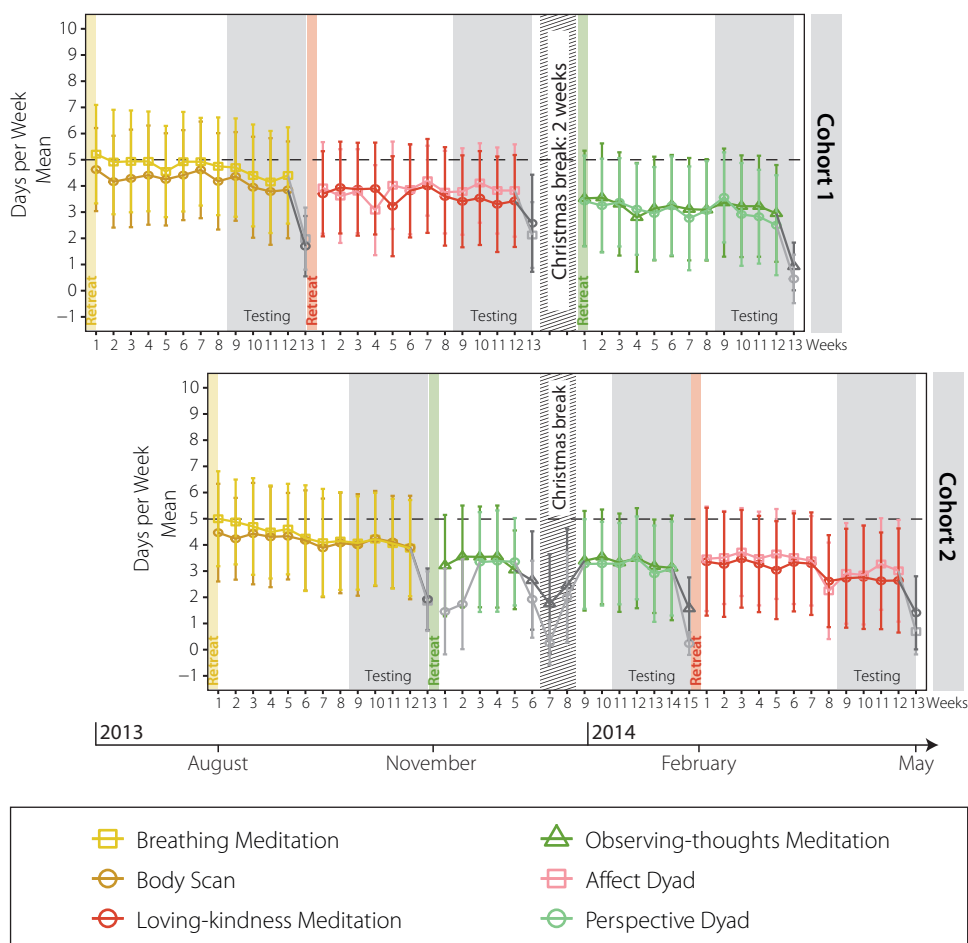


Figure 10.2.1 This figure shows the mean and SD of the number of meditations per week of TC1 and TC2 for all 6 core exercises over the course of the 3 modules. Note that the last week of each module was shorter as the next retreat had started on a following Friday. Also, week 7 and partially weeks 6 and 8 were affected by the Christmas and New Year vacation period during the Perspective Module of TC2. This was compensated by adding weeks 14 and 15. The numeric data can be found in Appendix G2. The respective retreats and the testing phases (gray) are highlighted. The first two weeks of the Perspective Module of TC2 were affected by server difficulties that resulted in less data for the Perspective Dyad. Please also note that some of the post questionnaires of the Perspective and Affect Dyads were lost due to technical difficulties or user error. Therefore, the data in Figure 10.2.1 and Appendix G represent the completed dyadic exercises even if in some cases post-dyadic questions were missing.

Results: TC1 and TC2

An initial multi-level model was fitted only including a linear effect for time, a dummy variable for cohort, the interaction of time and cohort, and random person-level effects for practice type and intercept in order to test for an overall dropout in participation rates over the course of the study. The effect for time was significant and negative ($B = -0.01, p < 0.0001$), suggesting that participation did decrease over time. There were no between-cohort differences in starting participation rates ($p = 0.39$) or change in participation over time ($p = 0.81$).

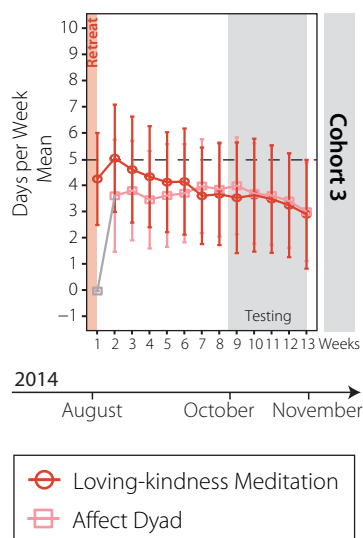


Figure 10.2.2 This figure shows the mean and SD of the number of meditations per week of TC3 for the two core exercises over the course of the Affect Module. Note that they only started practicing the Affect Dyad in the second week due to the necessary technical introduction. The numeric data can be found in Appendix G2. The respective retreat and testing phase (gray) is highlighted. Please note that some of the post questionnaires of the Affect Dyad were lost due to technical difficulties or user error. Therefore, the data in Figure 10.2.2 and Appendix G represents the completed dyadic exercises even if in some cases post-dyadic questions were missing.

Further analyses were conducted using a multi-level model linear and quadratic effects for time, and interactions between time effects, cohort, test period (before testing began or during testing), and practice type, and with random person-level effects for practice type and intercept. Unlike the earlier model, the “time” variable was practice-mean centered so that between practice slopes could be directly compared. There were significant four-way interactions between practice type, cohort, testing period, and the quadratic effects of time ($p = 0.02$), and between practice type, cohort, testing period, and the linear effect of time ($p = 0.03$). The analyses below explore these interactions using contrasts. Model-predicted values are shown in Figure 10.2.3.

Mean overall practice time differences:

Participants in TC1 had a higher overall rate of participation than TC2 ($p = 0.02$), driven by higher participation rates in Body Scan ($p = 0.007$) and the Breathing Meditation ($p = 0.005$). In TC1, participation rates were higher overall before testing began (before week 7) than during testing ($p = 0.02$), driven by higher rates of participation for the Observing-thought Meditation ($p = 0.003$) and the Perspective Dyad ($p < 0.0002$). In TC2, mean participation rates did not differ between testing periods ($p = 0.54$).

In TC1, before the testing period, participation rates for the Breathing Meditation were significantly higher than participation rates for any other practice ($ps < 0.03$). Participation rates for the Perspective Dyad were significantly lower than participation rates for all other practices except for the Observing-thoughts Meditation (all $ps < 0.04$). Participation rates for the Body Scan were significantly lower than for the Breathing Meditation ($p = 0.03$) and significantly higher than the Loving-kindness Meditation ($p = 0.005$), the Observing-thoughts Meditation ($p < 0.001$), and the Perspective Dyad ($p < 0.0001$).

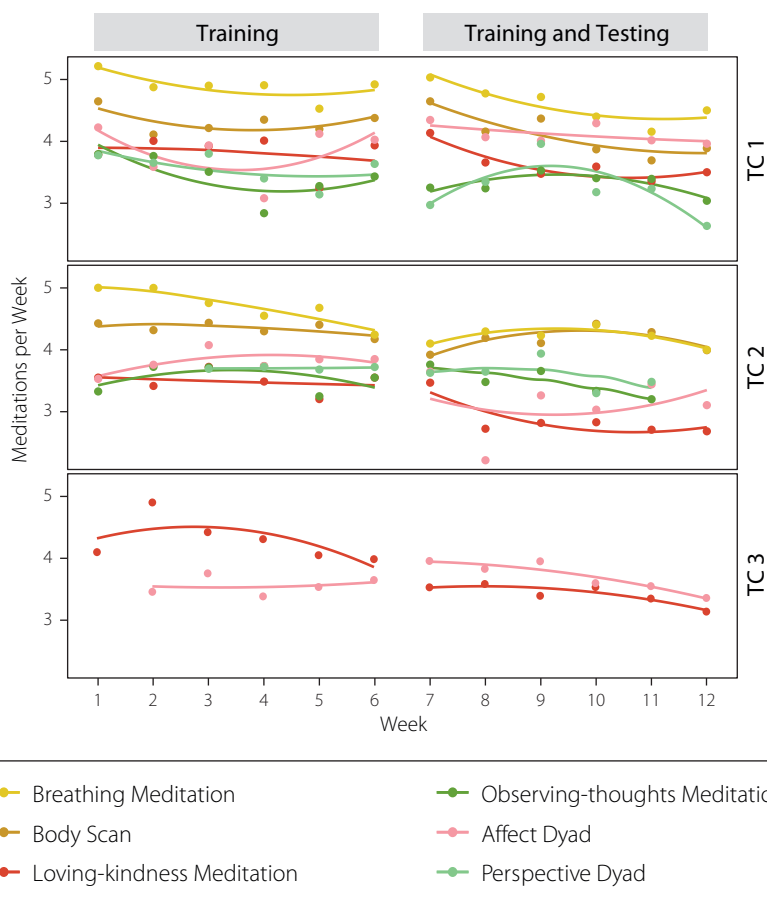


Figure 10.2.3 Meditations per week by cohorts (TC1, TC2, and TC3). Points represent weekly means calculated from raw data. The “Weeks” variable has been re-sequenced to remove holiday gaps where practice was not required.

In TC1, during the testing period, participation rates for the Perspective Dyad were significantly lower than for all other practice types (all $ps < 0.009$). In addition, the Observing-thoughts Meditation had lower rates of participation than all other practices (all $ps < 0.01$) except for the Perspective Dyad. Participation rates for the Breathing Meditation were significantly higher than all other practices (all $ps < 0.047$).

Because previous contrasts showed that participation rates did not differ by testing period in TC2, between-practice participation rates were compared across testing periods. No between-practice differences were observed.

Linear rate of change in participation:

Linear rate of change in participation did not differ between cohorts either before testing ($p = 0.46$) or during testing ($p = 0.24$), so all further tests of linear trends will be pooled across cohorts. Before testing began, participation rates remained steady for all practices. During testing, only the Affect Dyad showed a significant linear increase ($B = 0.02$, $p = 0.02$).

Quadratic rate of change in the pre-testing period:

Before testing began, overall quadratic rates of change differed significantly between cohorts ($p = 0.002$), though neither cohort showed a significant quadratic trend for any individual practice. Quadratic rate of change in the testing period: During the testing phase, TC1 and TC2 did not differ in quadratic effects ($p = 0.72$), so further analyses of the testing phase will be pooled across cohorts. During testing, there was a significant negative quadratic trend for the Loving-kindness Meditation ($B = -0.018$, $p < 0.002$) and a significant positive quadratic trend for the Perspective Dyad ($B = 0.016$, $p = 0.004$).

In summary, the results of the model (illustrated in Figure 10.2.3) suggest that overall participation rates were higher for TC1, with greater variance in participation rates between meditation types. Before testing, participation rates remained steady across practices. During testing, both cohorts showed a significant decrease in participation for the Affect Dyad, while participation in the Loving-kindness Meditation initially dropped before increasing again, and participation in the Perspective Dyad initially rose before decreasing. Dyadic activities appear to be more variable over time than meditative activities.

Results: Affect Module in TC1, TC2, and TC3

An initial multi-level model was fitted only including a linear effect for time, a dummy variable for cohort, the interaction of time and cohort, and random person-level effects for practice type and intercept, in order to test for an overall dropout in participation rates over the course of the study. The effect for time was significant and negative ($B = -0.02$, $p < 0.001$), suggesting that participation did decrease over time. Starting participation rate was lower for TC1 than for TC2 ($p < 0.0001$) or TC3 ($p < 0.0001$). In addition, participation rates declined more slowly for TC1 than for TC2 ($p < 0.0001$) or TC3 ($p < 0.0001$).

Further analyses were conducted using a multi-level model linear and quadratic effects for time, and interactions between time effects, cohort, test period (before testing began or during testing), and practice type, and with random person-level effects for practice type and intercept. Unlike the earlier model, the “time” variable was practice-mean centered so that between practice slopes could be directly compared.

Neither four-way interaction term was significant and both were dropped from the model. There were significant three-way interactions between practice type, cohort, and both the linear effect of time ($p = 0.0005$) and the quadratic effect of time ($p = 0.03$). There was also a significant three-way interaction between the cohort, testing period, and the linear effect of time. All other possible three-way interactions were non-significant and were dropped from the model. All lower-order interactions were retained to enhance interpretability. The analyses below explore the significant interactions using contrasts. Model-predicted values are shown in Figure 10.2.3.

Mean practice time differences:

In TC1, participation rates did not differ significantly between LKM and the Affect Dyad before testing ($p = 0.86$) or during testing ($p = 0.30$). In TC2, participation rates did not differ

significantly between LKM and the Affect Dyad, either before testing ($p = 0.66$) or during ($p = 0.31$). In TC3, participation rates did not differ significantly between LKM and the Affect Dyad before testing ($p = 0.14$) but did differ during testing ($p = 0.045$), with higher participation in the Affect Dyad.

Before testing, participation was higher for LKM in TC3 than TC2 ($p = 0.01$). There were no differences between cohorts for participation in the Affect Dyad before testing ($ps > 0.09$ for all between-cohort contrasts).

During testing, LKM participation was higher for TC1 than TC2 ($p = 0.006$). Participation in TC3 was not significantly different from TC1 ($p = 0.19$) or TC2 ($p = 0.15$). Participation for the Affect Dyad was also higher for TC1 than TC2 ($p = 0.001$) and higher for TC3 than TC2 ($p = 0.013$), while TC1 and TC3 did not differ ($p = 0.43$).

Linear rate of change in participation:

Before testing, participation rate showed a significant negative linear trend during LKM in TC3 ($B = -0.024$, $p = 0.018$). No other linear slopes were significant, and there were no significant differences between cohorts or between practices. During testing, participation rate showed a significant positive linear change during the Affect Dyad in TC2 ($B = 0.032$, $p = 0.001$). No other linear slopes were significant. In TC2, participation rate had a significantly steeper linear decrease in the Affect Dyad than LKM ($p = 0.004$). The linear slope for the TC2 Affect Dyad was also significantly steeper than the linear slope for the TC3 Affect Dyad.

Quadratic rate of change:

Before testing, TC3 LKM showed a significant negative quadratic effect ($B = -0.47$, $p = 0.004$) and TC1 Affect Dyad showed a significant positive quadratic effect ($B = 0.51$, $p = 0.0018$). There were no significant quadratic effects during testing.

Before testing, the quadratic rate of change for TC1 LKM was smaller than for TC1 Affect Dyad ($p = 0.023$). TC1 Affect Dyad also had a larger rate of change than TC2 Affect Dyad ($p = 0.01$). No other between cohort/practice differences were significant. During testing, TC1 LKM showed a significantly different quadratic change than TC3 LKM ($p = 0.036$), and TC2 LKM also showed a significantly different quadratic change than TC3 LKM ($p = 0.03$). There were no other significant quadratic effects.

In summary, the results of the model (illustrated in Figure 10.2.3) suggest that before testing, overall participation rates were generally similar across practices and across cohorts, with the exception that in TC3, LKM participation rates were higher than in TC2. During testing, more participants in TC3 participated in the Affect Dyad than LKM, and participation in the Affect Dyad was lower for TC2 than for TC1 or TC3. Before testing, participants in TC3 first increased in their Affect Dyad participation, before ultimately decreasing again and ending lower than they started. Participants in TC1 first decreased in Affect Dyad participation before increasing again. During testing, participation in the TC2 Affect Dyad dropped significantly over time. Finally, while participation in LKM during the testing showed a tendency to fall and then plateau in TC1 and TC2, TC3 suggested an accelerating rate of decreasing participation with time.

10.3 Feedback Questionnaire Data

Feedback Questionnaire at T1, T2, and T3

After each training module, participants responded to a series of questions concerning their experiences with the content, teaching, and context of that module. Their answers are summarized in Table H1 and the full text of the questions in German and English is available in Appendix H11 and H12. Within-person comparisons were conducted among the training modules: Affect, Perspective, and Presence. In addition, descriptive statistics for the participants' assessments of each practice within the modules are provided in Table H2.

Due to interest in whether participants had different experiences in different training modules, statistical comparisons focus on between-module and between-practice differences rather than between-group differences within a module. We conducted all possible two-way tests between modules and/or practices, using false discovery rate correction within groups to check for false positives due to multiple testing. Not all questions were asked for all modules or practices. Results are shown in Figures 10.3.1, 10.3.2, and Appendices H1–H10. As participants in TC3 experienced only the Affect Module, it was not possible to conduct between-Module comparisons. Between-practice comparisons are reported for all three cohorts.



Figure 10.3.1 Means and standard errors of self-reported lifestyle changes by module. Negative scores indicate less engagement with a particular type of behavior, positive scores indicate more engagement. Data is shown for all three training cohorts, TC1, TC2, and TC3, separately.

Both TC1 and TC2 liked the Breathing Meditation more than the Loving-kindness or Observing-thoughts Meditations. Participants in both groups liked the Presence Module better than the other two modules, experienced fewer technical problems with the smart-phones in that module, and found it easier to integrate the Presence meditative practices

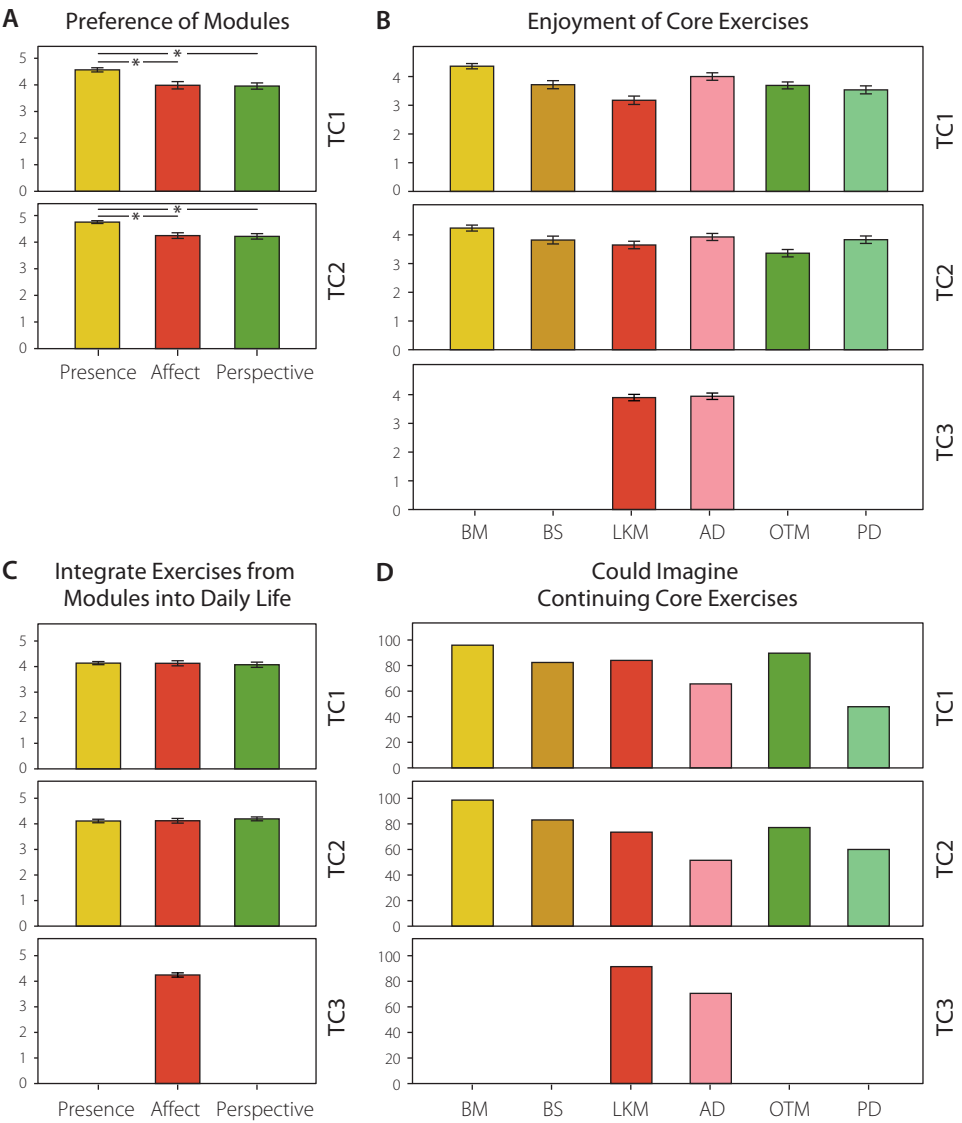


Figure 10.3.2 The mean and standard error of “Preference” of the respective modules (A). The mean and standard error of “Enjoyment” of the respective core exercises (B) and “Ease of integration into daily life” (C) for the core exercises per module. The percentage of total respondents who said they could imagine continuing to practice the respective core exercises after the end of training (D). Data are always shown for all three training cohorts (TC1, TC2, and TC3). * $p < 0.05$

into their daily lives, relative to the other practices, but only in the final 4 weeks of training. A small number of other differences between practices or modules were also found, but they were inconsistent across groups. See Tables H1 and H2 for a complete description of all between-module and between-practice differences.

Selected items are also illustrated in figures below: Figure 10.3.1 shows participant-reported lifestyle changes by module. Statistical tests of these changes are included in Table H1. No significant between-model differences in lifestyle change were found. Figure 10.3.2 illustrates participants' general preference for, and desire to continue, the various modules and practices.

General Feedback Questionnaire at the End of Training

Following completion of all meditation training, participants retrospectively rated their evaluations of the 3 training modules. The full text of all questions is available in Appendix H11 and H12 in German and English. These ratings encompassed a wide variety of questions. First, participants completed a semantic differential scale concerning each of the training exercises (see Table H4). Second, participants described how likely they were to continue each practice now that training had stopped (see Table H5, Figure 10.3.2 D). There were no observed differences between practices in the desire to continue. Third, participants compared the dyadic and meditative exercises within the Affect and Perspective Modules across a variety of traits (see Table H6). Fourth, participants described how their relationships to their inner parts had changed throughout the Perspective Module (see Table H7). Fifth, participants described how their relationships to their "self" had changed due to the Perspective Dyad (see Table H8). Sixth, participants were asked to rank the modules according to which was best overall, which was the most effective, and which had the greatest effect on daily life (see Table H9).

Seventh, participants reported their order of preference: either their own order (Affect before Perspective for TC1, Perspective before Affect for TC2), the opposite order, both, or no opinion (see Table H3). Participants largely preferred their own order. Finally, participants gave their opinions concerning the *ReSource Project* as a whole and their experiences within the project (see Table H10). Impressions were largely positive.

10.4 Factor Analysis Method

Because many questionnaires represented the same or similar underlying concepts, we used principal components factor analysis to reduce the complexity of the data. In order to maximize the number of cases available for the factoring, we combined data from TC1, TC2, and RCC1. It was not possible to factor all questionnaires simultaneously, as there are more questionnaire scales and subscales than participants (more columns than rows).

Items to factor were determined using a top-down strategy guided by conceptual knowledge, leading to initial factor solutions in the T0 data. In some cases, we included two sets of variables, each representing a different concept, within one factor solution, in order to make sure that the factors emerging were due to conceptual commonality and not shared method variance.

All items to be factored were first inspected for skewness consistent with the transformations described in the section introducing the table for T0. Some transformed items were also scored in reverse: When this is the case for an item in a factor solution, the reverse scoring is noted in the table.

The number of factors to retain was determined by visual inspection of scree plots. At this point, factor loadings were calculated using oblimin rotation. Items with loadings < 0.1 and > -0.1 on all factors within the solution were dropped, and the variables were refactored. When a solution emerged that explained at least 40% of item variance, with acceptable loadings for all variables and a clear number of factors, we performed the same analysis on the T1 data. If the factor solution, overall loadings, and variance explained were satisfactory at T1, the factor solution was retained and the factor loadings for each variable in the T0 solution were extracted. If fit was not satisfactory, items were removed until the T1 solution fit the criteria for stable, interpretable factors. The new solution was then tested in the T0 data to determine whether the factor structure remained stable in the absence of some items. A solution was accepted when it generated interpretable factors, had acceptable loadings for all component variables, explained at least 40% of item variance, and was stable across T0 and T1.

The T0 factor loadings were used to generate factor scores for T0, T1, and T2 by multiplying the z-scored transformed variables by the loadings. We also used these loadings to generate factor scores for TC3 and RCC2, as these participants had not been part of the study at the time of the initial factoring. Not all variables used to create the factors were measured at T2, and thus some factor scores could not be computed for that time point. See Appendix I for details.

10.4.1 Agency and Affiliation

Affiliation was assessed using items from the Neo-FFI (Borkenau & Ostendorf, 1993, 2008), the NEO-PI-R subscales (Ostendorf & Angleitner, 2004), the Multi-motive grid (Sokolowski et al., 2000), the Adult Temperament Questionnaire (Rothbart et al., 2000; Wiltink et al., 2006), the Mental Health Continuum Short Form (Keyes, 2009; Lamers et al., 2012), a Measure for Social Value Orientation (Van Lange et al., 1997), the UCLA Loneliness Scale (Döring & Bortz, 1993; Russel et al., 1980), the Brief-Cope (Knoll et al., 2005), the Self Construal Scale (Singelis, 1994), the Prosocialness Scale (Caprara et al., 2005), the Cognitive Emotion Regulation Questionnaire (Loch et al., 2011), and the Affiliation Tendency and Rejection Sensitivity Scale (Mehrabian, 1970; Sokolowski, 1986). Affiliation items represented interest in belonging with others, desire to help others, and liking others. Agency items measured independence, feelings of control, and active coping. The final solution was comprised of three factors: Sociability, indicating social approach motives; Social Anxiety, representing social avoidance motives; and Agency. The solution cumulatively explained 47.8% of the variance in the factored items at T0. See Table I1A for factor loadings and Table I1B for factor correlations.

10.4.2 Compassion and Mindfulness

Compassion was assessed using the Self-Compassion Scale (Hupfeld & Ruffieux, 2011; Neff, 2003), the Compassion for Others Scale (Pommier, 2011), and the Fears of Compassion Scales (Gilbert et al., 2011). Mindfulness was assessed using the Five Facet Mindfulness Questionnaire (Baer et al., 2006; Baer et al., 2008) and the Freiburger Fragebogen zur Achtsamkeit (Buchheld & Walach, 2000; Kohls et al., 2009; Walach et al., 2006), the Adult Temperament Questionnaire (Rothbart et al., 2000; Wiltink et al., 2006), the ADHS-Selbstbeurteilungsfragebogen (Rösler et al., 2004), the Private Body

Consciousness Subscale of the Body Consciousness Questionnaire (Miller et al., 1981), and the Multidimensional Assessment of Interoceptive Awareness (Mehling et al., 2009). The final solution was comprised of six factors: Self-Acceptance, Body Awareness, Compassion for Others, Self-judgment, Mindfulness, and (lack of) Observing, and accounted for 62.5% of the variance in the factored items at T0. See Table I2A for factor loadings and Table I2B for factor correlations.

10.4.3 Positive and Negative Affect

Affect was assessed using relevant items from the ATQ (Rothbart et al., 2000; Wiltink et al., 2006), the Beck Depression Inventory (Beck, Brown, & Steer, 1996), the Mental Health Continuum Short Form (Keyes, 2009; Lamers et al., 2012), the NEO-PI-R subscales (Ostendorf & Angleitner, 2004), the Positive and Negative Affect Schedule (Krohne et al., 1996; Watson et al., 1988), The Short Affect Intensity Scale (Geuens & De Pelsmacker, 2002), and the Types of Positive Affect Scale (Gilbert et al., 2008). The final solution was comprised of three factors: (Lack of) General Positive Affect, General Negative Affect, and Low Arousal Positive Affect, and accounted for 58.7% of the variance in the factored items at T0. See Table I3A for factor loadings and Table I3B for factor correlations.

10.4.4 Neuroticism and Sensation-seeking

Neuroticism was assessed using items from the Neo-FFI (Borkenau & Ostendorf, 1993, 2008), the Borderline Personality Questionnaire (Henze et al., 2013; Poreh et al., 2006), The State-Trait Anxiety Inventory (Laux et al., 1981), and the Freiburger Beschwerdeliste (Fahrenberg, 1975). Sensation-seeking was assessed using items from the Adult Temperament Questionnaire (Rothbart et al., 2000; Wiltink et al., 2006) and the NEO-PI-R subscales (Ostendorf & Angleitner, 2004). The final solution was comprised of two factors, Neuroticism and Sensation-seeking, and accounted for 64.6% of the variance in the factored items at T0. See Table I4A for factor loadings. The factors were correlated -0.13 (see Table I4B).

10.4.5 Emotion Regulation

Emotion regulation was assessed using the Ego-Resiliency Scale (Block & Kremen, 1996), the Cognitive Emotion Regulation Questionnaire (Loch et al., 2011), and the Brief-COPE (Knoll et al., 2005). The final solution was comprised of five factors: Resilience, Support Seeking, Acceptance, (Lack of) Self-Blame, and Panic, and accounted for 51.9% of the variance in the factored items at T0. See Table I5A for factor loadings and Table I5B for factor correlations.

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- Appendix H6: Comparison of different qualities between meditations and dyadic exercises
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- Appendix I2: Factor loading and factor correlations at T0 for Compassion and Mindfulness.
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Appendix J – Time Lags between Measures

- Appendix J1: Time Lags between measures

12 List of Abbreviations

Affect Dyad	(AD)
Affect Module	(<i>red</i>)
Applications	(Apps)
[Baseline testing before training]	(T0, <i>blue</i>)
Body Scan	(BS)
Brain-derived Neurotrophic Factor	(BDNF)
Breathing Meditation	(BM)
Central Tendency Measure	(CTM)
Choice Reaction Time Task	(CRT)
Cued flanker Task	(CueFla)
Emotional Anticipation	(EmoAnt)
Empathy vs Compassion Meditation	(ECM)
Electrocardiogramm	(ECG)
Electrodermal Activity	(EDA)
Forgiveness Meditation	(FM)
Heart Rate Variability	(HRV)
Heart Rate	(HR)
Inner Parts Dyad	(IPD)
Loving-kindness Meditation	(LKM)
Magnetic Resonance Imaging	(MRI)
Max Planck Institute	(MPI)
Mindfulness-based Stress Reduction	(MBSR)
Mindfulness-based Cognitive Therapy	(MBCT)
Mind-wandering	(MW)
Observing-thoughts Meditation	(OTM)
Perspective Dyad	(PD)
Perspective Module	(<i>green</i>)
Presence Module	(<i>yellow</i>)
Regulation and Generation of Emotions	(RAGE)
Retest Control Cohort 1	(RCC1)
Retest Control Cohort 1+2 (combined)	(RCC1&2)
Retest Control Cohort 2	(RCC2)
Socio-affective Video Task	(SoVT)
Standard Deviation	(SD)
Standard Error of Mean	(s.e.m)
Stop Signal Response Time Task	(SSRT)
Theory of Mind	(ToM)

Training Cohort 1	(TC1)
Training Cohort 2	(TC2)
Training Cohort 3	(TC3)
Trier Social Stress Test	(TSST)
Virtual Reality	(VR)
Zurich Prosocial Game	(ZPG)

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Appendices A – J

Appendix A – Details on Training Settings

Appendix A1: Address of the retreat center for the *ReSource Project*

HausRheinsberg Hotel am See
 Donnersmarckweg 1, 16831 Rheinsberg, Germany
www.hausrheinsberg.de
 Tel.: 03 39 31 / 3 44-0
post@hausrheinsberg.de

Appendix A2: The retreat dates for all training cohorts (TC1, TC2, and TC3)

Training Cohort 1 (TC1)

Presence: 21–23 June 2013
 Affect: 20–22 September 2013
 Perspective: 3–5 January 2014

Training Cohort 2 (TC2)

Presence: 9–11 August 2013
 Perspective: 8–10 November 2013
 Affect: 21–23 February 2014

Training Cohort 3 (TC3)

Affect: 11–13 August 2014

Appendix A3: The addresses of the locations for the weekly training sessions in Berlin and Leipzig

Address in Leipzig:

Seminar Room C402
 Department of Social Neuroscience
 Max Planck Institute for Human Cognitive and Brain Sciences
 Stephanstrasse 1A, 04103 Leipzig, Germany

Address in Berlin:

Humboldt University Berlin
 Campus Nord, Haus 5, Seminar Room
 Department of Social Neuroscience
 Max Planck Institute for Human Cognitive and Brain Sciences
 Philippstrasse 13, 10099 Berlin, Germany

Appendix B – Website Texts for Recruitment

German and English versions of the text from the website (www.resource-project.org) can be found below. During the recruitment phases in Winter 2012/2013 and Winter 2013/2014, people could apply to participate in the study. Information regarding entry requirements, duration of the study, teachers, and compliance criteria could be found on the website.

Appendix B1: English text from our website

[English (translated) Version]

The ReSource Project is a unique, large-scale study

The *ReSource Project* is a unique, large-scale study on Eastern and Western methods of mental training. Over a period of eleven months, participants practice a wide range of mental exercises that are designed to enhance attentional control, body- and self-awareness, healthy emotion regulation, self-care, compassion, empathy, and perspective taking. Overall, the aim of the training is to improve mental health and social skills. It may also reduce stress, improve mental clarity, increase life satisfaction, and lead to a better understanding of others' views, values, and actions.

The *ReSource Project* is a secular program developed by a team of experienced meditation teachers, scientists, and psychotherapists. It takes place in Leipzig and Berlin as part of a research project of the Max Planck Institute for Human Cognitive and Brain Sciences.

The Principal Investigator of the project is Prof. Dr Tania Singer, Director of the Social Neuroscience Department at the Max Planck Institute for Human Cognitive and Brain Sciences in Leipzig. The project is supported by funds from the European Research Council and the Max Planck Society.

Background and Content of the Study

Over the last decades, isolation, stress, and psychological tensions have been steadily increasing in our society. Mental training can alter stress responses, physical health, resilience, attention, perception, emotional experience, and social behavior. Evidence for these results is based on subjective reports of past participants and observed behavioral changes, as well as observed changes in brain function and structure. Moreover, health factors, such as peripheral autonomic responses, stress hormones, and immune parameters were significantly changed after training.

In contrast to most previous studies of just a few months, the *ReSource Project* will be conducted over a period of one year and will cover a wide range of practices intended to enhance cognitive and socio-affective skills.

The *ReSource Project* consists of three consecutive modules: Presence, Perspective, and Affect. The Presence Module trains mindful attention to internal mental and physical

processes. The Perspective Module focuses on socio-cognitive abilities, such as insight into the nature of the mind and self, and also the ability to assume the perspective of others. The Affect Module focuses on constructive ways of dealing with difficult emotions, and works to cultivate prosocial motivations and positive emotions such as compassion.

What can you expect as a participant?

Over a period of eleven months, you will be party to a wide range of mental training methods. This includes classic meditation, and also specifically designed individual and dyadic exercises.

1	Retreat 3 Days	Training 8 Weeks	Consolidation & Testing 5 Weeks
2	Retreat 3 Days	Training 8 Weeks	Consolidation & Testing 5 Weeks
3	Retreat 3 Days	Training 8 Weeks	Consolidation & Testing 5 Weeks



During the study, you will meet other volunteers and experienced teachers for regular weekly sessions. In addition, at the beginning of each of the three training modules, you will take part in a three-day retreat (intensive training phase). There, you will be introduced to the core exercises and ideas of the module. You will learn to integrate the exercises into your daily routine, giving you the opportunity to practice new ways of dealing with your life and mind. The *ReSource* internet platform, especially developed for the study, will support you in your daily practice at home (about 30 minutes).

This opportunity goes far beyond most paid mental training or meditation classes. Moreover, your participation makes an important contribution to the understanding of mental training practices from the perspectives of natural and social sciences. In a time marked by individual and collective problems such as isolation, self-centeredness, and stress symptoms, these practices may be of significant value. The *ReSource Project* thus is a unique opportunity for you, for research, and for society at large.

What to expect in more detail:

- ▶ All courses and retreats are free for study participants.
- ▶ Study participants will be paid for the testing: i.e. interesting behavioral experiments, measurements in magnetic resonance imaging, and various peripheral physiological and hormonal measurements.
- ▶ The entire study will be run by experienced meditation teachers, neuroscientists, and highly qualified psychologists.
- ▶ A weekly course (about 2 ½ hours) in small groups, with various mental exercises facilitated by experienced teachers. Start: Spring 2013, total duration: 11 months.
- ▶ Three 3-day intensive courses (called "retreats," each run from Friday until Sunday)
- ▶ Daily exercises at home (ca. 30 minutes)
- ▶ Short daily questionnaires

What to expect in the 2014 segment of the study

Training Group (from July to November 2014)

Over a period of three months, you will be introduced to a wide range of mental training methods. This includes classic meditation practices, but also specifically designed individual and dyadic exercises.

Retreat 3 Days

Training 8 Weeks

Consolidation & Testing 5 Weeks

You will attend weekly sessions (probably Tuesdays or Wednesdays) with other volunteers and experienced teachers. In addition, at the beginning of the training module, you will take part in a three-day retreat (intensive training phase) from 11–13 of August 2014. In the retreat, you will be introduced to the core exercises and theoretical framework of the module. You will learn to integrate the exercises into your daily routine, which may enable you to explore new ways of dealing with your life and mind. The *ReSource* internet platform, especially developed for the study, will support you in your daily practice at home (about 30 minutes). This training program goes far beyond most paid mental training or meditation classes.

In order to assess the effects of the mental training program, you will participate in a wide range of exiting scientific experiments. Before the retreat, you will have a 6-week long testing phase starting in July 2014 in which we will conduct behavioral psychological experiments, brain scans in the magnetic resonance tomograph, and a variety of physiological and hormonal measurements. The second testing phase will start in the 7th week of the training module (ca. October/November 2014) and will be parallel to the training.

Control Group (from May 2014 to March 2015)

In case you are unable to attend the retreat or the weekly training sessions but you are still interested in contributing to the *ReSource Project*, we offer a possible participation in a control group.

The control group will take part in the same experiments as the training group but will not receive any mental training. Moreover, the control group will be tested four times (instead of two times) over a longer period of time.

The testing includes for instance behavioral psychological experiments, brain scans in the magnetic resonance tomograph, and a variety of physiological and hormonal measurements. The first testing phase will start at the end of May 2014 and the last testing phase ends in March 2015. There will be longer breaks between each of the testing phases.

The control group is extremely important for the project because it enables us to assess which changes are induced by mental training and which changes are induced by other factors such as repeated testing of the same paradigm for instance. Thus, the control group functions as a baseline for our data analyses and is indispensable for scientific research.

Valuable Contribution to Society

Moreover, your participation can make an important contribution to the understanding of mental training practices from the perspectives of natural and social sciences. In a time marked by individual and collective problems such as isolation, self-centeredness, and stress symptoms, these practices may be of significant value. The *ReSource Project* thus is a unique opportunity for you, for research, and for society at large.

What to expect in more detail:

Training Group

- ▶ A three-day intensive training course (Retreat from 11–13 August 2014)
- ▶ A 2-hour weekly training session with various mental exercises in smaller groups (ca. 20 people) facilitated by experienced teachers. Start: Summer 2014; Duration: 3 months;
- ▶ All courses and retreats are free for study participants.
- ▶ Daily exercises at home (ca. 30 minutes)
- ▶ Participants will be paid for the testing: i.e., interesting behavioral experiments, measurements in magnetic resonance imaging, and various peripheral physiological and hormonal measurements.
- ▶ Short daily questionnaires
- ▶ Supervision by experienced meditation teachers, highly qualified psychologists, and neuroscientists during the entire study

Control Group

- ▶ Participants will be paid for the testing: i.e., interesting behavioral experiments, measurements in magnetic resonance imaging, and various peripheral physiological and hormonal measurements
- ▶ Supervision by highly qualified psychologists and neuroscientists during the entire study

You want to participate?

We start in November 2013 with the recruitment and are looking for healthy participants from 20 to 55 years of age without (or very little) experience in meditation practice. All courses are in German, therefore a fluent command of the German language is a prerequisite for a successful participation in this project.

Appendix B2: German text from our website

[German Original Version]

Das *ReSource Projekt* ist ein neues wissenschaftliches Projekt.

Das *ReSource Projekt* ist eine weltweit einzigartige, groß angelegte Studie zum mentalen Training mithilfe westlicher und fernöstlicher Methoden der Geistesschulung. Über einen Zeitraum von elf Monaten werden interessierte Laien an ein breites Spektrum von mentalen Übungen herangeführt, mit deren Hilfe Fähigkeiten wie Aufmerksamkeit, Körper- und Selbstgewahrsein, eine gesunde Emotionsregulation, Selbstfürsorge, Empathie und Mitgefühl sowie Perspektivübernahme trainiert werden. Insgesamt zielt das Training darauf ab, mentale Gesundheit und soziale Kompetenzen zu verbessern, um z. B. Stress zu reduzieren, mehr geistige Klarheit zu erlangen, die Lebenszufriedenheit zu steigern sowie andere Menschen besser verstehen zu lernen.

Es handelt sich um ein säkulares Programm, das mit einem Team von erfahrenen Meditationslehrern, Wissenschaftlern und Psychotherapeuten entwickelt wurde. Es wird in Leipzig und Berlin durchgeführt und durchgängig von Wissenschaftlern des Max-Planck-Instituts für Kognitions- und Neurowissenschaften begleitet werden.

Das *ReSource Projekt* wurde initiiert von Prof. Dr. Tania Singer, Direktorin der Abteilung Soziale Neurowissenschaft am Max-Planck-Institut für Kognitions- und Neurowissenschaften in Leipzig und wird gefördert mit Mitteln des Europäischen Forschungsrats sowie der Max-Planck-Gesellschaft.

Hintergrund und Studieninhalt

Mentales Training kann die psychische und gesundheitliche Widerstandsfähigkeit erhöhen und Aufmerksamkeit, Wahrnehmung, emotionales Erleben und Sozialverhalten entscheidend verändern. Nachweise dafür liegen sowohl auf Ebene subjektiver Angaben von Probanden und beobachteter Verhaltensveränderungen als auch auf Ebene der Hirnfunktionalität und -struktur sowie körperlicher Marker, wie z. B. peripherer körperlicher Reaktionen, Stresshormonen und Immunparametern vor.

Im Gegensatz zu vorangegangenen Studien, die nur wenige Monate dauerten, wird das *ReSource Projekt* über einen Zeitraum von elf Monaten ein breites Spektrum von Praktiken zur Steigerung von kognitiven sowie sozio-affektiven Fähigkeiten vermitteln.

Das *ReSource Projekt* besteht aus drei aufeinanderfolgenden Modulen, die „Präsenz“, „Perspektive“ und „Affekt“ heißen. Im Präsenzmodul wird vor allem die Achtsamkeit gegenüber geistigen und körperlichen Prozessen geschult. Der Perspektivteil des Trainings widmet sich sozio-kognitiven Fähigkeiten wie der Einsicht in die Natur von Gedanken, des Selbst und der Fähigkeit, die Perspektive anderer zu erkennen. Das Affektmodul ergänzt die zwei anderen Module, indem dort der konstruktive Umgang mit schwierigen Emotionen sowie die Kultivierung positiver Emotionen und Motivationen behandelt werden.

Was Probanden erwartet

Über insgesamt elf Monate werden Sie in einem breiten Spektrum von Methoden zur Schulung des Geistes unterrichtet. Das Spektrum umfasst klassische Meditationsübungen sowie eigens für das Projekt konzipierte Einzel- und Partnerübungen.

Während der Studie treffen Sie sich mit anderen Probanden und erfahrenen Lehrern zu einer Sitzung pro Woche. Zudem werden Sie am Anfang der drei Trainingsmodule jeweils ein dreitägiges Retreat (intensive Übungsphase) mitmachen. Hier werden Sie in die einzelnen Trainingsabschnitte eingeführt. Sie lernen, die Übungen durch regelmäßige Praxis in Ihren Alltag zu integrieren und haben dadurch die Möglichkeit, neue Wege im Umgang mit dem Leben und dem eigenen Geist zu lernen. Eine eigens für das *ReSource Projekt* entwickelte Internetplattform unterstützt Sie beim täglichen Üben zu Hause (etwa 30 Minuten).

Dieses Angebot geht weit über die meisten kostenpflichtigen mentalen Trainings oder

1	Retreat 3 Tage	Training 8 Wochen	Vertiefung & Testungen 5 Wochen
2	Retreat 3 Tage	Training 8 Wochen	Vertiefung & Testungen 5 Wochen
3	Retreat 3 Tage	Training 8 Wochen	Vertiefung & Testungen 5 Wochen



Meditationskurse hinaus und ist eine einmalige Gelegenheit.

Darüber hinaus leistet Ihre Teilnahme einen wertvollen Beitrag zum Verständnis der mentalen Praktiken aus neuro- und sozialwissenschaftlicher Perspektive. In einer Zeit, in der Isolation (oder Vereinsamung), Egozentrismus und Belastungserscheinungen individuelle und gesellschaftliche Probleme darstellen, kommt mentalen Trainingspraktiken potentiell ein hoher Stellenwert zu. Das *ReSource Projekt* ist somit für Sie selbst und für Forschung und Gesellschaft eine einzigartige Chance.

Was Sie konkret erwartet

- ▶ Die Kosten für alle Kurse und Retreats werden von uns übernommen.
- ▶ Eine angemessene Probandenvergütung erfolgt für die wissenschaftlichen Tests. Diese umfassen u.a.: spannende verhaltenspsychologische Experimente, Messungen im Magnetresonanztomographen, sowie verschiedene peripher-physiologische und hormonelle Messungen.
- ▶ Begleitung durch erfahrene Meditationslehrer sowie hochqualifizierte Psychologen und Neurowissenschaftler während der gesamten Studie.
- ▶ Eine wöchentliche Sitzung mit verschiedenen mentalen Übungen in überschaubaren Gruppen und mit erfahrenen Lehrern. Beginn: Frühjahr 2013; Gesamtdauer: 11 Monate.
- ▶ 3 dreitägige Intensiv-Kurse („Retreats“; jeweils Freitags bis Sonntags)
- ▶ tägliche Übungen zu Hause (ca. 30 Minuten)

► Kurze tägliche Fragebögen

Was Probanden 2014 erwartet

Trainingsgruppe (von Juli - November 2014)

Über drei Monate werden Sie in verschiedenen Methoden zur Schulung des Geistes unterrichtet. Das Spektrum umfasst klassische Meditationsübungen sowie eigens für das Projekt

Retreat 3 Tage

Training 8 Wochen

Vertiefung & Testungen 5 Wochen

konzipierte Partnerübungen.

Während der Studie treffen Sie sich mit anderen Probanden und erfahrenen Lehrern zu einer Sitzung pro Woche (voraussichtlich Dienstag oder Mittwoch und jeweils wahlweise morgens oder abends). Zudem werden Sie am Anfang des Trainingsmoduls in ein dreitägiges Retreat (intensive Übungsphase) vom 11.-13. August 2014 fahren. Hier werden Sie in die Grundlagen des Trainingsmoduls eingeführt. Sie lernen, die Übungen durch regelmäßige Praxis in Ihren Alltag zu integrieren und haben dadurch die Möglichkeit, neue Wege im Umgang mit sich und anderen zu gehen. Eine eigens für das *ReSource Projekt* entwickelte Internetplattform unterstützt Sie beim täglichen Üben zu Hause (pro Tag etwa 30 Minuten). Dieses Angebot geht weit über die meisten kostenpflichtigen mentalen Trainings oder Meditationskurse hinaus und ist eine einmalige Gelegenheit.

Um die Effekte des Trainingsprogramms zu erfassen, werden Sie an einer Reihe spannender wissenschaftlicher Experimente teilnehmen. Bevor es ins Retreat geht, wird beginnend im Juli 2014 eine erste 6-wöchige Messphase stattfinden, in der u.a. verhaltenspsychologische Experimente, Messungen im Magnetresonanztomographen sowie verschiedene peripher-physiologische und hormonelle Messungen durchgeführt werden. Die zweite Messphase startet in der siebten Woche des Trainingsblocks (ca. Oktober/November 2014) und wird parallel zum Training stattfinden.

Kontrollgruppe (von Mai 2014 - März 2015)

Falls Sie das Retreat oder die wöchentlichen Trainingstermine nicht wahrnehmen können und trotzdem gerne zum *ReSource Projekt* beitragen möchten, würde Ihnen die Teilnahme in unserer Kontrollgruppe diese Möglichkeit einräumen.

Die Kontrollgruppe durchläuft die gleichen Experimente wie die Trainingsgruppe, erhält allerdings kein mentales Training und wird insgesamt über eine längere Zeitspanne untersucht. Die Messungen umfassen u.a. verhaltenspsychologische Experimente, Messungen im Magnetresonanztomographen sowie verschiedene peripher-physiologische und hormonelle Messungen. Die erste Messphase beginnt Ende Mai 2014, die letzte Messphase endet im März 2015 – wobei zwischen den Messphasen längere Pausen ohne Testungen liegen.

Die Kontrollgruppe erfüllt eine überaus wichtige Funktion, denn durch sie können wir nachvollziehen, welche Veränderungen durch mentales Training und welche durch andere

Faktoren, wie z. B. durch das mehrmalige Durchführen von Experimenten, hervorgerufen werden. Sie dient uns gewissermaßen als Ausgangspunkt für unsere Datenauswertung und ist unverzichtbar für jegliche wissenschaftliche Forschung.

Wertvoller gesellschaftlicher Beitrag

Mit einer Teilnahme am *ReSource Projekt* leisten Sie einen wertvollen Beitrag zum Verständnis verschiedener mentaler Praktiken aus neuro- und sozialwissenschaftlicher Perspektive. In einer Zeit, in der Isolation, Egozentrismus und Belastungserscheinungen individuelle und gesellschaftliche Probleme darstellen, kommt mentalen Trainingspraktiken potentiell ein hoher Stellenwert zu. Das *ReSource Projekt* ist somit für Sie selbst und für Forschung und Gesellschaft eine einzigartige Chance.

Was Sie konkret erwartet

Trainingsgruppe

- ▶ Ein dreitägiger Intensiv-Kurs („Retreat“ vom 11.-13. August 2014)
- ▶ Eine zweistündige Sitzung pro Woche mit verschiedenen mentalen Übungen in überschaubaren Gruppen (ca. 20 Personen) und mit erfahrenen Lehrern. Beginn: Sommer 2014; Gesamtdauer Training: 3 Monate.
- ▶ Übernahme der Kosten für Kurs und Retreat
- ▶ Tägliche Übungen zu Hause (ca. 30 Minuten pro Tag)
- ▶ Angemessene Probandenvergütung für wissenschaftliche Tests (u.a. spannende verhaltenspsychologische Experimente, Messungen im Magnetresonanztomographen sowie verschiedene peripher-physiologische und hormonelle Messungen)
- ▶ Kurze tägliche Fragebögen (ca. 4 min)
- ▶ Begleitung durch erfahrene Meditationslehrer sowie hochqualifizierte Psychologen und Neurowissenschaftler während der gesamten Studie

Kontrollgruppe

- ▶ Angemessene Probandenvergütung für wissenschaftliche Tests (u.a. spannende verhaltenspsychologische Experimente, Messungen im Magnetresonanztomographen sowie verschiedene peripher-physiologische und hormonelle Messungen)
- ▶ Begleitung durch hochqualifizierte Neurowissenschaftler während der gesamten Studie

Sie möchten teilnehmen?

Wir beginnen im November 2013 mit der Rekrutierung für diese Studie und suchen gesunde Probanden im Alter von 20 bis 55 Jahren ohne (oder mit wenig) Meditationserfahrung. Da alle Kurse auf Deutsch geleitet werden, sind gute Deutschkenntnisse Voraussetzung für eine erfolgreiche Teilnahme am Projekt.

Appendix C – Sample Description of Participants and Observer Characteristics

Appendix C1: Sample description of participants

Table C1 This table provides descriptive information concerning the sample at recruitment, T0, T1, T2, T3, and T4. All scores are based on participants' answers to the demographic and other questionnaires at recruitment. Comparisons are made within each time point, between all training cohorts, the second retest control cohort and the combined retest control cohort (TC1, TC2, TC3, RCC2, and RCC1&2). CTM = Central Tendency Measure; Lo = Lower Quartile; Hi = Higher Quartile; Lo/Hi = 95% Confidence Interval. Differences between groups are indicated using superscripts, as follows: Within each row, all entries sharing a superscript are not statistically different from one another in post-hoc two-way tests. For example, in a row with four values with superscripts (1.4^a, 1.6^{ab}, 0.6, 1.8^b), statistically there are significant differences between 0.6 and all other values in the row, and between 1.4 and 1.8. All other possible combinations share superscripts, and post-hoc comparisons between them fail to reject the null hypothesis. Multiple testing correction was not performed. Please note that TC3's follow-up phase was at T2 but is listed here at T4.

Table C1 Variable	RCC1&2 – CTM (Lo/Hi)	RCC2 – CTM (Lo/Hi)	TC1 – CTM (Lo/Hi)	
Grouping				
Age	40.04 (39.84/40.25) ^a	40.58 (40.28/40.88) ^a	41.29 (41.07/41.51) ^a	
Female	58.89 ^a	53.33 ^a	58.75 ^a	
MaritalStatus 0: Married	39.53 ^a	42.37 ^a	41.77 ^a	
MaritalStatus 1: Living in relationship (unmarried)	20.93 ^a	20.34 ^a	30.38 ^a	
MaritalStatus 2: Single	39.53 ^a	37.29 ^a	27.85 ^a	
Has children	59.3 ^b	64.41 ^b	53.16 ^{ab}	
Income	2500 (2000/3875) ^a	2500 (2000/3625) ^a	3000 (2000/4500) ^a	
Education 1: None	0 ^a	0 ^a	1.27 ^a	
Education 2: „Hauptschule“ (9 th Grade)	4.65 ^a	1.69 ^a	3.8 ^a	
Education 3: „Realschule“ (10 th Grade)	18.6 ^a	18.64 ^a	10.13 ^a	
Education 4: „Fachhochschulreife/Abitur/ University“ (12 th Grade or higher, Diploma/Master)	70.93 ^a	74.58 ^a	77.22 ^a	
Education 5: „Doctoral degree“	5.81 ^a	5.08 ^a	7.59 ^a	
CFT	116.93 (116.62/117.24) ^a	118.12 (117.67/118.58) ^a	113.41 (113.04/113.77) ^a	
SW_Fehlerprozent	103.37 (103.09/103.64) ^a	103.61 (103.19/104.04) ^a	105.93 (105.62/106.24) ^a	
SW_BZO	101.24 (101.49/100.98) ^a	100.64 (101.02/100.27) ^a	100.22 (100.49/99.94) ^a	
SW_KL	101.04 (100.83/101.25) ^a	101.01 (100.69/101.33) ^a	100.17 (99.93/100.41) ^a	
COSN_Total	3.17 (2.83/3.71) ^a	3.17 (2.79/3.69) ^a	3.17 (2.81/3.54) ^a	
FFMQ_total	2.63 (2.36/3.01) ^a	2.72 (2.35/3.02) ^a	2.57 (2.26/2.91) ^a	
MDI	53 (51/56) ^a	53 (51/55) ^a	53 (51/56) ^a	
mhc_total	45.74 (45.47/46.01) ^a	45.48 (45.05/45.91) ^a	43.76 (43.47/44.05) ^a	
PSS-10	13.4 (13.27/13.53) ^a	13.53 (13.36/13.71) ^a	14.06 (13.93/14.19) ^a	
SCS_Total	2.44 (2.43/2.46) ^a	2.43 (2.42/2.45) ^a	2.49 (2.47/2.5) ^a	
STAI_ta	35.69 (35.54/35.84) ^a	36.32 (36.09/36.54) ^a	36.24 (36.04/36.43) ^a	
TAS-20	17.61 (17.43/17.8) ^a	18.12 (17.81/18.42) ^a	19.11 (18.87/19.35) ^a	

	TC2 – CTM (Lo/Hi)	TC3 – CTM (Lo/Hi)	N RCC1&2	N RCC2	N TC1	N TC2	N TC3	Summary Type
	41.19 (40.94/41.43) ^a	40.44 (40.22/40.67) ^a	89	60	80	81	81	Mean & 95% CI
	59.26 ^a	60.49 ^a	90	60	80	81	81	Percentage
	38.46 ^a	29.49 ^a	86	59	79	78	78	Percentage
	20.51 ^a	34.62 ^a	86	59	79	78	78	Percentage
	41.03 ^a	35.9 ^a	86	59	79	78	78	Percentage
	56.41 ^{ab}	42.31 ^a	86	59	79	78	78	Percentage
	3000 (1500/4500) ^a	3000 (2000/4000) ^a	90	60	80	81	81	Median and 25 th and 75 th quartiles
	0 ^a	0 ^a	86	59	79	78	78	Percentage
	7.69 ^a	5.13 ^a	86	59	79	78	78	Percentage
	14.1 ^a	12.82 ^a	86	59	79	78	78	Percentage
	71.79 ^a	75.64 ^a	86	59	79	78	78	Percentage
	6.41 ^a	6.41 ^a	86	59	79	78	78	Percentage
	114.37 (114.01/114.73) ^a	115.49 (115.1/115.89) ^a	84	57	79	81	79	Mean & 95% CI
	104.68 (104.37/104.99) ^a	106.57 (106.25/106.88) ^a	70	56	71	69	73	Mean & 95% CI
	100.2 (100.46/99.95) ^a	100.06 (100.26/99.86) ^a	70	56	71	69	73	Mean & 95% CI
	100.62 (100.42/100.83) ^a	100.84 (100.64/101.05) ^a	70	56	71	69	73	Mean & 95% CI
	3.08 (2.92/3.42) ^a	3.21 (2.83/2437.5) ^a	87	59	79	81	80	Median and 25 th and 75 th quartiles
	2.73 (2.3/3.02) ^a	2.57 (2.25/2.91) ^a	85	60	78	78	78	Median and 25 th and 75 th quartiles
	53 (50/55) ^a	52 (49/55) ^a	88	60	80	81	81	Median and 25 th and 75 th quartiles
	45.55 (45.25/45.85) ^a	44.55 (44.25/44.85) ^a	88	60	79	80	80	Mean & 95% CI
	13.49 (13.35/13.64) ^a	13.57 (13.41/13.73) ^a	88	60	79	81	79	Mean & 95% CI
	2.6 (2.58/2.61) ^a	2.46 (2.44/2.47) ^a	88	60	79	81	79	Mean & 95% CI
	35.93 (35.76/36.09) ^a	37.68 (37.47/37.89) ^a	88	60	80	81	81	Mean & 95% CI
	17.36 (17.15/17.56) ^a	17.28 (17.05/17.52) ^a	88	60	80	81	81	Mean & 95% CI

Table C1 Variable	RCC1&2 – CTM (Lo/Hi)	RCC2 – CTM (Lo/Hi)	TC1 – CTM (Lo/Hi)	
TIPI_Agreeableness	4.21 (4.18/4.23) ^a	4.06 (4.02/4.09) ^a	4.22 (4.2/4.24) ^a	
TIPI_Conscientiousness	4.9 (4.87/4.92) ^a	4.91 (4.88/4.94) ^a	4.96 (4.94/4.98) ^a	
TIPI_EmotionalStability	4.44 (4.41/4.46) ^a	4.34 (4.3/4.38) ^a	4.4 (4.38/4.43) ^a	
TIPI_Extraversion	3.18 (3.15/3.22) ^b	3.09 (3.04/3.14) ^b	3.44 (3.41/3.48) ^{ab}	
TIPI_Openness	4.69 (4.66/4.71) ^a	4.65 (4.62/4.69) ^a	4.78 (4.76/4.81) ^a	
TO				
Age	39.89 (39.68/40.1) ^a	40.58 (40.28/40.88) ^a	41.29 (41.07/41.51) ^a	
Female	59.09 ^a	53.33 ^a	58.75 ^a	
MaritalStatus 0: Married	38.1 ^a	42.37 ^a	41.77 ^a	
MaritalStatus 1: Living in relationship (unmarried)	21.43 ^a	20.34 ^a	30.38 ^a	
MaritalStatus 2: Single	40.48 ^a	37.29 ^a	27.85 ^a	
Has children	58.33 ^b	64.41 ^b	53.16 ^{a b}	
Income	2500 (2000/4000) ^a	2500 (2000/3625) ^a	3000 (2000/4500) ^a	
Education 1: None	0 ^a	0 ^a	1.27 ^a	
Education 2: „Hauptschule“ (9 th Grade)	4.76 ^a	1.69 ^a	3.8 ^a	
Education 3: „Realschule“ (10 th Grade)	19.05 ^a	18.64 ^a	10.13 ^a	
Education 4: „Fachhochschulreife/Abitur/ University“ (12 th Grade or higher, Diploma/Master)	70.24 ^a	74.58 ^a	77.22 ^a	
Education 5: „Doctoral degree“	5.95 ^a	5.08 ^a	7.59 ^a	
CFT	116.93 (116.61/117.25) ^a	118.12 (117.67/118.58) ^a	113.41 (113.04/113.77) ^a	
SW_Fehlerprozent	103.26 (102.98/103.55) ^a	103.61 (103.19/104.04) ^a	105.93 (105.62/106.24) ^a	
SW_BZO	101.28 (101.54/101.03) ^a	100.64 (101.02/100.27) ^a	100.22 (100.49/99.94) ^a	
SW_KL	101.03 (100.81/101.24) ^a	101.01 (100.69/101.33) ^a	100.17 (99.93/100.41) ^a	
COSN_Total	3.17 (2.83/3.71) ^a	3.17 (2.79/3.69) ^a	3.17 (2.81/3.54) ^a	
FFMQ_total	2.6 (2.36/3.01) ^a	2.72 (2.35/3.02) ^a	2.57 (2.26/2.91) ^a	
MDI	53 (51/56) ^a	53 (51/55) ^a	53 (51/56) ^a	
mhc_total	45.73 (45.45/46.01) ^a	45.48 (45.05/45.91) ^a	43.76 (43.47/44.05) ^a	
PSS-10	13.27 (13.14/13.4) ^a	13.53 (13.36/13.71) ^a	14.06 (13.93/14.19) ^a	
SCS_Total	2.44 (2.43/2.46) ^a	2.43 (2.42/2.45) ^a	2.49 (2.47/2.5) ^a	
STAI_ta	35.73 (35.58/35.89) ^a	36.32 (36.09/36.54) ^a	36.24 (36.04/36.43) ^a	
TAS-20	17.59 (17.4/17.78) ^a	18.12 (17.81/18.42) ^a	19.11 (18.87/19.35) ^a	
TIPI_Agreeableness	4.21 (4.18/4.23) ^a	4.06 (4.02/4.09) ^a	4.22 (4.2/4.24) ^a	
TIPI_Conscientiousness	4.87 (4.85/4.89) ^a	4.91 (4.88/4.94) ^a	4.96 (4.94/4.98) ^a	
TIPI_EmotionalStability	4.41 (4.39/4.44) ^a	4.34 (4.3/4.38) ^a	4.4 (4.38/4.43) ^a	
TIPI_Extraversion	3.19 (3.16/3.23) ^{ab}	3.09 (3.04/3.14) ^a	3.44 (3.41/3.48) ^{ab}	

	TC2 – CTM (Lo/Hi)	TC3 – CTM (Lo/Hi)	N RCC1&2	N RCC2	N TC1	N TC2	N TC3	Summary Type
	4.24 (4.22/4.26) ^a	4.18 (4.16/4.21) ^a	87	60	72	73	79	Mean & 95% CI
	4.85 (4.83/4.87) ^a	4.71 (4.68/4.73) ^a	87	60	72	73	79	Mean & 95% CI
	4.31 (4.28/4.33) ^a	4.29 (4.26/4.31) ^a	87	60	72	73	79	Mean & 95% CI
	3.25 (3.22/3.29) ^{ab}	3.63 (3.6/3.67) ^a	87	60	72	73	79	Mean & 95% CI
	4.89 (4.86/4.91) ^a	4.95 (4.93/4.97) ^a	87	60	72	73	79	Mean & 95% CI
	41.19 (40.94/41.43) ^a	40.44 (40.22/40.67) ^a	88	60	80	81	81	Mean & 95% CI
	59.26 ^a	60.49 ^a	88	60	80	81	81	Percentage
	38.46 ^a	29.49 ^a	84	59	79	78	78	Percentage
	20.51 ^a	34.62 ^a	84	59	79	78	78	Percentage
	41.03 ^a	35.9 ^a	84	59	79	78	78	Percentage
	56.41 ^{a b}	42.31 ^a	84	59	79	78	78	Percentage
	3000 (1500/4500) ^a	3000 (2000/4000) ^a	88	60	80	81	81	Median and 25 th and 75 th quartiles
	0 ^a	0 ^a	84	59	79	78	78	Percentage
	7.69 ^a	5.13 ^a	84	59	79	78	78	Percentage
	14.1 ^a	12.82 ^a	84	59	79	78	78	Percentage
	71.79 ^a	75.64 ^a	84	59	79	78	78	Percentage
	6.41 ^a	6.41 ^a	84	59	79	78	78	Percentage
	114.37 (114.01/114.73) ^a	115.49 (115.1/115.89) ^a	84	57	79	81	79	Mean & 95% CI
	104.68 (104.37/104.99) ^a	106.57 (106.25/106.88) ^a	69	56	71	69	73	Mean & 95% CI
	100.2 (100.46/99.95) ^a	100.06 (100.26/99.86) ^a	69	56	71	69	73	Mean & 95% CI
	100.62 (100.42/100.83) ^a	100.84 (100.64/101.05) ^a	69	56	71	69	73	Mean & 95% CI
	3.08 (2.92/3.42) ^a	3.21 (2.83/2437.5) ^a	85	59	79	81	80	Median and 25 th and 75 th quartiles
	2.73 (2.3/3.02) ^a	2.57 (2.25/2.91) ^a	83	60	78	78	78	Median and 25 th and 75 th quartiles
	53 (50/55) ^a	52 (49/55) ^a	86	60	80	81	81	Median and 25 th and 75 th quartiles
	45.55 (45.25/45.85) ^a	44.55 (44.25/44.85) ^a	86	60	79	80	80	Mean & 95% CI
	13.49 (13.35/13.64) ^a	13.57 (13.41/13.73) ^a	86	60	79	81	79	Mean & 95% CI
	2.6 (2.58/2.61) ^a	2.46 (2.44/2.47) ^a	86	60	79	81	79	Mean & 95% CI
	35.93 (35.76/36.09) ^a	37.68 (37.47/37.89) ^a	86	60	80	81	81	Mean & 95% CI
	17.36 (17.15/17.56) ^a	17.28 (17.05/17.52) ^a	86	60	80	81	81	Mean & 95% CI
	4.24 (4.22/4.26) ^a	4.18 (4.16/4.21) ^a	85	60	72	73	79	Mean & 95% CI
	4.85 (4.83/4.87) ^a	4.71 (4.68/4.73) ^a	85	60	72	73	79	Mean & 95% CI
	4.31 (4.28/4.33) ^a	4.29 (4.26/4.31) ^a	85	60	72	73	79	Mean & 95% CI
	3.25 (3.22/3.29) ^{ab}	3.63 (3.6/3.67) ^b	85	60	72	73	79	Mean & 95% CI

Table C1 Variable	RCC1&2 – CTM (Lo/Hi)	RCC2 – CTM (Lo/Hi)	TC1 – CTM (Lo/Hi)	
TIPI_Openness	4.68 (4.66/4.7) ^a	4.65 (4.62/4.69) ^a	4.78 (4.76/4.81) ^a	
T1				
Age	39.84 (39.62/40.05) ^a	40.45 (40.14/40.76) ^a	41.18 (40.95/41.41) ^a	
Female	58.82 ^a	53.45 ^a	57.69 ^a	
MaritalStatus 0: Married	38.27 ^a	42.11 ^a	40.26 ^a	
MaritalStatus 1: Living in relationship (unmarried)	20.99 ^a	19.3 ^a	31.17 ^a	
MaritalStatus 2: Single	40.74 ^a	38.6 ^a	28.57 ^a	
Has children	58.02 ^{ab}	63.16 ^a	51.95 ^{ab}	
Income	2500 (2000/4000) ^a	2500 (2000/3500) ^a	3000 (2000/4500) ^a	
Education 1: None	0 ^a	0 ^a	1.3 ^a	
Education 2: „Hauptschule“ (9 th Grade)	4.94 ^a	1.75 ^a	3.9 ^a	
Education 3: „Realschule“ (10 th Grade)	19.75 ^a	19.3 ^a	10.39 ^a	
Education 4: „Fachhochschulreife/Abitur/ University“ (12 th Grade or higher, Diploma/Master)	69.14 ^a	73.68 ^a	76.62 ^a	
Education 5: „Doctoral degree“	6.17 ^a	5.26 ^a	7.79 ^a	
CFT	117.05 (116.71/117.38) ^a	118.35 (117.87/118.82) ^a	113.55 (113.18/113.92) ^a	
SW_Fehlerprozent	102.27 (102.04/102.5) ^a	102.93 (102.61/103.24) ^a	103.58 (103.28/103.88) ^a	
SW_BZO	101.21 (101.48/100.94) ^a	100.53 (100.91/100.14) ^a	100.1 (100.39/99.82) ^a	
SW_KL	101.39 (101.17/101.6) ^a	101.45 (101.13/101.78) ^a	100.05 (99.81/100.3) ^a	
COSN_Total	3.17 (2.8/3.66) ^a	3.17 (2.79/3.71) ^a	3.17 (2.79/3.54) ^a	
FFMQ_total	2.6 (2.36/3.01) ^a	2.67 (2.35/3) ^a	2.57 (2.26/2.9) ^a	
MDI	53 (51/56) ^a	53 (51/55) ^a	53 (51/56) ^a	
mhc_total	45.57 (45.28/45.86) ^a	45 (44.56/45.44) ^a	43.65 (43.36/43.94) ^a	
PSS-10	13.24 (13.1/13.38) ^a	13.59 (13.4/13.77) ^a	14.21 (14.08/14.34) ^a	
SCS_Total	2.44 (2.43/2.45) ^a	2.44 (2.42/2.46) ^a	2.48 (2.46/2.49) ^a	
STAI_ta	35.66 (35.5/35.82) ^a	36.26 (36.02/36.5) ^a	36.38 (36.19/36.58) ^a	
TAS-20	17.81 (17.61/18) ^a	18.4 (18.08/18.71) ^a	19.19 (18.94/19.44) ^a	
TIPI_Agreeableness	4.18 (4.15/4.2) ^a	4.03 (4/4.07) ^a	4.21 (4.19/4.24) ^a	
TIPI_Conscientiousness	4.84 (4.82/4.87) ^a	4.87 (4.84/4.9) ^a	4.97 (4.94/4.99) ^a	
TIPI_EmotionalStability	4.46 (4.44/4.49) ^a	4.4 (4.36/4.44) ^a	4.39 (4.36/4.41) ^a	
TIPI_Extraversion	3.18 (3.15/3.22) ^{ab}	3.05 (3/3.1) ^a	3.44 (3.41/3.48) ^{ab}	
TIPI_Openness	4.68 (4.65/4.7) ^a	4.63 (4.6/4.67) ^a	4.79 (4.77/4.81) ^a	
T2				
Age	39.73 (39.51/39.96) ^a	40.3 (39.98/40.62) ^a	41.04 (40.8/41.27) ^a	
Female	59.04 ^a	54.39 ^a	56.58 ^a	

	TC2 – CTM (Lo/Hi)	TC3 – CTM (Lo/Hi)	N RCC1&2	N RCC2	N TC1	N TC2	N TC3	Summary Type
	4.89 (4.86/4.91) ^a	4.95 (4.93/4.97) ^a	85	60	72	73	79	Mean & 95% CI
	41.32 (41.07/41.56) ^a	40.47 (40.25/40.7) ^a	85	58	78	79	78	Mean & 95% CI
	59.49 ^a	58.97 ^a	85	58	78	79	78	Percentage
	39.47 ^a	29.33 ^a	81	57	77	76	75	Percentage
	19.74 ^a	34.67 ^a	81	57	77	76	75	Percentage
	40.79 ^a	36 ^a	81	57	77	76	75	Percentage
	57.89 ^{ab}	42.67 ^b	81	57	77	76	75	Percentage
	3000 (1500/4500) ^a	3000 (2000/4000) ^a	85	58	78	79	78	Median and 25 th and 75 th quartiles
	0 ^a	0 ^a	81	57	77	76	75	Percentage
	7.89 ^a	5.33 ^a	81	57	77	76	75	Percentage
	14.47 ^a	12 ^a	81	57	77	76	75	Percentage
	71.05 ^a	76 ^a	81	57	77	76	75	Percentage
	6.58 ^a	6.67 ^a	81	57	77	76	75	Percentage
	114.24 (113.87/114.61) ^a	115.63 (115.22/116.04) ^a	82	55	78	79	76	Mean & 95% CI
	102.28 (101.98/102.59) ^a	104.67 (104.38/104.96) ^a	67	54	69	67	70	Mean & 95% CI
	100.77 (101.03/100.51) ^a	99.91 (100.12/99.7) ^a	67	54	69	67	70	Mean & 95% CI
	101.12 (100.92/101.32) ^a	100.93 (100.71/101.14) ^a	67	54	69	67	70	Mean & 95% CI
	3.08 (2.92/3.38) ^a	3.21 (2.83/2375) ^a	82	57	77	79	77	Median and 25 th and 75 th quartiles
	2.73 (2.31/3) ^a	2.55 (2.25/2.87) ^a	80	58	76	76	75	Median and 25 th and 75 th quartiles
	53 (50/55) ^a	52 (49/55) ^a	83	58	78	79	78	Median and 25 th and 75 th quartiles
	45.65 (45.35/45.96) ^a	44.47 (44.15/44.79) ^a	83	58	77	78	77	Mean & 95% CI
	13.47 (13.33/13.61) ^a	13.58 (13.41/13.74) ^a	83	58	77	79	76	Mean & 95% CI
	2.61 (2.59/2.62) ^a	2.46 (2.44/2.48) ^a	83	58	77	79	76	Mean & 95% CI
	35.77 (35.61/35.94) ^a	37.44 (37.21/37.66) ^a	83	58	78	79	78	Mean & 95% CI
	17.29 (17.08/17.5) ^a	17.54 (17.3/17.78) ^a	83	58	78	79	78	Mean & 95% CI
	4.23 (4.21/4.25) ^a	4.2 (4.17/4.23) ^a	82	58	70	71	76	Mean & 95% CI
	4.85 (4.83/4.88) ^a	4.71 (4.68/4.73) ^a	82	58	70	71	76	Mean & 95% CI
	4.34 (4.31/4.36) ^a	4.35 (4.32/4.37) ^a	82	58	70	71	76	Mean & 95% CI
	3.27 (3.23/3.3) ^{ab}	3.62 (3.59/3.66) ^b	82	58	70	71	76	Mean & 95% CI
	4.88 (4.86/4.9) ^a	4.92 (4.9/4.94) ^a	82	58	70	71	76	Mean & 95% CI
	40.96 (40.7/41.22) ^a		83	57	76	76		Mean & 95% CI
	60.53 ^a		83	57	76	76		Percentage

Table C1 Variable	RCC1&2 – CTM (Lo/Hi)	RCC2 – CTM (Lo/Hi)	TC1 – CTM (Lo/Hi)	
MaritalStatus 0: Married	39.24 ^a	42.86 ^a	41.33 ^a	
MaritalStatus 1: Living in relationship (unmarried)	20.25 ^a	19.64 ^a	32 ^a	
MaritalStatus 2: Single	40.51 ^a	37.5 ^a	26.67 ^a	
Has children	56.96 ^a	62.5 ^a	52 ^a	
Income	2500 (2000/3750) ^a	2500 (2000/3500) ^a	3000 (2000/4500) ^a	
Education 1: None	0 ^a	0 ^a	1.33 ^a	
Education 2: „Hauptschule“ (9 th Grade)	5.06 ^a	1.79 ^a	4 ^a	
Education 3: „Realschule“ (10 th Grade)	18.99 ^a	17.86 ^a	10.67 ^a	
Education 4: „Fachhochschulreife/Abitur/ University“ (12 th Grade or higher, Diploma/Master)	70.89 ^a	75 ^a	77.33 ^a	
Education 5: „Doctoral degree“	5.06 ^a	5.36 ^a	6.67 ^a	
CFT	116.69 (116.35/117.03) ^a	118.31 (117.83/118.8) ^a	113.62 (113.23/114) ^a	
SW_Fehlerprozent	102.29 (102.05/102.53) ^a	102.96 (102.64/103.28) ^a	103.57 (103.27/103.88) ^a	
SW_BZO	101.36 (101.64/101.09) ^a	100.7 (101.1/100.31) ^a	100.17 (100.46/99.87) ^a	
SW_KL	101.47 (101.25/101.7) ^a	101.56 (101.23/101.9) ^a	100.09 (99.83/100.34) ^a	
COSN_Total	3.17 (2.79/3.5) ^a	3.17 (2.79/3.55) ^a	3.17 (2.79/3.5) ^a	
FFMQ_total	2.6 (2.36/3.01) ^a	2.66 (2.35/3.01) ^a	2.57 (2.26/2.91) ^a	
MDI	53 (51/56) ^a	53 (51/55) ^a	53 (51/56) ^a	
mhc_total	45.57 (45.27/45.87) ^a	45.05 (44.6/45.51) ^a	43.64 (43.34/43.94) ^a	
PSS-10	13.19 (13.04/13.33) ^a	13.49 (13.3/13.68) ^a	14.35 (14.21/14.48) ^a	
SCS_Total	2.44 (2.42/2.45) ^a	2.44 (2.42/2.46) ^{ab}	2.48 (2.46/2.49) ^{ab}	
STAI_ta	35.59 (35.43/35.76) ^a	36.16 (35.92/36.4) ^a	36.58 (36.38/36.78) ^a	
TAS-20	16.68 (16.48/16.87) ^a	17.22 (16.9/17.54) ^a	18.23 (17.98/18.48) ^a	
TIPI_Agreeableness	4.16 (4.13/4.18) ^a	4.02 (3.98/4.05) ^a	4.21 (4.18/4.23) ^a	
TIPI_Conscientiousness	4.85 (4.83/4.88) ^a	4.88 (4.84/4.91) ^a	4.94 (4.91/4.96) ^a	
TIPI_EmotionalStability	4.57 (4.55/4.59) ^a	4.5 (4.46/4.53) ^a	4.5 (4.47/4.53) ^a	
TIPI_Extraversion	3.17 (3.14/3.21) ^a	3.03 (2.97/3.08) ^a	3.43 (3.4/3.47) ^a	
TIPI_Openness	4.67 (4.64/4.69) ^a	4.62 (4.59/4.66) ^a	4.79 (4.76/4.81) ^a	
T3				
Age	39.8 (39.57/40.03) ^a	40.42 (40.09/40.75) ^a	41.14 (40.88/41.39) ^a	
Female	59.26 ^a	54.55 ^a	55.56 ^a	
MaritalStatus 0: Married	40.26 ^a	44.44 ^a	40.85 ^a	
MaritalStatus 1: Living in relationship (unmarried)	19.48 ^a	18.52 ^a	30.99 ^a	
MaritalStatus 2: Single	40.26 ^a	37.04 ^a	28.17 ^a	
Has children	57.14 ^a	62.96 ^a	53.52 ^a	

	TC2 – CTM (Lo/Hi)	TC3 – CTM (Lo/Hi)	N RCC1&2	N RCC2	N TC1	N TC2	N TC3	Summary Type
	38.36 ^a		79	56	75	73		Percentage
	19.18 ^a		79	56	75	73		Percentage
	42.47 ^a		79	56	75	73		Percentage
	56.16 ^a		79	56	75	73		Percentage
	2750 (1500/4500) ^a		83	57	76	76		Median and 25 th and 75 th quartiles
	0 ^a		79	56	75	73		Percentage
	6.85 ^a		79	56	75	73		Percentage
	13.7 ^a		79	56	75	73		Percentage
	72.6 ^a		79	56	75	73		Percentage
	6.85 ^a		79	56	75	73		Percentage
	114.78 (114.39/115.17) ^a		80	54	76	76		Mean & 95% CI
	102.69 (102.39/103) ^a		66	53	68	65		Mean & 95% CI
	100.75 (101.02/100.48) ^a		66	53	68	65		Mean & 95% CI
	101.39 (101.19/101.59) ^a		66	53	68	65		Mean & 95% CI
	3.08 (2.92/3.43) ^a		80	56	75	76		Median and 25 th and 75 th quartiles
	2.71 (2.32/2.98) ^a		78	57	74	73		Median and 25 th and 75 th quartiles
	53 (50/55) ^a		81	57	76	76		Median and 25 th and 75 th quartiles
	46.01 (45.7/46.33) ^a		81	57	75	75		Mean & 95% CI
	13.29 (13.15/13.43) ^a		81	57	75	76		Mean & 95% CI
	2.63 (2.61/2.64) ^b		81	57	75	76		Mean & 95% CI
	35.63 (35.46/35.81) ^a		81	57	76	76		Mean & 95% CI
	16.15 (15.94/16.37) ^a		81	57	76	76		Mean & 95% CI
	4.24 (4.21/4.26) ^a		80	57	68	68		Mean & 95% CI
	4.91 (4.88/4.93) ^a		80	57	68	68		Mean & 95% CI
	4.48 (4.46/4.51) ^a		80	57	68	68		Mean & 95% CI
	3.32 (3.28/3.35) ^a		80	57	68	68		Mean & 95% CI
	4.87 (4.85/4.9) ^a		80	57	68	68		Mean & 95% CI
	40.87 (40.61/41.13) ^a		81	55	72	75		Mean & 95% CI
	60 ^a		81	55	72	75		Percentage
	37.5 ^a		77	54	71	72		Percentage
	19.44 ^a		77	54	71	72		Percentage
	43.06 ^a		77	54	71	72		Percentage
	55.56 ^a		77	54	71	72		Percentage

Table C1 Variable	RCC1&2 – CTM (Lo/Hi)	RCC2 – CTM (Lo/Hi)	TC1 – CTM (Lo/Hi)	
Income	2500 (2000/3500) ^a	2500 (2000/3500) ^a	3000 (2000/4500) ^a	
Education 1: None	0 ^a	0 ^a	1.41 ^a	
Education 2: „Hauptschule“ (9 th Grade)	5.19 ^a	1.85 ^a	4.23 ^a	
Education 3: „Realschule“ (10 th Grade)	18.18 ^a	16.67 ^a	9.86 ^a	
Education 4: „Fachhochschulreife/Abitur/ University“ (12 th Grade or higher, Diploma/Master)	71.43 ^a	75.93 ^a	77.46 ^a	
Education 5: „Doctoral degree“	5.19 ^a	5.56 ^a	7.04 ^a	
CFT	116.76 (116.41/117.11) ^a	118.48 (117.97/118.99) ^a	113.33 (112.93/113.74) ^a	
SW_Fehlerprozent	101.95 (101.71/102.2) ^a	102.57 (102.24/102.9) ^a	103.84 (103.51/104.17) ^a	
SW_BZO	101.38 (101.66/101.1) ^a	100.7 (101.1/100.3) ^a	100 (100.31/99.69) ^a	
SW_KL	101.42 (101.19/101.65) ^a	101.5 (101.16/101.84) ^a	100.04 (99.77/100.3) ^a	
COSN_Total	3.17 (2.83/3.5) ^a	3.17 (2.79/3.66) ^a	3.08 (2.79/3.54) ^a	
FFMQ_total	2.6 (2.36/3.01) ^a	2.66 (2.34/3) ^a	2.53 (2.21/2.89) ^a	
MDI	53 (51/56) ^a	53 (50.5/55.5) ^a	53 (50.75/56) ^a	
mhc_total	45.58 (45.27/45.89) ^a	45.05 (44.57/45.54) ^a	43.51 (43.18/43.83) ^a	
PSS-10	13.08 (12.93/13.22) ^a	13.35 (13.15/13.54) ^a	14.31 (14.16/14.46) ^a	
SCS_Total	2.43 (2.42/2.45) ^a	2.44 (2.42/2.46) ^a	2.47 (2.45/2.48) ^a	
STAI_ta	35.62 (35.45/35.79) ^a	36.22 (35.97/36.47) ^a	36.64 (36.43/36.85) ^a	
TAS-20	16.59 (16.39/16.79) ^a	17.1 (16.77/17.44) ^a	18.3 (18.03/18.57) ^a	
TIPI_Agreeableness	4.17 (4.14/4.19) ^a	4.03 (3.99/4.06) ^a	4.2 (4.18/4.23) ^a	
TIPI_Conscientiousness	4.85 (4.83/4.88) ^a	4.88 (4.85/4.92) ^a	4.94 (4.91/4.96) ^a	
TIPI_EmotionalStability	4.47 (4.44/4.49) ^a	4.39 (4.35/4.43) ^a	4.39 (4.36/4.42) ^a	
TIPI_Extraversion	3.18 (3.14/3.22) ^a	3.03 (2.97/3.08) ^a	3.42 (3.38/3.46) ^a	
TIPI_Openness	4.55 (4.53/4.58) ^a	4.49 (4.45/4.53) ^a	4.67 (4.64/4.7) ^a	
T4				
Age	38.81 (38.49/39.13) ^a	39.5 (39.03/39.97) ^a	40.45 (40.07/40.83) ^a	
Female	59.32 ^a	55 ^a	55.1 ^a	
MaritalStatus 0: Married	34.48 ^a	38.46 ^a	41.67 ^a	
MaritalStatus 1: Living in relationship (unmarried)	20.69 ^a	20.51 ^a	27.08 ^a	
MaritalStatus 2: Single	44.83 ^a	41.03 ^a	31.25 ^a	
Has children	51.72 ^a	56.41 ^a	52.08 ^a	
Income	2500 (1500/3500) ^a	2500 (1500/3500) ^a	3000 (2000/4500) ^a	
Education 1: None	0 ^a	0 ^a	0 ^a	
Education 2: „Hauptschule“ (9 th Grade)	3.45 ^a	0 ^a	2.08 ^a	
Education 3: „Realschule“ (10 th Grade)	18.97 ^a	15.38 ^a	8.33 ^a	

	TC2 – CTM (Lo/Hi)	TC3 – CTM (Lo/Hi)	N RCC1&2	N RCC2	N TC1	N TC2	N TC3	Summary Type
	2500 (1500/4500) ^a		81	55	72	75		Median and 25 th and 75 th quartiles
	0 ^a		77	54	71	72		Percentage
	6.94 ^a		77	54	71	72		Percentage
	13.89 ^a		77	54	71	72		Percentage
	72.22 ^a		77	54	71	72		Percentage
	6.94 ^a		77	54	71	72		Percentage
	115.04 (114.65/115.43) ^a		78	52	72	75		Mean & 95% CI
	102.94 (102.63/103.24) ^a		64	51	64	64		Mean & 95% CI
	100.44 (100.71/100.18) ^a		64	51	64	64		Mean & 95% CI
	101.22 (101.02/101.42) ^a		64	51	64	64		Mean & 95% CI
	3.08 (2.92/3.44) ^a		78	54	71	75		Median and 25 th and 75 th quartiles
	2.71 (2.31/2.99) ^a		76	55	70	72		Median and 25 th and 75 th quartiles
	53 (50/55) ^a		79	55	72	75		Median and 25 th and 75 th quartiles
	45.89 (45.57/46.22) ^a		79	55	71	74		Mean & 95% CI
	13.32 (13.17/13.47) ^a		79	55	71	75		Mean & 95% CI
	2.62 (2.61/2.64) ^a		79	55	71	75		Mean & 95% CI
	35.72 (35.54/35.9) ^a		79	55	72	75		Mean & 95% CI
	16.23 (16.01/16.45) ^a		79	55	72	75		Mean & 95% CI
	4.25 (4.22/4.27) ^a		78	55	64	67		Mean & 95% CI
	4.88 (4.86/4.91) ^a		78	55	64	67		Mean & 95% CI
	4.39 (4.36/4.42) ^a		78	55	64	67		Mean & 95% CI
	3.29 (3.26/3.33) ^a		78	55	64	67		Mean & 95% CI
	4.77 (4.74/4.79) ^a		78	55	64	67		Mean & 95% CI
	41.59 (41.17/42.01) ^a	40.27 (39.91/40.62) ^a	59	40	49	49	49	Mean & 95% CI
	65.31 ^a	57.14 ^a	59	40	49	49	49	Percentage
	34.04 ^a	23.4 ^a	58	39	48	47	47	Percentage
	14.89 ^a	29.79 ^a	58	39	48	47	47	Percentage
	51.06 ^a	46.81 ^a	58	39	48	47	47	Percentage
	57.45 ^a	38.3 ^a	58	39	48	47	47	Percentage
	2500 (1500/4000) ^a	3000 (2000/3500) ^a	59	40	49	49	49	Median and 25 th and 75 th quartiles
	0 ^a	0 ^a	58	39	48	47	47	Percentage
	8.51 ^a	4.26 ^a	58	39	48	47	47	Percentage
	17.02 ^a	8.51 ^a	58	39	48	47	47	Percentage

Table C1 Variable	RCC1&2 – CTM (Lo/Hi)	RCC2 – CTM (Lo/Hi)	TC1 – CTM (Lo/Hi)	
Education 4: „Fachhochschulreife/Abitur/ University“ (12 th Grade or higher, Diploma/Master)	70.69 ^a	76.92 ^a	81.25 ^a	
Education 5: „Doctoral degree“	6.9 ^a	7.69 ^a	8.33 ^a	
CFT	116.88 (116.4/117.35) ^a	119.35 (118.69/120.01) ^a	115.84 (115.19/116.49) ^a	
SW_Fehlerprozent	102.44 (102.09/102.8) ^a	104 (103.54/104.46) ^a	105.88 (105.39/106.37) ^a	
SW_BZO	101.01 (101.4/100.63) ^a	100.35 (100.87/99.83) ^a	102.34 (102.84/101.85) ^a	
SW_KL	101.19 (100.88/101.51) ^a	101.81 (101.34/102.29) ^a	102.21 (101.8/102.63) ^a	
COSN_Total	3.17 (2.83/3.5) ^a	3.21 (2.88/1189.5) ^a	3.08 (2.79/3.59) ^a	
FFMQ_total	2.63 (2.36/3.01) ^a	2.77 (2.35/3.03) ^a	2.54 (2.26/2.94) ^a	
MDI	53 (49.5/56) ^a	52 (49/55) ^a	53 (51/56) ^a	
mhc_total	45.19 (44.77/45.6) ^a	44.2 (43.54/44.86) ^a	44.23 (43.72/44.74) ^a	
PSS-10	13.37 (13.17/13.58) ^a	13.47 (13.19/13.76) ^a	13.58 (13.38/13.78) ^a	
SCS_Total	2.39 (2.36/2.41) ^a	2.4 (2.37/2.43) ^{ab}	2.48 (2.45/2.5) ^{ab}	
STAI_ta	36.08 (35.84/36.33) ^a	36.6 (36.23/36.97) ^a	35.88 (35.56/36.2) ^a	
TAS-20	17.98 (17.68/18.28) ^a	18.8 (18.3/19.3) ^a	19.55 (19.17/19.94) ^a	
TIPI_Agreeableness	4.09 (4.05/4.12) ^a	3.98 (3.92/4.03) ^a	4.14 (4.11/4.18) ^a	
TIPI_Conscientiousness	4.75 (4.72/4.79) ^{ab}	4.88 (4.83/4.93) ^{ab}	4.99 (4.95/5.03) ^a	
TIPI_EmotionalStability	4.57 (4.54/4.61) ^a	4.51 (4.45/4.56) ^a	4.6 (4.55/4.65) ^a	
TIPI_Extraversion	3.09 (3.05/3.14) ^a	2.94 (2.87/3.01) ^a	3.22 (3.16/3.28) ^a	
TIPI_Openness	4.66 (4.63/4.69) ^a	4.6 (4.54/4.65) ^a	4.87 (4.83/4.9) ^a	

	TC2 – CTM (Lo/Hi)	TC3 – CTM (Lo/Hi)	N RCC1&2	N RCC2	N TC1	N TC2	N TC3	Summary Type
	65.96 ^a	85.11 ^a	58	39	48	47	47	Percentage
	8.51 ^a	2.13 ^a	58	39	48	47	47	Percentage
	116.94 (116.35/117.53) ^a	115.15 (114.55/115.74) ^a	56	37	49	49	48	Mean & 95% CI
	100.73 (100.25/101.22) ^a	105.55 (105.12/105.99) ^a	45	36	43	41	47	Mean & 95% CI
	101.21 (101.62/100.79) ^a	100.04 (100.4/99.68) ^a	45	36	43	41	47	Mean & 95% CI
	101.48 (101.15/101.81) ^a	101.85 (101.52/102.19) ^a	45	36	43	41	47	Mean & 95% CI
	3.17 (2.96/3.5) ^a	3.21 (2.82/2625) ^a	58	39	48	49	48	Median and 25 th and 75 th quartiles
	2.79 (2.45/2.98) ^a	2.53 (2.26/2.91) ^a	57	40	47	47	47	Median and 25 th and 75 th quartiles
	53 (50/55) ^a	52 (49/55) ^a	59	40	49	49	49	Median and 25 th and 75 th quartiles
	45.17 (44.61/45.72) ^a	43.27 (42.75/43.79) ^a	59	40	48	48	48	Mean & 95% CI
	12.57 (12.35/12.8) ^a	14.04 (13.77/14.31) ^a	59	40	48	49	48	Mean & 95% CI
	2.64 (2.62/2.66) ^b	2.43 (2.4/2.45) ^{ab}	59	40	48	49	48	Mean & 95% CI
	35.22 (34.95/35.5) ^a	37.82 (37.44/38.19) ^a	59	40	49	49	49	Mean & 95% CI
	18.43 (18.07/18.78) ^a	18.24 (17.85/18.63) ^a	59	40	49	49	49	Mean & 95% CI
	4.18 (4.15/4.21) ^a	4.16 (4.11/4.2) ^a	58	40	45	44	48	Mean & 95% CI
	4.89 (4.85/4.93) ^{ab}	4.48 (4.44/4.53) ^b	58	40	45	44	48	Mean & 95% CI
	4.56 (4.52/4.6) ^a	4.53 (4.48/4.57) ^a	58	40	45	44	48	Mean & 95% CI
	3.4 (3.34/3.45) ^a	3.48 (3.42/3.54) ^a	58	40	45	44	48	Mean & 95% CI
	4.88 (4.84/4.91) ^a	4.91 (4.88/4.94) ^a	58	40	45	44	48	Mean & 95% CI

Appendix C2: Characteristics of observers and relationship to participants

Table C2 Characteristics of observers and relationship to participants, by cohort, are given. CTM = Central Tendency Measure; Lo = Lower Quartile; Hi = Higher Quartile; Lo/Hi = 95% Confidence Interval. Differences between groups are indicated using superscripts, as follows: Within each row, all entries sharing a superscript are not statistically different from one another in post-hoc two-way tests. For example, in a row with four values with superscripts (1.4^a, 1.6^{ab}, 0.6, 1.8^b), statistically there are significant differences between 0.6 and all other values in the row, and between 1.4 and 1.8. All other possible combinations share superscripts, and post-hoc comparisons between them fail to reject the null hypothesis. Correction for multiple testing was done using FDR error correction across all tests in the table.

Table C2 Variable	RCC1&2 - CTM (Lo/Hi)	TC1 - CTM (Lo/Hi)	TC2 - CTM (Lo/Hi)	TC3 - CTM (Lo/Hi)	RCC2 - CTM (Lo/Hi)	N RCC 1&2	N TC1	N TC2	N TC3	N RCC2	Summary Type
Age	39.18 (38.93/39.43) ^a	42.32 (42.05/42.58) ^a	42.09 (41.86/42.31) ^a	40.40 (40.19/40.61) ^a	38.93 (38.56/39.29) ^a	44	63	70	63	27	Mean & 95% CI
Months known	118.00 (42.5/262) ^a	156.00 (45/240) ^a	120.00 (60/263) ^a	74 (28/194.5) ^a	119 (34.5/240) ^a	59	63	70	67	42	Mean and 25 th and 75 th quartiles
Female	50 ^a	62.90 ^a	65.22 ^a	66.13 ^a	37.04 ^a	44	62	69	62	27	Percentage
Friend	32.76 ^a	31.75 ^a	42.86 ^a	32.84 ^a	29.27 ^a	58	63	70	67	41	Percentage
Acquaintance	17.24 ^a	7.94 ^a	10.00 ^a	17.91 ^a	19.51 ^a	58	63	70	67	41	Percentage
Romantic partner	24.14 ^a	38.10 ^a	32.86 ^a	38.81 ^a	29.27 ^a	58	63	70	67	41	Percentage
Family	25.86 ^a	22.22 ^a	14.29 ^a	10.45 ^a	21.95 ^a	58	63	70	67	41	Percentage
Meet twice a week or more	61.40 ^a	68.25 ^a	71.01 ^a	72.73 ^a	57.50 ^a	57	63	69	66	40	Percentage

Appendix C3: Exclusion of potential participants due to medication

During the recruitment process participants were excluded due to certain medications. A list of drugs with their German names is given below.

Psychopharmacological drugs:

- ▶ Venlafaxin
- ▶ Cipralex
- ▶ Citalopram/ Escitalopram
- ▶ Fluoxetin
- ▶ Risperidon
- ▶ Mirtazapin
- ▶ Doneurin
- ▶ Zoloft
- ▶ Sertraline
- ▶ Cymbalta
- ▶ Elontril
- ▶ Paroxetin
- ▶ Valdoxan
- ▶ Anafranil
- ▶ Elontril
- ▶ Opipramol
- ▶ Quetiapin,
- ▶ Valproat
- ▶ Lithium
- ▶ Quilonium
- ▶ Mirtazapin
- ▶ Lamotrigine
- ▶ Seroquel
- ▶ Abilify
- ▶ Melperon

Blood pressure medication:

- ▶ Metoprol
- ▶ Ramilich
- ▶ MetoHexal/Metoprolol
- ▶ Cordanum
- ▶ Bisoprolol
- ▶ Nebivolol
- ▶ Amlodipin
- ▶ Carvedilol
- ▶ Losartan
- ▶ Obsidan

Asthma medication:

- ▶ Glukokortikoid-Spray
- ▶ Inuvair
- ▶ Berotec
- ▶ Cortison

Multiple Sclerosis:

- ▶ Baclofen
- ▶ Piracetam

Epilepsy:

- ▶ Keppra

Migraine:

- ▶ Maxalt

Parkinson's Disease:

- ▶ Sifrol

Appendix D – Partial Dropout from Type of Experiments

Appendix D1: Partial dropout or participant exclusion from experiments

The table below indicates the partial dropout/exclusion of participants from specific experiments that were assessed during the *ReSource Project*. The cohort, time point of dropout, city, and reasons (if reported) are indicated. The measures are listed in Chapter 8. Please note that these partial dropouts/exclusions do not explain data loss due to missed experiments or technical issues. Moreover, some participants dropped out of a specific task due to discomfort (e.g., only one of the MRI/VR paradigms, such as the pain paradigm). However, these are not listed in this volume.

Table D1 Cohort	N	Time Point	City	Reason	Dropout vs. Exclusion
RCC1	3	0	Leipzig	No MRI: medical	EX
RCC1		1	Berlin	No MRI: medical	D
RCC1		2	Berlin	No MRI: discomfort	D
RCC2	8	1	Berlin	No MRI: medical / no VR: time	EX/D
RCC2		1	Berlin	No MRI: medical / no VR: other	EX
RCC2		1	Leipzig	No MRI: medical	EX
RCC2		1	Leipzig	No MRI: medical	EX
RCC2		2	Berlin	No MRI: discomfort / no VR: other	EX
RCC2		2	Leipzig	No MRI: medical	D
RCC2		4	Berlin	No MRI: time / no VR: time	D
RCC2		4	Leipzig	No MRI: discomfort	D
TC1	13	0	Leipzig	No blood draws: medical	EX
TC1		1	Leipzig	No MRI: discomfort / no VR: discomfort	EX
TC1		1	Leipzig	No MRI: medical / no VR: other	EX
TC1		2	Berlin	No MRI: discomfort / no VR: time	D
TC1		2	Berlin	No MRI: medical / no VR: time	EX
TC1		2	Berlin	No MRI: medical / no VR: medical	EX
TC1		2	Leipzig	No MRI: medical	EX
TC1		2	Leipzig	No MRI: medical	EX
TC1		3	Berlin	No VR: discomfort	D
TC1		4	Leipzig	No behavior: other / no autonomic measures: other	D
TC1		4	Leipzig	No behavior: time / no autonomic measures: time	D
TC1		4	Leipzig	No MRI: no disclosure	D
TC1		4	Berlin	No MRI: no disclosure	D

TC2	11	0	Leipzig	No blood draws: medical	EX
TC2		0	Leipzig	No blood draws: medical	EX
TC2		1	Berlin	No MRI: medical	EX
TC2		1	Leipzig	No VR: discomfort	D
TC2		1	Leipzig	No MRI: medical	D
TC2		2	Leipzig	No MRI: medical	EX
TC2		2	Leipzig	No MRI: discomfort	EX
TC2		4	Berlin	No MRI: no disclosure	D
TC2		4	Berlin	No MRI: discomfort	D
TC2		4	Leipzig	No blood draws: other	D
TC2		4	Leipzig	No behavior: time	D
TC3	12	1	Berlin	No VR: medical	EX
TC3		1	Berlin	No VR: medical	D
TC3		1	Berlin	No MRI: medical / no VR: other	EX
TC3		1	Leipzig	No MRI: discomfort	D
TC3		1	Leipzig	No MRI: medical	EX
TC3		1	Leipzig	No VR: medical	EX
TC3		2	Berlin	No MRI: no disclosure	D
TC3		2	Berlin	No MRI: no disclosure	EX
TC3		2	Leipzig	No MRI: no disclosure / no VR: no disclosure	D
TC3		2	Leipzig	No MRI: no disclosure / no behavior: time	D
TC3		2	Leipzig	No behavior: time	D
TC3		2	Leipzig	No MRI: no disclosure	D

Table D1 Partial dropout or exclusion of participants from specific experiments of the *ReSource Project*. The table lists the cohort, number of participants per cohort, city, time point, measure, and reason if indicated. Medical reasons led to exclusion from the paradigms. Other reasons were discomfort with a specific task or undisclosed reasons.

Appendix E – Trait and State Questionnaires, Questions for Core Exercises, Weekly Questions, and Experience-sampling Questions

Appendix E1.1: Trait and state questionnaires

List of trait and state questionnaires used in the *ReSource Project*. A detailed bibliography can be found at the end of this appendix. The subscales are listed in Appendix E1.3 and first results at baseline are shown in Appendix E1.4.

Table E1.1 Lists all questionnaires that were filled out by participants online or in the laboratory during screening, grouping or testing phases (T0–T4), and during the Trier Social Stress Test (TSST). Questionnaires labelled “observer (OBS)” were filled out by observing participants of the study. Please note that some questionnaires were removed or shorted for TC1 and TC2 at time point T2 and T3.

Legend: G = Existing German Version; TR = Translated and back-translated; SCR = Screening Questionnaire; OBS = Observer Questionnaire; T0–T4 = given at test phase T0 to T4; P/P = paper/pencil only version; GROU = used for grouping into cohorts; *1: Translation courtesy of (and thanks to) Univ.-Prof. Dr. med. Arndt Büssing, Universität Witten/Herdecke, Germany, who may be contacted at: Arndt.Buessing@uni-wh.de; *2: Contact: Pearson Education Inc.; Pearson Assessment & Information GmbH, Baseler Str. 35-37, 60329 Frankfurt am Main, Tel.: +49 69 7 561 460; E-Mail: info.de@pearson.com, Internet: www.pearsonassessment.de

#	Table E1.1 Questionnaire	Short	Reference	Version	When
1	Major Depression Inventory	ICD-10, MDI	(Bech et al., 2001)	G	SCR; GROU
2	Toronto Alexithymia Scale	TAS-20	(Bagby et al., 1994; Kupfer, 2001)	G	SCR; GROU; T0–T4
3	State-Trait-Anxiety Inventory (STAI Trait)	STAI-X2	(Laux et al., 1981)	G	SCR; GROU; T0–T4
4	DIA-X für Achse 1 psychische Störungen nach DSM-IV	DIA-X	(Wittchen & Pfister, 1997)	G	SCR
5	Structured Clinical Interview for DSM-IV for Axis II Personality Disorders	SCID-II	(Fydrich et al., 1997; Wittchen et al., 1997)	G	SCR
6	Patient Health Questionnaire-D	PHQ-D	(Löwe et al., 2002; Spitzer et al., 1999)	G	SCR
7	Grundintelligenztest Skala 2 – Revision ohne WS/ZF-R	CFT 20-R	(Weiß, 2006)	G	GROU
8	Test d2 – Revision	d2R	(Brickenkamp et al., 2010)	G	GROU
9	Ten Item Personality Inventory	TIPI-10	(Gosling et al., 2003; Muck et al., 2007)	G	GROU; OBS
10	Self-Compassion Scale	SCS	(Hupfeld & Ruffieux, 2011; Neff, 2003)	G	GROU; T0–T4
11	Perceived Stress Scale	PSS-10	(Cohen et al., 1983)	G;*1	GROU; T0–T4; OBS
12	Five Facet Mindfulness Questionnaire	FFMQ	(Baer et al., 2006; Baer et al., 2008)	TR	GROU; T0–T4; OBS
13	Multidimensional Assessment of Interoceptive Awareness	MAIA	(Mehling et al., 2012)	TR	T0–T4
14	Freiburger Beschwerdeliste	FBL	(Fahrenberg, 1975)	G	T0–T4
15	Mental Health Continuum Short Form	MHC-SF	(Keyes, 2009; Lamers et al., 2012)	TR	GROU; T0–T4

#	Table E1.1 Questionnaire	Short	Reference	Version	When
16	Interpersonal Reactivity Index	IRI	(Davis, 1983)	TR	T0–T4; OBS
17	Compassion Scale: How I typically act towards others	COSN	(Pommier, 2011)	TR	GROU; T0–T4
18	Adult temperament questionnaire	ATQ	(Rothbart et al., 2000; Wiltink et al., 2006)	G	T0–T4; TC1/TC2: not at T2
19	ADHS-Selbst-beurteilungsfragebogen	ADHS-SB	(Rösler et al., 2004)	G	T0–T4
20	Freiburger Fragebogen zur Achtsamkeit; Short Version, 14 Items	FFA	(Buchheld & Walach, 2000; Kohls et al., 2009; Walach et al., 2006)	G	T0–T4
21	Private Body Consciousness Sub-Scale of the Body Consciousness Questionnaire	PBCS	(Miller et al., 1981)	TR	T0–T4; TC1/TC2: not at T2
22	Range and Differentiation of Emotion Scale	RDEES	(Kang & Shaver, 2004)	TR	T0–T4
23	Berkeley Expressivity Questionnaire	BEQ	(Gross & John, 1997)	TR	T0–T4; TC1/TC2: not at T2/T3
24	Ego Resiliency 89 Scale	ER-89	(Block & Kremen, 1996)	TR	T0–T4
25	Pittsburgh Sleep Inventory	PSQI	(Buysse et al., 1989)	G	T0–T4
26	Satisfaction With Life Scale	SWLS	(Diener et al., 1985; Glaesmer et al., 2011)	G	T0–T4; OBS
27	Parental Bonding Instrument	PBI	(Parker et al., 1979)	TR	T0
28	Soziale-Erwünschtheits-Skala-17	SES-17	(Stöber, 1999)	G	T0–T4
29	Experiences in Close Relationships – Revised	ECR-RD	(Ehrenthal et al., 2009)	G	T0–T4; TC1/TC2: not at T2/T3
30	UCLA Loneliness Scale		(Döring & Bortz, 1993; Russel et al., 1980)	G	T0–T4
31	Positive Affect Negative Affect Scale	PANAS	(Krohne et al., 1996; Watson et al., 1988)	G	T0–T4
32	Psychopathologie der Familie		Self-made by former research team in Mannheim (where Dr Philipp Kanske has worked)	G	T0; P/P
33	The Multi-motive Grid	MMG	(Sokolowski et al., 2000)	G	T0–T4
34	Affiliation Tendency and Rejection Sensitivity Scales		(Mehrabian, 1970; Sokolowski, 1986)	G	T0–T4
35	State-Trait-Anxiety Inventory (STAI State)	STAI-X1	(Laux et al., 1981)	G	P/P during TSST
36	Profile of Mood States 2nd Edition	POMS-2	(Pollock et al., 1979)	G	P/P during TSST
37	An Instrument to Measure Social Value Orientation	SVO	(Van Lange et al., 1997)	TR	T0–T4
38	Beck Depression Inventory – II	BDI-II	(Beck et al., 1996)	G	T0–T4

#	Table E1.1 Questionnaire	Short	Reference	Version	When
39	Fears of Compassion Scales	FOCS	(Gilbert et al., 2011)	TR	T0–T4
40	Types of Positive Affect Scale	TTPAS	(Gilbert et al., 2008)	TR	T0–T4
41	The Short Affect Intensity Scale; (only serenity subscale)	SAIS	(Geuens & De Pelsmacker, 2002)	TR	T0–T4; TC1/TC2: not at T2/T3
42	Brief-COPE	COPE	(Knoll et al., 2005)	G	T0–T4; TC1/TC2: shorted version at T2/T3; OBS
43	Machiavellism Scale		(Henning & Six, 1977)	G	T0–T4
44	Self Construal Scale		(Singelis, 1994)	TR	T0–T4
45	Self Dyadic Perspective-Taking Scale; Other Dyadic Perspective-Taking Scale	SDPT/ODPT	(Long, 1990)	TR	T0–T4
46	Prosocialness Scale		(Caprara et al., 2005)	TR	T0–T4; OBS
47	Self Importance of Moral Identity Scale		(Aquino & Reed, 2002)	TR	T0–T4
48	Friendship Compassionate and Self-Image Goals Scale		(Crocker & Canevello, 2008)	TR	T0–T4
49	Emotion Regulation of Others and Self	EROS	(Niven et al., 2011)	TR	T0–T4; TC1/TC2: not at T2/T3
50	Narcissistic Personality Inventory - 40	NPI	(Raskin & Terry, 1988; Triller, 2003)	G	T0–T4; TC1/TC2: not at T2
51	Borderline Personality Questionnaire	BPQ	(Henze et al., 2013; Poreh et al., 2006)	G	T0–T4; TC1/TC2: not at T2
52	Cognitive Emotion Regulation Questionnaire	CERQ	(Loch et al., 2011)	G	T0–T4
53	Trier Inventory for Chronic Stress	TICS	(Schulz et al., 2004)	G	T0–T4
54	Unsicherheitsintoleranz-Skala	UI-18	(Gerlach et al., 2008)	G	T0–T4
55	Pain Catastrophizing Scale	PCS	(Meyer et al., 2008)	G	T0–T4
56	Spontaneous Activity Questionnaire	SAQ	(Carriere et al., 2013)	G	T0–T4
57	Spontaneous and Deliberate Mind Wandering Scales	MDD, MDS	(Carriere et al., 2013)	TR	T0–T4
58	Twenty Statement Test	TST	(Kuhn & McPartland, 1954)	G	T0–T4
59	NEO-Fünf-Faktoren Inventar	Neo-FFI	(Borkenau & Ostendorf, 1993, 2008)	G	T0–T4
60	Subscales of the NEO-Persönlichkeitsinventar nach Costa und McCrae- Revised version	NEO-PI-R	(Ostendorf & Angleitner, 2004)	G	T0–T4
61	The modified Differential Emotions Scale	mDES	(Fredrickson et al., 2003, 2013)	TR	T0–T4 (weekly)
62	Perceived responsiveness Scale (12-item)		(Reis et al., 2011)	TR	OBS
63	Capitalization		(Gable et al., 2004)	TR	OBS

#	Table E1.1 Questionnaire	Short	Reference	Version	When
64	Dyadic Adjustment Scale	DAS	(Dinkel & Balck, 2005; Spanier, 1976)	G	OBS
65	Inclusion of Other in the Self Scale	IOS	(Aron et al., 1992)	G	OBS
66	Subjective Sensory Sensitivity Questionnaire		(Fox et al., 2012)	G	2x during Presence (T1)

Appendix E1.2: Additional information on trait and state questionnaires

Table E1.2 This table shows additional information for some of the above trait questionnaires. In Table E1.1 only references are reported. This table shows details of the URL where the original (German version) of some questionnaires can be found.

Table E1.2 Questionnaire	Short	URLs
Major Depression Inventory	ICD-10	(Bech et al., 2001) URL: http://www.psychiatri-regionh.dk/menu/Centre/Psykiatriske+centre/Psykiatrisk+Center+Nordsjaelland/Udvikling+og+forskning/Forskning/Psychiatric+Research+Unit/Rating+scales+and+questionnaires/
Trait-Anxiety Inventory	STAI-X2	URL: http://www.unifr.ch/ztd/HTS/infest/WEB-Informationssystem/de/4de001/33eb1dc5105811d4b5280000b4909ce2/hb.htm
DIA-X für Achse 1 psychische Störungen nach DSM-IV	DIA-X	URL: http://www.testzentrale.de/programm/diagnostisches-expertensystem-fur-psychische-storungen.html?catId=21
Structured Clinical Interview for DSM-IV for Axis II Personality Disorders	SCID-II	URL: http://www.testzentrale.de/programm/strukturiertes-klinisches-interview-fur-dsm-iv.html
Grundintelligenztest Skala 2 – Revision ohne WS/ZF-R	CFT 20-R	URL: http://www.testzentrale.de/programm/grundintelligenztest-skala-2-revision-cft-20-r-mit-wortschatztest-und-zahlenfolgengest-revision-ws-zf-r.html
Test d2 – Revision	d2R	URL: http://www.testzentrale.de/programm/test-d2-revision.html
Perceived Stress Scale	PSS-10	URL: http://www.psy.cmu.edu/~scohen/scales.html
Compassion Scale: How I typically act towards others;	COSN	Copyright Elizabeth A. Pommier & Kristin D. Neff Contact: Dr. Pommier at eap345@gmail.com Contact: Dr. Neff at kristin.neff@mail.utexas.edu
Psychopathologie der Familie		Self-made by former research team in Mannheim (where Dr Philipp Kanske has worked)
State-Anxiety Inventory	STAI-X1	URL: http://www.unifr.ch/ztd/HTS/infest/WEB-Informationssystem/de/4de001/33eb1dc5105811d4b5280000b4909ce2/hb.htm
Profile of Mood States 2 nd Edition	POMS-2	URL: http://www.mhs.com/product.aspx?gr=cli&prod=poms&id=overview
Beck Depression Inventory – II	BDI-II	Beck, A. T. Brown, G. K., & Steer, R. A. Beck Depression Inventory-II (BDI-II), 1996. Contact: Pearson Education Inc.; Pearson Assessment & Information GmbH Baseler Str. 35-37, 60329 Frankfurt am Main, Tel.: +49 69 7 561 460; E-Mail: info.de@pearson.com , Internet: www.pearsonassessment.de

Appendix E1.3: List of all variable names and subscales with brief description of online questionnaires

Table E1.3 This table lists all abbreviations, variables or subscales from our online questionnaire battery, and a brief description of what is assessed. References can be found at the end of this appendix.

Table E1.3 Questionnaire	Short	Scales	Measure
Major Depression Inventory	ICD-10, MDI	MDI	Mild to severe depression
Toronto Alexithymia Scale	TAS-20	TAS_describe_feelings	Measures difficulty describing emotions
		TAS_externally_oriented	Measures the tendency of individuals to focus their attention externally
		TAS_20	Measure of alexithymia
		TAS_identify_feelings	Measures difficulty identifying emotions
State-Trait-Anxiety Inventory; STAI X2-Trait	STAI-X2	STAI_ta	Trait anxiety
Grundintelligenztest Skala 2-Revision (CFT 20-R) ohne WS/ZF-R	CFT 20-R	IQ	Non-verbal intelligence
Test d2-Revision	d2R	SW_Fehlerprozent	Percent of erroneously crossed or omitted marks in concentration test
		SW_BZO	Speed in concentration test
		SW_KL	Aggregate measure of concentration
Ten Item Personality Inventory	TIPI-10	TIPI-EmotionalStability	Emotional stability
		TIPI Openness	Openness
		TIPI-Conscientiousness	Conscientiousness
		TIPI-Agreeableness	Agreeableness
		TIPI-Extraversion	Extraversion
Self-Compassion Scale	SCS	SCS_CommonHumanity	Common Humanity
		SCS_Isolation	Isolation
		SCS_Mindfulness	Mindfulness
		SCS_Overidentified	Over-identification
		SCS_SelfJudgment	Self-judgment
		SCS_SelfKindness	Self-kindness
		SCS_Total	Self-compassion total score
Perceived Stress Scale	PSS-10	PSS	Measure of the degree to which situations in one's life are appraised as stressful
Five Facet Mindfulness Questionnaire	FFMQ	FFMQ_Aware	Acting with awareness
		FFMQ_Describe	Describing
		FFMQ_Nonjudge	Non-judging of inner experience
		FFMQ_Nonreact	Nonreactivity to inner experience
		FFMQ_Observe	Observing
		FFMQ_Overall	Mindfulness total score

Table E1.3 Questionnaire	Short	Scales	Measure
Multidimensional Assessment of Interoceptive Awareness	MAIA	MAIA_attentionRegulation	Ability to control attention to body sensations
		MAIA_bodyListening	Listening to the body for insight
		MAIA_emotional Awareness	Awareness of body-emotion connections
		MAIA_notDistracting	Not ignoring unpleasant body sensation
		MAIA_Noticing	Awareness of body sensations
		MAIA_notWorrying	Not worrying about unpleasant sensations
		MAIA_selfRegulation	Regulating distress by attention to body sensations
		MAIA_Trusting	Experience of the body as safe and trustworthy
Freiburger Beschwerdeliste	FBL	FBL_wb	General well-being
		FBL_tr	Tiredness
		FBL_emo	Emotional reactivity
		FBL_sen	Sensory problems
		FBL_sum	Summary score
		FBL_gi	Gastrointestinal problems
		FBL_nti	Nose/throat irritation
		FBL_ten	Tension
		FBL_pn	Pain
		FBL_cd	Cardiovascular problems
Mental Health Continuum Short Form	MHC-SF	mhc_total	Overall psychological well-being
		mhc_ewb	Emotional well-being
		mhc_swb	Social well-being
		mhc_pwb	Psychological well-being
		mhc_dx Languishing	Categorized as having low well-being
		mhc_dx Moderate	Categorized as having moderate well-being
		mhc_dx Flourishing	Categorized as having high well-being
Interpersonal Reactivity Index	IRI	IRI_ec	Empathic concern with others
		IRI_fs	The tendency to fantasize and daydream
		IRI_pd	Distress when faced with others in pain or sorrow
		IRI_ps	Ability to take others' perspective

Table E1.3 Questionnaire	Short	Scales	Measure
Compassion Scale: How I typically act towards others	COSN	COSN_Common	Common humanity
		COSN_Disengagement	Disengagement
		COSN_Indifference	Indifference towards others
		COSN_Kindness	Kindness towards others
		COSN_Mindfulness	Mindfulness
		COSN_Separation	Separation
		COSN_Total	Overall score
Adult Temperament Questionnaire	ATQ	atq_activation_control	Activation control
		atq_affect_perc_sens	Affective perceptual sensitivity
		atq_assoc_sens	Associative sensitivity
		atq_attentional_control	Attentional control
		atq_discomfort	Discomfort
		atq_effortful_control	Effortful control
		atq_extraversion	Extraversion
		atq_fear	Fear
		atq_frustration	Frustration
		atq_inhibitory_control	Inhibitory control
		atq_intens_pleasure	High intensity pleasure
		atq_negative_affect	Negative affect
		atq_neut_perc_sens	Neutral perceptual sensitivity
		atq_orienting_sens	Orienting sensitivity
		atq_positive_affect	Positive affect
		atq_sadness	Sadness
		atq_sociability	Sociability
ADHS-Selbstbeurteilungsfragebogen	ADHS-SB	adhs_attention	Symptoms of attentional deficits
		adhs_total	Attention deficit hyperactivity disorder
		adhs__hyperactivity	Symptoms of hyperactivity
		adhs__impulsivity	Symptoms of impulsivity
Freiburger Fragebogen zur Achtsamkeit; Short version, 14 items	FFA	FFA_Acceptance	Non-judgemental acceptance of experience
		FFA_Presence	Awareness of experience
		FFA_total	Mindfulness Score according to FFA
Private Body Consciousness Sub-Scale of the Body Consciousness Questionnaire	PBCS	PBCS	Awareness of body sensations

Table E1.3 Questionnaire	Short	Scales	Measure
Range and Differentiation of Emotion Scale	RDEES	RDEES.Range	Range of experienced emotions
		RDEES.Differentiation	Differentiation of experienced emotions
		RDEES.Mean	Mean range and differentiation
Berkeley Expressivity Questionnaire	BEQ	BEQ.nex	Expressivity of negative emotion
		BEQ.str	Strength of expression impulse
		BEQ.Mean	Mean
		BEQ.pex	Expressivity of positive emotion
Ego Resiliency 89 Scale	ER-89	ER89	Measurement of ego-resiliency
Pittsburgh Sleep Inventory	PSQI	PSQI	Scores sleep habits and sleep quality
Satisfaction With Life Scale	SWLS	SWLS	Judgements on satisfaction with one's life
Parental Bonding Instrument	PBI	PBI.faca	Paternal care
		PBI.moca	Maternal care
		PBI.moop	Maternal overprotection
		PBI.faop	Paternal overprotection
Soziale-Erwünschtheits-Skala-17	SES-17	Stoeber	Tendency to respond in a socially desirable way
Experiences in Close Relationships – Revised	ECR-RD	ECR_Anxiety	Anxiety
		ECR_Avoidance	Avoidance
UCLA Loneliness Scale		UCLA_Loneliness	Loneliness
Positive Affect Negative Affect Schedule	PANAS	PANAS_NEG	Negative affect in the last weeks
		PANAS_POS	Positive affect in the last weeks
Psychopathologie der Familie		n.a.	Mental disorders in first- and second-degree relatives
The Multi-motive Grid	MMG	MMG_HopeForSuccess	Hope for success
		MMG_HopeForControl	Hope for control
		MMG_FearOfRejection	Fear of rejection
		MMG_FearOfFailure	Fear of failure
		MMG_FearOfLosingControl	Fear of losing control
		MMG_HopeForAffiliation	Hope for affiliation
Affiliation Tendency and Rejection Sensitivity Scales		MA_Affil_Tend	Affiliation tendency
		MA_Reject_Sens	Rejection sensitivity
State-Trait-Anxiety Inventory; STAI X1-State	STAI-X1	n.a.	State anxiety
Profile of Mood States 2 nd Edition	POMS-2	n.a.	Assesses mood states
An Instrument to Measure Social Value Orientation	SVO	PvL_type_prosocial	Tendency to make decisions that maximize others' output

Table E1.3 Questionnaire	Short	Scales	Measure
An Instrument to Measure Social Value Orientation	SVO	PvL_type_individualistic	Tendency to make decisions that maximize own output
		PvL_type_competitive	Tendency to choose decisions that maximize own over others' output
Beck Depression Inventory – II	BDI-II	bdi_total	Severity of depression
		bdi_affective	Affective symptoms of depression
		bdi_somatic	Somatic symptoms of depression
Fears of Compassion Scales	FOCS	FoC_Responding	Fear of compassion from others
		FoC_Self	Fear of compassion for self
Types of Positive Affect Scale	TTPAS	TTPAS_Active	Active positive affect
		TTPAS_Relaxed	Relaxed positive affect
		TTPAS_Warmth	Safe/warmth positive affect
The Short Affect Intensity Scale (only serenity subscale)	SAIS	SAIS_Serenity	Serenity, i.e., low-arousal positive affect
Brief-COPE	COPE	COPE_EmotionalSup	Use of emotional support as coping strategy
		COPE_PosReinterp	Positive reframing as coping strategy
		COPE_Active	Active coping
		COPE_InstrumentalSup	Use of instrumental support as coping strategy
		COPE_ActOut	Venting as a coping strategy
		COPE_Plan	Planning as coping strategy
		COPE_Accept	Acceptance as coping strategy
		COPE_SelfBlame	Self-blame as coping strategy
		COPE_Denial	Denial as coping strategy
		COPE_Withdrawal	Withdrawal as coping strategy
		COPE_Drugs	Substance use as coping strategy
		COPE_Religion	Religion as coping strategy
		COPE_Humor	Humor as coping strategy
Machiavellismus Skala		Machiavelli_index	Tendency to value own advantage over moral principles
Self Construal Scale		independent_score	Tendency to perceive oneself as independent person ("strength of independent self")
		interdependent_score	Tendency to perceive oneself as interdependent with others ("strength of interdependent self")
Self Dyadic Perspective-Taking Scale; Other Dyadic Perspective-Taking Scale	SDPT/ODPT	self_cognizance	Global awareness and understanding of others
		self_strategies	Attempts and endeavours to understand the perspective of others

Table E1.3 Questionnaire	Short	Scales	Measure
Prosocialness Scale		Prosocialness	Tendency to behave in a prosocial way (help and support others)
Self Importance of Moral Identity Scale		MI_Symbolization	Measure of the degree to which people's self-concepts center on moral traits
Friendship Compassionate and Self-Image Goals Scale		Crocker_CompassGoals	Compassionate goals
		Crocker_SIGoals	Self-image goals
Emotion Regulation of Others and Self	EROS	ExtImprov	Externally focused emotion regulation for positive affect
		ExtWorse	Externally focused emotion regulation for negative affect
		IntImprov	Internally focused emotion regulation for positive affect
		IntWorse	Internally focused emotion regulation for negative affect
Narcissistic Personality Inventory - 40	NPI	npi_total	Narcissism as a personality type
		npi_Exhibitionism	Exhibitionism
		npi_Entitlement	Entitlement
		npi_Authority	Authority
		npi_Superiority	Superiority
		npi_Exploitativeness	Exploitativeness
		npi_Self_Sufficiency	Self-sufficiency
		npi_Vanity	Vanity
Borderline Personality Questionnaire	BPQ	BPQ_impulsivity	Impulsivity
		BPQ_affect_inst	Affective instability
		BPQ_abandon	Abandonment
		BPQ_relation	Relationships
		BPQ_psychotic	Quasi-psychotic states
		BPQ_self	Self image
		BPQ_empty	Emptiness
		BPQ_anger	Intense anger
		BPQ_suicide	Suicidal/self-mutilations
		BPQ	Borderline personality traits
Cognitive Emotion Regulation Questionnaire	CERQ	CERQ.Catastrophizing	Regulation via catastrophizing strategy
		CERQ.PosRefocus	Regulation via positive refocusing strategy
		CERQ.OtherBlame	Regulation via blaming others strategy
Trier Inventory for Chronic Stress	TICS	TICS_wo	Work overload
		TICS_so	Social overload
		TICS_ps	Pressure to succeed

Table E1.3 Questionnaire	Short	Scales	Measure
Trier Inventory for Chronic Stress	TICS	TICS_wd	Work dissatisfaction
		TICS_edw	Excessive demands at work
		TICS_lsr	Lack of social recognition
		TICS_si	Social isolation
		TICS_cc	Chronic concern
		TICS_tlcs	Total chronic stress score
		TICS_st	Social tensions
Unsicherheitsintoleranz-Skala	UI-18	UI18.Overall	Uncertainty intolerance
		UI18.Inability_to_Act	Paralysis by uncertainty
		UI18.Burdened	Negative affect by uncertainty
		UI18.Vigilance	Increased vigilance by uncertainty
Pain Catastrophizing Scale	PCS	PCS.Overall	Overall score
		PCS.Rum	Rumination
		PCS.Mag	Magnification
		PCS.Helpless	Helplessness
Spontaneous Activity Questionnaire	SAQ	SAQ_total	Self-reported fidgeting behavior (total score)
		SAQ_mean	Self-reported fidgeting behavior (average score)
Spontaneous and Deliberate Mind Wandering Scales	MDD, MDS	MDD_mean	Deliberate mind-wandering behavior (average score)
		MDD_total	Deliberate mind-wandering behavior (total score)
		MDS_mean	Spontaneous mind-wandering behavior (average score)
		MDS_Total	Spontaneous mind-wandering behavior (total score)
Twenty Statement Test	TST	n.a.	Self reported self-attitudes
NEO-Fünf-Faktoren Inventar	Neo-FFI	NEO_NEG_AFF	Negative affect
		NEO_SELF_REP	Self-reproach
		NEO_POS_AFF	Positive affect
		NEO_SOCIAL	Sociability
		NEO_ACTIVE	Activity
		NEO_INTELL	Intellectual interests
		NEO_UNCONV	Unconventionality
		NEO_NON_ANT	Non-antagonistic orientation
		NEO_PROSOC	Prosocial orientation
		NEO_ORDERLY	Orderliness
		NEO_STRIVING	Goal-striving
		NEO_DEPENDAB	Dependability

Table E1.3 Questionnaire	Short	Scales	Measure
NEO-Fünf-Faktoren Inventar	Neo-FFI	NEO_NEUROT	Neurocitism
		NEO_EXTRAVR	Extraversion
		NEO_OPEN	Openness
		NEO_AGREEAB	Agreeableness
		NEO_CONSCIEN	Conscientiousness
		NEO_AESHET	Aesthetic interests
Subscales of the NEO-Persönlichkeitsinventar nach Costa und McCrae- Revised version	NEO-PI-R	NEO_PIR_WARMTH	Warmth
		NEO_PIR_GREGARIOUSNESS	Gregariousness
		NEO_PIR_ASSERTIVENESS	Assertiveness
		NEO_PIR_ACTIVITY	Activity
		NEO_PIR_EXCITE_SEEK	Seeking excitement
		NEO_PIR_POS_EMOTION	Positive emotions
		NEO_PIR_EXTRAVERSION	Extraversion
The modified Differential Emotions Scale	mDES	mDES_POS	Positive emotions
		mDES_NEG	Negative emotions
Perceived responsiveness Scale (12 items)		PerResp	Responsiveness to partner's disclosure of positive events
Capitalization	CAP	Cap_ActiveConstructive	Amplifies partner's positive reactions
		Cap_PassiveConstructive	Accepts partner's positive reactions
		Cap_ActiveDestructive	Denigrates partner's positive reactions
		Cap_PassiveDestructive	Ignores partner's positive reactions
Dyadic Adjustment Scale	DAS	DAS_Consensus	Degree to which respondent agrees with partner
		DAS_Cohesion	Degree to which respondent and partner participate in activities together
		DAS_Satisfaction	Degree to which respondent feels satisfied with partner
Inclusion of Other in the Self Scale	IOS	n.a.	Feelings of closeness to other
Subjective Sensory Sensitivity Questionnaire		n.a.	Interoceptive Awareness

Appendix E1.4: Questionnaire scores of all participants at time point T0 (baseline)

Table E1.4 This table shows online trait questionnaire scores for the sample at T0. Comparisons are made between all training cohorts, the second retest control cohort and the combined retest control cohort (TC1, TC2, TC3, RCC2, and RCC1&2). CTM = Central Tendency Measure; Lo = Lower Quartile; Hi = Higher Quartile; Lo/Hi = 95% Confidence Interval. Differences between groups are indicated using superscripts as follows: Within each row, all entries sharing a superscript are not statistically different from one another in post-hoc two-way tests. For example, in a row with four values with superscripts (1.4^a, 1.6a^b, 0.6, 1.8^b), statistically there are significant differences between 0.6 and all other values in the row, and between 1.4 and 1.8. All other possible combinations share superscripts, and post-hoc comparisons between them fail to reject the null hypothesis. Correction for multiple testing was done using FDR error correction across all tests in the table:

Table E1.4 Variable	RCC1&2 – CTM (Lo/Hi)	RCC2 – CTM (Lo/Hi)	TC1 – CTM (Lo/Hi)	TC2 – CTM (Lo/Hi)	
adhs_attention	3.96 (3.9/4.03) ^a	4.11 (4/4.22) ^a	4.68 (4.6/4.76) ^a	4.72 (4.64/4.8) ^a	
adhs_hyperactivity	1.24 (1.21/1.28) ^a	1.25 (1.2/1.3) ^{ab}	1.86 (1.81/1.9) ^{ab}	1.61 (1.57/1.66) ^{ab}	
adhs_impulsivity	2.36 (2.33/2.39) ^a	2.44 (2.39/2.49) ^a	2.48 (2.44/2.51) ^a	2.34 (2.31/2.38) ^a	
adhs_total	8.1 (7.99/8.22) ^a	8.48 (8.31/8.65) ^{ab}	9.39 (9.25/9.54) ^{ab}	8.94 (8.8/9.09) ^{ab}	
atq_activation_control	4.72 (4.7/4.74) ^a	4.75 (4.72/4.77) ^a	4.73 (4.71/4.75) ^a	4.76 (4.74/4.78) ^a	
atq_affect_perc_sens	4.82 (4.8/4.84) ^a	4.89 (4.86/4.92) ^a	4.73 (4.71/4.76) ^a	4.83 (4.81/4.85) ^a	
atq_assoc_sens	4.6 (4.58/4.62) ^a	4.65 (4.62/4.67) ^a	4.68 (4.66/4.7) ^a	4.8 (4.78/4.82) ^a	
atq_attentional_control	4.39 (4.37/4.41) ^a	4.37 (4.34/4.4) ^a	4.18 (4.16/4.2) ^a	4.34 (4.31/4.36) ^a	
atq_discomfort	4.1 (4.08/4.13) ^a	4.13 (4.09/4.17) ^a	4.01 (3.98/4.03) ^a	3.93 (3.91/3.96) ^a	
atq_effortful_control	4.62 (4.61/4.64) ^a	4.62 (4.6/4.64) ^a	4.52 (4.51/4.54) ^a	4.6 (4.59/4.62) ^a	
atq_extraversion	4.63 (4.61/4.64) ^a	4.58 (4.56/4.6) ^a	4.5 (4.49/4.52) ^a	4.54 (4.52/4.55) ^a	
atq_fear	3.29 (3.27/3.3) ^a	3.29 (3.26/3.31) ^a	3.4 (3.38/3.42) ^a	3.43 (3.4/3.45) ^a	
atq_frustration	3.18 (3.16/3.2) ^a	3.16 (3.13/3.18) ^a	3.25 (3.23/3.28) ^a	3.2 (3.18/3.23) ^a	
atq_inhibitory_control	4.75 (4.73/4.76) ^a	4.75 (4.73/4.77) ^a	4.66 (4.64/4.68) ^a	4.71 (4.69/4.73) ^a	
atq_intens_pleasure	3.75 (3.73/3.77) ^a	3.72 (3.69/3.75) ^a	3.71 (3.68/3.73) ^a	3.71 (3.69/3.74) ^a	
atq_negative_affect	3.62 (3.6/3.63) ^a	3.61 (3.59/3.63) ^a	3.64 (3.63/3.66) ^a	3.66 (3.64/3.68) ^a	
atq_neut_perc_sens	4.85 (4.83/4.87) ^a	4.81 (4.78/4.85) ^a	4.89 (4.87/4.91) ^a	4.86 (4.84/4.89) ^a	
atq_orienting_sens	4.76 (4.74/4.77) ^a	4.78 (4.76/4.81) ^a	4.77 (4.75/4.78) ^a	4.83 (4.81/4.85) ^a	
atq_positive_affect	5.15 (5.13/5.17) ^a	5.19 (5.16/5.22) ^a	4.94 (4.92/4.97) ^a	5.02 (5/5.05) ^a	
atq_sadness	3.91 (3.89/3.93) ^a	3.86 (3.84/3.89) ^a	3.91 (3.89/3.93) ^a	4.07 (4.05/4.09) ^a	
atq_sociability	4.97 (4.95/4.99) ^a	4.84 (4.81/4.87) ^a	4.86 (4.84/4.89) ^a	4.88 (4.86/4.9) ^a	
bdi_affective	1.15 (1.1/1.2) ^a	0.99 (0.92/1.06) ^a	2 (1.92/2.08) ^a	1.67 (1.6/1.73) ^a	
bdi_cutoff 0	95.35 ^a	96.61 ^a	94.81 ^a	97.5 ^a	
bdi_cutoff 1	4.65 ^a	3.39 ^a	5.19 ^a	2.5 ^a	
bdi_somatic	1.69 (1.63/1.75) ^a	1.33 (1.25/1.41) ^a	2.05 (1.98/2.13) ^a	1.78 (1.71/1.85) ^a	
bdi_total	3.32 (3.21/3.43) ^a	2.81 (2.67/2.96) ^a	4.57 (4.42/4.71) ^a	3.84 (3.72/3.97) ^a	
BEQ.Mean	3.56 (3.55/3.58) ^a	3.46 (3.43/3.48) ^a	3.61 (3.58/3.63) ^a	3.57 (3.55/3.59) ^a	
BEQ.nex	3.56 (3.53/3.58) ^a	3.46 (3.43/3.49) ^a	3.65 (3.62/3.68) ^a	3.61 (3.59/3.64) ^a	

	TC3 – CTM (Lo/Hi)	N RCC1&2	N RCC2	N TC1	N TC2	N TC3	Summary Type
	5.71 (5.62/5.81) ^a	88	59	79	81	79	Mean & 95% CI
	2.67 (2.61/2.73) ^b	88	59	79	81	79	Mean & 95% CI
	3.29 (3.25/3.34) ^a	88	59	79	81	79	Mean & 95% CI
	12.91 (12.73/13.1) ^b	88	59	79	81	79	Mean & 95% CI
	4.55 (4.53/4.58) ^a	88	59	79	81	79	Mean & 95% CI
	4.9 (4.88/4.92) ^a	88	59	79	81	79	Mean & 95% CI
	4.89 (4.86/4.91) ^a	88	59	79	81	79	Mean & 95% CI
	4.03 (4/4.05) ^a	88	59	79	81	79	Mean & 95% CI
	4.15 (4.12/4.18) ^a	88	59	79	81	79	Mean & 95% CI
	4.32 (4.3/4.34) ^a	88	59	79	81	79	Mean & 95% CI
	4.62 (4.61/4.64) ^a	88	59	79	81	79	Mean & 95% CI
	3.4 (3.38/3.42) ^a	88	59	79	81	79	Mean & 95% CI
	3.36 (3.33/3.38) ^a	88	59	79	81	79	Mean & 95% CI
	4.38 (4.36/4.4) ^a	88	59	79	81	79	Mean & 95% CI
	3.91 (3.89/3.94) ^a	88	59	79	81	79	Mean & 95% CI
	3.74 (3.72/3.76) ^a	88	59	79	81	79	Mean & 95% CI
	4.84 (4.81/4.86) ^a	88	59	79	81	79	Mean & 95% CI
	4.88 (4.86/4.89) ^a	88	59	79	81	79	Mean & 95% CI
	5.06 (5.03/5.08) ^a	88	59	79	81	79	Mean & 95% CI
	4.05 (4.03/4.07) ^a	88	59	79	81	79	Mean & 95% CI
	4.9 (4.88/4.93) ^a	88	59	79	81	79	Mean & 95% CI
	1.77 (1.7/1.84) ^a	86	59	77	80	79	Mean & 95% CI
	94.94 ^a	86	59	77	80	79	Percentage
	5.06 ^a	86	59	77	80	79	Percentage
	1.59 (1.52/1.66) ^a	86	59	77	80	79	Mean & 95% CI
	3.93 (3.8/4.06) ^a	86	59	77	80	79	Mean & 95% CI
	3.94 (3.92/3.96) ^a	87	59	78	80	79	Mean & 95% CI
	3.9 (3.88/3.93) ^a	87	59	78	80	79	Mean & 95% CI

Table E1.4 Variable	RCC1&2 – CTM (Lo/Hi)	RCC2 – CTM (Lo/Hi)	TC1 – CTM (Lo/Hi)	TC2 – CTM (Lo/Hi)	
BEQ.pex	4.18 (4.16/4.2) ^a	4.01 (3.98/4.04) ^a	4.1 (4.07/4.14) ^a	4.08 (4.06/4.11) ^a	
BEQ.str	3.03 (3.01/3.05) ^a	2.97 (2.93/3) ^a	3.19 (3.16/3.22) ^a	3.09 (3.06/3.12) ^a	
BPQ	8 (5/16) ^a	8 (5.5/15.5) ^a	10 (5/14) ^a	10 (5/14) ^a	
BPQ_abandon	1.39 (1.37/1.41) ^a	1.42 (1.39/1.45) ^a	1.36 (1.34/1.38) ^a	1.45 (1.43/1.47) ^a	
BPQ_affect_inst	1.19 (1.15/1.23) ^a	1.25 (1.19/1.32) ^a	1.52 (1.47/1.57) ^a	1.27 (1.23/1.32) ^a	
BPQ_anger	1.63 (1.65/1.61) ^a	1.58 (1.61/1.55) ^a	1.65 (1.68/1.63) ^a	1.6 (1.62/1.58) ^a	
BPQ_empty	1.56 (1.58/1.54) ^a	1.48 (1.51/1.46) ^a	1.52 (1.54/1.51) ^a	1.6 (1.62/1.58) ^a	
BPQ_impulsivity	0.58 (0.55/0.6) ^a	0.52 (0.48/0.55) ^a	0.66 (0.63/0.69) ^a	0.8 (0.77/0.84) ^a	
BPQ_psychotic	0.48 (0.46/0.5) ^a	0.54 (0.51/0.57) ^a	0.73 (0.71/0.76) ^a	0.67 (0.64/0.69) ^a	
BPQ_relation	0.47 (0.45/0.49) ^a	0.46 (0.43/0.5) ^a	0.54 (0.51/0.56) ^a	0.39 (0.37/0.41) ^a	
BPQ_self	1.51 (1.53/1.49) ^a	1.46 (1.49/1.44) ^a	1.55 (1.57/1.53) ^a	1.5 (1.52/1.48) ^a	
BPQ_suicide	0 (0/0) ^a	0 (0/0) ^a	0 (0/0) ^a	0 (0/0) ^a	
CERQ.Acceptance	2.14 (2.12/2.15) ^a	2.1 (2.07/2.12) ^a	2.07 (2.05/2.09) ^a	2.04 (2.03/2.06) ^a	
CERQ.Catastrophizing	1.45 (1.46/1.44) ^a	1.46 (1.47/1.45) ^a	1.54 (1.55/1.53) ^a	1.54 (1.55/1.53) ^a	
CERQ.OtherBlame	1.69 (1.68/1.7) ^a	1.71 (1.69/1.72) ^a	1.61 (1.6/1.62) ^a	1.66 (1.65/1.67) ^a	
CERQ.Perspective	2.09 (2.08/2.11) ^a	2.03 (2.01/2.06) ^a	2 (1.98/2.03) ^a	2.01 (1.98/2.03) ^a	
CERQ.PlanningRefocus	2.89 (2.88/2.91) ^a	2.94 (2.92/2.97) ^a	2.7 (2.67/2.72) ^a	2.83 (2.81/2.84) ^a	
CERQ.PosReappraisal	2.5 (2.48/2.52) ^a	2.43 (2.4/2.46) ^a	2.24 (2.21/2.26) ^a	2.29 (2.27/2.32) ^a	
CERQ.PosRefocus	2.23 (2.22/2.25) ^a	2.11 (2.09/2.13) ^a	2.17 (2.15/2.19) ^a	2.13 (2.11/2.15) ^a	
CERQ.Rumination	1.58 (1.56/1.6) ^a	1.65 (1.62/1.68) ^a	1.6 (1.58/1.62) ^a	1.71 (1.69/1.73) ^a	
CERQ.SelfBlame	1.58 (1.57/1.6) ^a	1.64 (1.61/1.66) ^a	1.62 (1.61/1.64) ^a	1.65 (1.63/1.67) ^a	
COPE_Accept	1.71 (1.69/1.72) ^a	1.65 (1.63/1.67) ^a	1.57 (1.55/1.59) ^a	1.59 (1.58/1.61) ^a	
COPE_Active	1.95 (1.94/1.97) ^a	1.98 (1.97/2) ^a	1.79 (1.78/1.81) ^a	1.88 (1.87/1.9) ^a	
COPE_ActOut	1.3 (1.28/1.31) ^a	1.23 (1.21/1.25) ^a	1.19 (1.17/1.2) ^a	1.27 (1.25/1.29) ^a	
COPE_Denial	0.22 (0.21/0.23) ^a	0.24 (0.22/0.25) ^a	0.2 (0.19/0.21) ^a	0.25 (0.23/0.26) ^a	
COPE_Distracton	1.57 (1.56/1.59) ^a	1.53 (1.51/1.55) ^a	1.62 (1.6/1.63) ^a	1.56 (1.55/1.58) ^a	
COPE_Drugs	0 (0/0.5) ^a	0 (0/0.5) ^a	0 (0/0.5) ^a	0 (0/1) ^a	
COPE_EmoationalSup	1.71 (1.7/1.73) ^a	1.68 (1.65/1.7) ^a	1.76 (1.74/1.77) ^a	1.84 (1.82/1.86) ^a	
COPE_Humor	1.77 (1.75/1.78) ^a	1.75 (1.73/1.77) ^a	1.72 (1.71/1.74) ^a	1.72 (1.7/1.74) ^a	
COPE_InstrumentalSup	1.64 (1.63/1.66) ^a	1.61 (1.59/1.63) ^a	1.65 (1.63/1.67) ^a	1.74 (1.72/1.76) ^a	
COPE_Plan	2.11 (2.1/2.12) ^a	2.08 (2.07/2.1) ^a	2.03 (2.02/2.05) ^a	2.04 (2.03/2.06) ^a	
COPE_PosReinterp	1.7 (1.68/1.71) ^a	1.55 (1.53/1.58) ^a	1.65 (1.63/1.67) ^a	1.58 (1.56/1.6) ^a	
COPE_Religion	0 (0/1) ^a	0 (0/1) ^a	0 (0/0.88) ^a	0 (0/1) ^a	
COPE_SelfBlame	1.09 (1.07/1.1) ^a	1.14 (1.11/1.16) ^a	1.13 (1.12/1.15) ^a	1.08 (1.06/1.1) ^a	
COPE_Withdrawal	0.24 (0.23/0.25) ^a	0.23 (0.21/0.24) ^a	0.25 (0.24/0.26) ^a	0.23 (0.22/0.24) ^a	
COSN_Common	3.31 (3.29/3.32) ^a	3.38 (3.36/3.39) ^a	3.18 (3.17/3.2) ^a	3.41 (3.4/3.42) ^a	
COSN_Disengagement	1.16 (1.14/1.17) ^a	1.13 (1.11/1.15) ^a	1.12 (1.1/1.14) ^a	1.02 (1.01/1.04) ^a	
COSN_Indifference	0.93 (0.92/0.94) ^a	0.94 (0.92/0.97) ^a	0.92 (0.9/0.93) ^a	0.82 (0.81/0.84) ^a	

	TC3 – CTM (Lo/Hi)	N RCC1&2	N RCC2	NTC1	NTC2	NTC3	Summary Type
	4.5 (4.48/4.53) ^a	87	59	78	80	79	Mean & 95% CI
	3.49 (3.47/3.52) ^a	87	59	78	80	79	Mean & 95% CI
	10 (6/16) ^a	87	59	79	80	79	Median and 25 th and 75 th quartiles
	1.48 (1.46/1.5) ^a	87	59	79	80	79	Mean & 95% CI
	1.5 (1.45/1.56) ^a	87	59	79	80	79	Mean & 95% CI
	1.79 (1.81/1.76) ^a	87	59	79	80	79	Mean & 95% CI
	1.59 (1.61/1.57) ^a	87	59	79	80	79	Mean & 95% CI
	1.02 (0.98/1.05) ^a	87	59	79	80	79	Mean & 95% CI
	0.73 (0.7/0.76) ^a	87	59	79	80	79	Mean & 95% CI
	0.53 (0.5/0.55) ^a	87	59	79	80	79	Mean & 95% CI
	1.51 (1.53/1.5) ^a	87	59	79	80	79	Mean & 95% CI
	0 (0/0) ^a	87	59	79	80	79	Median and 25 th and 75 th quartiles
	1.79 (1.77/1.81) ^a	87	59	78	80	79	Mean & 95% CI
	1.48 (1.49/1.47) ^a	87	59	78	80	79	Mean & 95% CI
	1.68 (1.66/1.69) ^a	87	59	78	80	79	Mean & 95% CI
	2.11 (2.09/2.14) ^a	87	59	78	80	79	Mean & 95% CI
	2.89 (2.87/2.91) ^a	87	59	78	80	79	Mean & 95% CI
	2.26 (2.24/2.28) ^a	87	59	78	80	79	Mean & 95% CI
	2.23 (2.21/2.25) ^a	87	59	78	80	79	Mean & 95% CI
	1.66 (1.64/1.68) ^a	87	59	78	80	79	Mean & 95% CI
	1.44 (1.42/1.46) ^a	87	59	78	80	79	Mean & 95% CI
	1.44 (1.42/1.45) ^a	87	59	78	80	79	Mean & 95% CI
	1.85 (1.83/1.86) ^a	87	59	78	80	79	Mean & 95% CI
	1.27 (1.25/1.28) ^a	87	59	78	80	79	Mean & 95% CI
	0.18 (0.18/0.19) ^a	87	59	78	80	79	Mean & 95% CI
	1.65 (1.63/1.66) ^a	87	59	78	80	79	Mean & 95% CI
	0 (0/1) ^a	87	59	78	80	79	Median and 25 th and 75 th quartiles
	1.71 (1.69/1.73) ^a	87	59	78	80	79	Mean & 95% CI
	1.78 (1.76/1.8) ^a	87	59	78	80	79	Mean & 95% CI
	1.66 (1.64/1.68) ^a	87	59	78	80	79	Mean & 95% CI
	2.03 (2.02/2.04) ^a	87	59	78	80	79	Mean & 95% CI
	1.49 (1.47/1.5) ^a	87	59	78	80	79	Mean & 95% CI
	0 (0/1) ^a	87	59	78	80	79	Median and 25 th and 75 th quartiles
	1.07 (1.05/1.09) ^a	87	59	78	80	79	Mean & 95% CI
	0.14 (0.13/0.15) ^a	87	59	78	80	79	Mean & 95% CI
	3.26 (3.25/3.27) ^a	87	59	79	81	79	Mean & 95% CI
	1.03 (1.02/1.05) ^a	87	59	79	81	79	Mean & 95% CI
	0.89 (0.88/0.91) ^a	87	59	79	81	79	Mean & 95% CI

Table E1.4 Variable	RCC1&2 – CTM (Lo/Hi)	RCC2 – CTM (Lo/Hi)	TC1 – CTM (Lo/Hi)	TC2 – CTM (Lo/Hi)	
COSN_Kindness	2.65 (2.63/2.66) ^a	2.61 (2.59/2.64) ^a	2.72 (2.7/2.74) ^a	2.74 (2.73/2.76) ^a	
COSN_Mindfulness	3.14 (3.13/3.16) ^a	3.13 (3.11/3.15) ^a	3 (2.99/3.01) ^a	3.12 (3.11/3.13) ^a	
COSN_Separation	1.08 (1.07/1.1) ^a	1.08 (1.05/1.1) ^a	1.16 (1.15/1.18) ^a	1.07 (1.05/1.08) ^a	
COSN_Total	2.97 (2.96/2.98) ^a	2.98 (2.97/2.99) ^a	2.94 (2.93/2.95) ^a	3.05 (3.04/3.06) ^a	
Crocker_CompassGoals	1.96 (1.95/1.98) ^a	1.96 (1.94/1.99) ^a	2.06 (2.04/2.07) ^a	2.04 (2.02/2.05) ^a	
Crocker_SlGoals	1.24 (1.23/1.26) ^a	1.25 (1.23/1.28) ^a	1.31 (1.29/1.33) ^a	1.3 (1.29/1.32) ^a	
ECR_Anxiety	1.51 (1.49/1.53) ^a	1.49 (1.46/1.52) ^a	1.54 (1.52/1.57) ^a	1.51 (1.49/1.53) ^a	
ECR_Avoidance	1.84 (1.82/1.86) ^a	1.85 (1.83/1.88) ^a	2.03 (2.01/2.05) ^a	1.89 (1.87/1.91) ^a	
ER89	2.03 (2.02/2.04) ^a	2.06 (2.05/2.08) ^a	2.05 (2.04/2.06) ^a	2.03 (2.02/2.04) ^a	
EROS.ExtImprov	2.58 (2.56/2.59) ^a	2.6 (2.58/2.63) ^a	2.5 (2.48/2.52) ^a	2.5 (2.48/2.51) ^a	
EROS.ExtWorse	0.17 (0/0.67) ^a	0 (0/0.67) ^a	0.17 (0/0.67) ^a	0.17 (0/0.33) ^a	
EROS.IntImprov	2.22 (2.2/2.24) ^a	2.1 (2.08/2.13) ^a	2.15 (2.13/2.17) ^a	2.18 (2.17/2.2) ^a	
EROS.IntWorse	0 (0/0.25) ^a	0 (0/0.25) ^a	0 (0/0.25) ^a	0 (0/0.5) ^a	
FBL_cd	39.2 (39.18/39.23) ^a	39.22 (39.19/39.26) ^a	39.23 (39.2/39.25) ^a	39.05 (39.02/39.09) ^a	
FBL_emo	28.93 (28.83/29.03) ^a	29.41 (29.25/29.56) ^a	28.7 (28.57/28.83) ^a	28.89 (28.78/29) ^a	
FBL_gi	33.89 (33.79/33.99) ^a	33.81 (33.65/33.96) ^a	34.89 (34.79/34.99) ^a	34.3 (34.2/34.4) ^a	
FBL_nti	33.97 (33.88/34.07) ^a	33.43 (33.28/33.57) ^a	33.14 (33.01/33.26) ^a	33.79 (33.68/33.9) ^a	
FBL_pn	33.65 (33.55/33.75) ^a	33.77 (33.61/33.92) ^a	33.2 (33.08/33.32) ^a	33.65 (33.55/33.75) ^a	
FBL_sen	28.74 (28.6/28.89) ^a	29.98 (29.79/30.18) ^a	28.3 (28.15/28.45) ^a	28.96 (28.81/29.11) ^a	
FBL_sum	286.44 (285.83/287.05) ^a	287.95 (287.03/288.87) ^a	284.92 (284.25/285.59) ^a	286.45 (285.87/287.03) ^a	
FBL_ten	36.01 (35.94/36.08) ^a	36.05 (35.94/36.16) ^a	36.1 (36.02/36.19) ^a	35.93 (35.86/36.01) ^a	
FBL_tr	25.47 (25.36/25.57) ^a	25.56 (25.4/25.71) ^a	25.81 (25.7/25.91) ^a	25.86 (25.78/25.95) ^a	
FBL_wb	30.31 (30.22/30.41) ^a	30.44 (30.29/30.59) ^a	29.44 (29.34/29.55) ^a	30.16 (30.07/30.25) ^a	
FFA_Acceptance	1.67 (1.66/1.68) ^a	1.65 (1.64/1.67) ^a	1.63 (1.62/1.64) ^a	1.65 (1.64/1.66) ^a	
FFA_Presence	1.73 (1.72/1.74) ^a	1.7 (1.68/1.72) ^a	1.62 (1.6/1.63) ^a	1.67 (1.66/1.69) ^a	
FFA_total	1.7 (1.69/1.71) ^a	1.68 (1.66/1.69) ^a	1.62 (1.61/1.63) ^a	1.66 (1.65/1.68) ^a	
FFMQ_Aware	28.9 (28.79/29) ^b	29.15 (28.99/29.31) ^b	27.71 (27.58/27.84) ^{ab}	28.06 (27.94/28.19) ^{ab}	
FFMQ_Describe	28.93 (28.8/29.06) ^a	29.08 (28.87/29.3) ^a	28.18 (28.03/28.32) ^a	28.73 (28.59/28.87) ^a	
FFMQ_Nonjudge	31.91 (31.78/32.04) ^a	32.17 (31.98/32.36) ^a	32.51 (32.36/32.65) ^a	32.19 (32.05/32.33) ^a	
FFMQ_Nonreact	22.02 (21.92/22.12) ^a	21.76 (21.61/21.92) ^a	20.89 (20.76/21.01) ^a	21.64 (21.52/21.76) ^a	
FFMQ_Observe	26.7 (26.59/26.82) ^a	26.56 (26.37/26.75) ^a	26.67 (26.55/26.79) ^a	27.15 (27.02/27.28) ^a	
FFMQ_Overall	138.47 (138.09/138.84) ^a	138.73 (138.13/139.33) ^a	135.95 (135.5/136.39) ^a	137.77 (137.32/138.21) ^a	
FoC_Expressing	1.49 (1.47/1.51) ^a	1.56 (1.53/1.58) ^a	1.25 (1.23/1.27) ^a	1.2 (1.18/1.21) ^a	
FoC_Responding	0.55 (0.53/0.56) ^a	0.57 (0.55/0.59) ^a	0.55 (0.54/0.57) ^a	0.51 (0.5/0.52) ^a	
FoC_Self	0.4 (0.39/0.41) ^a	0.4 (0.38/0.41) ^a	0.38 (0.37/0.39) ^a	0.42 (0.41/0.43) ^a	
independent_score	5.13 (5.12/5.14) ^a	5.18 (5.15/5.2) ^a	4.99 (4.98/5) ^a	5.04 (5.02/5.05) ^a	
interdependent_score	4.7 (4.68/4.71) ^a	4.73 (4.71/4.75) ^a	4.61 (4.6/4.63) ^a	4.72 (4.71/4.73) ^a	
IRI_ec	25.39 (25.31/25.47) ^a	25.68 (25.54/25.81) ^a	25.06 (24.97/25.16) ^a	25.95 (25.87/26.04) ^a	

	TC3 – CTM (Lo/Hi)	N RCC1&2	N RCC2	NTC1	NTC2	NTC3	Summary Type
	2.83 (2.81/2.84) ^a	87	59	79	81	79	Mean & 95% CI
	3.13 (3.11/3.14) ^a	87	59	79	81	79	Mean & 95% CI
	1.08 (1.06/1.1) ^a	87	59	79	81	79	Mean & 95% CI
	3.02 (3.01/3.03) ^a	87	59	79	81	79	Mean & 95% CI
	1.95 (1.93/1.97) ^a	86	59	78	80	79	Mean & 95% CI
	1.2 (1.18/1.22) ^a	86	59	78	80	79	Mean & 95% CI
	1.42 (1.4/1.44) ^a	87	59	78	80	80	Mean & 95% CI
	1.98 (1.96/2) ^a	87	59	78	80	80	Mean & 95% CI
	2.06 (2.05/2.07) ^a	86	59	77	80	79	Mean & 95% CI
	2.3 (2.28/2.31) ^a	86	59	78	80	79	Mean & 95% CI
	0.33 (0/0.67) ^a	86	59	78	80	79	Median and 25 th and 75 th quartiles
	1.98 (1.96/1.99) ^a	86	59	78	80	79	Mean & 95% CI
	0 (0/0.5) ^a	86	59	78	80	79	Median and 25 th and 75 th quartiles
	39.27 (39.24/39.29) ^a	86	59	77	80	79	Mean & 95% CI
	29.56 (29.44/29.67) ^a	86	59	77	80	79	Mean & 95% CI
	33.49 (33.37/33.6) ^a	86	59	77	80	79	Mean & 95% CI
	33.09 (32.98/33.2) ^a	86	59	77	80	79	Mean & 95% CI
	32.66 (32.52/32.79) ^a	86	59	77	80	79	Mean & 95% CI
	28.82 (28.69/28.96) ^a	86	59	77	80	79	Mean & 95% CI
	282.87 (282.19/283.56) ^a	86	59	77	80	79	Mean & 95% CI
	35.46 (35.36/35.55) ^a	86	59	77	80	79	Mean & 95% CI
	24.53 (24.42/24.64) ^a	86	59	77	80	79	Mean & 95% CI
	30.38 (30.28/30.48) ^a	86	59	77	80	79	Mean & 95% CI
	1.72 (1.71/1.73) ^a	88	59	79	81	79	Mean & 95% CI
	1.65 (1.64/1.66) ^a	88	59	79	81	79	Mean & 95% CI
	1.68 (1.67/1.69) ^a	88	59	79	81	79	Mean & 95% CI
	25.48 (25.36/25.61) ^a	88	59	79	81	79	Mean & 95% CI
	28.95 (28.82/29.08) ^a	88	59	79	81	79	Mean & 95% CI
	32.59 (32.47/32.72) ^a	88	59	79	81	79	Mean & 95% CI
	21.05 (20.94/21.16) ^a	88	59	79	81	79	Mean & 95% CI
	27.47 (27.34/27.59) ^a	88	59	79	81	79	Mean & 95% CI
	135.54 (135.14/135.95) ^a	88	59	79	81	79	Mean & 95% CI
	1.25 (1.23/1.26) ^a	87	59	79	80	79	Mean & 95% CI
	0.48 (0.47/0.49) ^a	87	59	79	80	79	Mean & 95% CI
	0.42 (0.41/0.43) ^a	87	59	79	80	79	Mean & 95% CI
	5.19 (5.18/5.21) ^a	86	59	78	80	79	Mean & 95% CI
	4.56 (4.54/4.57) ^a	86	59	78	80	79	Mean & 95% CI
	25.37 (25.28/25.45) ^a	87	59	79	81	79	Mean & 95% CI

Table E1.4 Variable	RCC1&2 – CTM (Lo/Hi)	RCC2 – CTM (Lo/Hi)	TC1 – CTM (Lo/Hi)	TC2 – CTM (Lo/Hi)	
IRI_fs	21.9 (21.8/21.99) ^a	21.88 (21.72/22.04) ^a	21.05 (20.93/21.17) ^a	21.59 (21.48/21.7) ^a	
IRI_pd	18.37 (18.27/18.46) ^a	18.15 (18/18.3) ^a	18.53 (18.43/18.63) ^a	18.72 (18.62/18.81) ^a	
IRI_ps	25.15 (25.06/25.23) ^a	25.39 (25.27/25.51) ^a	24.39 (24.31/24.48) ^a	25.26 (25.17/25.35) ^a	
MA_Affil_Tend	3.5 (3.49/3.51) ^a	3.4 (3.38/3.42) ^a	3.46 (3.44/3.47) ^a	3.59 (3.57/3.6) ^a	
MA_Reject_Sens	2.97 (2.96/2.99) ^a	3 (2.97/3.02) ^a	3 (2.98/3.01) ^a	2.96 (2.95/2.98) ^a	
Machiavelli_index	2.55 (2.48/2.62) ^a	3.07 (2.97/3.17) ^a	2.21 (2.15/2.28) ^a	2.05 (1.99/2.11) ^a	
MAIA_attentionRegulation	2.68 (2.65/2.7) ^a	2.7 (2.67/2.74) ^a	2.35 (2.33/2.37) ^a	2.64 (2.61/2.66) ^a	
MAIA_bodyListening	2.08 (2.06/2.1) ^a	2.07 (2.03/2.1) ^a	1.81 (1.79/1.84) ^a	2 (1.98/2.03) ^a	
MAIA_emotionalAwareness	3.25 (3.22/3.27) ^a	3.23 (3.2/3.26) ^a	3.08 (3.05/3.1) ^a	3.28 (3.25/3.3) ^a	
MAIA_mainFactor	0 (-0.02/0.02) ^a	0 (-0.03/0.03) ^a	-0.12 (-0.14/-0.1) ^a	0.12 (0.09/0.14) ^a	
MAIA_notDistracting	1.16 (1.14/1.18) ^a	1.14 (1.1/1.17) ^a	1.24 (1.22/1.27) ^a	1.27 (1.25/1.29) ^a	
MAIA_Noticing	3.3 (3.28/3.32) ^a	3.35 (3.32/3.38) ^a	3.05 (3.03/3.08) ^a	3.3 (3.27/3.32) ^a	
MAIA_notWorrying	2.2 (2.18/2.22) ^a	2.34 (2.31/2.37) ^a	2.13 (2.11/2.15) ^a	1.98 (1.96/2.01) ^a	
MAIA_selfRegulation	2.52 (2.5/2.55) ^a	2.55 (2.51/2.59) ^a	2.15 (2.12/2.17) ^a	2.29 (2.26/2.32) ^a	
MAIA_Trusting	3.7 (3.67/3.72) ^a	3.7 (3.66/3.74) ^a	3.14 (3.12/3.17) ^a	3.4 (3.37/3.43) ^a	
MDD_mean	2.87 (2.84/2.9) ^a	3.06 (3.01/3.11) ^a	2.13 (2.09/2.16) ^a	2.85 (2.82/2.88) ^a	
MDD_total	11.48 (11.35/11.61) ^a	12.25 (12.06/12.45) ^a	8.51 (8.37/8.65) ^a	11.39 (11.26/11.51) ^a	
MDS_mean	2.21 (2.18/2.25) ^a	2.33 (2.28/2.38) ^a	2.61 (2.58/2.65) ^a	2.8 (2.76/2.84) ^a	
MDS_total	8.86 (8.73/8.99) ^a	9.32 (9.12/9.52) ^a	10.45 (10.3/10.59) ^a	11.2 (11.04/11.36) ^a	
mhc_dx Flourishing	36.84 ^a	35.19 ^a	31.51 ^a	30.43 ^a	
mhc_dx Languishing	2.63 ^a	1.85 ^a	4.11 ^a	0 ^a	
mhc_dx Moderate	60.53 ^a	62.96 ^a	64.38 ^a	69.57 ^a	
mhc_ewb	10.94 (10.88/11) ^a	11.12 (11.03/11.21) ^a	10.4 (10.34/10.47) ^a	10.66 (10.6/10.73) ^a	
mhc_pwb	19.33 (19.21/19.44) ^a	19.32 (19.16/19.49) ^a	18.9 (18.77/19.03) ^a	18.74 (18.6/18.87) ^a	
mhc_swb	12.3 (12.18/12.42) ^a	12.37 (12.19/12.55) ^a	12.14 (12.02/12.27) ^a	12.29 (12.17/12.41) ^a	
mhc_total	42.57 (42.31/42.83) ^a	42.81 (42.44/43.19) ^a	41.44 (41.16/41.72) ^a	41.69 (41.4/41.97) ^a	
MI_Symbolization	1.54 (1.52/1.55) ^a	1.61 (1.59/1.64) ^a	1.45 (1.43/1.47) ^a	1.43 (1.42/1.45) ^a	
MMG_FearOfFailure	3.74 (3.68/3.81) ^a	3.78 (3.69/3.87) ^a	3.81 (3.74/3.87) ^a	4.25 (4.19/4.31) ^a	
MMG_FearOfLosingControl	5.51 (5.45/5.57) ^a	5.58 (5.49/5.66) ^a	5.58 (5.52/5.65) ^a	5.66 (5.6/5.73) ^a	
MMG_FearOfRejection	4.92 (4.86/4.98) ^a	5.34 (5.25/5.43) ^a	4.43 (4.36/4.5) ^a	4.62 (4.56/4.69) ^a	
MMG_HopeForAffiliation	5.79 (5.74/5.84) ^a	5.69 (5.63/5.76) ^a	5.86 (5.81/5.91) ^a	6.12 (6.08/6.17) ^a	
MMG_HopeForControl	7.03 (6.98/7.09) ^a	7.27 (7.19/7.35) ^a	8.03 (7.96/8.09) ^a	7.71 (7.65/7.78) ^a	
MMG_HopeForSuccess	6.16 (6.11/6.21) ^a	6.1 (6.02/6.18) ^a	6.94 (6.87/7) ^a	6.45 (6.4/6.5) ^a	
NEO_ACTIVE	7.98 (7.92/8.03) ^a	7.95 (7.87/8.03) ^a	8.14 (8.09/8.2) ^a	7.97 (7.92/8.03) ^a	
NEO_AESHET	9.18 (9.13/9.23) ^a	9.12 (9.05/9.19) ^a	9.01 (8.96/9.06) ^a	9.23 (9.19/9.27) ^a	
NEO_AGREEAB	32.64 (32.54/32.73) ^a	32.41 (32.27/32.55) ^a	31.88 (31.81/31.96) ^a	33.12 (33.04/33.21) ^a	

	TC3 – CTM (Lo/Hi)	N RCC1&2	N RCC2	NTC1	NTC2	NTC3	Summary Type
	21.38 (21.26/21.5) ^a	87	59	79	81	79	Mean & 95% CI
	18.75 (18.65/18.85) ^a	87	59	79	81	79	Mean & 95% CI
	23.67 (23.57/23.77) ^a	87	59	79	81	79	Mean & 95% CI
	3.59 (3.58/3.6) ^a	87	59	77	80	79	Mean & 95% CI
	2.93 (2.92/2.95) ^a	87	59	77	80	79	Mean & 95% CI
	1.69 (1.63/1.75) ^a	86	59	78	80	79	Mean & 95% CI
	2.57 (2.55/2.6) ^a	88	59	79	81	79	Mean & 95% CI
	1.99 (1.96/2.01) ^a	88	59	79	81	79	Mean & 95% CI
	3.25 (3.22/3.28) ^a	88	59	79	81	79	Mean & 95% CI
	0 (-0.02/0.02) ^a	88	59	79	81	79	Mean & 95% CI
	1.21 (1.19/1.23) ^a	88	59	79	81	79	Mean & 95% CI
	3.18 (3.15/3.2) ^a	88	59	79	81	79	Mean & 95% CI
	1.94 (1.91/1.96) ^a	88	59	79	81	79	Mean & 95% CI
	2.35 (2.32/2.38) ^a	88	59	79	81	79	Mean & 95% CI
	3.27 (3.24/3.3) ^a	88	59	79	81	79	Mean & 95% CI
	2.66 (2.63/2.69) ^a	84	59	78	80	79	Mean & 95% CI
	10.65 (10.53/10.76) ^a	84	59	78	80	79	Mean & 95% CI
	3.04 (3.01/3.08) ^a	84	59	78	80	79	Mean & 95% CI
	12.18 (12.03/12.32) ^a	84	59	78	80	79	Mean & 95% CI
	27.78 ^a	76	54	73	69	72	Percentage
	1.39 ^a	76	54	73	69	72	Percentage
	70.83 ^a	76	54	73	69	72	Percentage
	10.71 (10.65/10.77) ^a	86	59	77	80	79	Mean & 95% CI
	18.84 (18.7/18.97) ^a	86	59	77	80	79	Mean & 95% CI
	13.16 (13.05/13.28) ^a	86	59	77	80	79	Mean & 95% CI
	42.71 (42.43/42.99) ^a	86	59	77	80	79	Mean & 95% CI
	1.57 (1.55/1.59) ^a	86	59	78	80	79	Mean & 95% CI
	4.41 (4.35/4.47) ^a	86	59	77	80	80	Mean & 95% CI
	5.89 (5.82/5.95) ^a	86	59	77	80	80	Mean & 95% CI
	4.22 (4.16/4.29) ^a	86	59	77	80	80	Mean & 95% CI
	5.75 (5.69/5.81) ^a	86	59	77	80	80	Mean & 95% CI
	7.67 (7.61/7.74) ^a	86	59	77	80	80	Mean & 95% CI
	6.69 (6.62/6.75) ^a	86	59	77	80	80	Mean & 95% CI
	8.85 (8.79/8.91) ^a	86	59	78	80	79	Mean & 95% CI
	9.1 (9.04/9.16) ^a	86	59	78	80	79	Mean & 95% CI
	32.01 (31.93/32.1) ^a	86	59	78	80	79	Mean & 95% CI

Table E1.4 Variable	RCC1&2 – CTM (Lo/Hi)	RCC2 – CTM (Lo/Hi)	TC1 – CTM (Lo/Hi)	TC2 – CTM (Lo/Hi)	
NEO_CONSCIEN	32.65 (32.52/32.78) ^a	32.58 (32.38/32.78) ^a	31.24 (31.09/31.4) ^a	30.44 (30.27/30.61) ^a	
NEO_DEPENDAB	12.02 (11.97/12.07) ^a	12.05 (11.97/12.13) ^a	11.47 (11.42/11.53) ^a	11.22 (11.17/11.28) ^a	
NEO_EXTRAVER	28.56 (28.43/28.69) ^a	27.66 (27.48/27.84) ^a	27.24 (27.11/27.38) ^a	28.02 (27.9/28.15) ^a	
NEO_INTELL	8.5 (8.46/8.54) ^a	8.75 (8.69/8.8) ^a	8.68 (8.63/8.73) ^a	8.36 (8.31/8.41) ^a	
NEO_NEG_AFF	7.36 (7.28/7.44) ^a	7.41 (7.28/7.53) ^a	8.33 (8.25/8.42) ^a	8.35 (8.27/8.43) ^a	
NEO_NEUROT	16.98 (16.81/17.15) ^a	17.31 (17.05/17.56) ^a	18.55 (18.37/18.73) ^a	18.38 (18.21/18.54) ^a	
NEO_NON_ANT	20.21 (20.14/20.28) ^a	20.1 (20/20.2) ^a	20.03 (19.97/20.08) ^a	20.68 (20.62/20.73) ^a	
NEO_OPEN	27.14 (27.04/27.24) ^a	27.49 (27.35/27.63) ^a	27.44 (27.33/27.54) ^a	27.74 (27.64/27.83) ^a	
NEO_ORDERLY	13.67 (13.61/13.74) ^a	13.63 (13.53/13.73) ^a	12.81 (12.72/12.9) ^a	12.71 (12.62/12.8) ^a	
NEO_PIR_ACTIVITY	17.3 (17.21/17.4) ^a	17.49 (17.35/17.63) ^a	17.96 (17.85/18.07) ^a	17.41 (17.31/17.52) ^a	
NEO_PIR_ASSERTIVENESS	15.81 (15.7/15.93) ^a	16.02 (15.85/16.18) ^a	15.05 (14.95/15.15) ^a	14.45 (14.33/14.57) ^a	
NEO_PIR_EXCITE_SEEK	13.22 (13.13/13.31) ^a	12.76 (12.63/12.89) ^a	13.08 (12.96/13.19) ^a	12.69 (12.58/12.79) ^a	
NEO_PIR_EXTRAVERSION	108.64 (108.26/109.01) ^a	107.02 (106.46/107.57) ^a	104.84 (104.47/105.22) ^a	105.21 (104.78/105.64) ^a	
NEO_PIR_GREGARIOUSNESS	17.15 (17.06/17.24) ^a	16.44 (16.3/16.58) ^a	16.77 (16.65/16.88) ^a	16.82 (16.71/16.94) ^a	
NEO_PIR_POS_EMOTION	22.08 (21.98/22.18) ^a	21.59 (21.44/21.75) ^a	20.16 (20.04/20.27) ^a	20.82 (20.7/20.95) ^a	
NEO_PIR_WARMTH	23.07 (22.99/23.15) ^a	22.71 (22.59/22.84) ^a	21.83 (21.74/21.92) ^a	23.01 (22.92/23.1) ^a	
NEO_POS_AFF	11.69 (11.63/11.75) ^a	11.31 (11.21/11.4) ^a	10.45 (10.38/10.51) ^a	10.94 (10.88/11) ^a	
NEO_PROSOC	12.43 (12.39/12.47) ^a	12.31 (12.24/12.37) ^a	11.86 (11.82/11.9) ^a	12.45 (12.41/12.49) ^a	
NEO_SELF_REP	9.62 (9.51/9.72) ^a	9.9 (9.74/10.06) ^a	10.22 (10.1/10.33) ^a	10.03 (9.92/10.13) ^a	
NEO_SOCIAL	8.9 (8.83/8.96) ^a	8.41 (8.32/8.49) ^a	8.65 (8.59/8.72) ^a	9.11 (9.06/9.17) ^a	
NEO_STRIVING	6.95 (6.91/7) ^a	6.9 (6.83/6.97) ^a	6.96 (6.91/7.02) ^a	6.5 (6.45/6.55) ^a	
NEO_UNCONV	10.71 (10.66/10.76) ^a	10.85 (10.77/10.93) ^a	10.96 (10.91/11.01) ^a	11.3 (11.25/11.35) ^a	
NPI	12.85 (12.7/13) ^a	13.26 (13.02/13.5) ^a	11.9 (11.76/12.04) ^a	11.66 (11.54/11.78) ^a	
npi_Authority	3.39 (3.33/3.44) ^a	3.52 (3.43/3.61) ^a	3.06 (3.02/3.11) ^a	3.03 (2.98/3.07) ^a	
npi_Entitlement	0.78 (0.75/0.8) ^a	0.78 (0.75/0.82) ^a	0.82 (0.79/0.85) ^a	0.78 (0.76/0.81) ^a	
npi_Exhibitionism	1.15 (1.12/1.19) ^a	1.06 (1.01/1.12) ^a	1.22 (1.18/1.26) ^a	1.05 (1.02/1.09) ^a	
npi_Exploitativeness	1.71 (1.68/1.74) ^a	1.76 (1.71/1.8) ^a	1.46 (1.43/1.49) ^a	1.41 (1.38/1.43) ^a	
npi_SelfSufficiency	1.81 (1.78/1.84) ^a	1.97 (1.92/2.01) ^a	1.55 (1.52/1.58) ^a	1.66 (1.63/1.69) ^a	
npi_Superiority	1.65 (1.62/1.67) ^a	1.76 (1.71/1.8) ^a	1.51 (1.49/1.54) ^a	1.57 (1.54/1.6) ^a	
npi_Vanity	1.68 (1.66/1.7) ^a	1.67 (1.64/1.71) ^a	1.65 (1.63/1.68) ^a	1.66 (1.63/1.68) ^a	
PANAS_NEG	7.3 (7.18/7.42) ^a	7.34 (7.17/7.51) ^a	8.37 (8.24/8.5) ^a	7.93 (7.82/8.03) ^a	
PANAS_POS	25.53 (25.4/25.67) ^a	25.44 (25.24/25.65) ^a	24 (23.86/24.14) ^a	24.59 (24.46/24.71) ^a	
PBCS_Total	2.36 (2.34/2.38) ^a	2.39 (2.36/2.42) ^a	2.32 (2.31/2.34) ^a	2.16 (2.14/2.18) ^a	
PBI.faca	12.09 (11.91/12.27) ^a	12.42 (12.15/12.7) ^a	14.78 (14.59/14.97) ^a	16.41 (16.23/16.6) ^a	
PBI.faoop	31.16 (31.01/31.31) ^a	31.48 (31.25/31.71) ^a	28.64 (28.48/28.8) ^a	30.37 (30.2/30.54) ^a	
PBI.moca	8.3 (8.13/8.48) ^a	8.15 (7.88/8.42) ^a	9.88 (9.66/10.09) ^a	10.96 (10.77/11.14) ^a	

	TC3 – CTM (Lo/Hi)	N RCC1&2	N RCC2	NTC1	NTC2	NTC3	Summary Type
	30.01 (29.86/30.17) ^a	86	59	78	80	79	Mean & 95% CI
	11.44 (11.38/11.5) ^a	86	59	78	80	79	Mean & 95% CI
	29.19 (29.04/29.34) ^a	86	59	78	80	79	Mean & 95% CI
	8.89 (8.83/8.94) ^a	86	59	78	80	79	Mean & 95% CI
	7.37 (7.28/7.45) ^a	86	59	78	80	79	Mean & 95% CI
	17.13 (16.94/17.32) ^a	86	59	78	80	79	Mean & 95% CI
	19.8 (19.74/19.86) ^a	86	59	78	80	79	Mean & 95% CI
	27.76 (27.63/27.89) ^a	86	59	78	80	79	Mean & 95% CI
	12.42 (12.33/12.5) ^a	86	59	78	80	79	Mean & 95% CI
	18.77 (18.65/18.9) ^a	86	59	77	80	80	Mean & 95% CI
	16.04 (15.91/16.16) ^a	86	59	77	80	80	Mean & 95% CI
	14.71 (14.62/14.8) ^a	86	59	77	80	80	Mean & 95% CI
	111.66 (111.22/112.11) ^a	86	59	77	80	80	Mean & 95% CI
	17.7 (17.6/17.8) ^a	86	59	77	80	80	Mean & 95% CI
	21.61 (21.5/21.73) ^a	86	59	77	80	80	Mean & 95% CI
	22.82 (22.73/22.92) ^a	86	59	77	80	80	Mean & 95% CI
	11.1 (11.03/11.17) ^a	86	59	78	80	79	Mean & 95% CI
	12.22 (12.17/12.26) ^a	86	59	78	80	79	Mean & 95% CI
	9.76 (9.65/9.87) ^a	86	59	78	80	79	Mean & 95% CI
	9.24 (9.18/9.3) ^a	86	59	78	80	79	Mean & 95% CI
	6.15 (6.1/6.2) ^a	86	59	78	80	79	Mean & 95% CI
	11.04 (10.98/11.09) ^a	86	59	78	80	79	Mean & 95% CI
	13.97 (13.8/14.15) ^a	85	58	78	79	78	Mean & 95% CI
	3.77 (3.71/3.83) ^a	85	58	78	79	78	Mean & 95% CI
	0.91 (0.88/0.94) ^a	85	58	78	79	78	Mean & 95% CI
	1.47 (1.42/1.52) ^a	85	58	78	79	78	Mean & 95% CI
	1.76 (1.73/1.79) ^a	85	58	78	79	78	Mean & 95% CI
	1.79 (1.77/1.82) ^a	85	58	78	79	78	Mean & 95% CI
	1.77 (1.74/1.8) ^a	85	58	78	79	78	Mean & 95% CI
	1.69 (1.67/1.72) ^a	85	58	78	79	78	Mean & 95% CI
	9.46 (9.31/9.6) ^a	86	59	77	80	80	Mean & 95% CI
	24.49 (24.34/24.63) ^a	86	59	77	80	80	Mean & 95% CI
	2.3 (2.28/2.32) ^a	87	59	77	80	80	Mean & 95% CI
	14.54 (14.32/14.77) ^a	86	59	77	80	79	Mean & 95% CI
	31.14 (30.98/31.31) ^a	86	59	77	80	79	Mean & 95% CI
	10.4 (10.18/10.62) ^a	86	59	77	80	79	Mean & 95% CI

Table E1.4 Variable	RCC1&2 – CTM (Lo/Hi)	RCC2 – CTM (Lo/Hi)	TC1 – CTM (Lo/Hi)	TC2 – CTM (Lo/Hi)	
PBI.moop	29.43 (29.25/29.6) ^a	29.32 (29.03/29.6) ^a	28.99 (28.82/29.16) ^a	28.62 (28.45/28.79) ^a	
PCS.Helpless	5.33 (5.23/5.42) ^a	5.51 (5.37/5.65) ^a	6.79 (6.7/6.89) ^a	6.35 (6.27/6.43) ^a	
PCS.Mag	3.44 (3.39/3.5) ^a	3.41 (3.33/3.48) ^a	3.56 (3.51/3.61) ^a	4.03 (3.97/4.08) ^a	
PCS.Overall	15.58 (15.37/15.79) ^a	15.85 (15.53/16.16) ^a	17.85 (17.66/18.03) ^a	17.95 (17.78/18.12) ^a	
PCS.Rum	6.81 (6.72/6.9) ^a	6.93 (6.8/7.07) ^a	7.49 (7.41/7.57) ^a	7.58 (7.5/7.65) ^a	
prosocialness	3.39 (3.38/3.41) ^a	3.38 (3.36/3.4) ^a	3.26 (3.25/3.27) ^a	3.34 (3.33/3.36) ^a	
PSQI	4 (3/6) ^a	4 (3/6.5) ^a	4 (3/5.75) ^a	4 (3/5) ^a	
PSS	14.31 (14.18/14.44) ^a	14.1 (13.91/14.29) ^a	14.49 (14.34/14.65) ^a	13.56 (13.43/13.7) ^a	
PvL_type_competitive	6.98 ^a	10.17 ^a	5.13 ^a	6.25 ^a	
PvL_type_individualistic	23.26 ^a	28.81 ^a	20.51 ^a	13.75 ^a	
PvL_type_prosocial	63.95 ^a	57.63 ^a	67.95 ^a	63.75 ^a	
RDEES.Differentiation	2.15 (2.13/2.17) ^a	2.15 (2.12/2.18) ^a	2.03 (2.01/2.05) ^a	2.05 (2.03/2.08) ^a	
RDEES.Mean	2.75 (2.73/2.76) ^a	2.75 (2.72/2.77) ^a	2.63 (2.61/2.65) ^a	2.71 (2.69/2.73) ^a	
RDEES.Range	3.35 (3.33/3.36) ^a	3.34 (3.32/3.37) ^a	3.23 (3.2/3.25) ^a	3.38 (3.36/3.4) ^a	
SAIS_Serenity	2.64 (2.62/2.66) ^a	2.7 (2.67/2.72) ^a	2.76 (2.74/2.78) ^a	2.74 (2.72/2.76) ^a	
SAQ_mean	1.7 (1.68/1.72) ^a	1.7 (1.67/1.74) ^a	2.25 (2.22/2.28) ^a	1.71 (1.69/1.74) ^a	
SAQ_total	13.61 (13.43/13.79) ^a	13.63 (13.34/13.91) ^a	18 (17.78/18.22) ^a	13.71 (13.52/13.9) ^a	
SCS_CommonHumanity	2.18 (2.16/2.19) ^a	2.16 (2.13/2.18) ^a	2.02 (2/2.03) ^a	2.22 (2.21/2.24) ^a	
SCS_Isolation	1.22 (1.2/1.24) ^a	1.08 (1.06/1.11) ^a	1.31 (1.29/1.33) ^a	1.23 (1.21/1.25) ^a	
SCS_Mindfulness	2.3 (2.29/2.32) ^a	2.31 (2.29/2.33) ^a	2.25 (2.23/2.26) ^a	2.3 (2.29/2.32) ^a	
SCS_Overidentified	1.6 (1.58/1.61) ^a	1.61 (1.59/1.64) ^a	1.72 (1.71/1.74) ^a	1.61 (1.59/1.63) ^a	
SCS_SelfJudgment	1.58 (1.56/1.6) ^a	1.6 (1.57/1.62) ^a	1.56 (1.54/1.58) ^a	1.52 (1.51/1.54) ^a	
SCS_SelfKindness	2.28 (2.26/2.29) ^a	2.3 (2.27/2.32) ^a	2.23 (2.21/2.24) ^a	2.31 (2.29/2.32) ^a	
SCS_Total	2.39 (2.38/2.4) ^a	2.41 (2.39/2.42) ^a	2.32 (2.3/2.33) ^a	2.41 (2.4/2.42) ^a	
self_cognizance	22.35 (22.24/22.46) ^a	22.95 (22.8/23.1) ^a	21.14 (21.01/21.27) ^a	21.96 (21.84/22.08) ^a	
self_strategies	12.37 (12.3/12.45) ^a	12.68 (12.58/12.78) ^a	11.86 (11.77/11.95) ^a	12.14 (12.04/12.23) ^a	
STAL_ta	35.8 (35.62/35.99) ^a	35.56 (35.29/35.82) ^a	37.49 (37.28/37.71) ^a	37.11 (36.92/37.31) ^a	
Stoeber	8.6 (8.55/8.66) ^a	8.81 (8.73/8.9) ^a	9 (8.95/9.05) ^a	8.59 (8.53/8.64) ^a	
SWLS	4.03 (4.01/4.06) ^a	4.08 (4.04/4.12) ^a	4.22 (4.2/4.25) ^a	4.22 (4.2/4.25) ^a	
TAS_20	41.99 (41.77/42.21) ^a	41.66 (41.34/41.98) ^a	42.59 (42.33/42.85) ^a	41.19 (40.97/41.4) ^a	
TAS_describe_feelings	10.52 (10.44/10.6) ^a	10.64 (10.52/10.77) ^a	11.21 (11.12/11.3) ^a	10.69 (10.62/10.76) ^a	
TAS_externally_oriented	18.13 (18.03/18.22) ^a	18.03 (17.91/18.16) ^a	16.99 (16.89/17.09) ^a	16.89 (16.79/16.98) ^a	
TAS_identify_feelings	12.78 (12.7/12.87) ^a	12.52 (12.41/12.64) ^a	13.68 (13.57/13.8) ^a	13.04 (12.95/13.13) ^a	
TICS_cc	5.38 (5.31/5.46) ^a	5.2 (5.1/5.31) ^a	5.44 (5.36/5.52) ^a	5.39 (5.31/5.46) ^a	
TICS_edw	6.19 (6.1/6.27) ^a	5.95 (5.82/6.08) ^a	5.95 (5.86/6.04) ^a	5.53 (5.44/5.61) ^a	
TICS_lsr	5.15 (5.08/5.22) ^a	4.93 (4.84/5.02) ^a	5.08 (5.01/5.14) ^a	4.84 (4.77/4.9) ^a	
TICS_ps	16.36 (16.24/16.48) ^a	16.8 (16.61/16.98) ^a	15.29 (15.13/15.45) ^a	15.84 (15.69/15.99) ^a	
TICS_si	7.29 (7.19/7.39) ^a	7.1 (6.95/7.25) ^a	6.84 (6.74/6.95) ^a	6.53 (6.42/6.63) ^a	

	TC3 – CTM (Lo/Hi)	N RCC1&2	N RCC2	NTC1	NTC2	NTC3	Summary Type
	29.19 (29.02/29.35) ^a	86	59	77	80	79	Mean & 95% CI
	5.22 (5.12/5.31) ^a	86	59	78	80	79	Mean & 95% CI
	3.59 (3.54/3.65) ^a	86	59	78	80	79	Mean & 95% CI
	15.48 (15.27/15.69) ^a	86	59	78	80	79	Mean & 95% CI
	6.67 (6.59/6.76) ^a	86	59	78	80	79	Mean & 95% CI
	3.52 (3.5/3.53) ^a	86	59	78	80	79	Mean & 95% CI
	4 (3/6) ^a	86	59	78	80	80	Median and 25 th and 75 th quartiles
	14.22 (14.07/14.36) ^a	86	59	77	80	79	Mean & 95% CI
	2.53 ^a	86	59	78	80	79	Percentage
	21.52 ^a	86	59	78	80	79	Percentage
	64.56 ^a	86	59	78	80	79	Percentage
	2.27 (2.25/2.29) ^a	86	59	78	80	79	Mean & 95% CI
	2.86 (2.84/2.88) ^a	86	59	78	80	79	Mean & 95% CI
	3.45 (3.43/3.47) ^a	86	59	78	80	79	Mean & 95% CI
	2.64 (2.61/2.66) ^a	87	59	79	81	79	Mean & 95% CI
	1.97 (1.94/2) ^a	84	59	78	80	79	Mean & 95% CI
	15.76 (15.55/15.97) ^a	84	59	78	80	79	Mean & 95% CI
	2.06 (2.04/2.07) ^a	87	59	79	81	79	Mean & 95% CI
	1.28 (1.26/1.3) ^a	87	59	79	81	79	Mean & 95% CI
	2.27 (2.25/2.29) ^a	87	59	79	81	79	Mean & 95% CI
	1.63 (1.61/1.65) ^a	87	59	79	81	79	Mean & 95% CI
	1.6 (1.58/1.62) ^a	87	59	79	81	79	Mean & 95% CI
	2.26 (2.25/2.28) ^a	87	59	79	81	79	Mean & 95% CI
	2.35 (2.33/2.36) ^a	87	59	79	81	79	Mean & 95% CI
	21.21 (21.09/21.33) ^a	86	59	78	80	80	Mean & 95% CI
	11.72 (11.63/11.82) ^a	86	59	78	80	80	Mean & 95% CI
	38.66 (38.46/38.86) ^a	86	59	77	79	80	Mean & 95% CI
	8.99 (8.93/9.04) ^a	86	59	77	80	79	Mean & 95% CI
	4.25 (4.22/4.28) ^a	86	59	77	80	80	Mean & 95% CI
	40.52 (40.31/40.74) ^a	86	59	78	80	80	Mean & 95% CI
	10.55 (10.48/10.62) ^a	86	59	78	80	80	Mean & 95% CI
	16.5 (16.41/16.59) ^a	86	59	78	80	80	Mean & 95% CI
	12.91 (12.81/13.01) ^a	86	59	78	80	80	Mean & 95% CI
	5.34 (5.27/5.42) ^a	86	59	77	80	79	Mean & 95% CI
	5.37 (5.27/5.46) ^a	86	59	77	80	79	Mean & 95% CI
	5 (4.93/5.07) ^a	86	59	77	80	79	Mean & 95% CI
	15.27 (15.14/15.39) ^a	86	59	77	80	79	Mean & 95% CI
	6.05 (5.94/6.16) ^a	86	59	77	80	79	Mean & 95% CI

Table E1.4 Variable	RCC1&2 – CTM (Lo/Hi)	RCC2 – CTM (Lo/Hi)	TC1 – CTM (Lo/Hi)	TC2 – CTM (Lo/Hi)	
TICS_so	9.37 (9.26/9.48) ^a	10.1 (9.94/10.26) ^a	9.3 (9.18/9.42) ^a	9.04 (8.93/9.14) ^a	
TICS_st	5 (3/8) ^a	5 (3/8) ^a	6 (3/7) ^a	5 (3/7) ^a	
TICS_tlcs	15.38 (15.22/15.55) ^a	15.07 (14.83/15.3) ^a	15.23 (15.05/15.42) ^a	14.68 (14.52/14.83) ^a	
TICS_wd	10.47 (10.35/10.58) ^a	10.37 (10.21/10.54) ^a	10.27 (10.14/10.4) ^a	9.45 (9.33/9.57) ^a	
TICS_wo	14.03 (13.89/14.18) ^a	14.24 (14.03/14.45) ^a	13.58 (13.42/13.75) ^a	12.88 (12.74/13.01) ^a	
TTPAS_Active	19.59 (19.47/19.71) ^a	19.37 (19.19/19.55) ^a	19.8 (19.66/19.93) ^a	19.26 (19.13/19.4) ^a	
TTPAS_Relaxed	14.74 (14.65/14.82) ^a	14.53 (14.39/14.66) ^a	13.38 (13.27/13.49) ^a	13.59 (13.5/13.67) ^a	
TTPAS_Warmth	10.53 (10.47/10.59) ^a	10.39 (10.3/10.48) ^a	9.96 (9.89/10.03) ^a	10.35 (10.29/10.41) ^a	
UCLA_Loneliness	1.09 (1.08/1.09) ^a	1.14 (1.12/1.15) ^a	1.18 (1.17/1.2) ^a	1.07 (1.06/1.08) ^a	
UI18.Burdened	12.73 (12.62/12.84) ^a	12.59 (12.43/12.76) ^a	13.51 (13.39/13.63) ^a	13.89 (13.77/14) ^a	
UI18.Inability_to_Act	14.41 (14.3/14.51) ^a	14.42 (14.26/14.59) ^a	14.62 (14.51/14.73) ^a	15.21 (15.1/15.32) ^a	
UI18.Overall	42.33 (42.06/42.59) ^a	42.03 (41.64/42.43) ^a	41.91 (41.63/42.19) ^a	43.65 (43.39/43.91) ^a	
UI18.Vigilance	15.19 (15.09/15.28) ^a	15.02 (14.89/15.15) ^a	13.78 (13.67/13.89) ^a	14.55 (14.45/14.65) ^a	

	TC3 – CTM (Lo/Hi)	N RCC1&2	N RCC2	N TC1	N TC2	N TC3	Summary Type
	8.94 (8.82/9.05) ^a	86	59	77	80	79	Mean & 95% CI
	6 (4/8.5) ^a	86	59	77	80	79	Median and 25 th and 75 th quartiles
	14.75 (14.57/14.92) ^a	86	59	77	80	79	Mean & 95% CI
	10.19 (10.07/10.31) ^a	86	59	77	80	79	Mean & 95% CI
	13.33 (13.18/13.48) ^a	86	59	77	80	79	Mean & 95% CI
	20.46 (20.34/20.58) ^a	87	59	79	80	79	Mean & 95% CI
	13.15 (13.05/13.26) ^a	87	59	79	80	79	Mean & 95% CI
	10.28 (10.21/10.34) ^a	87	59	79	80	79	Mean & 95% CI
	1.15 (1.14/1.16) ^a	87	59	77	80	80	Mean & 95% CI
	13.35 (13.24/13.47) ^a	86	59	77	80	79	Mean & 95% CI
	14.04 (13.94/14.14) ^a	86	59	77	80	79	Mean & 95% CI
	40.78 (40.52/41.05) ^a	86	59	77	80	79	Mean & 95% CI
	13.39 (13.29/13.49) ^a	86	59	77	80	79	Mean & 95% CI

Appendix E2: Pre- and post meditation questions

Questions were administered in a pseudo-randomized manner of three blocks (A, B, and C) so that the participants got a different set of questions per selected daily meditation (see Chapter 8.2). Participants mostly used a slider to answer the questions. All questions are given in the original German, **and the translated English Version.**

Block A: Pre-meditation questions:

- ▶ In den letzten 30 Minuten: Waren Deine Gedanken auf die Zukunft gerichtet?
In the last 30 minutes: Were your thoughts focused on the future?
- ▶ In den letzten 30 Minuten: Waren Deine Gedanken auf die Vergangenheit gerichtet?
In the last 30 minutes: Were your thoughts focused on the past?
- ▶ In den letzten 30 Minuten: Waren Deine Gedanken auf Dich selbst gerichtet?
In the last 30 minutes: Were your thoughts focused on yourself?
- ▶ In den letzten 30 Minuten: Waren Deine Gedanken auf andere Menschen gerichtet?
In the last 30 minutes: Were your thoughts focused on other people?
- ▶ In den letzten 30 Minuten: Waren Deine Gedanken positiv?
In the last 30 minutes: Were your thoughts positive?
- ▶ In den letzten 30 Minuten: Waren Deine Gedanken negativ?
In the last 30 minutes: Were your thoughts negative?
- ▶ In den letzten 30 Minuten: Waren Deine Gedanken verurteilend?
In the last 30 minutes: Were your thoughts judgmental?
- ▶ Wie sicher bist Du Dir Deiner Antworten auf alle bisherigen Fragen?
How confident are you about your responses to the above questions?
- ▶ Wie motiviert bist Du die folgende Übung durchzuführen?
How motivated do you feel about completing the forthcoming exercise?
- ▶ Wie fühlst Du Dich im Moment? (The Affect Grid; Russell et al., 1989)
How are you feeling at the moment? (The Affect Grid; Russell et al., 1989)
- ▶ Wie warm/kalt fühlst Du Dich im Moment?
How warm/cold do you feel at the moment?
- ▶ Wie präsent fühlst Du Dich im Moment?
How present do you feel at the moment?
- ▶ Wie sehr bist Du Dir Deines Körpers momentan bewusst?
How aware are you of your own body at the moment?

Selection:

- ▶ Von welchem Lehrer möchtest Du die Meditation hören?
From which teacher would you like to hear the meditation?
- ▶ [choose teacher and length of meditation]

Block A: Post-meditation questions:

- ▶ Während der Übung: Waren Deine Gedanken auf die Zukunft gerichtet?
During the exercise: Were your thoughts focused on the future?
- ▶ Während der Übung: Waren Deine Gedanken auf die Vergangenheit gerichtet?
During the exercise: Were your thoughts focused on the past?
- ▶ Während der Übung: Waren Deine Gedanken auf Dich selbst gerichtet?
During the exercise: Were your thoughts focused on yourself?
- ▶ Während der Übung: Waren Deine Gedanken auf andere Menschen gerichtet?
During the exercise: Were your thoughts focused on other people?
- ▶ Während der Übung: Waren Deine Gedanken positiv?
During the exercise: Were your thoughts positive?
- ▶ Während der Übung: Waren Deine Gedanken negativ?
During the exercise: Were your thoughts negative?
- ▶ Während der Übung: Waren Deine Gedanken verurteilend?
During the exercise: Were your thoughts judgmental?
- ▶ Wie sicher bist Du Dir Deiner Antworten auf alle bisherigen Fragen nach der Meditation?
How confident are you about your responses to the above questions after meditating?
- ▶ Wie fühlst Du Dich im Moment? (The Affect Grid; Russell et al., 1989)
How are you feeling at the moment? (The Affect Grid; Russell et al., 1989)
- ▶ Wie warm/kalt fühlst Du Dich im Moment?
How warm/cold do you feel at the moment?
- ▶ Wie präsent fühlst Du Dich im Moment?
How present do you feel at the moment?
- ▶ Wie sehr bist Du Dir Deines Körpers momentan bewusst?
How aware are you of your own body at the moment?
- ▶ Wie anstrengend war die Übung für Dich?
How strenuous did you find the exercise?
- ▶ Wie angenehm war die Übung für Dich?
How pleasant did you find the exercise?
- ▶ Gibt es noch etwas, dass Du noch gerne mitteilen möchtest? Bitte gib Deine Mitteilung in die untenstehende Textbox ein. Die Eingabe ist freiwillig.
Is there anything else you would like to report? You can write your comments in the text box below, but this is purely voluntary.

Block B: Pre-meditation questions:

- ▶ Was beschäftigt Dich in diesem Moment? Bitte gib Deine Antwort in die untenstehende Textbox ein. Bitte antworte spontan und kümmere Dich nicht um Schreibstil, oder Rechtschreibfehler.
What are you concerned about at this very moment? Please write your answer in the text box below. You should answer spontaneously, and without worrying about your style or about making spelling mistakes.

- ▶ Wie motiviert bist Du die folgende Übung durchzuführen?
How motivated do you feel about completing the forthcoming exercise?
- ▶ Wie fühlst Du Dich im Moment? (The Affect Grid; Russell et al., 1989)
How are you feeling at the moment? (The Affect Grid; Russell et al., 1989)
- ▶ Wie warm/kalt fühlst Du Dich im Moment?
How warm/cold do you feel at the moment?
- ▶ Wie präsent fühlst Du Dich im Moment?
How present do you feel at the moment?
- ▶ Wie sehr bist Du Dir Deines Körpers momentan bewusst?
How aware are you of your own body at the moment?

Selection:

- ▶ Von welchem Lehrer möchtest Du die Meditation hören?
From which teacher would you like to hear the meditation?
- ▶ [choose teacher and length of meditation]

Block B: Post-meditation questions:

- ▶ Was beschäftigt Dich in diesem Moment? Bitte gib Deine Antwort in die unten stehende Textbox ein. Bitte antworte spontan und kümmere Dich nicht um Schreibstil, oder Rechtschreibfehler.
What are you concerned about at this very moment? Please write your answer in the text box below. You should answer spontaneously, and without worrying about your style or about making spelling mistakes.
- ▶ Wie fühlst Du Dich im Moment? (The Affect Grid; Russell et al., 1989)
How are you feeling at the moment? (The Affect Grid; Russell et al., 1989)
- ▶ Wie warm/kalt fühlst Du Dich im Moment?
How warm/cold do you feel at the moment?
- ▶ Wie präsent fühlst Du Dich im Moment?
How present do you feel at the moment?
- ▶ Wie sehr bist Du Dir Deines Körpers momentan bewusst?
How aware are you of your own body at the moment?

Block C: Pre-meditation questions:

- ▶ Wie motiviert bist Du die folgende Übung durchzuführen?
How motivated do you feel about completing the forthcoming exercise?
- ▶ Wie fühlst Du Dich im Moment? (The Affect Grid; Russell et al., 1989)
How are you feeling at the moment? (The Affect Grid; Russell et al., 1989)
- ▶ Wie warm/kalt fühlst Du Dich im Moment?
How warm/cold do you feel at the moment?
- ▶ Wie präsent fühlst Du Dich im Moment?
How present do you feel at the moment?
- ▶ Wie sehr bist Du Dir Deines Körpers momentan bewusst?
How aware are you of your own body at this moment?

- ▶ Wie beschäftigt ist Dein Geist in diesem Moment?
How preoccupied is your mind at the moment?
- ▶ Wie sehr bist Du durch Deine Gedanken gegenwärtig abgelenkt?
To what extent are your thoughts distracting you right now?
- ▶ Wie sehr bist Du von Deinen Gedanken eingenommen?
How absorbed are you in your own thoughts?
- ▶ Wie gewahr bist Du Dir über den Inhalt Deiner Gedanken?
How aware are you of the content of your thoughts?
- ▶ Wie gewahr bist Du der Tatsache, dass Du denkst?
How aware are you of the fact that you are thinking?

Selection:

- ▶ Von welchem Lehrer möchtest Du die Meditation hören?
From which teacher would you like to hear the meditation?
- ▶ [choose teacher and length of meditation]

Block C: Post-meditation questions:

- ▶ Wie fühlst Du Dich im Moment? (The Affect Grid; Russell et al., 1989)
How are you feeling at the moment? (The Affect Grid; Russell et al., 1989)
- ▶ Wie warm/kalt fühlst Du Dich im Moment?
How warm/cold do you feel at the moment?
- ▶ Wie präsent fühlst Du Dich im Moment?
How present do you feel at the moment?
- ▶ Wie sehr bist Du Dir Deines Körpers momentan bewusst?
How aware are you of your own body at the moment?
- ▶ Wie beschäftigt ist Dein Geist in diesem Moment?
How preoccupied is your mind at the moment?
- ▶ Wie sehr bist Du durch Deine Gedanken gegenwärtig abgelenkt?
To what extent are your thoughts distracting you right now?
- ▶ Wie sehr bist Du von Deinen Gedanken eingenommen?
How absorbed are you in your own thoughts?
- ▶ Wie gewahr bist Du Dir über den Inhalt Deiner Gedanken?
How aware are you of the content of your thoughts?
- ▶ Wie gewahr bist Du der Tatsache, dass Du denkst?
How aware are you of the fact that you are thinking?
- ▶ Wie anstrengend war die Übung für Dich?
How strenuous did you find the exercise?
- ▶ Wie angenehm war die Übung für Dich?
How pleasant did you find the exercise?
- ▶ Gibt es noch etwas, dass Du noch gerne mitteilen möchtest? Bitte gib Deine Mitteilung in die untenstehende Textbox ein. Die Eingabe ist freiwillig.
Is there anything else you would like to report? You can write your comments in the text box below, but this is purely voluntary.

Appendix E3: Dyadic exercise questions

The German original (black) and translated English (red) version is given below.

Affect Dyad

The questions below were administered before and after the Affect Dyad.

Pre-dyad questions for both participants:

- ▶ Wie motiviert bist Du die folgende Übung durchzuführen?
How motivated do you feel about completing the forthcoming exercise?
- ▶ Bitte benutze Deine Finger, um die beiden unten stehenden Kreise so zu bewegen, dass sie die Beziehung zu Deinem Übungspartner für die Dyade vor der Übung darstellen. (IOS; Aron et al., 1992)
Use your finger to move the two circles so that they represent your relationship with your dyad partner prior to the exercise. (IOS; Aron et al., 1992)
- ▶ Wie fühlst Du Dich im Moment? (The Affect Grid; Russell et al., 1989)
How are you feeling at the moment? (The Affect Grid; Russell et al., 1989)

Post-dyad questions for both participants:

- ▶ Bitte benutze Deine Finger, um die beiden unten stehenden Kreise so zu bewegen, dass sie die Beziehung zu Deinem Übungspartner für die Dyade nach der Übung darstellen.
Use your finger to move the two circles so that they represent your relationship with your dyad partner after the exercise.
- ▶ Wie fühlst Du Dich im Moment? (The Affect Grid; Russell et al., 1989)
How are you feeling at the moment? (The Affect Grid; Russell et al., 1989)

Post-dyad questions referring to the part when participant was speaking:

- ▶ Wovon handelte die schwierige Situation, welche Du für diese Übung ausgewählt hast? Bitte fasse die Situation in wenigen Stichwörtern zusammen (z. B. Zeit, Situation, anwesende Personen).
Use a few key words (e.g., about the time, situation, and persons present) to describe the difficult situation you selected for this exercise.
- ▶ Wie negativ hast Du Dich gefühlt, während Du über die schwierige Situation gesprochen hast?
How negative did you feel when talking about the difficult situation?
- ▶ Wie positiv hast Du Dich gefühlt während Du über die schwierige Situation gesprochen hast?
How positive did you feel when talking about the difficult situation?
- ▶ Wie persönlich war die schwierige Situation, über welche Du gesprochen hast?
How personal to you was the difficult situation you talked about?
- ▶ Wie einfach war es für Dich über die schwierige Situation zu sprechen?
How easy was it for you to talk about the difficult situation?

- ▶ Wofür warst Du heute dankbar? Bitte fasse dies in wenigen Stichwörtern zusammen.
What have you been grateful for today? Please answer using a few key phrases.
- ▶ Wie negativ hast Du Dich gefühlt, während Du über die dankbare Situation gesprochen hast?
How negative did you feel when talking about the situation for which you feel grateful?
- ▶ Wie positiv hast Du Dich gefühlt während Du über die dankbare Situation gesprochen hast?
How positive did you feel when talking about the situation for which you feel grateful?
- ▶ Wie persönlich war die dankbare Situation, über welche Du gesprochen hast?
How personal to you was the situation you talked about for which you felt grateful?
- ▶ Wie einfach war es für Dich über die dankbare Situation zu sprechen?
How easy was it for you to talk about the situation for which you felt grateful?

Post-dyad questions referring to the part when participant was listening:

- ▶ Wie negativ hast Du Dich gefühlt während Dein Partner über eine schwierige Situation gesprochen hat?
How negative did you feel while your partner was talking about a difficult situation?
- ▶ Wie positiv hast Du Dich gefühlt während Dein Partner über eine schwierige Situation gesprochen hat?
How positive did you feel while your partner was talking about a difficult situation?
- ▶ Wie einfach war es für Dich Deinem Partner zuzuhören, während er über eine schwierige Situation gesprochen hat?
How easy was it for you to listen to your partner talking about a difficult situation?
- ▶ Wie negativ hast Du Dich gefühlt während Dein Partner über eine dankbare Situation gesprochen hat?
How negative did you feel while your partner was talking about a situation for which he felt grateful?
- ▶ Wie positiv hast Du Dich gefühlt während Dein Partner über eine dankbare Situation gesprochen hat?
How positive did you feel while your partner was talking about a situation for which he felt grateful?
- ▶ Wie einfach war es für Dich Deinem Partner zuzuhören, während er über eine dankbare Situation gesprochen hat?
How easy was it for you to listen to your partner talking about a situation for which he felt grateful?
- ▶ Gibt es noch etwas, dass Du noch gerne mitteilen möchtest? Bitte gib Deine Mitteilung in die unten stehende Textbox ein. Die Eingabe ist freiwillig.
Is there anything else you would like to report? You can write your comments in the text box below, but this is purely voluntary.

Perspective Dyad

The questions below were administered before and after the Perspective Dyad.

Pre-dyad questions for both participants:

- ▶ Wie motiviert bist Du die folgende Übung durchzuführen?
How motivated do you feel about completing the forthcoming exercise?
- ▶ Bitte benutze Deine Finger, um die beiden unten stehenden Kreise so zu bewegen, dass sie die Beziehung zu Deinem Übungspartner für die Dyade vor der Übung darstellen. (IOS; Aron et al., 1992)
Use your finger to move the two circles so that they represent your relationship with your dyad partner prior to the exercise. (IOS; Aron et al., 1992)
- ▶ Wie fühlst Du Dich im Moment? (The Affect Grid; Russell et al., 1989)
How are you feeling at the moment? (The Affect Grid; Russell et al., 1989)
- ▶ Wovon handelt die Situation, welche Du für die heutige Übung ausgewählt hast? Bitte fasse die Situation in 1 bis 3 (z. B. Zeit, Situation, anwesende Person) Stichworten zusammen.
What sort of situation did you select for today's exercise? Use one to three key words (e.g., about the time, situation, and persons present) to describe the situation.

Mid-dyad and post-dyad questions:

Questions referring to the part when participant was listening:

- ▶ Mit welchem Anteil hat Dein/e Partner/in die Situation beschrieben?
With which inner part did your partner describe the situation?
- ▶ Wie sicher warst Du, dass Deine Antwort richtig ist?
How confident were you that your response was correct?
- ▶ Wie hast Du Dich gefühlt, als Du zugehört hast? (The Affect Grid; Russell et al., 1989)
How did you feel while you were listening? (The Affect Grid; Russell et al., 1989)

Questions referring to the part when participant was speaking:

- ▶ Wie intim war die Situation, über welche Du gesprochen hast?
How intimate was the situation you were talking about?
- ▶ Wie hast Du Dich während des Sprechens gefühlt? (The Affect Grid; Russell et al., 1989)
How did you feel while you were speaking? (The Affect Grid; Russell et al., 1989)
- ▶ War es einfach für Dich, die Situation als innerer Anteil zu erzählen?
Did you find it easy to describe the situation from an inner part?
- ▶ Wie angenehm war es für Dich, die Situation mit dem inneren Anteil zu erzählen?
How pleasant did you find it to describe the situation from an inner part?
- ▶ Wie weit entfernt war der innere Anteil von der erlebten Situation?
How far away was the inner part from the actual situation?

Post dyad questions for both participants:

- ▶ Benutze Deine Finger, um die beiden unten stehenden Kreise so zu bewegen, dass sie die Beziehung zu Deinem Übungspartner für die Dyade nach der Übung darstellen. (IOS; Aron et al., 1992)
Use your finger to move the two circles so that they represent your relationship with your dyad partner after the exercise. (IOS; Aron et al., 1992)
- ▶ Gibt es noch etwas, was Du uns mitteilen möchtest?
Is there anything else you would like to add?

Appendix E4: Weekly questions

All cohorts answered the questions below on a weekly basis during the entire project (T0–T3). They were available online every Wednesday morning to Thursday evening. The German original (black) and translated English (red) version is given below.

a)

Frage: Wie haben Sie sich in den vergangenen 24 Stunden gefühlt? Analysieren Sie Ihren Tag mit Hilfe einer Skala von 0-4. Bitte klicken Sie immer den höchsten Wert, welchen Sie gespürt haben an.

Question: How have you felt in the last 24 hours? Analyse your day on a scale of 0 to 4.

Always select the highest value you experienced (Fredrickson, 2013).

- ▶ amüsiert, lebenslustig oder albern
amused, fun-loving, or silly
- ▶ verärgert, irritiert oder genervt
angry, irritated, or annoyed
- ▶ beschämt, erniedrigt oder blamiert
ashamed, humiliated, or disgraced
- ▶ Ehrfurcht, Staunen oder Überraschung verspürt
awed, wondered, or amazed
- ▶ Verachtung, Ablehnung oder Geringschätzung jemand anderem gegenüber empfunden
contemptuous, scornful, or disdainful
- ▶ Ekel, Widerwillen oder Abscheu
disgust, distaste, or revulsion
- ▶ bloßgestellt, selbstunsicher oder verlegen
embarrassed, unsure of yourself, or blushing
- ▶ dankbar, verbunden oder erkenntlich
grateful, appreciative, or thankful
- ▶ schuldig, reumütig oder tadelnswert
guilty, repentant, or blameworthy
- ▶ Hass, Missgunst oder Misstrauen
hate, distrust, or suspicion

- ▶ hoffnungsvoll, optimistisch oder ermutigt
hopeful, optimistic, or encouraged
- ▶ inspiriert, beseelt oder beflügelt
inspired, uplifted, or elevated
- ▶ interessiert, wach oder neugierig
interested, alert, or curious
- ▶ fröhlich, heiter oder glücklich
joyful, glad, or happy
- ▶ Liebe, Nähe oder Vertrauen
loving, close, or trusting
- ▶ stolz, selbstbewusst oder selbstsicher
proud, self-confident, or self-assured
- ▶ traurig, niedergeschlagen oder unglücklich
sad, downhearted, or unhappy
- ▶ Angst, Furcht oder Erschrecken
scared, fearful, or afraid
- ▶ ausgeglichen, gelassen oder zufrieden
serene, content, or peaceful
- ▶ gestresst, nervös oder überwältigt
stressed, nervous, or overwhelmed
- ▶ Ich habe mich einsam gefühlt.
Ich habe mich in Einklang mit der/den Person/en um mich herum gefühlt.“
Ich habe mich nah zu der/den Person/en um mich herum gefühlt.
I felt lonely.
I felt in tune with the people around me.
I felt close to the people around me.

b)

Wie viele Stunden haben Sie letzte Nacht geschlafen? Bitte geben Sie die ungefähre Zeit in Stunden an:

How many hours of sleep did you have last night? Please state the approximate number of hours:

c)

Wie oft hast Du meditiert? (z. B. 4)

How many times did you meditate? (e.g., 4)

d) Wie lange dauerte im Durchschnitt eine Meditation? (in ganzen Minuten bitte)

On average, how long did each period of meditation last? (in whole minutes, please)

Appendix E5: Experience-sampling questions

The questions below were administered during the experience-sampling days. The German original and translated English (in parentheses) version is given below.

Questions after waking up:

- ▶ Wie viele Stunden hast Du geschlafen? [How many hours did you sleep?]
- ▶ Wie hast Du geschlafen? [How did you sleep?]
- ▶ Wie fühlst Du Dich im Moment? [How do you feel at the moment?] (The Affect Grid; Russell et al., 1989)

Questions during the day (up to 6 times)

- ▶ Wie fühlst Du Dich im Moment? [How do you feel at the moment?] (The Affect Grid; Russell et al., 1989)
- ▶ Stufe bitte Deine momentanen Gedanken ein (negativ-positiv; vergangenheitsbezogen-zukunftsbezogen; selbstbezogen-an andere). [Please categorize your current thoughts (negative-positive; past-future; self-focused-other-focused)]
- ▶ Gab es seit dem letzten Messzeitpunkt ein bedeutsames emotionales Ereignis? [Has there been a significant emotional event since the last trial?]
 - Falls ja: Wie negativ/positiv war das Ereignis? [How negative/positive was it?]
 - Hast Du versucht, Deine emotionale Reaktion zu kontrollieren? [Did you try to control your emotional reaction?]
 - Wie erfolgreich warst Du damit? [Have you been successful?]
- ▶ Hattest Du seit dem letzten Messzeitpunkt Stress? [Have you been stressed since the last trial?]
 - Wie stark warst Du gestresst? [How stressed were you?]
 - Wie konntest Du den Stress meistern? [How did you cope with the stress?]
- ▶ Bist Du gegenwärtig in Gesellschaft einer anderen Person? [Are you currently with another person?]
- ▶ Wie nahe fühlst Du Dich dieser Person? [How close do you feel to this other person?]
- ▶ Was machst Du gerade? [What are you doing?] (select from list below)
 - Arbeiten, Berufsverkehr/Pendeln, Beten / Meditieren Computer/Internet/E-Mail; Duschen/Körperpflege; Einkaufen; Entspannen; Erledigungen; Essen zubereiten; Essen; Fernsehen, Hausarbeit; Hobbies/ Lesen/ Werkeln; In Gesellschaft sein; Mich ausruhen/Nickerchen machen; Mich um die Kinder kümmern; Sex; Sport; Studieren/Weiterbilden; Telefonieren; Andere: (Beschreibung)
 - [working; commuting; praying/meditating; computer/Internet/e-mail; showering/hygiene; shopping; relaxing; running errands; preparing food; eating; watching TV; doing housework; hobbies/reading; socializing; nap/resting; taking care of children; intimate relations; exercising; studying/educating myself; on the phone; other: (specify)]

Appendix E6: Bibliography for trait and state questionnaires

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Appendix F – Time Points for Data Assessment

Appendix F1: Summary table with details of time points for data assessment

Table F1 Rough overview of when the data were usually assessed. Individual arrangements due to illness or vacations were possible but were avoided as much as possible. See also Chapter 9.2.

Table F1 Task Category	When assessed
Trait questionnaires	T0, T4: during entire testing phase possible; T1–T3: during week 9–13
Weekly questions	T0–T3, once a week (Wednesday–Thursday), all cohorts
Questions pre-post during core exercises	T1–T3, only for training cohorts, during daily training routine
Feedback questionnaires	T1–T4 for TC1 and TC2, T1–T2 for TC3, General feedback questionnaire for all training cohorts
Observer questionnaires	T0–T4, by observer cohort only
Behavioral computer experiments	Different randomizations; T0: once a week for 5 weeks, different randomizations, 2 blocks were combined, started 6 weeks before training; T1–T3, one hour before weekly session; week 7–12; T4: once a week for 6 weeks
Measures of autonomic nervous system	T0: one week before training starts T1–T3: week 13 T4: final week of testing phase
Physiological signature of meditation state	During weekly training session; week 3 and 13; training cohorts only
Structural and functional MRI paradigms	T0, T4: Individual appointment during 5 to 6–week period; same week for the consecutive time points, in Leipzig only; T1–T3: individual appointment during week 9–13; in Leipzig only
Virtual Reality tasks	Same day as MRI paradigms (see above)
Experience-sampling with diurnal cortisol profile	T0–T4; two consecutive days, ideally in the middle of the week, same week for all time points
Plasma oxytocin levels (pre-and post meditation)	T2 for TC1 and TC2; T1 for TC3; week 12 during weekly training session
Plasma levels of immune markers	T0–T4; blood samples taken on the same day as measures of autonomic nervous system
Long-term cortisol levels from hair samples	T0–T4; taken on the same day as measures of autonomic nervous system
Blood for telomere lengths analyses	T0–T4; taken on the same day as measures of autonomic nervous system
Blood for gene polymorphism analyses	T0 only, taken on the same day as measures of autonomic nervous system
Trier Social Stress Test (+cortisol, alpha-amylase, blood samples for immune markers & oxytocin)	Only once during the study; different matching and randomization
Voluntary interviews about the subjective experiences during the study	Voluntary; T1–T3; individual appointments during testing phase
Voluntary elicitation interviews	Voluntary; T1–T3; individual appointments during testing phase

Appendix G – Amount of Solitary Training Practice

Appendix G1: Boxplots for solitary training practice for all core exercises

This appendix presents data regarding the amount of individual training practice for cohorts TC1, TC2, and TC3 for all six core exercises during the respective modules.

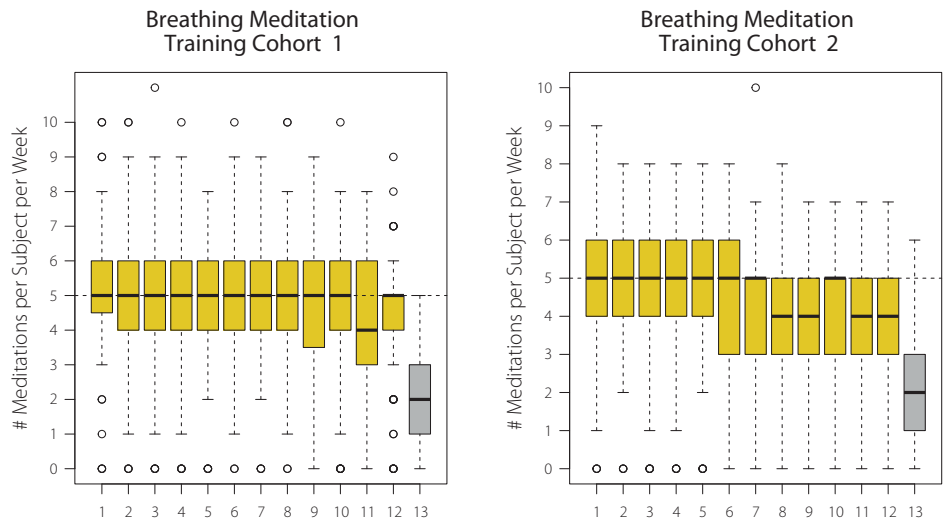


Figure G1.1 This figure shows the boxplots (median) of TC1 (left) and TC2 (right) regarding the Breathing Meditation training during each week of the Presence Module. Note that week 13 was shorter (Tuesday to Thursday) as the next retreat started on a Friday. The dotted line indicates the requested five times of solitary training.

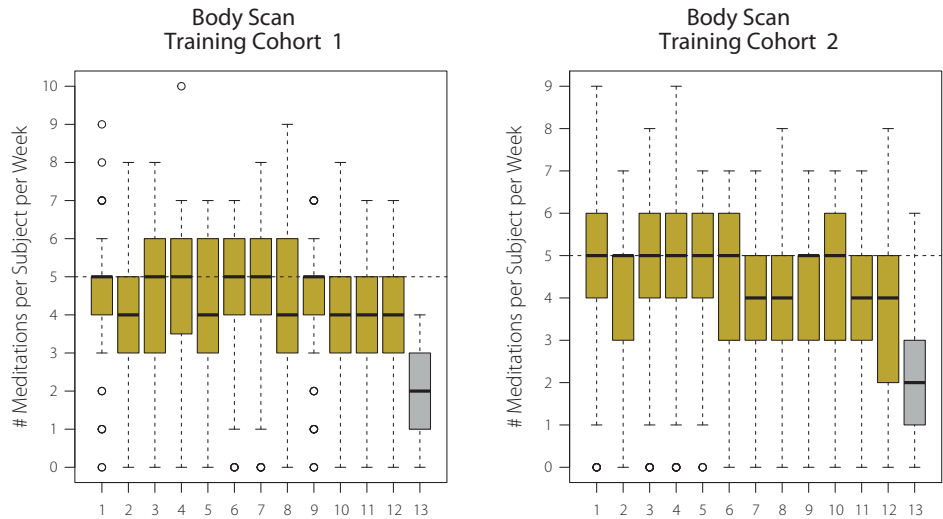


Figure G1.2 This figure shows the boxplots (median) of TC1 (left) and TC2 (right) regarding the Body Scan training during each week of the Presence Module. Note that week 13 was shorter (Tuesday to Thursday) as the next retreat started on a Friday. The dotted line indicates the requested five times of solitary training.



Figure G1.3 This figure shows the boxplots (median) of TC1 (left) and TC2 (right) regarding the Loving-kindness Meditation training during each week of the Affect Module. Note that week 13 was shorter (Tuesday to Thursday) as the next retreat started on a Friday. The dotted line indicates the requested five times of solitary training. TC1 did the Affect Module as the second and TC2 as the third module.

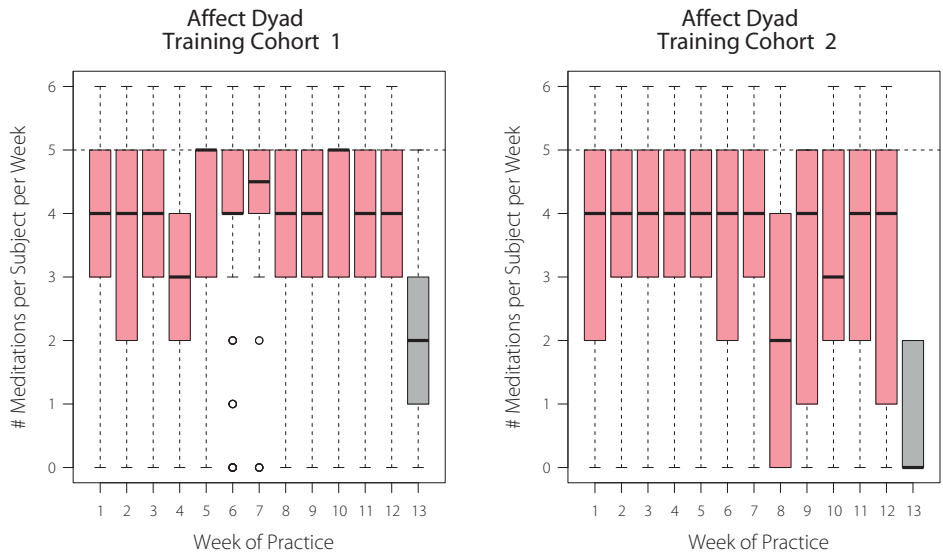


Figure G1.4 This figure shows the boxplots (median) of TC1 (left) and TC2 (right) regarding the Affect Dyad training during each week of the Affect Module. Note that week 13 was shorter (Tuesday to Thursday) as the next retreat started on a Friday. The dotted line indicates the requested five times of solitary training. TC1 did the Affect Module as the second and TC2 as the third module. Please note: Some of the post-questionnaires were lost due to technical difficulties or user error. Therefore, these data represent the completed dyadic exercises even if in some cases post-dyadic questions were missing.

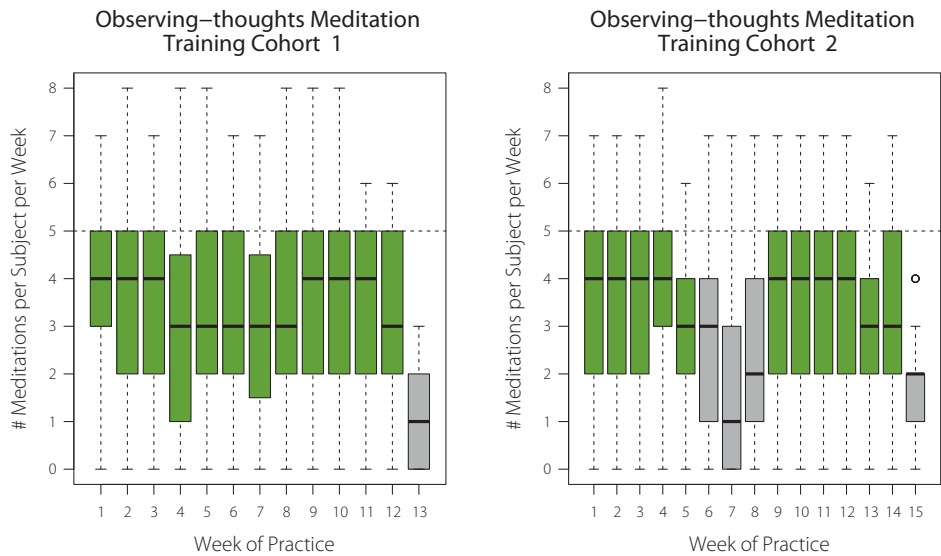


Figure G1.5 This figure shows the boxplots (median) of TC1 (left) and TC2 (right) regarding the Observing-thoughts Meditation training during each week of the Perspective Module. TC1 did the Perspective Module as the third and TC2 as the second module. Note that weeks 13 (TC1) and 15 (TC2) were shorter (Tuesday to Thursday) as the next retreat started on a Friday. The dotted line indicates the requested five times of solitary training. Note that for TC2, weeks 6 and 8 can only be considered for 3 to 4 days due to the 2-week Christmas and New Year vacation period. These two weeks were substituted by the addition of week 14 and 15.

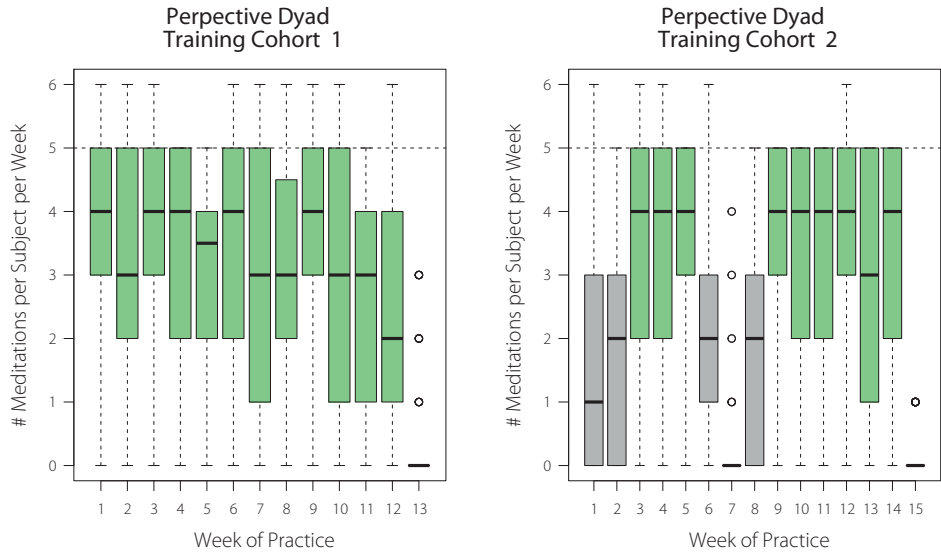


Figure G1.6 This figure shows the boxplots (median) of TC1 (left) and TC2 (right) regarding the Perspective Dyad training during each week of the Perspective Module. TC1 did the Perspective Module as the third and TC2 as the second module. Note that weeks 13 (TC1) and 15 (TC2) were shorter (Tuesday to Thursday) because the next retreat started on a Friday. The dotted line indicates the requested five times of solitary training. Note that for TC2, weeks 6 and 8 can only be considered for 3 to 4 days due to the 2-week Christmas and New Year vacation period. These two weeks were substituted by the addition of week 14 and 15. Due to technical difficulties in weeks 1 and 2 (server issues), participants were unable to do the requested dyadic exercises online. Please note that some of the post-questionnaires were lost due to technical difficulties or user error. Therefore, these data represent the completed dyadic exercises, even though in some cases post-dyadic questions were missing.

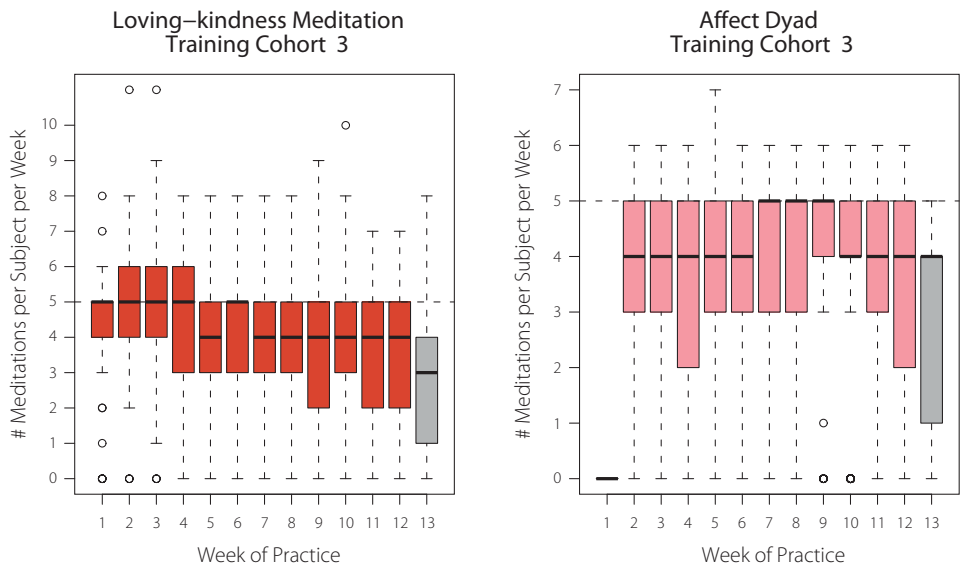


Figure G1.7 This figure shows the boxplots (median) of TC3 regarding the Loving-kindness Meditation (left) and the Affect Dyad (right) training during each week of the Affect Module. The dotted line indicates the requested five times of solitary training. TC3 only started training the Affect Dyad in the second week after the retreat as they needed a technical instruction first. Please note that some of the post questionnaires of the dyadic exercises were lost due to technical difficulties or user error. Therefore, these data represent the completed dyadic exercises, even though in some cases post-dyadic questions were missing.

Appendix G2: Numeric data for Figure 10.2.1

Table	BM		BS		LKM		AD		OTM		PD	
G2.1	TC1		TC1		TC1		TC1		TC1		TC1	
WEEK	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD
1	5.213	1.9	4.625	1.6	3.7	1.6	3.925	1.7	3.525	1.8	3.425	1.7
2	4.913	2	4.163	1.8	3.938	1.8	3.613	1.8	3.55	2.1	3.25	1.8
3	4.938	1.9	4.288	1.9	3.875	1.8	3.8	1.6	3.313	2	3.375	1.7
4	4.938	1.9	4.413	1.9	3.9	1.8	3.075	1.7	2.8	2.1	3.113	1.7
5	4.55	1.7	4.25	1.8	3.225	1.9	4.025	1.7	3.138	2	2.95	1.8
6	4.925	1.9	4.413	1.7	3.813	1.8	3.863	1.7	3.25	1.9	3.238	1.9
7	4.925	1.7	4.613	1.8	4	1.8	4.2	1.3	3.113	2	2.763	2
8	4.75	1.9	4.175	1.8	3.6	1.9	3.763	1.6	3.088	1.9	3.063	1.9
9	4.7	1.9	4.363	1.7	3.413	1.8	3.788	1.7	3.363	2.1	3.563	1.7
10	4.4	1.9	3.95	1.9	3.538	1.8	4.113	1.5	3.225	1.9	2.913	2
11	4.15	1.9	3.788	2	3.3	1.8	3.825	1.6	3.225	1.9	2.825	1.8
12	4.4	1.8	3.85	1.8	3.425	1.8	3.825	1.8	2.95	1.8	2.5	1.9
13	1.988	1.2	1.7	1.2	2.575	1.9	2.125	1.3	0.925	0.9	0.45	0.9

Table	BM		BS		OTM		PD		LKM		AD		LKM		AD	
G2.2	TC2		TC2		TC2		TC2		TC2		TC2		TC3		TC3	
WEEK	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD	Mean	SD	Mean	SD
1	5.012	1.8	4.481	1.9	3.222	1.9	1.469	1.6	3.37	2.1	3.481	2	4.272	1.8	0	0
2	4.889	1.6	4.247	1.6	3.568	1.9	1.753	1.7	3.272	2	3.531	1.8	5.062	2	3.63	2.1
3	4.716	1.8	4.444	1.9	3.556	1.9	3.358	1.9	3.481	1.9	3.741	1.7	4.63	2	3.827	1.9
4	4.506	1.8	4.321	1.9	3.568	1.9	3.395	1.9	3.284	1.8	3.494	1.8	4.358	1.9	3.482	1.9
5	4.617	1.7	4.346	1.7	3.062	1.5	3.37	1.7	3.049	1.9	3.667	1.7	4.148	1.9	3.642	2
6	4.272	2	4.185	1.9	2.654	1.9	1.938	1.5	3.346	1.9	3.531	1.8	4.173	2	3.73	1.9
7	4.099	2.1	3.901	1.9	1.765	1.9	0.272	0.8	3.296	2	3.407	1.7	3.63	1.8	4	1.8
8	4.16	1.9	4.086	1.9	2.457	2.2	2.012	1.7	2.63	1.8	2.259	1.8	3.691	1.9	3.877	1.8
9	4.086	1.8	4.012	1.9	3.407	1.9	3.284	1.7	2.741	1.9	2.926	1.9	3.556	2.1	4.012	1.8
10	4.235	1.8	4.259	1.8	3.556	1.8	3.296	1.6	2.778	2	2.864	1.9	3.654	2.2	3.716	1.9
11	4.062	1.7	4.123	1.8	3.333	1.9	3.296	1.6	2.642	1.8	3.284	1.7	3.506	2.1	3.642	1.9
12	3.889	1.8	3.914	2	3.506	1.9	3.519	1.6	2.654	2	3.025	1.9	3.272	2	3.432	1.8
13	1.864	1.1	1.938	1.2	3.198	1.8	2.914	1.8	1.42	1.4	0.704	0.9	2.926	2.1	3.025	1.9
14					3.136	2	3.111	1.8								
15					1.58	1.2	0.247	0.4								

Table G2.1 and G2.2 These tables show the numeric data (means and SD) for the practice of all core exercises (plotted in Figure 10.2.1) by all three cohorts over the course of their training modules.

For TC1 and TC2 the final weeks were shorter due to the upcoming retreats (gray, for TC1 and TC2). TC2 had a vacation break due to the Christmas and New Year vacation period, and there were server difficulties during the first two weeks of the Perspective Module of TC2 that resulted in less data for the Perspective Dyad (also in gray). TC3 only started practicing the Affect Dyad in week 2 as their retreat was from Monday to Wednesday instead of a weekend and they received the technical introduction for the dyad during their first weekly training session, which took place the week after. Some of the post questionnaires of the dyadic exercises were lost due to technical difficulties or user error. Therefore, these data represent the completed dyadic exercises, even though in some cases post-dyadic questions were missing.

Appendix G3: Public holiday list and calendar weeks during the training

Table G3.1 This table shows each calendar week during the training phases of TC1 and TC2 and the respective modules and time points with and without the testing phases. This table further shows all public holidays in Leipzig and Berlin, as well as other occurrences during the training that could have affected participants' compliance with the core exercises. The Christmas and New Year vacation period clearly affected the training statistics

Table G3.1 Training Cohort 1	Time point	Weeks	Calendar week of 2013/2014	Vacation Berlin	Vacation Leipzig	
Presence Module	T1	1	26	Summer vacation		
	T1	2	27	Summer vacation		
	T1	3	28	Summer vacation		
	T1	4	29	Summer vacation	Summer vacation	
	T1	5	30	Summer vacation	Summer vacation	
	T1	6	31	Summer vacation	Summer vacation	
	T1	7	32		Summer vacation	
	T1	8	33		Summer vacation	
	T1 & Testing	9	34		Summer vacation	
	T1 & Testing	10	35			
	T1 & Testing	11	36			
	T1 & Testing	12	37			
	T1 & Testing	13	38			
Affect Module	T2	1	39			
	T2	2	40	Autumn vacation		
	T2	3	41	Autumn vacation		
	T2	4	42			
	T2	5	43		Autumn vacation	
	T2	6	44		Autumn vacation	
	T2	7	45			
	T2	8	46			
	T2 & Testing	9	47			
	T2 & Testing	10	48			
	T2 & Testing	11	49			
	T2 & Testing	12	50			
	T2 & Testing	13	51			
			52	Christmas vacation	Christmas vacation	
			1	New Year	New Year	
Perspective Module	T3	1	2			
	T3	2	3			
	T3	3	4			
	T3	4	5			
	T3	5	6	Winter vacation		
	T3	6	7			
	T3	7	8		Winter vacation	
	T3	8	9		Winter vacation	
	T3 & Testing	9	10			
	T3 & Testing	10	11			
	T3 & Testing	11	12			
	T3 & Testing	12	13			
	T3 & Testing	13	14			
			15			
			16	Easter vacation	Easter vacation	
			17	Easter vacation	Easter vacation	
			18			
			19			
			20			
			21			

of TC2 (week 6 to 8 of the Perspective Module). Two weeks during this phase were disregarded, and were substituted by the addition of week 14 and 15 in this cohort. We experienced technical difficulties with our servers during weeks 1 and 2 of the Perspective Module of TC2.

Other	Training Cohort 2	Time point	Weeks
	Baseline Testing	T0	
		T0	
		T0	
		T0	
		T0	
		T0	
	Presence Module	T1	1
		T1	2
		T1	3
		T1	4
		T1	5
		T1	6
		T1	7
One public holiday (Tag der deutschen Einheit)		T1	8
		T1 & Testing	9
		T1 & Testing	10
Forgiveness-Meditation (TC1), Dyad protocol (TC1)		T1 & Testing	11
One public holiday in Leipzig (Reformationstag)		T1 & Testing	12
		T1 & Testing	13
Server crash	Perspective Module	T2	1
Server crash / one public holiday in Leipzig (Buß- und Betttag)		T2	2
		T2	3
		T2	4
		T2	5
		T2	6
Christmas vacation		T2	(7)
New Year		T2	(8)
		T2	9
		T2	10
		T2 & Testing	11
		T2 & Testing	12
		T2 & Testing	13
		T2 & Testing	14
		T2 & Testing	15
	Affect Module	T3	1
		T3	2
		T3	3
		T3	4
Forgiveness-Meditation (TC2)		T3	5
		T3	6
		T3	7
		T3	8
One public holiday in Leipzig (Tag der Arbeit)		T3 & Testing	9
		T3 & Testing	10
		T3 & Testing	11
		T3 & Testing	12
		T3 & Testing	13

Table G3.2 This table shows each calendar week during the training phase of TC3 as well as all public holidays in Leipzig and Berlin that could have affected participants' compliance with the core exercises.

Table G3.2 Training Cohort 3	Time point	Weeks	Calendar week of 2014	Vacation Berlin	Vacation Leipzig	Other
Affect Module	T1	1	34	Summer vacation	Summer vacation	
	T1	2	35		Summer vacation	
	T1	3	36			
	T1	4	37			
	T1	5	38			
	T1	6	39		Autumn vacation	
	T1	7	40			One public holiday (Tag der deutschen Einheit)
	T1	8	41			
	T1 & Testing	9	42			
	T1 & Testing	10	43	Autumn vacation	Autumn vacation	
	T1 & Testing	11	44	Autumn vacation	Autumn vacation	One public holiday in Leipzig (Reformationstag)
	T1 & Testing	12	45			
	T1 & Testing	13	46			

Appendix H – Data on Feedback Questionnaires

Appendix H1: Answers from the training participants (T1–T3) regarding the content, teaching, and context of each module

Table H1 Descriptive statistics from the feedback questionnaires (T1–T3) regarding the content, teaching, and context of each module for TC1, TC2, and TC3. We conducted all possible two-way comparisons between modules using FDR correction across all tests. CTM = Central Tendency Measure; Lo = Lower Quartile; Hi = Higher Quartile; Lo/Hi = 95% Confidence Interval; Aff = Affect; Pres = Presence; Persp = Perspective. Differences between groups are indicated using superscripts, as follows: Within each row, all entries sharing a superscript are not statistically different from one another in post-hoc two-way tests. For example, in a row with four values with superscripts (1.4^a, 1.6^{ab}, 0.6, 1.8^b), statistically there are significant differences between 0.6 and all other values in the row, and between 1.4 and 1.8. All other possible combinations share superscripts, and post-hoc comparisons between them fail to reject the null hypothesis.

Table H1 Variable	Aff- CTM (Lo/Hi)	Pres - CTM (Lo/Hi)	Persp - CTM (Lo/Hi)	
60 min length of meditation files	0.21 (0.2/0.22) ^a	0.56 (0.55/0.57) ^b	0.39 (0.38/0.41) ^{ab}	
60 min length of meditation files	0.35 (0.34/0.37) ^a	0.64 (0.63/0.65)	0.42 (0.4/0.43) ^a	
60 min length of meditation files	0.38 (0.36/0.39)			
Amount of silence during recording	3.13 (3.11/3.15) ^a	3.55 (3.54/3.57) ^b	3.44 (3.42/3.46) ^{ab}	
Amount of silence during recording	3.30 (3.27/3.32) ^a	3.53 (3.51/3.55) ^a	3.24 (3.22/3.27)	
Amount of silence during recording	3.43 (3.41/3.46)			
Audio file quality	4.47 (4.49/4.45) ^a	4.64 (4.66/4.63) ^a	4.50 (4.51/4.48) ^a	
Audio file quality	4.70 (4.71/4.68) ^a	4.54 (4.55/4.52) ^a	4.62 (4.63/4.6) ^a	

	<i>N</i> Aff	<i>N</i> Pres	<i>N</i> Persp	Summary Type	Cohort
	66	73	69	Mean & 95% CI	TC1
	71	72	72	Mean & 95% CI	TC2
	69			Mean & 95% CI	TC3
	70	74	70	Mean & 95% CI	TC1
	71	72	74	Mean & 95% CI	TC2
	67			Mean & 95% CI	TC3
	68	74	71	Mean & 95% CI	TC1
	71	73	74	Mean & 95% CI	TC2

Table H1 Variable	Aff- CTM (Lo/Hi)	Pres - CTM (Lo/Hi)	Persp - CTM (Lo/Hi)	
Audio file quality	4.57 (4.55/4.58)			
Change: alcohol and drug consumption	0.00 (0/0) ^a	0.00 (-1/0) ^a	0.00 (-1/0) ^a	
Change: alcohol and drug consumption	0.76 (0.75/0.78) ^a	0.65 (0.63/0.67) ^a	0.75 (0.73/0.77) ^a	
Change: alcohol and drug consumption	0.74 (0.73/0.76)			
Change: arguments with others	-0.20 (-0.23/-0.17) ^a	-0.16 (-0.18/-0.14) ^a	-0.40 (-0.42/-0.37) ^a	
Change: arguments with others	-0.46 (-0.48/-0.43) ^a	-0.21 (-0.23/-0.19) ^a	-0.25 (-0.27/-0.23) ^a	
Change: arguments with others	-0.21 (-0.23/-0.18)			
Change: healthy eating	0.00 (0/0) ^a	0.00 (0/0) ^a	0.00 (0/1) ^a	
Change: healthy eating	0.00 (0/1) ^a	0.00 (0/0) ^a	0.00 (0/0.75) ^a	
Change: healthy eating	0 (0/0)			
Change: helping others	0.00 (0/1) ^a	0.00 (0/0) ^a	0.00 (0/1) ^a	
Change: helping others	0.00 (0/1) ^a	0.00 (0/0) ^a	0.00 (0/1) ^a	
Change: helping others	0.43 (0.41/0.45)			
Change: physical exercise	0.18 (0.16/0.21) ^a	-0.09 (-0.11/-0.08) ^a	0.09 (0.07/0.11) ^a	
Change: physical exercise	0.06 (0.04/0.08) ^a	-0.11 (-0.14/-0.09) ^a	0.04 (0.02/0.06) ^a	
Change: physical exercise	-0.03 (-0.04/-0.01)			
Change: selfcare	0.69 (0.67/0.71) ^a	0.67 (0.65/0.69) ^a	0.66 (0.64/0.68) ^a	
Change: selfcare	0.63 (0.61/0.65) ^a	0.71 (0.69/0.73) ^a	0.69 (0.67/0.71) ^a	
Change: selfcare	1.81 (1.8/1.83)			
Change: sleep	0.03 (0.01/0.05) ^a	0.05 (0.03/0.07) ^a	0.00 (-0.02/0.02) ^a	
Change: sleep	0.00 (-0.01/0.01) ^a	0.08 (0.07/0.1) ^a	0.07 (0.05/0.08) ^a	
Change: sleep	0.07 (0.05/0.09)			
Change: smoking	0.00 (-0.5/0) ^a	0.00 (0/0) ^a	0.00 (0/0) ^a	
Change: smoking	0.10 (0.08/0.12) ^a	-0.55 (-0.57/-0.53) ^a	-0.16 (-0.18/-0.14) ^a	
Change: smoking	0.97 (0.96/0.98)			
Change: socializing	0.52 (0.5/0.54) ^a	0.25 (0.23/0.27) ^a	0.51 (0.49/0.54) ^a	
Change: socializing	0.52 (0.5/0.54) ^a	0.33 (0.32/0.35) ^a	0.36 (0.34/0.39) ^a	
Change: socializing	0 (0/1)			
Content of teaching	2.72 (2.7/2.74) ^a	2.69 (2.67/2.7) ^a	2.58 (2.56/2.6) ^a	
Content of teaching	2.82 (2.81/2.84) ^a	2.69 (2.67/2.7) ^a	2.74 (2.72/2.76) ^a	
Content of teaching	2.87 (2.86/2.88)			
Easy to apply skills in real life: week 1 to 4	2.87 (2.84/2.91) ^a	2.92 (2.89/2.95) ^a	3.17 (3.14/3.2) ^a	
Easy to apply skills in real life: week 1 to 4	3.58 (3.55/3.61) ^a	3.24 (3.21/3.27) ^a	3.26 (3.22/3.29) ^a	
Easy to apply skills in real life: week 1 to 4	3.64 (3.6/3.67)			

	N Aff	N Pres	N Persp	Summary Type	Cohort
	71			Mean & 95% CI	TC3
	67	74	69	Median and 25 th and 75 th quartiles	TC1
	71	72	74	Mean & 95% CI	TC2
	72			Mean & 95% CI	TC3
	65	74	68	Mean & 95% CI	TC1
	68	71	72	Mean & 95% CI	TC2
	68			Mean & 95% CI	TC3
	71	76	70	Median and 25 th and 75 th quartiles	TC1
	71	72	74	Median and 25 th and 75 th quartiles	TC2
	72			Median and 25 th and 75 th quartiles	TC3
	71	75	70	Median and 25 th and 75 th quartiles	TC1
	70	72	73	Median and 25 th and 75 th quartiles	TC2
	72			Mean & 95% CI	TC3
	71	76	70	Mean & 95% CI	TC1
	70	72	74	Mean & 95% CI	TC2
	72			Mean & 95% CI	TC3
	70	75	70	Mean & 95% CI	TC1
	71	72	74	Mean & 95% CI	TC2
	72			Mean & 95% CI	TC3
	70	75	69	Mean & 95% CI	TC1
	71	72	74	Mean & 95% CI	TC2
	72			Mean & 95% CI	TC3
	27	29	28	Median and 25 th and 75 th quartiles	TC1
	29	22	25	Mean & 95% CI	TC2
	27			Mean & 95% CI	TC3
	71	76	70	Mean & 95% CI	TC1
	71	72	74	Mean & 95% CI	TC2
	72			Median and 25 th and 75 th quartiles	TC3
	68	74	71	Mean & 95% CI	TC1
	70	73	73	Mean & 95% CI	TC2
	71			Mean & 95% CI	TC3
	71	75	71	Mean & 95% CI	TC1
	71	71	74	Mean & 95% CI	TC2
	72			Mean & 95% CI	TC3

Table H1 Variable	Aff- CTM (Lo/Hi)	Pres - CTM (Lo/Hi)	Persp - CTM (Lo/Hi)	
Easy to apply skills in real life: week 5 to 8	3.17 (3.14/3.2) ^a	3.36 (3.34/3.39) ^a	3.34 (3.31/3.37) ^a	
Easy to apply skills in real life: week 5 to 8	3.38 (3.35/3.41) ^a	3.38 (3.35/3.4) ^a	3.32 (3.29/3.36) ^a	
Easy to apply skills in real life: week 5 to 8	3.49 (3.46/3.51)			
Easy to apply skills in real life: week 9 to 13	3.10 (3.07/3.13) ^a	3.43 (3.4/3.46) ^a	3.32 (3.29/3.35) ^a	
Easy to apply skills in real life: week 9 to 13	3.25 (3.22/3.29) ^a	3.46 (3.43/3.49) ^a	3.35 (3.32/3.38) ^a	
Easy to apply skills in real life: week 9 to 13	3.26 (3.23/3.3)			
Enjoy weekly sessions	5.00 (4/5) ^a	5.00 (4/5) ^a	5.00 (4/5) ^a	
Enjoy weekly sessions	5.00 (4/5) ^a	5.00 (4/5) ^a	5.00 (4/5) ^a	
Enjoy weekly sessions	5 (4/5)			
Like dyad	4.15 (4.12/4.17) ^a	NA	3.70 (3.66/3.73) ^a	
Like dyad	3.94 (3.91/3.97) ^a		3.82 (3.79/3.84) ^a	
Like dyad	3.94 (3.92/3.97)			
Media: preference for smartphone	79.41 ^a	76.71 ^a	86.96 ^a	
Media: preference for smartphone	85.71 ^a	76.47 ^a	78.08 ^a	
Media: preference for smartphone	78,26			
Meditation files: less talking	0.41 (0.39/0.42) ^a	0.61 (0.6/0.62) ^a	0.48 (0.47/0.5) ^a	
Meditation files: less talking	1.26 (1.27/1.25) ^a	1.38 (1.39/1.37) ^a	1.27 (1.28/1.26) ^a	
Meditation files: less talking	0.54 (0.52/0.55)			
Meditation files: longer	0.00 (0/0) ^a	0.00 (0/0) ^a	0.00 (0/0) ^a	
Meditation files: longer	0.00 (0/0) ^a	0.00 (0/0) ^a	0.00 (0/0) ^a	
Meditation files: longer	0 (0/0)			
Number of sessions per block	2.99 (2.97/3) ^a	3.07 (3.05/3.08) ^a	2.97 (2.96/2.99) ^a	
Number of sessions per block	3.00 (3/3) ^a	3.00 (3/3) ^a	3.00 (3/3) ^a	
Number of sessions per block	2.88 (2.86/2.89)			
Personal attention from teachers	3.00 (3/3) ^a	3.00 (3/3) ^a	3.00 (3/3) ^a	
Personal attention from teachers	3.00 (3/3) ^a	3.00 (3/3) ^a	3.00 (3/3) ^a	
Personal attention from teachers	2.94 (2.93/2.94)			
Phone problems	2.87 (2.84/2.89) ^a	2.07 (2.04/2.09)	2.90 (2.87/2.92) ^a	
Phone problems	2.66 (2.64/2.69) ^a	1.66 (1.64/1.68)	2.81 (2.79/2.83) ^a	
Phone problems	2.55 (2.52/2.57)			
Platform problems	2.35 (2.31/2.38) ^a	2.11 (2.09/2.13) ^a	2.70 (2.66/2.73) ^a	
Platform problems	1.51 (1.53/1.49) ^{ab}	1.44 (1.46/1.42) ^a	1.89 (1.92/1.87) ^b	
Platform problems	2.11 (2.07/2.14)			
Platform: easy to use	3.52 (3.48/3.56) ^a	4.13 (4.11/4.16) ^b	3.78 (3.75/3.81) ^{ab}	

	N Aff	N Pres	N Persp	Summary Type	Cohort
	71	74	71	Mean & 95% CI	TC1
	71	72	74	Mean & 95% CI	TC2
	72			Mean & 95% CI	TC3
	71	74	71	Mean & 95% CI	TC1
	71	72	74	Mean & 95% CI	TC2
	72			Mean & 95% CI	TC3
	71	75	69	Median and 25 th and 75 th quartiles	TC1
	70	73	73	Median and 25 th and 75 th quartiles	TC2
	72			Median and 25 th and 75 th quartiles	TC3
	70	0	70	Mean & 95% CI	TC1
	70	0	73	Mean & 95% CI	TC2
	72			Mean & 95% CI	TC3
	68	73	69	Percentage	TC1
	70	68	73	Percentage	TC2
	69			Percentage	TC3
	64	74	66	Mean & 95% CI	TC1
	70	69	66	Mean & 95% CI	TC2
	69			Mean & 95% CI	TC3
	68	72	66	Median and 25 th and 75 th quartiles	TC1
	70	67	67	Median and 25 th and 75 th quartiles	TC2
	65			Median and 25 th and 75 th quartiles	TC3
	71	76	71	Mean & 95% CI	TC1
	71	73	73	Median and 25 th and 75 th quartiles	TC2
	72			Mean & 95% CI	TC3
	63	72	61	Median and 25 th and 75 th quartiles	TC1
	60	67	63	Median and 25 th and 75 th quartiles	TC2
	68			Mean & 95% CI	TC3
	71	75	68	Mean & 95% CI	TC1
	71	71	73	Mean & 95% CI	TC2
	68			Mean & 95% CI	TC3
	61	71	61	Mean & 95% CI	TC1
	61	72	67	Mean & 95% CI	TC2
	57			Mean & 95% CI	TC3
	70	75	67	Mean & 95% CI	TC1

Table H1 Variable	Aff- CTM (Lo/Hi)	Pres - CTM (Lo/Hi)	Persp - CTM (Lo/Hi)	
Platform: easy to use	4.19 (4.16/4.22) ^a	4.37 (4.35/4.39) ^a	4.01 (3.98/4.04) ^a	
Platform: easy to use	3.97 (3.95/4)			
Questions before / after meditation: week 1 to 4	2.62 (2.59/2.65) ^a	3.04 (3.01/3.07) ^a	2.79 (2.75/2.82) ^a	
Questions before / after meditation: week 1 to 4	2.54 (2.5/2.57) ^a	2.77 (2.73/2.8) ^a	2.43 (2.4/2.46) ^a	
Questions before / after meditation: week 1 to 4	2.44 (2.42/2.47)			
Questions before / after meditation: week 5 to 8	2.70 (2.67/2.73) ^a	3.17 (3.14/3.2) ^b	2.77 (2.74/2.8) ^{ab}	
Questions before / after meditation: week 5 to 8	2.62 (2.59/2.65) ^{ab}	3.07 (3.04/3.1) ^a	2.38 (2.35/2.41) ^b	
Questions before / after meditation: week 5 to 8	2.68 (2.66/2.71)			
Questions before / after meditation: week 9 to 13	2.72 (2.69/2.75) ^a	3.27 (3.23/3.3)	2.77 (2.74/2.8) ^a	
Questions before / after meditation: week 9 to 13	2.56 (2.53/2.6) ^a	3.16 (3.13/3.2)	2.38 (2.35/2.41) ^a	
Questions before / after meditation: week 9 to 13	2.97 (2.94/3)			
Retreat: content structure	4.38 (4.4/4.35) ^a	4.68 (4.7/4.67) ^a	4.56 (4.58/4.55) ^a	
Retreat: content structure	NA	5.00 (4/5) ^a	4.00 (4/5) ^a	
Retreat: content structure	5 (5/5)			
Retreat: food	4.50 (4.48/4.52) ^a	4.65 (4.63/4.66) ^a	4.57 (4.55/4.59) ^a	
Retreat: food	NA	4.42 (4.4/4.44) ^a	4.56 (4.54/4.58) ^a	
Retreat: food	5 (4/5)			
Retreat: hotel meditation hall	4.34 (4.32/4.36) ^a	4.34 (4.32/4.36) ^a	4.62 (4.6/4.63) ^a	
Retreat: hotel meditation hall	NA	4.64 (4.65/4.62) ^a	4.66 (4.68/4.65) ^a	
Retreat: hotel meditation hall	5 (5/5)			
Retreat: hotel rooms	5.00 (4/5) ^a	5.00 (4/5) ^a	5.00 (5/5) ^a	
Retreat: hotel rooms	NA	5.00 (4/5) ^a	5.00 (4.25/5) ^a	
Retreat: hotel rooms	5 (4/5)			
Retreat: silence	5.00 (4/5) ^a	5.00 (4/5) ^a	5.00 (4/5) ^a	
Retreat: silence	NA	5.00 (4/5) ^a	5.00 (4/5) ^a	
Retreat: silence	5 (5/5)			
Retreat: work of support team	5.00 (4/5) ^a	5.00 (5/5) ^a	5.00 (5/5) ^a	
Retreat: work of support team	NA	5.00 (5/5) ^a	5.00 (5/5) ^a	
Retreat: work of support team	5 (5/5)			
Time spent meditating is worthwhile	4.53 (4.54/4.51) ^a	4.78 (4.79/4.77) ^a	4.57 (4.59/4.56) ^a	
Time spent meditating is worthwhile	4.50 (4/5) ^a	5.00 (4/5) ^a	4.00 (4/5) ^a	
Time spent meditating is worthwhile	5 (4/5)			

	N Aff	N Pres	N Persp	Summary Type	Cohort
	70	72	71	Mean & 95% CI	TC2
	70			Mean & 95% CI	TC3
	71	75	70	Mean & 95% CI	TC1
	71	73	74	Mean & 95% CI	TC2
	72			Mean & 95% CI	TC3
	71	76	70	Mean & 95% CI	TC1
	71	73	74	Mean & 95% CI	TC2
	72			Mean & 95% CI	TC3
	71	75	70	Mean & 95% CI	TC1
	71	73	74	Mean & 95% CI	TC2
	72			Mean & 95% CI	TC3
	70	75	71	Mean & 95% CI	TC1
	0	73	73	Median and 25 th and 75 th quartiles	TC2
	71			Median and 25 th and 75 th quartiles	TC3
	71	75	70	Mean & 95% CI	TC1
	0	72	68	Mean & 95% CI	TC2
	72			Median and 25 th and 75 th quartiles	TC3
	70	76	71	Mean & 95% CI	TC1
	0	73	74	Mean & 95% CI	TC2
	72			Median and 25 th and 75 th quartiles	TC3
	71	76	71	Median and 25 th and 75 th quartiles	TC1
	0	73	74	Median and 25 th and 75 th quartiles	TC2
	72			Median and 25 th and 75 th quartiles	TC3
	71	76	71	Median and 25 th and 75 th quartiles	TC1
	0	73	73	Median and 25 th and 75 th quartiles	TC2
	70			Median and 25 th and 75 th quartiles	TC3
	71	76	71	Median and 25 th and 75 th quartiles	TC1
	0	73	74	Median and 25 th and 75 th quartiles	TC2
	72			Median and 25 th and 75 th quartiles	TC3
	70	76	70	Mean & 95% CI	TC1
	70	73	74	Median and 25 th and 75 th quartiles	TC2
	72			Median and 25 th and 75 th quartiles	TC3

Table H1 Variable	Aff- CTM (Lo/Hi)	Pres - CTM (Lo/Hi)	Persp - CTM (Lo/Hi)	
Use skills in daily life	4.29 (4.26/4.31) ^a	4.26 (4.25/4.28) ^a	4.25 (4.22/4.27) ^a	
Use skills in daily life	4.27 (4.25/4.29) ^a	4.28 (4.26/4.3) ^a	4.31 (4.3/4.33) ^a	
Use skills in daily life	4.32 (4.3/4.34)			
Weekly session length	3.02 (3.01/3.04) ^a	3.10 (3.09/3.11) ^a	3.04 (3.03/3.05) ^a	
Weekly session length	3.00 (2.99/3.01) ^a	3.08 (3.07/3.09) ^a	3.13 (3.12/3.14) ^a	
Weekly session length	2.95 (2.94/2.97)			
Weekly session: group size	3.00 (3/3) ^a	3.00 (3/3.75) ^a	3.00 (3/3) ^a	
Weekly session: group size	3.00 (3/3) ^a	3.00 (3/3) ^a	3.00 (3/3) ^a	
Weekly session: group size	3.12 (3.13/3.11)			

Appendix H2: Information about the descriptive statistics for the participants' assessments of each of the core exercises

Table H2 Descriptive statistics for the participants' assessments of each core exercise for TC1, TC2, and TC3. We conducted all possible two-way comparisons between modules using FDR correction across all tests. CTM = Central Tendency Measure; Lo = Lower Quartile; Hi = Higher Quartile; Lo/Hi = 95% Confidence Interval; Differences between groups are indicated using superscripts, as follows: Within each row, all entries sharing a superscript are not statistically different from one another in post-hoc two-way tests. For example, in a row with four values with superscripts (1.4^a, 1.6^{ab}, 0.6, 1.8^b), statistically there are significant differences between 0.6 and all other values in the row, and between 1.4 and 1.8. All other possible combinations share superscripts, and post-hoc comparisons between them fail to reject the null hypothesis.

Table H2 Variable	LKM - CTM (Lo/Hi)	BS - CTM (Lo/Hi)	BM - CTM (Lo/Hi)	OTM - CTM (Lo/Hi)	
Would like to continue	84.29 ^a	82.67 ^a	96.00 ^a	89.86 ^a	
Would like to continue	72.86 ^a	81.82 ^a	98.61	77.78 ^a	
Would like to continue	91.55				
Excited	3.40 (3.37/3.34) ^{ab}	3.33 (3.3/3.36) ^a	3.85 (3.83/3.88) ^b	3.54 (3.51/3.57) ^{ab}	
Excited	3.83 (3.8/3.86) ^{ab}	3.86 (3.83/3.89) ^{ab}	4.16 (4.15/4.18) ^a	3.64 (3.61/3.67) ^b	
Excited	3.81 (3.78/3.84)				
Like	3.34 (3.31/3.38) ^a	3.86 (3.83/3.89) ^a	4.45 (4.43/4.47)	3.82 (3.8/3.85) ^a	
Like	3.66 (3.63/3.69) ^b	3.79 (3.76/3.83) ^{ab}	4.25 (4.22/4.27) ^a	3.38 (3.35/3.41) ^b	
Like	3.9 (3.87/3.92)				

Appendix H3: Preferred module order by participants of TC1 and TC2

Table H3 This table reports on the preferred module order by participants of TC1 and TC2.

Cohorts	Own order best %	Other order best %	Orders are same %	Order: No opinion %
TC1	52.31	16.92	12.31	18.46
TC2	77.61	2.99	7.46	11.94

	N Aff	N Pres	N Persp	Summary Type	Cohort
	71	75	71	Mean & 95% CI	TC1
	69	73	74	Mean & 95% CI	TC2
	72			Mean & 95% CI	TC3
	71	76	71	Mean & 95% CI	TC1
	71	73	74	Mean & 95% CI	TC2
	70			Mean & 95% CI	TC3
	70	74	70	Median and 25 th and 75 th quartiles	TC1
	70	73	74	Median and 25 th and 75 th quartiles	TC2
	71			Mean & 95% CI	TC3

	N LKM	N BS	N BM	N OTM	Summary Type	Cohort
	70	75	75	69	Percentage	TC1
	70	66	72	72	Percentage	TC2
	71				Percentage	TC3
	70	75	75	71	Mean & 95% CI	TC1
	71	72	73	74	Mean & 95% CI	TC2
	71				Mean & 95% CI	TC3
	70	75	76	69	Mean & 95% CI	TC1
	70	73	73	74	Mean & 95% CI	TC2
	69				Mean & 95% CI	TC3

Appendix H4: Semantic differential scale for all core exercises

Table H4 Summary statistics for the semantic differential scale concerning each of the core exercises and the Empathy vs. Compassion Meditation (ECM) and the Forgiveness Meditation (FM). We conducted all possible two-way comparisons between modules using FDR correction across all tests. CTM = Central Tendency Measure; Lo = Lower Quartile; Hi = Higher Quartile; Lo/Hi = 95% Confidence Interval.

Differences between groups are indicated using superscripts, as follows: Within each row, all entries sharing a superscript are not statistically different from one another in post-hoc two-way tests. For example, for the variable "Independent" for TC1, the scores are 4.7^a, 3.03^{bcd}, 2.53^b, 3.86^{acde}, 3.97^{ae}, 3.48^{bcd}, 4.68^a, 3.11^{bc}. The superscripts indicate that 4.71 (AD) is significantly different from all other scores in that row that do not have a matching superscript of a: 3.03 (BS), 2.53 (BM), 3.48 (LKM), 3.11 (OTM). The next score, 3.03 (BS), is significantly different from all other scores in that row that do not share the superscripts b, c, or d: 4.71 (AD) only. The next score, 2.53 (BM), is significantly different from all scores in that row that do not share the superscript b: 4.71 (AD), 3.86 (ECM), 3.97 (FM), 4.68 (PD) only. The next score, 3.86 (ECM), is significantly different from all scores in that row that do not share the superscripts a, c, d, or e: none. The next score, 3.97 (FM), is significantly different from all scores in that row that do not share the superscripts a or e: 3.03 (BS), 2.53 (BM), 3.48 (LKM), 4.68 (PD), 3.11 (OTM). The next score, 3.48 (LKM), is significantly different from all scores in that row that do not share the superscripts b, c, or d: 4.71 (AD), 3.97 (FM), 4.68 (PD) only. The next score, 4.68 (PD), is significantly different from all scores in that row that do not share the superscript a: 3.03 (BS), 2.53 (BM), 3.48 (LKM), 3.11 (OTM) only. The last score, 3.11 (OTM) is significantly different from all scores in that row that do not share the superscripts b or c: 4.71 (AD), 3.97 (FM), 4.68 (PD) only. All other possible combinations share superscripts, and post-hoc comparisons between them fail to reject the null hypothesis.

Table H4 Variable	AD – CTM (Lo/Hi)	BS – CTM (Lo/Hi)	BM – CTM (Lo/Hi)	ECM – CTM (Lo/Hi)	FM – CTM (Lo/Hi)	LKM – CTM (Lo/Hi)	
active	2.05 (2.01/2.09) ^b	2.36 (2.32/2.41) ^{ab}	3.06 (3.01/3.12) ^a	2.31 (2.27/2.36) ^{ab}	2.04 (2.01/2.08) ^b	2.25 (2.2/2.29) ^{ab}	
active	1.65 (1.63/1.68) ^a	2.42 (2.37/2.46) ^{ab}	2.68 (2.63/2.72) ^b	1.83 (1.8/1.86) ^{ab}	2.29 (2.26/2.33) ^{ab}	2 (1.97/2.04) ^b	
active	2.22 (2.19/2.26) ^a			2.51 (2.47/2.55) ^a	2.55 (2.51/2.58) ^a	2.82 (2.78/2.85) ^a	
close	1.91 (1.88/1.94) ^b	2.07 (2.04/2.1) ^b	2.4 (2.37/2.44) ^{ab}	2.23 (2.19/2.26) ^{ab}	2.25 (2.22/2.29) ^{ab}	1.85 (1.82/1.88) ^b	
close	1.86 (1.83/1.88) ^{bc}	1.94 (1.91/1.97) ^{bc}	2.14 (2.11/2.17) ^c	1.53 (1.51/1.56) ^b	2.19 (2.15/2.23) ^{abc}	1.7 (1.68/1.73) ^{bc}	
close	2.07 (2.04/2.09) ^a			2.03 (1.99/2.06) ^a	2.51 (2.48/2.55) ^a	2.1 (2.07/2.13) ^a	
comfortable	4 (3.96/4.04) ^{bc}	2.05 (2.02/2.08)	2.9 (2.86/2.95) ^a	3.86 (3.83/3.89) ^{bc}	4.37 (4.33/4.41) ^c	3.52 (3.49/3.56) ^{ab}	
comfortable	3.85 (3.81/3.88) ^{de}	2.14 (2.1/2.17) ^a	2.74 (2.71/2.78) ^{ab}	4.11 (4.07/4.16) ^{cde}	4.74 (4.71/4.78) ^c	3.37 (3.33/3.41) ^{bd}	
comfortable	3.97 (3.94/4.01) ^{ab}			3.91 (3.87/3.95) ^{ab}	4.33 (4.29/4.37) ^a	3.32 (3.28/3.36) ^b	
concentrated	2.2 (2.16/2.24) ^a	1.98 (1.95/2.01) ^a	2.11 (2.07/2.15) ^a	2.3 (2.26/2.34) ^a	2.13 (2.09/2.16) ^a	2.09 (2.06/2.13) ^a	
concentrated	2.09 (2.05/2.12) ^a	2.1 (2.06/2.13) ^a	1.95 (1.92/1.98) ^a	1.75 (1.72/1.77) ^a	2.24 (2.21/2.27) ^a	1.93 (1.9/1.96) ^a	
concentrated	2.25 (2.22/2.28) ^a			2.21 (2.17/2.24) ^a	2.62 (2.58/2.65) ^a	2.63 (2.6/2.67) ^a	
difficult	4.62 (4.58/4.66) ^{ab}	4.68 (4.63/4.73) ^a	4.97 (4.93/5.01) ^a	3.56 (3.52/3.6) ^c	3.17 (3.12/3.22) ^c	3.95 (3.9/4.01) ^{abc}	
difficult	4.32 (4.27/4.37) ^{bc}	4.8 (4.76/4.85) ^c	4.97 (4.93/5.01) ^c	3.71 (3.66/3.76) ^{ab}	2.98 (2.95/3.02) ^a	4.02 (3.97/4.06) ^{abc}	
difficult	4.75 (4.71/4.79) ^a			3.82 (3.78/3.87) ^b	3.28 (3.24/3.32) ^b	3.97 (3.93/4.01) ^{ab}	
fun	3.71 (3.68/3.75) ^{bc}	3.81 (3.78/3.84) ^b	3.49 (3.46/3.52) ^{bc}	3.18 (3.14/3.21) ^{abc}	2.68 (2.64/2.72) ^a	3.13 (3.09/3.16) ^{ac}	
fun	3.82 (3.78/3.85) ^{bc}	3.47 (3.44/3.5) ^{cd}	3.12 (3.09/3.15) ^{cd}	2.79 (2.75/2.83) ^{ad}	2.42 (2.39/2.45) ^a	3.25 (3.21/3.28) ^{cd}	
fun	3.89 (3.86/3.92) ^a			2.93 (2.89/2.96) ^b	2.73 (2.7/2.76) ^b	3.6 (3.57/3.63) ^a	
grateful	1.81 (1.78/1.84) ^b	2.02 (1.99/2.06) ^{ab}	1.91 (1.88/1.94) ^{ab}	2.14 (2.1/2.18) ^{ab}	2.11 (2.08/2.15) ^{ab}	1.63 (1.61/1.66) ^b	
grateful	1.89 (1.86/1.92) ^{ab}	1.98 (1.94/2.01) ^{ab}	1.87 (1.85/1.9) ^{ab}	1.72 (1.69/1.75) ^{ab}	2.24 (2.21/2.28) ^{ab}	1.62 (1.59/1.65) ^a	
grateful	1.77 (1.74/1.79) ^{ab}			1.99 (1.96/2.02) ^{ab}	2.3 (2.27/2.34) ^a	1.77 (1.75/1.8) ^b	
independent	4.73 (4.69/4.77) ^a	3.03 (2.99/3.07) ^{bcd}	2.56 (2.51/2.6) ^b	3.89 (3.85/3.93) ^{acd}	3.98 (3.93/4.04) ^{ac}	3.48 (3.43/3.52) ^{bcd}	
independent	4.83 (4.79/4.87) ^a	2.82 (2.78/2.86) ^{bc}	2.24 (2.2/2.28) ^b	3.79 (3.75/3.83) ^{de}	3.61 (3.57/3.66) ^{de}	3.46 (3.41/3.51) ^{ce}	
independent	4.04 (4/4.08) ^b			3.59 (3.55/3.63) ^{ab}	3.73 (3.69/3.77) ^b	2.99 (2.95/3.03) ^a	
interesting	6.39 (6.36/6.42) ^a	5.91 (5.87/5.94) ^a	6.05 (6.02/6.09) ^a	6.15 (6.12/6.18) ^a	5.87 (5.83/5.9) ^a	6.04 (6.01/6.08) ^a	
interesting	6.6 (6.61/6.58) ^b	6.28 (6.31/6.25) ^{ab}	6.31 (6.33/6.28) ^{ab}	6.69 (6.7/6.67) ^b	6.11 (6.14/6.07) ^a	6.53 (6.55/6.51) ^{ab}	

	PD – CTM (Lo/Hi)	OTM – CTM (Lo/Hi)	N AD	N BS	N BS	N ECM	N FM	N LKM	N PD	N OTM	Summary Type	Cohort
	1.98 (1.94/2.01) ^b	2.23 (2.19/2.27) ^{ab}	63	63	62	57	59	63	62	63	Mean & 95% CI	TC1
	1.8 (1.77/1.84) ^{ab}	2.22 (2.18/2.26) ^{ab}	65	66	66	62	61	64	66	66	Mean & 95% CI	TC2
			72			67	67	72			Mean & 95% ^d	TC3
	3.01 (2.97/3.05) ^a	2.95 (2.9/3) ^a	63	63	62	57	59	63	63	63	Mean & 95% CI	TC1
	2.32 (2.28/2.36) ^c	3.18 (3.13/3.23) ^a	65	66	66	62	62	65	66	66	Mean & 95% CI ^f	TC2
			72			68	67	72			Mean & 95% CI	TC3
	4.37 (4.33/4.41) ^c	3.92 (3.88/3.96) ^{bc}	63	63	63	57	59	63	62	63	Mean & 95% CI	TC1
	3.95 (3.92/3.99) ^{de}	4.15 (4.11/4.19) ^{ce}	65	66	66	62	62	65	66	66	Mean & 95% CI	TC2
			71			67	67	72			Mean & 95% CI	TC3
	2.25 (2.22/2.29) ^a	2.02 (1.99/2.05) ^a	63	63	63	57	59	63	63	63	Mean & 95% CI	TC1
	2.13 (2.09/2.16) ^a	1.86 (1.83/1.89) ^a	65	66	66	62	62	65	66	66	Mean & 95% CI	TC2
			72			68	66	72			Mean & 95% CI	TC3
	3.7 (3.65/3.74) ^{bc}	3.58 (3.53/3.63) ^c	63	63	63	57	59	63	63	62	Mean & 95% CI	TC1
	4.11 (4.06/4.15) ^{bc}	3.09 (3.05/3.14) ^a	65	66	66	62	62	65	66	66	Mean & 95% CI	TC2
			72			67	67	71			Mean & 95% CI	TC3
	3.97 (3.93/4.01) ^{bc}	3.29 (3.25/3.33) ^{abc}	63	63	63	57	59	63	61	63	Mean & 95% CI	TC1
	4.14 (4.1/4.17) ^b	3.12 (3.09/3.15) ^{cd}	65	66	66	62	62	65	66	66	Mean & 95% CI	TC2
			72			67	67	70			Mean & 95% CI	TC3
	2.39 (2.35/2.43) ^a	2.25 (2.21/2.28) ^{ab}	63	63	63	57	59	63	62	63	Mean & 95% CI	TC1
	2.1 (2.07/2.14) ^{ab}	2.34 (2.31/2.38) ^b	65	66	66	62	62	65	66	66	Mean & 95% CI	TC2
			71			67	67	72			Mean & 95% CI	TC3
	4.7 (4.65/4.74) ^a	3.11 (3.07/3.15) ^{bd}	63	63	63	57	59	63	63	63	Mean & 95% CI	TC1
	4.66 (4.62/4.7) ^{ad}	3.2 (3.16/3.24) ^{ce}	65	66	66	62	62	65	65	66	Mean & 95% CI	TC2
			72			68	67	72			Mean & 95% CI	TC3
	6.15 (6.12/6.19) ^a	6.19 (6.16/6.22) ^a	63	63	63	57	59	63	63	63	Mean & 95% CI	TC1
	6.65 (6.66/6.63) ^b	6.44 (6.46/6.42) ^{ab}	65	66	65	62	62	65	66	66	Mean & 95% CI	TC2

Table H4 Variable	AD – CTM (Lo/Hi)	BS – CTM (Lo/Hi)	BM – CTM (Lo/Hi)	ECM – CTM (Lo/Hi)	FM – CTM (Lo/Hi)	LKM – CTM (Lo/Hi)	
interesting	6.4 (6.37/6.42) ^a			6.43 (6.41/6.46) ^a	5.73 (5.75/5.76) ^b	5.86 (5.83/5.89) ^b	
optimistic	2.68 (2.63/2.72) ^a	2.98 (2.94/3.03) ^a	3.17 (3.12/3.23) ^a	2.67 (2.63/2.71) ^a	3.02 (2.98/3.05) ^a	2.54 (2.49/2.59) ^a	
optimistic	2.47 (2.43/2.52) ^{ab}	2.32 (2.28/2.35) ^{ab}	2.5 (2.46/2.54) ^{ab}	2.54 (2.5/2.59) ^{ab}	2.95 (2.91/3) ^b	1.9 (1.87/1.94) ^a	
optimistic	2.34 (2.31/2.37) ^a			2.7 (2.66/2.74) ^a	2.61 (2.58/2.65) ^a	2.25 (2.21/2.28) ^a	
pleasant	2.8 (2.75/2.86) ^{ab}	1.94 (1.9/1.98) ^a	2.21 (2.16/2.26) ^{ab}	2.7 (2.65/2.74) ^{ab}	3.32 (3.28/3.37) ^b	2.65 (2.6/2.71) ^{ab}	
pleasant	2.6 (2.55/2.64) ^{abc}	1.84 (1.81/1.88) ^a	1.94 (1.9/1.99) ^{ab}	2.78 (2.74/2.83) ^{bc}	3.62 (3.57/3.66) ^c	2.14 (2.1/2.19) ^{ab}	
pleasant	2.68 (2.64/2.72) ^{ab}			3.34 (3.29/3.38) ^{ab}	3.39 (3.35/3.43) ^a	2.44 (2.4/2.49) ^b	
quiet	4.11 (4.08/4.14) ^a	2.51 (2.47/2.55) ^{bc}	2.13 (2.09/2.17) ^b	3.18 (3.14/3.21) ^c	3.14 (3.1/3.17) ^c	2.95 (2.91/3) ^{bc}	
quiet	3.88 (3.85/3.9) ^{bc}	2.17 (2.14/2.2) ^{ad}	1.71 (1.68/1.74) ^a	3.16 (3.12/3.2) ^{cd}	2.94 (2.9/2.97) ^{def}	2.68 (2.65/2.71) ^{de}	
quiet	3.39 (3.36/3.42) ^a			2.94 (2.91/2.97) ^a	2.93 (2.89/2.96) ^a	2.32 (2.3/2.35)	
relaxed	3.37 (3.32/3.41) ^{bc}	2.11 (2.07/2.16) ^a	2.32 (2.27/2.37) ^{ab}	3.4 (3.37/3.44) ^c	4.05 (4.01/4.09) ^c	3.13 (3.08/3.18) ^{abc}	
relaxed	3.62 (3.57/3.66) ^{bc}	1.79 (1.76/1.81) ^a	1.91 (1.87/1.94) ^a	3.77 (3.73/3.82) ^{bc}	4.13 (4.09/4.17) ^c	2.91 (2.87/2.95) ^b	
relaxed	3.26 (3.23/3.3) ^a			3.62 (3.57/3.66) ^a	3.79 (3.75/3.83) ^a	2.4 (2.37/2.44)	
slow	4.22 (4.19/4.26) ^a	3.21 (3.16/3.25) ^c	3.19 (3.15/3.23) ^c	3.39 (3.36/3.41) ^c	3.46 (3.43/3.49) ^c	3.41 (3.37/3.46) ^{bc}	
slow	4.2 (4.16/4.24) ^{ab}	2.86 (2.82/2.9) ^d	2.62 (2.59/2.65) ^d	3.47 (3.43/3.5) ^{bcd}	3.11 (3.08/3.15) ^{cd}	3.09 (3.05/3.13) ^d	
slow	4.07 (4.04/4.1) ^a			3.52 (3.49/3.55) ^{ab}	3.15 (3.12/3.18) ^b	3.21 (3.17/3.24) ^b	
social	6.45 (6.43/6.48) ^b	4.81 (4.77/4.85) ^a	4.78 (4.74/4.82) ^a	5.94 (5.91/5.98) ^b	5.94 (5.9/5.98) ^b	6.33 (6.3/6.36) ^b	
social	6.52 (6.5/6.54) ^b	4.32 (4.26/4.37) ^a	4.92 (4.87/4.96) ^a	6.21 (6.18/6.24) ^b	6.2 (6.18/6.23) ^b	6.42 (6.39/6.44) ^b	
social	7 (6/7) ^a			6 (5/7) ^{ab}	6 (5/6) ^b	6 (5/7) ^{ab}	
transformative	5.06 (5.02/5.11) ^a	4.9 (4.87/4.94) ^a	4.83 (4.78/4.87) ^a	5.09 (5.05/5.12) ^a	5.24 (5.19/5.28) ^a	5.03 (4.98/5.08) ^a	
transformative	4.92 (4.89/4.96) ^b	4.59 (4.55/4.63) ^b	5.05 (5.01/5.08) ^{ab}	5.58 (5.54/5.62) ^a	5.16 (5.12/5.2) ^{ab}	5.41 (5.36/5.45) ^{ab}	
transformative	5.11 (5.08/5.15) ^a			5.16 (5.12/5.2) ^a	5.03 (5/5.06) ^a	5.07 (5.03/5.1) ^a	
useless	6.39 (6.36/6.41) ^a	6.24 (6.21/6.26) ^a	6.49 (6.47/6.51) ^a	6.13 (6.1/6.16) ^a	6.16 (6.12/6.19) ^a	6.31 (6.28/6.34) ^a	
useless	6.4 (6.38/6.43) ^{ab}	6.41 (6.39/6.44) ^a	6.71 (6.7/6.73) ^b	6.67 (6.66/6.69) ^{ab}	6.33 (6.3/6.35) ^{ab}	6.58 (6.56/6.6) ^a	
useless	6 (5/7) ^a			6 (6/7) ^a	6 (5/7) ^a	6 (5/7) ^a	
warm	2.14 (2.11/2.18) ^{cd}	2.15 (2.11/2.19) ^{cd}	2.4 (2.37/2.43) ^{bd}	2.21 (2.17/2.24) ^{cd}	2.34 (2.3/2.38) ^{abd}	1.68 (1.65/1.71) ^c	
warm	2.44 (2.41/2.47) ^{cd}	2.14 (2.1/2.17) ^{bcd}	2.55 (2.52/2.58) ^{cd}	1.9 (1.88/1.94) ^{bc}	2.46 (2.42/2.49) ^{cd}	1.74 (1.72/1.77) ^b	
warm	2.09 (2.07/2.12) ^a			2.02 (1.99/2.04) ^a	2.4 (2.37/2.43) ^a	1.97 (1.94/1.99) ^a	
weak	5.69 (5.65/5.73) ^a	5.55 (5.51/5.58) ^a	5.38 (5.34/5.41) ^a	5.37 (5.33/5.4) ^a	5.26 (5.22/5.3) ^a	5.73 (5.69/5.77) ^a	
weak	5.74 (5.7/5.78) ^{ab}	5.55 (5.51/5.59) ^{ab}	5.89 (5.86/5.91) ^{ab}	6.2 (6.17/6.22) ^a	5.52 (5.48/5.56) ^b	6.07 (6.03/6.1) ^{ab}	
weak	5.48 (5.45/5.52) ^a			5.72 (5.68/5.75) ^a	5.28 (5.24/5.32) ^a	5.08 (5.05/5.12) ^a	

	PD – VTM (Lo/Hi)	OTM – VTM (Lo/Hi)	N AD	N BS	N BS	N ECM	N FM	N LKM	N PD	N OTM	Summary Type	Cohort
			72			67	67	72			Mean & 95% CI	TC3
	2.98 (2.94/3.03) ^a	3.13 (3.09/3.17) ^a	62	63	63	57	59	63	63	63	Mean & 95% CI	TC1
	2.78 (2.74/2.83) ^b	3.03 (2.99/3.07) ^b	65	66	66	61	62	65	66	66	Mean & 95% CI	TC2
			72			68	67	72			Mean & 95% CI	TC3
	3.17 (3.12/3.22) ^b	2.76 (2.72/2.8) ^b	63	63	62	56	59	63	63	63	Mean & 95% CI	TC1
	2.92 (2.88/2.97) ^{bc}	3.11 (3.07/3.15) ^c	64	66	66	62	62	65	66	66	Mean & 95% CI	TC2
			72			68	67	72			Mean & 95% CI	TC3
	4.16 (4.12/4.2) ^a	3.03 (2.99/3.08) ^c	63	63	62	57	59	63	63	63	Mean & 95% CI	TC1
	4.34 (4.31/4.37) ^b	3.47 (3.43/3.51) ^{cd}	65	66	66	61	62	65	65	66	Mean & 95% CI	TC2
			72			66	67	71			Mean & 95% CI	TC3
	3.95 (3.91/3.99) ^c	3.4 (3.35/3.45) ^{bc}	63	63	63	57	59	63	63	62	Mean & 95% CI	TC1
	3.85 (3.81/3.89) ^c	3.85 (3.8/3.89) ^c	65	66	66	62	62	65	66	66	Mean & 95% CI	TC2
			72			68	67	72			Mean & 95% CI	TC3
	4.3 (4.27/4.34) ^{ab}	4.08 (4.04/4.12) ^{abc}	63	63	63	57	59	63	63	63	Mean & 95% CI	TC1
	4.36 (4.33/4.39) ^a	3.95 (3.91/4) ^{abc}	65	66	66	62	62	65	66	66	Mean & 95% CI	TC2
			71			67	67	72			Mean & 95% CI	TC3
	6.21 (6.18/6.24) ^b	4.83 (4.78/4.87) ^a	63	63	63	57	59	63	63	62	Mean & 95% CI	TC1
	6.3 (6.28/6.33) ^b	4.33 (4.28/4.38) ^a	65	66	66	62	62	65	65	66	Mean & 95% CI	TC2
			72			67	67	72			Median and 25 th and 75 th quartiles	TC3
	4.78 (4.73/4.82) ^a	5 (4.96/5.04) ^a	63	63	63	57	59	63	63	63	Mean & 95% CI	TC1
	5.25 (5.21/5.29) ^{ab}	5.23 (5.19/5.27) ^{ab}	64	66	66	62	62	64	65	65	Mean & 95% CI	TC2
			70			68	66	72			Mean & 95% CI	TC3
	6.08 (6.05/6.12) ^a	6.25 (6.22/6.28) ^a	63	63	63	57	59	63	63	63	Mean & 95% CI	TC1
	6.41 (6.39/6.43) ^{ab}	6.41 (6.39/6.44) ^{ab}	64	66	66	62	62	65	66	65	Mean & 95% CI	TC2
			72			67	67	72			Median and 25 th and 75 th quartiles	TC3
	2.99 (2.95/3.03) ^{ab}	3.09 (3.05/3.14) ^a	63	63	63	57	59	63	63	63	Mean & 95% CI	TC1
	2.9 (2.86/2.93) ^{ad}	3.49 (3.45/3.53) ^a	65	66	66	62	62	65	66	66	Mean & 95% CI	TC2
			72			68	67	72			Mean & 95% CI	TC3
	5.14 (5.09/5.18) ^a	5.24 (5.2/5.27) ^a	63	63	63	57	59	63	63	63	Mean & 95% CI	TC1
	5.68 (5.65/5.71) ^{ab}	5.43 (5.4/5.46) ^b	63	66	66	61	62	65	66	66	Mean & 95% CI	TC2
			72			67	67	72			Mean & 95% CI	TC3

Appendix H5: Participants' willingness to continue the respective core exercises after the official *ReSource* training

Table H5 Participants' willingness to continue the respective core exercises and the Empathy vs. Compassion Meditation (ECM), the Forgiveness Meditation (FM), or the Inner Perspective Dyad (IPD) at the end of the training for the *ReSource Project*. We conducted all possible two-way comparisons between modules using FDR correction across all tests. CTM = Central Tendency Measure; Lo = Lower Quartile; Hi = Higher Quartile; Lo/Hi = 95% Confidence Interval. Differences between groups are indicated using superscripts, as follows: Within each row, all entries sharing a superscript are not statistically different from one another in post-hoc two-way tests. For example, in a row with four values with superscripts (1.4^a, 1.6^{ab}, 0.6, 1.8^b), statistically there are significant differences between 0.6 and all other values in the row, and between 1.4 and 1.8. All other possible combinations share superscripts, and post-hoc comparisons between them fail to reject the null hypothesis.

Table H5 Variable	AD - CTM (Lo/Hi)	BS - CTM (Lo/Hi)	BM - CTM (Lo/Hi)	ECM - CTM (Lo/Hi)	FM - CTM (Lo/Hi)	LKM - CTM (Lo/Hi)	
Continue	2.42 (2.38/2.46) ^b	3.43 (3.39/3.47) ^a	4.11 (4.08/4.41)	2.27 (2.23/2.3) ^b	2.47 (2.44/2.5) ^b	3.46 (3.42/3.5) ^a	
Continue	2.23 (2.2/2.27) ^b	3.57 (3.53/3.61) ^a	4.22 (4.19/4.24)	2.52 (2.48/2.55) ^b	2.52 (2.49/2.56) ^b	3.55 (3.52/3.59) ^a	
Continue	2.87 (2.83/2.91) ^a			2.41 (2.37/2.44) ^a	2.49 (2.46/2.51) ^a	3.71 (3.68/3.74)	

Appendix H6: Comparison of different qualities between meditations and dyadic exercises

Table H6 Percentage of participants who rated the meditation as having more of each quality than the dyadic practice.

Table H6 Traits	LKM vs. Dyad	LKM vs. Dyad	LKM vs. Dyad	OTM vs. Dyad	OTM vs. Dyad	p value
	TC3	TC1	TC2	TC1	TC2	
Accept help	58.33	65.08	63.64	74.60	84.85	0.17
Autonomy	6.94	23.81	22.73	20.63	19.70	0.04
Close to others	62.50	58.73	53.03	90.48	93.94	0.00
Close to self	18.06	20.63	21.21	28.57	34.85	0.10
Concentration	15.28	36.51	27.27	6.35	6.06	0.00
Cope with stress	8.33	23.81	21.21	20.63	18.18	0.10
Creative	37.50	73.02	74.24	76.19	65.15	0.00
Criticize oneself	44.44	58.73	65.15	34.92	40.91	0.01
Criticize others	68.06	73.02	77.27	76.19	71.21	0.94
Feel trust	61.11	46.03	45.45	66.67	65.15	0.11
Group forming	76.39	85.71	78.79	96.83	93.94	0.44
Helping	43.06	55.56	39.39	82.54	83.33	0.00
Identify thought	48.61	47.62	53.03	22.22	21.21	0.00
Interrupt day	66.67	76.19	75.76	79.37	71.21	0.86
Listening	97.22	96.83	96.97	96.83	89.39	0.98
Motivation	43.06	44.44	39.39	42.86	53.03	0.68
Motivation to act	41.67	65.08	60.61	58.73	69.70	0.10
Open to change	26.39	52.38	46.97	60.32	60.61	0.00
Open to others	93.06	85.71	80.30	93.65	90.91	0.84
Openness	70.83	73.02	66.67	73.02	74.24	0.97

	IPD - CTM (Lo/Hi)	PD - CTM (Lo/Hi)	OTM - CTM (Lo/Hi)	N AD	N BS	N BM	N ECM	N FM	N LKM	N IPD	N PD	N OTM	Summary Type	Cohort
	2.19 (2.16/2.23) ^b	2.18 (2.14/2.22) ^b	3.43 (3.39/3.46) ^a	62	63	63	56	62	63	62	62	63	Mean & 95% CI	TC1
	2.03 (2/2.06) ^b	2.16 (2.12/2.19) ^b	3.26 (3.23/3.29) ^a	64	65	65	60	65	65	63	64	65	Mean & 95% CI	TC2
				69			64	70	72				Mean & 95% CI	TC3

Table H6 Traits	LKM vs. Dyad	LKM vs. Dyad	LKM vs. Dyad	OTM vs. Dyad	OTM vs. Dyad	p value
	TC3	TC1	TC2	TC1	TC2	
Patience with others	50.00	55.56	51.52	85.71	86.36	0.00
Perspective others	81.94	85.71	83.33	96.83	95.45	0.70
Privacy invasion	94.44	92.06	92.42	85.71	92.42	0.98
Question life	27.78	53.97	33.33	42.86	37.88	0.04
Relationship better	72.22	53.97	56.06	71.43	89.39	0.02
Resilience	19.44	30.16	24.24	31.75	28.79	0.44
Self awareness	48.61	53.97	60.61	25.40	21.21	0.00
Self discipline	26.39	38.10	37.88	22.22	21.21	0.05
Self esteem	25.00	26.98	39.39	39.68	53.03	0.01
Show oneself	86.11	88.89	81.82	88.89	84.85	0.98
Similar other	87.50	74.60	66.67	88.89	90.91	0.24
Social security	66.67	63.49	48.48	60.32	78.79	0.11
Solve conflict	54.17	57.14	57.58	82.54	81.82	0.02
Take self seriously	19.44	25.40	22.73	25.40	36.36	0.18
Trust in society	50.00	49.21	46.97	76.19	83.33	0.00
Understand oneself	55.56	47.62	56.06	33.33	40.91	0.09
Understand others	86.11	76.19	65.15	92.06	89.39	0.20

Appendix H7: How participants' relationship to their inner parts for the Perspective Dyad had changed during the Perspective Module

Table H7 Summary statistics for changes in participants' relationship to their inner aspects for the Perspective Dyad during the Perspective Module. We conducted all possible two-way comparisons between modules using FDR correction across all tests. CTM = Central Tendency Measure; Lo = Lower Quartile; Hi = Higher Quartile; Lo/Hi = 95% Confidence Interval. Differences between groups are indicated using superscripts, as follows: Within each row, all entries sharing a superscript are not statistically different from one another in post-hoc two-way tests. For example, in a row with four values with superscripts (1.4^a, 1.6^{ab}, 0.6, 1.8^b), statistically there are significant differences between 0.6 and all other values in the row, and between 1.4 and 1.8. All other possible combinations share superscripts, and post-hoc comparisons between them fail to reject the null hypothesis.

Table H7 Variable	Week 1 to 4 - CTM (Lo/Hi)	Week 5 to 8 - CTM (Lo/Hi)	Week 9 to 13 - CTM (Lo/Hi)	
Aware in daily life	3.53 (3.50/3.57) ^a	3.68 (3.65/3.71) ^a	3.77 (3.74/3.80) ^a	
Aware in daily life	3.38 (3.36/3.41) ^a	3.82 (3.79/3.84) ^a	3.98 (3.95/4.01) ^a	
Difficult to change relations	2.60 (2.57/2.62) ^a	2.15 (2.12/2.17) ^a	1.92 (1.89/1.94) ^a	
Difficult to change relations	2.80 (2.77/2.83) ^a	2.28 (2.26/2.30) ^a	1.95 (1.93/1.98) ^a	
Easy to change relations	2.48 (2.46/2.51) ^a	2.34 (2.31/2.36) ^a	2.21 (2.19/2.24) ^a	
Easy to change relations	2.55 (2.53/2.57) ^a	2.42 (2.40/2.44) ^a	2.30 (2.27/2.32) ^a	
Easy to find	3.74 (3.70/3.78) ^a	3.79 (3.76/3.82) ^a	3.89 (3.85/3.92) ^a	
Easy to find	3.62 (3.58/3.65) ^a	3.66 (3.63/3.69) ^a	3.88 (3.85/3.91) ^a	
Identification develops	3.00 (2.97/3.03) ^a	3.00 (2.97/3.03) ^a	3.00 (2.96/3.04) ^a	
Identification develops	3.11 (3.08/3.13) ^a	3.34 (3.31/3.37) ^a	3.35 (3.32/3.39) ^a	
Notice easier	3.31 (3.27/3.34) ^a	3.30 (3.27/3.32) ^a	3.18 (3.16/3.21) ^a	
Notice easier	3.38 (3.35/3.41) ^a	3.05 (3.02/3.07) ^a	3.06 (3.04/3.09) ^a	
Notice in others	3.11 (3.08/3.15) ^a	3.32 (3.29/3.35) ^a	3.41 (3.38/3.44) ^a	
Notice in others	3.11 (3.07/3.14) ^a	3.38 (3.35/3.41) ^a	3.63 (3.60/3.66) ^a	
Often new	2.71 (2.68/2.74) ^a	2.24 (2.21/2.27) ^a	1.85 (1.82/1.88) ^a	
Often new	2.70 (2.67/2.74) ^a	2.34 (2.31/2.37) ^a	2.09 (2.06/2.13) ^a	

Appendix H8: How participants' relationship to *the self* had changed during the training in the Perspective Module

Table H8 Descriptive statistics concerning changes in the participants' "self" during the Perspective Module.

Table H8 Variable	TC1 - CTM (Lo/Hi)	TC2 - CTM(Lo/Hi)	N TC1	N TC2	Summary Type	TC1 vs. TC2
Warm	2.82 (2.79/2.86)	2.69 (2.66/2.73)	62	65	Mean & 95% CI	0.496
Optimism	2.74 (2.71/2.77)	2.54 (2.51/2.57)	62	65	Mean & 95% CI	0.212
Social	5.06 (5.02/5.10)	5.34 (5.30/5.37)	62	65	Mean & 95% CI	0.202
Pleasant	2.50 (2.46/2.54)	2.32 (2.28/2.36)	62	65	Mean & 95% CI	0.443
Interesting	5.42 (5.38/5.45)	5.25 (5.21/5.29)	62	65	Mean & 95% CI	0.412
Active	3.35 (3.30/3.41)	3.65 (3.60/3.70)	62	65	Mean & 95% CI	0.306
Concentrate	2.60 (2.55/2.64)	2.69 (2.65/2.73)	62	65	Mean & 95% CI	0.691
Close	2.37 (2.33/2.41)	2.62 (2.57/2.66)	62	65	Mean & 95% CI	0.276
Relaxed	2.47 (2.43/2.51)	2.66 (2.62/2.70)	62	65	Mean & 95% CI	0.394
Independent	3.00 (2.96/3.04)	2.83 (2.79/2.87)	62	65	Mean & 95% CI	0.457
Comfortable	3.15 (3.11/3.18)	3.18 (3.15/3.22)	62	65	Mean & 95% CI	0.841
Judge	5.19 (5.15/5.24)	5.55 (5.51/5.59)	62	64	Mean & 95% CI	0.151

	<i>N</i> - 1 to 4	<i>N</i> - 5 to 8	<i>N</i> - 9 to 13	Summary Type	Cohort
	62	62	61	Mean & 95% CI	TC1
	65	65	65	Mean & 95% CI	TC2
	62	62	61	Mean & 95% CI	TC1
	65	65	65	Mean & 95% CI	TC2
	62	62	61	Mean & 95% CI	TC1
	64	64	64	Mean & 95% CI	TC2
	62	62	61	Mean & 95% CI	TC1
	65	65	65	Mean & 95% CI	TC2
	62	62	61	Mean & 95% CI	TC1
	65	65	65	Mean & 95% CI	TC2
	62	61	60	Mean & 95% CI	TC1
	63	63	63	Mean & 95% CI	TC2
	62	62	61	Mean & 95% CI	TC1
	65	65	65	Mean & 95% CI	TC2
	62	62	61	Mean & 95% CI	TC1
	64	64	64	Mean & 95% CI	TC2

Table H8 Variable	TC1 - CTM (Lo/Hi)	TC2 - CTM(Lo/Hi)	NTC1	NTC2	Summary Type	TC1 vs. TC2
Broad	2.71 (2.67/2.75)	2.67 (2.62/2.71)	62	63	Mean & 95% CI	0.861
Involved	5.10 (5.06/5.14)	5.05 (5.00/5.09)	62	65	Mean & 95% CI	0.837
Transformative	4.39 (4.35/4.44)	5.00 (4.96/5.04)	61	65	Mean & 95% CI	0.14
Thankful	2.39 (2.35/2.42)	2.29 (2.26/2.32)	62	65	Mean & 95% CI	0.61
Familiar	5.63 (5.59/5.66)	5.57 (5.54/5.60)	62	65	Mean & 95% CI	0.755
Connected	2.76 (2.71/2.81)	2.68 (2.63/2.72)	62	65	Mean & 95% CI	0.77
Creative	4.71 (4.67/4.75)	4.69 (4.65/4.73)	62	65	Mean & 95% CI	0.936
Serene	2.23 (2.19/2.26)	2.26 (2.22/2.30)	62	65	Mean & 95% CI	0.866
Clear	5.44 (5.40/5.47)	5.25 (5.20/5.29)	62	65	Mean & 95% CI	0.423
Curious	2.66 (2.62/2.69)	2.78 (2.74/2.82)	61	65	Mean & 95% CI	0.541
Compassionate	2.56 (2.53/2.60)	2.72 (2.68/2.75)	62	64	Mean & 95% CI	0.439
Weak spirited	5.11 (5.08/5.15)	4.92 (4.89/4.95)	62	65	Mean & 95% CI	0.291

Appendix H9: Preference for each Module by participants

Table H9 Percentage of participants who ranked each of the Modules as number 1. We conducted all possible two-way comparisons between modules using FDR correction across all tests. CTM = Central Tendency Measure; Lo = Lower Quartile; Hi = Higher Quartile; Lo/Hi = 95% Confidence Interval; Differences between groups are indicated using superscripts, as follows: Within each row, all entries sharing a superscript are not statistically different from one another in post-hoc two-way tests. For example, in a row with four values with superscripts (1.4^a, 1.6^{ab}, 0.6, 1.8^b), statistically there are significant differences between 0.6 and all other values in the row, and between 1.4 and 1.8. All other possible combinations share superscripts, and post-hoc comparisons between them fail to reject the null hypothesis.

Table H9 Variable	Aff - CTM	Persp - CTM	Pres - CTM	N Aff	N Pers	N Pres	Summary Type	Cohort
Best	32.81 ^a	21.88 ^a	45.31 ^a	44	39	49	Percentage	TC1
Best	25.00 ^a	14.06 ^a	60.94 ^b	49	47	52	Percentage	TC2
Daily life effects	35.94 ^a	29.69 ^a	34.38 ^a	47	41	44	Percentage	TC1
Daily life effects	33.87 ^a	35.48 ^a	30.65 ^a	48	50	47	Percentage	TC2
Most effective	50.77 ^a	23.08 ^a	26.15 ^a	51	43	39	Percentage	TC1
Most effective	46.88 ^a	28.13 ^a	25.00 ^a	50	50	48	Percentage	TC2

Appendix H10: Participants' overall opinion about the *ReSource Project*

Table H10 Participants' overall opinion about the *ReSource Project* and their overall experiences.

Table H10 Variable	TC1 - CTM (Lo/Hi)	TC2 - CTM (Lo/Hi)	TC3 - CTM (Lo/Hi)	N TC1	N TC2	N TC3	Summary Type
Like	5 (5/5) ^a	5 (5/5) ^a	5 (4/5) ^a	62	66	72	Median and 25 th and 75 th quartiles
Do again	5 (4.25/5) ^{ab}	5 (5/5) ^a	5 (4/5) ^b	62	66	72	Median and 25 th and 75 th quartiles
Recommend	5 (4/5) ^a	5 (5/5) ^a	5 (5/5) ^a	62	66	72	Median and 25 th and 75 th quartiles
Supportive	5 (5/5) ^a	5 (5/5) ^a	5 (5/5) ^a	62	66	72	Median and 25 th and 75 th quartiles

Appendix H11: English translation of feedback questionnaires (T1–T3, T4, and general questionnaire)

This is the translated English version of the feedback questionnaires. The questionnaires were filled out at T1–T4 by TC1 and TC2 or at T1–T2 by TC3. There was also a final general questionnaire for all cohorts that was filled out at the end of the training phase. The green parts indicate when the questions were administered as there were only minor differences between the questionnaires depending on the respective module order, cohort, or core exercises. As questions were overlapping in the respective questionnaires, they are reported in a summarized manner.

Feedback Questionnaires after T1, T2, and T3

Feedback questionnaires on training and testing

Implementation of the training program (T1–T3)

The following questions relate to practical aspects of the training program.

What was your impression of...	Too short 1	2	Just right 3	4	Too long 5
1) ... the length of the weekly sessions?					

What was your impression of...	Not enough 1	2	Just right 3	4	Too many 5
2) ... the number of sessions per training module?					

What was your impression of...	Too small 1	2	Just right 3	4	Too large 5
3) ... the size of the group?					

What was your impression of...	Not enough 1	2	Just right 3	4	Too much 5
4) ... the content of the lesson?					
5) ... the personal attention shown by the teacher?					

Questions on the meditation recordings (T1–T3)

	Very poor -2	-1	Average 0	+1	Very good +2
6) Describe the quality of the meditation recordings (T1–T3)					

	Not enough -2	-1	Just right 0	+1	Too much +2
7) Proportion of speech (compared to silence) in the recordings (T1–T3)					

- 8) Was it useful to have 60-minute versions of the core exercises? (T1–T3) Yes No
- 9) Would you have liked other versions of the meditations?
- a) longer versions: (T1–T3) Yes No
- b) meditations with very little speech: (T1–T3) Yes No
- c) meditations on the topic of hearing: (T1) Yes No
- d) meditations on the topic of seeing: (T1) Yes No
- e) meditations on open awareness: (T1) Yes No
- f) other: (T1–T3)

After Affect Module

- g) Would you have preferred a daily exercise in Forgiveness Meditation rather than in Loving-kindness Meditation? Yes No

Technical problems (T1–T3)

The following questions relate to technical issues.	Not at all easy 1	2	Neither easy nor difficult 3	4	Very easy 5
10) How easy was it to use the internet platform?					

- 11) Did you prefer the meditations on the computer platform or on a smartphone?

☐ Smartphone

☐ Computer

- 12) Why? (Please provide a brief explanation)

13) How often did you encounter technical problems?	Not at all 1	2	3	4	Very often 5
a) using a computer					
b) using a smartphone					

Meditations in the Presence Module (T1)

	Not at all 1	2	3	4	Very much 5
14) How much did you enjoy Breathing Meditation?					
15) How much did you enjoy the Body Scan?					

16) On average, how often did you fall asleep during the Body Scan?	Never 1	2	3	4	Always 5
a) in weeks 1–4					
b) in weeks 4–8					
c) in weeks 9–13					
Remarks:					

Meditations in the **Affect Module** (after Affect Module)

	Not at all 1	2	3	4	Very much 5
17a) How much did you enjoy Loving-kindness Meditation?					
18a) How much did you enjoy the Affect Dyad?					

Meditations in the **Perspective Module** (after Perspective Module)

	Not at all 1	2	3	4	Very much 5
17b) How much did you enjoy Observing-thoughts Meditation?					
18b) How much did you enjoy the Perspective Dyad?					

	Not at all 1	2	3	4	Very often 5
19) How often did you have practical problems with the dyad?					
a) for technical reasons					
b) because your partner was unavailable					
c) because of connection problems (W-LAN, phone line)					

	Never 1	2	3	4	Very often 5
20) How often did you find the questions before and after meditation a nuisance?					
a) in weeks 1–4					
b) in weeks 4–8					
c) in weeks 9–13					
Remarks:					

	Not at all 1	2	3	4	A lot 5
21) How much of a nuisance did you find the questions before and after the dyad?					
a) in weeks 1–4					
b) in weeks 4–8					
c) in weeks 9–13					
Remarks:					

	Never 1	2	3	4	A lot 5
22) Did the questions before and after meditation help you to practice meditation?					

	Never 1	2	3	4	A lot 5
23) Did the questions before and after the dyad help you to practice meditation?					

	Very difficult 1	2	3	4	Not at all difficult 5
24) How difficult did you find it to integrate what you learned in the Presence/Affect/Perspective Module into your everyday life?					
a) in weeks 1–4					
b) in weeks 4–8					
c) in weeks 9–13					

	Very difficult 1	2	3	4	Not at all difficult 5
25) How difficult did you find it to integrate the Loving-kindness/Observing-thoughts Meditation into your everyday life? (T2 or T3)					
a) in weeks 1–4					
b) in weeks 4–8					
c) in weeks 9–13					

	Very difficult 1	2	3	4	Not at all difficult 5
26) How difficult did you find it to integrate the (Affect/Perspective) Dyad into your everyday life?					
a) in weeks 1–4					
b) in weeks 4–8					
c) in weeks 9–13					

Changes to your experience of everyday life during the training phase (T1-T3)

The following questions relate to possible CHANGES in the way you live your life during the training phase compared to BEFORE.

	Much less -2	-1	The same 0	+1	Much more +2
27) During the training phase...					
... I was physically active (e.g., sport, yoga, etc.)					
... I ate healthily (fruit, vegetables, lean meat, complex carbohydrates).					
... I consumed drugs and alcohol.					
... I slept.					
... I took care of myself (excluding meditation).					
... I spent time with people who are important to me.					
... I helped other people.					
... I had arguments with other people.					
... I smoked (if you are a smoker).					
... I noticed other changes. If yes, please specify:					

28) I can imagine myself practicing the following types of meditation from the **Presence Module** even after the study ends (T1):

- a) Breathing Meditation: Yes No
 b) Body Scan: Yes No
 c) Meditations on the topics of seeing and hearing: Yes No

29) I enjoyed... (T1)	Do not agree at all -2	-1	Neither agree nor disagree 0	+1	Totally agree +2
a) ...my daily Breathing Meditation.					
b) ...my daily Body Scan.					
c) ...the prospect of my weekly class.					

30) I can imagine myself continuing to do the following exercises from the **Affect Module** even after the study ends (after Affect Module):

- a) Loving-kindness Meditation: Yes No
 b) Affect Dyad: Yes No
 c) Forgiveness Meditation: Yes No

32) I enjoyed...(after Affect Module)	Do not agree at all -2	-1	Neither agree nor disagree 0	+1	Totally agree +2
a) ...my daily Loving-kindness Meditation.					
b) ...my daily dyad.					
c) ...the prospect of my weekly class.					

33)) I can imagine myself continuing to do the following exercises from the **Perspective Module** even after the study ends (after Perspective Module, T2 or T3):

- a) Observing-thoughts Meditation: Yes No
 b) Perspective Dyad: Yes No

34) I enjoyed...(after Perspective Module, T2 or T3)	Do not agree at all -2	-1	Neither agree nor disagree 0	+1	Totally agree +2
a) ...my daily Observing-thoughts Meditation.					
b) ...my daily dyad.					
c) ...the prospect of my weekly class.					

	Do not agree at all -2	-1	Neither agree nor disagree 0	+1	Totally agree +2
35) I use skills acquired during the training in my everyday life. (T1–T3)					
36) I find that the time I spend on Observing-thoughts Meditation is time well spent. (T1–T3)					
37) I find that the time I spend on the dyad is time well spent. (T2–T3)					

Now please compare the **Presence Module with the Affect Module (T2, Cohort 1)**.

38) Please enter the numbers 1, 2, 3, and 4 to indicate which exercise you have enjoyed the most so far.
1 (best), 2, 3, 4 (least)

Breathing Meditation ☐
 Body Scan ☐
 Loving-kindness Meditation ☐
 Affect Dyad ☐

39) Which training module did you prefer? Please mark with a cross. (T2, Cohort 1)

Presence Module ☐
 Affect Module ☐

Please state your reasons:

Now please compare the **Presence Module with the Perspective Module (T2, Cohort 2)**.

40) Please enter the numbers 1, 2, 3, and 4 to indicate which exercise you have enjoyed the most so far.
1 (best), 2, 3, 4 (least)

Breathing Meditation ☐
 Body Scan ☐
 Observing-thoughts Meditation ☐
 Perspective Dyad ☐

41) Which training module did you prefer? Please mark with a cross. (T2, Cohort 2)

Presence Module ☐
 Perspective Module ☐

Please state your reasons.

42) How much did you enjoy the following modules? (T2, Cohort 2)

	Not at all 1	2	3	4	Very much 5
42a) Presence Module					
42b) Perspective Module					

42c) Please state your reasons:

Now please rate the individual core exercises in comparison with one another.

43) Please enter the numbers 1, 2, 3, 4, 5, and 6 to indicate which exercise you have enjoyed the most. 1 (best), 2, 3, 4, 5, 6 (least) (T3)

- Breathing Meditation ☐
- Body Scan ☐
- Loving-kindness Meditation ☐
- Affect Dyad ☐
- Observing-thoughts Meditation ☐
- Perspective Dyad ☐

44) How much did you enjoy the following modules (T3)?

	Not at all 1	2	3	4	Very much 5
44a) Presence Module					
44b) Affect Module					
44c) Perspective Module					

44d) Please state your reasons:

45) Questions on the retreat (T1–T3)	Not at all -2	-1	Neutral 0	+1	Very much +2
a) How much did you enjoy the Presence or Affect or Perspective retreat as a whole?					
b) the tranquility					
c) the content/program					
d) the location/ meditation hall					
e) the organisation of the retreat					
f) the hotel room/sleeping arrangements					
g) the meals					

Questions on the test phases (T0–T3)

The following questions relate to your experience of the tests.

	Very unpleasant -2	-1	Neutral 0	+1	Very pleasant +2
46) I found the behavioral measurements (computer and autonomic nervous system)...					
Please give reasons for your answer:					
47) I found the questionnaire modules on the platform...					
Please give reasons for your answer:					
48) I found the experiments in the scanner....					
Please give reasons for your answer:					
49) I found the blood sampling ...					
Please give reasons for your answer:					
50) I found the experience sampling (smartphone questions and saliva sampling) ...					
Please give reasons for your answer:					
51) I found the virtual reality measurement....					
Please give reasons for your answer:					

52) Did you choose the 10-minute Breathing Meditation, but then found yourself meditating for considerably longer (more than 5 min longer)? (T1)	Never -2	Seldom -1	Sometimes 0	Often +1	Always +2
a) in weeks 1–4					
b) in weeks 4–8					
c) in weeks 9–13					

53) Did you choose the 20-minute Body Scan, but then found yourself meditating for considerably longer (more than 5 min longer)? (T1)	Never -2	Seldom -1	Sometimes 0	Often +1	Always +2
a) in weeks 1–4					
b) in weeks 4–8					
c) in weeks 9–13					

54) Did you choose the 20-minute Observing-thoughts Meditation, but then found yourself meditating for considerably longer (more than 5 min longer)? (T2 or T3)	Never -2	Seldom -1	Sometimes 0	Often +1	Always +2
a) in weeks 1–4					
b) in weeks 4–8					
c) in weeks 9–13					

55) Did you choose the <u>20-minute</u> Loving-kindness Meditation but then found yourself meditating for considerably longer (more than 5 min longer)? (T2 or T3)	Never -2	Seldom -1	Some- times 0	Often +1	Al ways +2
a) in weeks 1–4					
b) in weeks 4–8					
c) in weeks 9–13					

Feedback Questionnaire follow-up (T4, 4 months or 10 months)

Part 1: Non practice-related questions on the period following the last official training session

- 1) Have you suffered any serious life events during the period since the study (e.g., the death of a friend or family member, illness, periods of extreme stress, etc.)?
- 2) If you attended an in-depth interview with Dr Marisa Przyrembel, what sort of effect did this have on you?
 - a) in relation to your everyday life:
 - b) in relation to the meditation you practiced:
 - c) in relation to the tests at the Institute:

Part 2: Questions on the practice of meditation

After 4 months:

- 3) How many times per week have you meditated during the last four months? Try to calculate an average figure per week.
 - ☐ Not at all
 - ca. ____ times per week
 - with meditation lasting for approx. ____ minutes.

After 10 months

- 3) How many times per week have you meditated during the last ten months? Try to calculate an average figure per week.
 - ☐ Not at all
 - ca. ____ times per week
 - with meditation lasting for approx. ____ minutes.
- 4) How often did you use the platform or smartphone?
 - In ____ percent of cases.
- 5) If you continued to practice meditation, what were your reasons for doing so?
- 6) If you did not continue to practice meditation, or discontinued certain practices to a large extent or altogether, what were your reasons for doing so?

7) Were there any difficulties associated with practicing meditation?

8a) When you meditated, did you do so with the group or on your own?

☐ with the group

☐ alone

☐ both

8b) If you meditated with the group, what differences did you notice between group meditation during the study (with teachers and the support team) and group meditation after the study?

Meditating with the group **DURING THE STUDY** compared to after the study was....

more difficult								easier
less motivating								more motivating
less pleasant								more pleasant
less inspiring								more inspiring
less transformative								more transformative

8c) Were there any other differences?

After 4 months:

The following questions relate exclusively to exercises you carried out **WITHOUT the platform or the smartphone**.

9a) Try to estimate how often you carried out the following practices without using the platform in the months following the *ReSource* study. Please try once again to give average values per week, even if there were great fluctuations from one week to another.

	Months 1 & 2: times per week	Months 3 & 4: times per week
Breathing Meditation		
Body Scan		
Loving-kindness Meditation		
Observing-thoughts Meditation		
Affect Dyad		
Perspective Dyad		

9b) For how long (in minutes) did you meditate without the platform on each occasion? Please try once again to give average values!

	Months 1 & 2: minutes of meditation	Months 3 & 4: minutes of meditation
Breathing Meditation		
Body Scan		
Loving-kindness Meditation		

Observing-thoughts Meditation		
Affect Dyad		
Perspective Dyad		

9c) Did you carry out any other practices? This question relates to forms of meditation or similar practices which were **NOT** included in the *ReSource* study.

☐ Yes ☐ No

9d) If yes, please also indicate how often you carried out these practices:

Name of practice / description	Months 1 & 2: times per week	Months 3 & 4: times per week

After 10 months:

The following questions relate exclusively to exercises you carried out **WITHOUT** the platform or the smartphone.

9a) Try to estimate how often you carried out the following practices without using the platform in the months following the *ReSource* study. Please try once again to give average values per week, even if there were great fluctuations from one week to another.

	Months 1 & 2: times per week	Months 3 & 4: times per week	Months 5 & 6: times per week	Months 7 & 8: times per week	Months 9 & 10: times per week
Breathing Meditation					
Body Scan					
Loving-kindness Meditation					
Observing-thoughts Meditation					
Affect Dyad					
Perspective Dyad					

9b) For how long (in minutes) did you meditate without the platform on each occasion? Please try once again to give average values.

	Months 1 & 2: minutes of meditation	Months 3 & 4: minutes of meditation	Months 5 & 6: minutes of meditation	Months 7 & 8: minutes of meditation	Months 9 & 10: minutes of meditation
Breathing Meditation					
Body Scan					

Loving-kindness Meditation					
Observing-thoughts Meditation					
Affect Dyad					
Perspective Dyad					

9c) Did you carry out any other practices? This question relates to forms of meditation or similar practices which were **NOT** included in the *ReSource* study.

☐ Yes ☐ No

9d) If yes, please also indicate how often you carried out these practices:

Name of practice / description	Months 1 & 2: times per week	Months 3 & 4: times per week	Months 5 & 6: times per week	Months 7 & 8: times per week	Months 9 & 10: times per week

9e) If, **AFTER THE END OF THE STUDY**, you meditated both with the group and on your own, what differences did you notice between group meditation and meditating alone?

In comparison with meditating alone, meditation with the group was...

more difficult							easier
less motivating							more motivating
less pleasant							more pleasant
less inspiring							more inspiring
less transformative							more transformative

9f) Were there any other differences?

Part 3: Questions on the period after the last training session (even if you did not continue to meditate)

The following questions relate to the period after the last official training session. Please answer them **even** if you have not **continued to meditate** since.

10) How well were you able to integrate the content of the <i>ReSource</i> practices into your everyday life?	Not at all				Very well
	1	2	3	4	5
a) Breathing Meditation					
b) Body Scan					

c) Loving-kindness Meditation					
d) Observing-thoughts Meditation					
e) Affect Dyad					
f) Perspective Dyad					

11) Can you think of any examples from your everyday life where what you learned during the *ReSource Project* proved helpful, and which you would like to tell us about?

12a) Have you felt different since the last official training session than you did before? If so, please provide details.

12b) Looking back at the *ReSource Project*, do you think your attendance changed your life for the long term?

Please provide details:

12c) If the *ReSource* study changed you, then in which areas of your life and how?

Health OYes ONo If yes, how: _____

Sport OYes ONo If yes, how: _____

Sleeping OYes ONo If yes, how: _____

Relationships with others (colleagues/partner)

OYes ONo If yes, how: _____

Well-being OYes ONo If yes, how: _____

Handling stress OYes ONo If yes, how: _____

Daily activities OYes ONo If yes, how: _____

12d) Using the following list of characteristics, please assess how you would describe yourself now in comparison with the pre-study period.

Characteristics							
more optimistic							more pessimistic
less social							more social
more active							more passive
more focused							less focused
more relaxed							less relaxed
more independent							more dependent
more judgmental							more accepting
more broad-minded							more narrow-minded
more grateful							less grateful
more connected							less connected
less creative							more creative

more composed								less composed
less clear-thinking								more clear-thinking
more inquisitive								less inquisitive
more compassionate								more indifferent
more despondent								bolder

12e) If you believe that the *ReSource* study changed you, then how long did these effects last? If you have already described the changes above, please repeat them here as a single word or phrase, and indicate for how long you were aware of the effect in question (e.g., for the first month after the study ended; to the present day; variable, etc.).

Part 4: Questions on drug use

The following two questions are of particular importance to the researchers. The information will be kept strictly confidential and will **only** be used to gain a better understanding of the blood, hair, and brain test results. Please answer honestly.

13) Did you take any drugs during the study (apart from alcohol and cigarettes)?

☐ Yes ☐ No

14) If so, what and how often?

Cannabis	___ times per week or	___ times per month	or	☐ once
_____	___ times per week or	___ times per month	or	☐ once
_____	___ times per week or	___ times per month	or	☐ once
_____	___ times per week or	___ times per month	or	☐ once
_____	___ times per week or	___ times per month	or	☐ once

15) Did you take any drugs after the study (apart from alcohol and cigarettes)?

☐ Yes ☐ No

16) If so, what and how often?

Cannabis	___ times per week or	___ times per month	or	☐ once
_____	___ times per week or	___ times per month	or	☐ once
_____	___ times per week or	___ times per month	or	☐ once
_____	___ times per week or	___ times per month	or	☐ once
_____	___ times per week or	___ times per month	or	☐ once

Part 5: Miscellaneous

17) Looking back in hindsight at the *ReSource Project*.....

- a) Do you think you benefited from participating?
☐ Yes ☐ No
- b) Would you be prepared to be involved again in the future?
☐ Yes ☐ No
- c) Would you recommend this project to friends?
☐ Yes ☐ No
- d) Would you be prepared to pay for other teacher-led courses?
☐ Yes ☐ No
- 18) Is there anything else you would like to tell us?

General Feedback Questionnaire for the *ReSource Project*, T3

Part I – Questions on the core exercises

1. Please evaluate the exercises from the different modules in terms of the following characteristics. You should indicate your choice intuitively, without giving your answer too much thought.

[illegible]

The same semantic differentials as are listed in 1a) were also applied to

- 1b) Body Scan
- 1c) Loving-kindness Meditation
- 1d) Affect Dyad
- 1e) Observing-thoughts Meditation
- 1f) Perspective Dyad
- 1g) Forgiveness Meditation
- 1h) Empathy vs. Compassion Meditation (at Retreat)

2. Affect Module: which element of the daily Loving-kindness Meditation had more of an effect on you?

- Self-compassion training ☐
 - Training in compassion for others ☐
 - Both equally ☐
 - Neither: ☐
- Please state your reasons:

3. Which exercises would you like to continue with after the project?	Never 1	2	3	4	Very often 5
a) Breathing Meditation					
b) Body Scan					
c) Loving-kindness Meditation					
d) Affect Dyad					
e) Observing-thoughts Meditation					
f) Perspective Dyad					
g) Forgiveness Meditation					
h) Empathy vs. Compassion Meditation (on retreat)					
i) Dyad with Inner Perspective Change (on retreat)					

Part II – Questions on the dyads

4. Please compare the LOVING-KINDNESS MEDITATION and the AFFECT DYAD in terms of the following characteristics. In which exercise did these apply MORE? Please mark only ONE field with a cross each time.

The exercise promotes greater...	Loving-kindness Meditation	Affect Dyad
concentration		
self-discipline		
closeness to oneself		
criticism of others		
security in social situations		

understanding of oneself		
understanding of others		
motivation		
solving of social conflicts		
patience with others		
perspective-taking on others		
belief in oneself		
trust in others/society		
readiness to open up to others		
feeling that people are largely similar		
quality of relationships		
listening skills		
readiness to help		
identification with one's own thoughts		
self-awareness		
feelings of trust		
self-condemnation /criticism		
closeness to others		
creativity		
autonomy		
openness with others		
motivation to act		
ability to cope with stress		
ability to take oneself seriously		
openness to change		
acceptance of help from others		
candor		
reinforcement of a feeling of togetherness		
resilience		

5. Please compare the LOVING-KINDNESS MEDITATION and the AFFECT DYAD in terms of the following characteristics. In which exercise did these apply MORE? Please mark only ONE field with a cross each time.

Which exercise do you associate more with....	Loving-kindness Meditation	Affect Dyad
an interruption (disruption) of everyday life		
an encroachment on your private life		
a readiness to question your life choices		

6. Please compare the OBSERVING-THOUGHTS Meditation and the PERSPECTIVE DYAD in terms of the following characteristics. In which exercise did these apply MORE? Please mark only ONE field with a cross each time.

The exercise promotes greater...	Observing- thoughts Meditation	Perspective Dyad
concentration		
self-discipline		
closeness to oneself		
criticism of others		
security in social situations		
understanding of oneself		
understanding of others		
motivation		
solving of social conflicts		
patience with others		
perspective-taking on others		
belief in oneself		
trust in others/society		
readiness to open up to others		
feeling that people are largely similar		
quality of relationships		
listening skills		
readiness to help		
identification with one's own thoughts		
self-awareness		
feelings of trust		
self-condemnation /criticism		
closeness to others		
creativity		
autonomy		
openness with others		
motivation to act		
ability to cope with stress		
ability to take oneself seriously		
openness to change		
acceptance of help from others		
candor		
reinforcement of a feeling of togetherness		
resilience		

7. Please compare the OBSERVING-THOUGHTS Meditation and the PERSPECTIVE DYAD in terms of the following characteristics. In which exercise did these apply MORE? Please mark only ONE field with a cross each time.

Which exercise do you associate more with....	Observing- thoughts Meditation	Perspective Dyad
an interruption (disruption) of everyday life		
an encroachment on your private life		
a readiness to question your life choices		

Questions on the Perspective Dyad

8. I found it easy to find my inner parts for the Perspective Dyad	Not at all 1	2	3	4	Very often 5
a) in weeks 1–4					
b) in weeks 5–8					
c) in weeks 9–13					

9. How often did new inner parts emerge during the Perspective Module?	Never 1	2	3	4	Very often 5
a) in weeks 1–4					
b) in weeks 4–8					
c) in weeks 9–13					

10. How often did you become aware of your internal states in everyday life?	Never 1	2	3	4	Very often 5
a) in weeks 1–4					
b) in weeks 4–8					
c) in weeks 9–13					

11. How often did you become aware of internal states in others?	Never 1	2	3	4	Very often 5
a) in weeks 1–4					
b) in weeks 4–8					
c) in weeks 9–13					

12. Did the states you noticed tend to be easier or more difficult?	Easy 1	2	3	4	Difficult 5
a) in weeks 1–4					
b) in weeks 4–8					
c) in weeks 9–13					

13. How did your relationship to the difficult states change?	Became easier 1	2	3	4	Became more difficult 5
a) in weeks 1–4					
b) in weeks 4–8					
c) in weeks 9–13					

14. How did your relationship to the easy states change?	Became easier 1	2	3	4	Became more difficult 5
a) in weeks 1–4					
b) in weeks 4–8					
c) in weeks 9–13					

15. How did your identification with your internal states develop?	Became weaker 1	2	3	4	Became stronger 5
a) in weeks 1–4					
b) in weeks 4–8					
c) in weeks 9–13					

16. Please describe your experience of returning to your 'SELF' during the Perspective Dyad, i.e. to silence. You should indicate your choice intuitively, without giving your answer too much thought.

SELF							
hot							cold
optimistic							pessimistic
not social							social
pleasant							unpleasant
uninteresting							interesting
active							passive
focused							unfocused
close							distant
relaxed							tense
independent							dependent
comfortable							uncomfortable
judgmental							accepting
broad-minded							narrow-minded
uninvolved							involved
non-transformative							transformative
grateful							ungrateful
unfamiliar							familiar
connected							disconnected
non-creative							creative

composed								uptight
confused								clear-thinking
inquisitive								bored
compassionate								indifferent
despondent								bold

17. Did you have any other experiences with the 'SELF' component that you would like to tell us about?

18. Please provide a brief summary of your thoughts and feelings about the PERSPECTIVE Dyad.

Questions on the Affect Dyad

19. Please provide a brief summary of your thoughts and feelings about the AFFECT Dyad.

20. What was your perception and experience of the Affect and Perspective Dyads in COMPARISON with one another?

21. What was your perception and experience of the dyads in comparison with the other core exercises (Breathing Meditation, Body Scan, Loving-kindness Meditation, Forgiveness Meditation, Observing-thoughts Meditation)?

Part III – Questions on the Teachers

22. What did you think of the teachers? How much value did you place on the training instructions given by the following teachers? If you had no instruction from a teacher, please indicate 'No instruction'.

	None 1	2	Neutral 3	4	A lot 5	No instruction -
a) Ulrike Anderssen-Reuster						
b) Susanne Heil						
c) Robert Hofberger						
d) Günter Hudasch						
e) Ulrike Juchmann						
f) Gabriela Martens						
g) Tineke Osterloh						
h) Michael Peterssen						
i) Alexandra Pfohlmann						
j) Lothar Schwalm						
k) Birgit Schoenberger						
l) Ruth Seehausen						
m) Thomas Ulrich						
n) Helga Ulrich						

o) Axel Wasmann						
p) Isabella Winkler						
q) Isabel von Roon						

23. Is there anything else you would like to add about any of the teachers?

Part IV – Questions on the Modules

24. Please provide a brief summary of your thoughts and feelings about the Presence Module.

25. What was your perception and experience of the Presence Module in comparison with the other modules (Affect and Perspective)?

26. Please provide a brief summary of your thoughts and feelings about the Affect Module.

27. What was your perception and experience of the Affect Module in comparison with the other modules (Presence and Perspective)?

28. Please provide a brief summary of your thoughts and feelings about the Perspective Module.

29. What was your perception and experience of the Perspective Module in comparison with the other modules (Presence and Affect)?

30. Please compare and rate the different training modules. Enter the appropriate numbers in the table: 1, 2, or 3 (from most to least).

30) Training modules	Presence	Affect	Perspective
a) Which module did you enjoy most?			
b) Which module had the greatest effect on you?			
c) Which module had the greatest impact on your everyday life?			

31. I attended the modules in the following sequence (please mark with a cross as appropriate):

- Presence–Perspective–Affect ☐
- Presence–Affect–Perspective ☐

32. How satisfied were you with the sequence of the modules?

- I believe this was the ideal sequence for me. ☐
- I believe the other sequence would have suited me better. ☐
- I believe both sequences are probably equally good. ☐
- I have no opinion on the matter. ☐

33. Did your relationship with your body change over the course of training? If so, please give a brief description of how, mentioning the contributions made by the three modules (Presence, Perspective, Affect).

34. Is there anything else you would like to tell us about the training modules?

Part V – General Questions

35) The <i>ReSource Project</i> in general	Not at all 1	2	Neutral 3	4	Very 5
a) Did you enjoy the <i>ReSource Project</i> ?					
b) With hindsight, would you agree to participate in the <i>ReSource Project</i> again?					
c) Would you recommend the project to others?					
d) Did you feel well looked after?					

36. Can you think of any examples from your everyday life where what you learned during the *ReSource Project* proved helpful, and which you would like to tell us about?

37. Which experience did you find particularly remarkable in the course of the *ReSource Project*?

38. Do you think the project has changed you? If so, to what extent?

39. To what extent have your initial expectations been fulfilled?

40. Were there any unexpected changes?

41. Which aspect of the project did you enjoy most? Why?

42. Which aspect of the project did you enjoy least? Why?

43. Did you have any spiritual experiences during the *ReSource Project*?

44. Do you intend trying any other forms of meditation in the future?

45. Finally, is there anything else you would like to tell us?

Appendix H12: German original of feedback questionnaires (T1–T3, T4, and general questionnaire)

This is the German version of the feedback questionnaires. The questionnaires were filled out at T1–T4 by TC1 and TC2 or at T1–T2 by TC3. There was also a general feedback questionnaire for all cohorts that was filled out at the end of the training phase. The green parts indicate when the questions were administered as there were only minor differences between the questionnaires depending on the respective module order, cohort, or core exercises. As questions were overlapping in the respective questionnaires, they were summarized.

Feedback Fragebögen T1, T2, und T3

Feedbackfragebögen zum Training und Testung

Umsetzung des Trainingsprogramms (T1–T3)

Die folgenden Fragen beziehen sich auf die Umsetzung des Trainingsprogramms

Wie fanden Sie...	Zu kurz 1	2	Genau richtig 3	4	Zu lang 5
1) ... die Länge der wöchentlichen Sitzungen?					

Wie fanden Sie...	Zu kurz 1	2	Genau richtig 3	4	Zu viele 5
2) ... die Anzahl der Sitzungen innerhalb eines Trainingsmoduls?					

Wie fanden Sie...	Zu klein 1	2	Genau richtig 3	4	Zu groß 5
3) ... die Größe der Gruppen?					

Wie fanden Sie...	Nicht Genug 1	2	Genau richtig 3	4	Zu viel 5
4) ... den Inhalt des Unterrichts?					
5) ... die persönliche Aufmerksamkeit durch den Lehrer?					

Fragen zu den Tonaufnahmen der Meditationen (T1–T3)

	Sehr schlecht -2	-1	Mittel- mäßig 0	+1	Seht gut +2
6) Wie war die Qualität der Meditationsaufnahmen? (T1–T3)					

	Nicht genug -2	-1	Genau richtig 0	+1	Zu viel +2
7) Anteil des Sprechens (im Vergleich zur Stille) in den Aufnahmen? (T1–T3)					

8) War es nützlich, 60-Minuten-Versionen der Kernübungen zu haben? (T1–T3)

Ja Nein

9) Hätten Sie andere Versionen der Meditation haben wollen?

- | | | |
|---|----|------|
| a) längere Versionen: (T1–T3) | Ja | Nein |
| b) Meditationen mit sehr wenig Sprache: (T1–T3) | Ja | Nein |
| c) Meditationen zum Thema Hören: (T1) | Ja | Nein |
| d) Meditationen zum Thema Sehen: (T1) | Ja | Nein |
| e) Meditationen zum offenen Gewahrsein: (T1) | Ja | Nein |
| f) andere: (T1–T3) | | |

Nach Affekt Modul

g) Hätten Sie statt der Loving-kindness-Meditation lieber die Vergebungsmeditation als tägliche Übung machen wollen?

Ja Nein

Technische Probleme (T1–T3)

Die folgenden Fragen beziehen sich auf die technischen Probleme.	Gar nicht einfach 1	2	Weder einfach noch schwer 3	4	Sehr einfach 5
10) Wie einfach war es, die Internetplattform zu benutzen?					

11) Haben Sie die Meditationen auf der Computerplattform oder auf dem Smartphone bevorzugt?

☐ Smartphone ☐ Computer

12) Warum? (Bitte kurz beschreiben)

13) Wie oft hatten Sie technische Probleme?	Gar nicht 1	2	3	4	Sehr oft 5
a) Mit dem Computer					
b) Mit dem Smartphone					

Meditationen im Präsenz Modul (T1)

	Gar nicht 1	2	3	4	Sehr viel 5
14) Wie sehr mochten Sie die Atem Meditation?					
15) Wie sehr mochten Sie den Body Scan?					

16) Wie oft sind Sie im Durchschnitt während des Body Scans eingeschlafen?	Nie 1	2	3	4	Immer 5
a) In der Woche 1–4					
b) In der Woche 4–8					
c) In der Woche 9–13					
Kommentare:					

Die Meditationen im Affekt Modul (nach Affekt Modul)

	Gar nicht 1	2	3	4	Sehr 5
17a) Wie sehr mochten Sie die Loving-kindness Meditation?					
18a) Wie sehr mochten Sie die Affekt-Dyade?					

Die Meditationen im Perspektiv Modul (nach Perspektiv Modul)

	Gar nicht 1	2	3	4	Sehr 5
17b) Wie sehr mochten Sie die Gedanken-beobachten Meditation?					
18b) Wie sehr mochten Sie die Perspektiv Dyade?					

19) Wie oft hatten Sie Probleme mit der Durchführung der Dyade?	Gar nicht 1	2	3	4	Sehr oft 5
a) wegen technischer Probleme					
b) wegen der Erreichbarkeit Ihres Partners					
c) wegen Verbindungsproblemen (W-LAN, Telefonnetz)					

20) Wie sehr haben die Fragen vor und nach der Meditation gestört?	Nie 1	2	3	4	Sehr 5
a) in Woche 1–4					
b) in Woche 4–8					
c) in Woche 9–13					
Kommentare:					

21) Wie sehr haben die Fragen vor und nach der Dyade gestört?	Nie 1	2	3	4	Sehr 5
a) in Woche 1–4					
b) in Woche 4–8					
c) in Woche 9–13					
Kommentare:					

	Nie 1	2	3	4	Sehr viel 5
22) Haben die Fragen vor und nach der Meditation Ihnen bei Ihrer Meditationspraxis geholfen?					

	Nie 1	2	3	4	Sehr viel 5
23) Haben die Fragen vor und nach der Dyade Ihnen bei Ihrer Meditationspraxis geholfen?					

24) Wie schwer war es für Sie, das Gelernte aus dem Präsenz/Affekt/Perspektiv Modul in Ihren Alltag zu integrieren?	Sehr schwer 1	2	3	4	Gar nicht schwer 5
a) in Woche 1–4					
b) in Woche 4–8					
c) in Woche 9–13					

25) Wie schwer war es für Sie, die Loving-kindness/Gedanken-beobachten Meditation in Ihren Alltag zu integrieren? (T2 oder T3)	Sehr schwer 1	2	3	4	Gar nicht schwer 5
a) in Woche 1–4					
b) in Woche 4–8					
c) in Woche 9–13					

26) Wie schwer war es für Sie, die (Affekt/Perspektiv) Dyade in Ihren Alltag zu integrieren?	Sehr schwer 1	2	3	4	Gar nicht schwer 5
a) in Woche 1–4					
b) in Woche 4–8					
c) in Woche 9–13					

Veränderungen im Erleben des Alltags während der Trainingsphase (T1-T3)

Die folgenden Fragen beziehen sich auf mögliche VERÄNDERUNGEN, die in Ihrem Alltag während der Trainingsphase im Vergleich zu VORHER aufgetreten sind.

27) Während der Trainingsphase...	Sehr viel weniger -2	-1	Gleich 0	+1	Sehr viel mehr +2
... habe ich mich körperlich bewegt (z. B. Sport, Yoga usw.)					
... habe ich mich gesund ernährt (Früchte, Gemüse, mageres Fleisch, komplexe Kohlenhydrate).					
... habe ich Alkohol und Drogen konsumiert.					
... habe ich geschlafen.					
... habe mich um mich selbst gekümmert (unabhängig von Meditation).					

... habe ich Zeit mit mir wichtigen Menschen verbracht.					
... habe ich anderen geholfen.					
... hatte ich Auseinandersetzungen mit anderen.					
... habe ich geraucht (wenn Sie Raucher/in sind).					
... habe ich andere Veränderungen wahrgenommen. Wenn ja, welche:					

28) Ich kann mir vorstellen, auch nach dem Ende der Studie folgende Meditationen aus dem **Präsenz Modul** zu machen (T1):

- | | | |
|--|----|------|
| a) Atem Meditation: | Ja | Nein |
| b) Body Scan: | Ja | Nein |
| c) Meditationen zum Thema Sehen und Hören: | Ja | Nein |

29) Ich habe mich gefreut... (T1)	Stimme gar nicht zu -2	-1	Keine Meinung 0	+1	Stimme voll und ganz zu +2
a) ...meine tägliche Atem-Meditation durchzuführen.					
b) ...meinen täglichen Body Scan durchzuführen.					
c) ...auf meinen wöchentlichen Unterricht.					

30) Ich kann mir vorstellen, auch nach dem Ende der Studie folgende Übungen aus dem **Affekt Modul** zu machen (nach Affekt Modul):

- | | | |
|--------------------------------|----|------|
| a) Loving-kindness Meditation: | Ja | Nein |
| b) Dyade: | Ja | Nein |
| c) Vergebungsmeditation: | Ja | Nein |

32) Ich habe mich gefreut...(nach Affekt Modul):	Stimme gar nicht zu -2	-1	Keine Meinung 0	+1	Stimme voll und ganz zu +2
a) ...meine tägliche Loving-kindness Meditation durchzuführen					
b) ...meine tägliche Dyade durchzuführen.					
c) ...auf meinen wöchentlichen Unterricht.					

33)) Ich kann mir vorstellen, auch nach dem Ende der Studie folgende Übungen aus dem **Perspektiv Modul** zu machen (nach Perspektiv Modul, T2 oder T3):

- | | | |
|------------------------------------|----|------|
| a) Gedanken-beobachten Meditation: | Ja | Nein |
| b) Perspektiv Dyade: | Ja | Nein |

34) Ich habe mich gefreut...(nach Perspektiv Modul, T2 oder T3)	Stimme gar nicht zu -2	-1	Keine Meinung 0	+1	Stimme voll und ganz zu +2
a) ...meine tägliche Gedanken-beobachten Meditation durchzuführen.					
b) ...meine tägliche Dyade durchzuführen.					
c) ...auf meinen wöchentlichen Unterricht.					

	Stimme gar nicht zu -2	-1	Keine Meinung 0	+1	Stimme voll und ganz zu +2
35) Ich verwende erlernte Fähigkeiten aus dem Training im Alltag (T1–T3)					
36) Ich finde, dass die Zeit, die ich mit der Gedanken-beobachten Meditation verbringe, lohnenswert ist. (T1–T3)					
37) Ich finde, dass die Zeit, die ich mit der Dyade verbringe, lohnenswert ist. (T2–T3)					

Bitte vergleichen Sie nun das **Präsenz Modul** mit dem **Affekt Modul (T2, Kohorte 1)**.

38) Bitte geben Sie durch das Einfügen der Zahlen 1, 2, 3 und 4 an, welche Übungen Ihnen bislang am Besten gefallen hat. 1 (am besten), 2, 3, 4 (am wenigsten)

- Atem Meditation ☐
- Body Scan ☐
- Loving-kindness Meditation ☐
- Affekt Dyade ☐

39) Welches Trainings Modul hat Ihnen besser gefallen. Bitte kreuzen Sie an (T2, Kohorte 1)

- Präsenz Modul ☐
- Affekt Modul ☐
- Warum?

Vergleichen Sie nun den **Präsenz Modul** mit dem **Perspektiv Modul (T2, Kohorte 2)**.

40) Bitte geben Sie durch das Einfügen der Zahlen 1, 2, 3 und 4 an, welche Übungen Ihnen bislang am Besten gefallen hat. 1 (am besten), 2, 3, 4 (am wenigsten)

- Atem Meditation ☐
- Body Scan ☐
- Gedanken-beobachten Meditation ☐
- Perspektiv Dyade ☐

41) Welches Trainings Modul hat Ihnen besser gefallen. Bitte kreuzen Sie an (T2, Kohorte 2).

Präsenz Modul ☐

Perspektiv Modul ☐

Warum?

42) Wie sehr mochten Sie folgende Module?

	Gar nicht 1	2	3	4	Sehr 5
42a) Präsenz Modul					
42b) Perspektiv Modul					

Warum?

Bitte vergleichen Sie nun die einzelnen Kernübungen miteinander.

43) Bitte geben Sie durch das Einfügen der Zahlen 1, 2, 3, 4, 5 und 6 an, welche Übungen Ihnen bislang am Besten gefallen hat. 1 (am besten), 2, 3, 4, 5, 6 (am wenigsten) (T3)

Atem Meditation ☐

Body Scan ☐

Loving-kindness Meditation ☐

Affekt Dyade ☐

Gedanken-beobachten Meditation ☐

Perspektiv Dyade ☐

44) Wie sehr mochten Sie folgende Module (T3)?

	Gar nicht 1	2	3	4	Sehr 5
44a) Präsenz Modul					
44b) Affekt Modul					
44c) Perspektiv Modul					

44d) Warum?

45) Fragen zum Retreat (T-T3)	Gar nicht -2	-1	Gleich 0	+1	Sehr +2
a) Wie sehr hat Ihnen das Präsenz- oder Affekt- oder Perspektiv-Retreat insgesamt gefallen?					
b) die Stille					

c) der Inhalt/Ablauf					
d) der Ort/Meditationshalle					
e) die Organisation des Retreats					
f) die Hotelräume/die Schlafsituation					
g) das Essen					

Fragen zu den Testphasen (T0–T3)

Die folgenden Fragen beziehen sich darauf, wie Sie die Testungen erlebt haben.

	Sehr unangenehm -2	-1	Neutral 0	+1	Sehr angenehm +2
46) Ich fand die Verhaltensmessungen (Computer und autonomes Nervensystem)...					
Inwiefern?					
47) Ich fand die Fragebögen-Batterie auf der Plattform...					
Inwiefern?					
48) Ich fand die Experimente im Scanner...					
Inwiefern?					
49) Ich fand die Blutentnahmen...					
Inwiefern?					
50) Ich fand das Experience-Sampling (Smartphone-Fragen und Slivetten) ...					
Inwiefern?					
51) Ich fand die virtuelle Realitätsmessung ...					
Inwiefern?					

	Nie -2	Selten -1	Manchmal 0	Oft +1	Immer +2
52) Haben Sie die 10-minütige Atem-Meditation ausgewählt, haben Sie aber trotzdem wesentlich länger meditiert (mehr als 5 min länger)? (T1)					
a) in Woche 1–4					
b) in Woche 4–8					
c) in Woche 9–13					

	Nie -2	Selten -1	Manchmal 0	Oft +1	Immer +2
53) Haben Sie den 20-minütige Body Scan ausgewählt, haben Sie aber trotzdem wesentlich länger meditiert (mehr als 5 min länger)? (T1)					
a) in Woche 1–4					
b) in Woche 4–8					
c) in Woche 9–13					

54) Haben Sie die 20-minütige Gedanken-beobachten-Meditation ausgewählt, haben Sie aber trotzdem wesentlich länger meditiert (mehr als 5 min länger)? (T2 oder T3)	Nie -2	Selten -1	Manchmal 0	Oft +1	Immer +2
a) in Woche 1–4					
b) in Woche 4–8					
c) in Woche 9–13					

55) Haben Sie die 20-minütige Loving-kindness-Meditation ausgewählt, haben Sie aber trotzdem wesentlich länger meditiert (mehr als 5 min länger)? (T2 oder T3)	Nie -2	Selten -1	Manchmal 0	Oft +1	Immer +2
a) in Woche 1–4					
b) in Woche 4–8					
c) in Woche 9–13					

Feedback Fragebogen Nachmessung (T4, 4 Monat oder 10 Monate)

Teil 1: Nicht praxisbezogene Fragen zu der Zeit nach dem offiziellen Training

- 1) Gab es gravierende Lebensereignisse in der Zeit nach der Studie (z. B. Todesfälle, Krankheiten, Zeiten extremen Stresses)?
- 2) Falls du an den Tiefeninterviews mit Dr. Marisa Przyrembel teilgenommen hast, welchen Effekt hatte die Teilnahme an dem Interview für Dich?
 - a) In Bezug auf Deinen Alltag:
 - b) In Bezug auf Deine Meditationspraxis:
 - c) In Bezug auf Die Testungen am Institut

Teil 2: Fragen zur Meditationspraxis

Nach 4 Monaten:

- 3) Wie häufig in der Woche hast Du in den letzten 4 Monaten meditiert? Versuche einen wöchentlichen Durchschnittswert zu bilden!

O Gar nicht

Ca. ____ mal Pro Woche

wobei eine Meditation ca. ____ Minuten dauerte.

Nach 10 Monaten

- 3) Wie häufig in der Woche hast Du in den letzten 10 Monaten meditiert? Versuche einen wöchentlichen Durchschnittswert zu bilden!

O Gar nicht

Ca. ____ mal Pro Woche

wobei eine Meditation ca. ____ Minuten dauerte.

4) Wie häufig davon hast Du die Plattform oder das Smartphone benutzt?

In ____ Prozent der Fälle.

5) Falls Du weiter praktiziert hast, was waren für Dich die Gründe?

6) Wenn Du nicht weiter praktiziert hast, oder bestimmte Praktiken nicht oder kaum fortgeführt hast, was waren die Gründe?

7) Gab es Schwierigkeiten, die mit der Praxis zusammenhängen?

8a) Wenn Du meditiert hast: Hast Du mit der Gruppe meditiert oder alleine?

☐ Mit der Gruppe

☐ Allein

☐ Beides

8b) Falls Du in der Gruppe meditiert hast, wie unterschied sich die Gruppenmeditation während der Studie (mit Lehrern & Support Team) zur Gruppenmeditation in der Zeit nach der Studie?

WÄHREND DER STUDIE: In der Gruppe zu meditieren war im Vergleich zu hinterher...

Schwerer								leichter
weniger motivierend								motivierender
unangenehmer								angenehmer
weniger inspirierend								inspirierender
weniger transformierend								stärker transformierend

8c) Mögliche weitere Unterschiede?

Nach 4 Monaten:

Die folgenden drei Fragen beziehen sich ausschließlich auf Übungen, die Du **OHNE die Plattform oder das Smartphone** durchgeführt hast.

9a) Versuche einzuschätzen, wie oft Du die folgenden Praktiken jeweils außerhalb der Plattform in den Monaten nach der *ReSource* Studie durchgeführt hast. Bitte versuche wieder gemittelte Angaben pro Woche zu machen, auch wenn die Intensität Deiner Praxis variiert hat.

	Monat 1 & 2: X mal pro Woche	Monat 3 & 4: X mal pro Woche
Atem Meditation		
Body Scan		
Loving-kindness Meditation		
Gedanken-beobachten Meditation		
Affekt Dyade		
Perspektiv Dyade		

9b) Wie lange (in Minuten) war Deine ohne die Plattform durchgeführte Meditations-Praxis jeweils? Bilde auch hier wieder ungefähre Durchschnittswerte!

	Monat 1 & 2: X Minuten meditiert	Monat 3 & 4: X Minuten meditiert
Atem Meditation		
Body Scan		
Loving-kindness Meditation		
Gedanken-beobachten Meditation		
Affekt Dyade		
Perspektiv Dyade		

9c) Hast Du andere Praktiken durchgeführt? Die Frage bezieht sich auf Meditationen oder ähnliches, welche **NICHT** Teil der *ReSource* Studie waren.

☐ Ja ☐ Nein

9d) Falls ja, bitte gib auch für diese Praktiken an, wie oft Du sie durchgeführt hast:

Name der Praktik/Beschreibung	Monat 1 & 2: X mal pro Woche	Monat 3 & 4: X mal pro Woche

Nach 10 Monaten:

Die folgenden drei Fragen beziehen sich ausschließlich auf Übungen, die Du **OHNE die Plattform oder das Smartphone** durchgeführt hast.

9a) Versuche einzuschätzen, wie oft Du die folgenden Praktiken jeweils außerhalb der Plattform in den Monaten nach der *ReSource* Studie durchgeführt hast. Bitte versuche wieder gemittelte Angaben pro Woche zu machen, auch wenn die Intensität Deiner Praxis variiert hat.

	Monat 1 & 2: X mal pro Woche	Monat 3 & 4: X mal pro Woche	Monat 5 & 6: X mal pro Woche	Monat 7 & 8: X mal pro Woche	Monat 9 & 10: X mal pro Woche
Atem Meditation					
Body Scan					
Loving-kindness Meditation					
Gedanken-beob- achten Meditation					
Affekt Dyade					
Perspektiv Dyade					

9b) Wie lange (in Minuten) war Deine ohne die Plattform durchgeführte Meditations-Praxis jeweils? Bilde auch hier wieder ungefähre Durchschnittswerte!

	Monat 1 & 2: X Minuten meditiert	Monat 3 & 4: X Minuten meditiert	Monat 5 & 6: X Minuten meditiert	Monat 7 & 8: X Minuten meditiert	Monat 9 & 10: X Minuten meditiert
Atem Meditation					
Body Scan					
Loving-kindness Meditation					
Gedanken-beob- achten Meditation					
Affekt Dyade					
Perspektiv Dyade					

9c) Hast Du andere Praktiken durchgeführt? Die Frage bezieht sich auf Meditationen oder ähnliches, welche **NICHT** Teil der *ReSource* Studie waren.

☐ Ja ☐ Nein

9d) Falls ja, bitte gib auch für diese Praktiken an, wie oft Du sie durchgeführt hast:

Name der Praktik/ Beschreibung	Monat 1 & 2: X mal pro Woche	Monat 3 & 4: X mal pro Woche	Monat 5 & 6: X mal pro Woche	Monat 7 & 8: X mal pro Woche	Monat 9 & 10: X mal pro Woche

9e) Falls Du **NACH ENDE DER STUDIE** sowohl in der Gruppe als auch alleine meditiert hast, wie unterschied sich die Gruppenmeditation zur Meditation alleine?

In der Gruppe zu meditieren war im Vergleich zur Meditation alleine...

schwerer								leichter
weniger motivierend								motivierender
unangenehmer								angenehmer
weniger inspirierend								inspirierender
weniger transformierend								stärker transformierend

9f) Mögliche weitere Unterschiede?

Teil 3: Fragen zu der Zeit nach dem letzten Training (auch wenn Du nicht weitermeditiert hast)

Die folgenden Fragen beziehen sich auf die Zeit nach dem letzten offiziellen Training. Bitte beantworte diese **auch** falls Du **seither nicht weitermeditiert** hast.

10) Wie gut konntest Du die Inhalte der <i>ReSource</i> Praktiken in Deinen Alltag integrieren?	Gar nicht 1	2	3	4	Sehr gut 5
a) Atem Meditation					
b) Body Scan					
c) Loving-kindness Meditation					
d) Gedanken-beobachten Meditation					
e) Affekt Dyade					
f) Perspektiv Dyade					

11) Gibt es Beispiele aus Deinem Alltag, bei denen Dir das Gelernte aus dem *ReSource* Projekt geholfen hat und die Du uns mitteilen möchtest?

12a) Hast Du Dich in der Zeit nach dem letzten offiziellen Training anders gefühlt als vorher? Wenn ja, inwiefern?

12b) Mit etwas Abstand zum *ReSource Projekt*: Hat Dich die Teilnahme **nachhaltig** verändert? Inwiefern?

12c) Wenn Dich die *ReSource* Studie verändert hat, in welchen Bereichen und wie?

Gesundheit O Ja O Nein Falls ja wie: _____
 Sport O Ja O Nein Falls ja wie: _____
 Schlaf O Ja O Nein Falls ja wie: _____

Umgang mit anderen (Kollegen / Partner) O Ja O Nein Falls ja wie: _____
 Wohlbefinden O Ja O Nein Falls ja wie: _____
 Umgang mit Stress O Ja O Nein Falls ja wie: _____
 Tägliche Aktivitäten O Ja O Nein Falls ja wie: _____

12d) Bitte beschreibe mit Hilfe der folgenden Eigenschaften, wie Du Dich jetzt, im Vergleich zu der Zeit vor der Studie, einschätzen würdest.

Eigenschaften							
optimistischer							pessimistischer
weniger sozial							sozialer
aktiver							passiver

konzentrierter								unkonzentrierter
entspannter								angespannter
unabhängiger								abhängiger
urteilender								akzeptierter
weiter								enger
dankbarer								undankbarer
verbundener								weniger verbunden
weniger kreativ								kreativer
gelassener								weniger gelassen
weniger klar								klarer
neugieriger								weniger neugierig
mitfühlender								gleichgültiger
verzögerter								mutiger

12e) Wenn es eine Veränderung durch die *ReSource Studie* gegeben hat, wie lange hat diese angehalten? Wenn Du die Veränderungen oben bereits beschrieben hast, nenne sie hier noch einmal stichwortartig und gib an, wie lange die jeweilige Wirkung spürbar war (z.B. im ersten Monat nach Ende der Studie; bis jetzt; schwankend)!

Teil 4: Fragen zum Drogengebrauch

Die folgenden beiden Fragen sind ganz besonders wichtig für die Forscher. Die Information wird unter Verschluss gehalten und dient **ausschließlich** dem besseren Verständnis der Blut-, Haar-, und Hirndaten. Bitte antworte ehrlich!

13) Hast Du während der Studie Drogen genommen (außer Alkohol & Zigaretten)?

☐ Ja ☐ Nein

14) Wenn ja was und wie oft:

Cannabis	___ mal pro Woche	oder	___ mal pro Monat	oder	☐ einmalig
_____	___ mal pro Woche	oder	___ mal pro Monat	oder	☐ einmalig
_____	___ mal pro Woche	oder	___ mal pro Monat	oder	☐ einmalig
_____	___ mal pro Woche	oder	___ mal pro Monat	oder	☐ einmalig
_____	___ mal pro Woche	oder	___ mal pro Monat	oder	☐ einmalig

15) Hast Du nach der Studie Drogen genommen (außer Alkohol & Zigaretten)?

☐ Ja ☐ Nein

16) Wenn ja was und wie oft:

Cannabis	___ mal pro Woche oder	___ mal pro Monat oder	☐ einmalig
_____	___ mal pro Woche oder	___ mal pro Monat oder	☐ einmalig
_____	___ mal pro Woche oder	___ mal pro Monat oder	☐ einmalig
_____	___ mal pro Woche oder	___ mal pro Monat oder	☐ einmalig
_____	___ mal pro Woche oder	___ mal pro Monat oder	☐ einmalig

Das gleiche semantische Differential wie in 1A) auch für:

1b) Body Scan

1c) Loving-kindness Meditation

1d) Affekt Dyade

1e) Gedanken-beobachten Meditation

1f) Perspektiv Dyade

1g) Vergebungsmeditation

1h) Empathie vs. Mitgefühlsmeditation (beim Retreat)

2. Affekt Modul: Welcher Teil der täglichen Herzmeditation hat in Dir mehr bewirkt?

Selbst-Mitgefühlstraining ☐

Mitgefühlstraining für andere ☐

Beide gleich ☐

Weder noch: ☐

Warum?

3. Welche Übung möchtest Du nach dem Projekt weiter machen?	Nie 1	2	3	4	Sehr oft 5
a) Atem-Meditation					
b) Body Scan					
c) Loving-kindness Meditation					
d) Affekt Dyade					
e) Gedanken-beobachten Meditation					
f) Perspektiv Dyade					
g) Vergebungsmeditation					
h) Empathie vs. Mitgefühlsmeditation (beim Retreat)					
i) Dyade mit innerem Perspektivwechsel					

Teil II – Fragen zu den Dyaden

4. Bitte vergleiche die LOVING-KINDNESS MEDITATION und die AFFEKT DYADE auf folgenden Dimensionen miteinander. Auf welche Übung traf folgendes MEHR zu. Bitte kreuze nur EIN Feld an.

Die Übung fördert mehr...	Loving-kindness Meditation	Affekt Dyade
die Konzentration		
die Selbstdisziplin		
die Nähe zum Selbst		
die Kritik an Anderen		
die soziale Sicherheit		
das Verständnis des Selbst		
das Verständnis für andere		
die Motivation		
die Lösung sozialer Konflikte		

die Geduld mit anderen		
die Perspektivübernahme auf andere		
das Selbstvertrauen		
das Vertrauen in andere/die Gesellschaft		
die Bereitschaft zur Selbstoffenbarung		
das Gefühl der Ähnlichkeit aller Menschen		
die Beziehungsqualität		
das Zuhören		
die Hilfsbereitschaft		
die Identifizierung mit eigenen Gedanken		
die Selbsterkenntnis		
das Gefühl für Vertrauen		
die Selbstverurteilung /-Kritik		
die Nähe zu Anderen		
die Kreativität		
die Autonomie		
die Offenheit mit anderen		
die Handlungsmotivation		
die Stressbewältigung		
das Sich selbst ernst nehmen		
die Offenheit für Veränderungen		
die Hilfe von anderen annehmen zu können		
die Offenheit		
die Stärkung des Gruppengefühls		
die Belastbarkeit		

5. Bitte vergleiche die LOVING-KINDNESS MEDITATION und die AFFEKT DYADE auf folgenden Dimensionen miteinander. Auf welche Übung traf folgendes MEHR zu. Bitte kreuze nur EIN Feld an.

Welche Übung ist mehr mit....assoziiert	Loving-kindness Meditation	Affekt Dyade
einer Unterbrechung (Störung) des Alltags		
einem Eingriff in die Privatsphäre		
einer Bereitschaft Lebensentscheidungen in Frage zu stellen		

6. Bitte vergleiche die GEDANKEN-BEOBACHTEN Meditation und die PERSPEKTIV DYADE auf folgenden Dimensionen miteinander. Auf welche Übung traf folgendes MEHR zu. Bitte kreuze nur EIN Feld an.

Die Übung fördert mehr...	Gedanken-beobachten Meditation	Perspektiv Dyade
die Konzentration		
die Selbstdisziplin		

die Nähe zum Selbst		
die Kritik an anderen		
die soziale Sicherheit		
das Verständnis des Selbst		
das Verständnis für andere		
die Motivation		
die Lösung sozialer Konflikte		
die Geduld mit anderen		
die Perspektivübernahme auf andere		
das Selbstvertrauen		
das Vertrauen in andere/die Gesellschaft		
die Bereitschaft zur Selbstoffenbarung		
das Gefühl der Ähnlichkeit aller Menschen		
die Beziehungsqualität		
das Zuhören		
die Hilfsbereitschaft		
die Identifizierung mit eigenen Gedanken		
die Identifizierung mit eigenen Gedanken		
Gefühl von Vertrauen		
die Selbstverurteilung /-Kritik		
die Nähe zu anderen		
die Kreativität		
die Autonomie		
die Offenheit mit anderen		
die Handlungsmotivation		
die Stressbewältigung		
das Sich selbst ernst nehmen		
die Offenheit für Veränderung		
die Hilfe von anderen annehmen zu können		
die Offenheit		
die Stärkung des Gruppengefühls		
die Belastbarkeit		

7. Bitte vergleiche die GEDANKEN-BEOBACHTEN Meditation und die PERSPEKTIV DYADE auf folgenden Dimensionen miteinander. Auf welche Übung traf folgendes MEHR zu. Bitte kreuze nur EIN Feld an.

Welche Übung ist mehr mit....assoziiert.	Gedanken- Beobachten Meditation	Perspektiv Dyade
einer Unterbrechung (Störung) des Alltags		
einem Eingriff in die Privatsphäre		
einer Bereitschaft Lebensentscheidungen in Frage zu stellen		

Fragen zur Perspektiv Dyade

8. Es fiel mir leicht, innere Anteile für die Perspektiv Dyade zu finden	Gar nicht 1	2	3	4	Sehr 5
a) in Woche 1–4					
b) in Woche 5–8					
c) in Woche 9–13					

9. Wie häufig sind neue Anteile während des Perspektiv Modul aufgetreten?	Nie 1	2	3	4	Sehr oft 5
a) in Woche 1–4					
b) in Woche 4–8					
c) in Woche 9–13					

10. Wie häufig sind Dir Deine inneren Anteile im Alltag bewusst geworden?	Nie 1	2	3	4	Sehr oft 5
a) in Woche 1–4					
b) in Woche 4–8					
c) in Woche 9–13					

11. Wie häufig sind Dir innere Anteile bei anderen bewusst geworden?	Nie 1	2	3	4	Sehr oft 5
a) in Woche 1–4					
b) in Woche 4–8					
c) in Woche 9–13					

12. Hast Du eher einfache oder schwierige Anteile bemerkt?	Einfache 1	2	3	4	Schwierige 5
a) in Woche 1–4					
b) in Woche 4–8					
c) in Woche 9–13					

13. Wie hat sich Dein Verhältnis zu den schwierigen Anteilen verändert?	Wurde einfacher 1	2	3	4	Wurde schwieriger 5
a) in Woche 1–4					
b) in Woche 4–8					
c) in Woche 9–13					

14. Wie hat sich Dein Verhältnis zu den einfachen Anteilen verändert?	Wurde einfacher 1	2	3	4	Wurde schwieriger 5
a) in Woche 1–4					
b) in Woche 4–8					
c) in Woche 9–13					

15. Wie hat sich Deine Identifikation mit Deinen inneren Anteilen entwickelt?	Wurde schwächer 1	2	3	4	Wurde stärker 5
a) in Woche 1–4					
b) in Woche 4–8					
c) in Woche 9–13					

16. Bitte beschreibe Deine Erfahrung, als Du während der Perspektiv Dyade zum „SELBST“ zurückgekehrt bist, d. h. in die Stille. Bitte kreuze die Kästchen intuitiv, ohne viel nachzudenken, an.

SELBST							
Warm							Kalt
Optimistisch							Pessimistisch
Nicht Sozial							Sozial
Angenehm							Unangenehm
Uninteressant							Interessant
Aktiv							Passiv
Konzentriert							Unkonzentriert
Nah							Distanziert
Entspannt							Angespannt
Unabhängig							Abhängig
Bequem							Unbequem
Urteilend							Akzeptierend
Weit							Eng
Unbeteiligt							Beteiligt
Nicht Transformierend							Transformierend
Dankbar							Undankbar
Nicht Vertraut							Vertraut
Verbunden							Entkoppelt
Nicht Kreativ							Kreativ
Gelassen							Verkrampft
Unklar							Klar
Neugierig							Gelangweilt
Mitfühlend							Gleichgültig
Verzagt							Mutig

17. Gibt es noch Erfahrungen mit dem SELBST, die Du uns mitteilen möchtest?

18. Bitte fasse kurz Deine Gedanken und Gefühle zur PERSPEKTIV Dyade zusammen.

Fragen zur Affekt Dyade

19. Bitte fasse kurz Deine Gedanken und Gefühle zur AFFEKT Dyade zusammen.

20. Wie hast Du die Affekt Dyade und die Perspektiv Dyade im VERGLEICH wahrgenommen und empfunden?

21. Wie hast Du die Dyaden im Vergleich mit den anderen Kernübungen (Atem Meditation, Body-Scan, Loving-kindness Meditation, Vergebungsmeditation, Gedanken-beobachten Meditation wahrgenommen und empfunden?

Teil III – Fragen zu den Lehrern

22. Wie hast Du die Lehrer empfunden. Wie sehr hast Du die Trainingsanleitungen folgender Lehrer geschätzt. Wenn Du bei einem der Lehrer keine Anleitung hattest, kreuze bitte „keine Anleitung an“.

	Gar nicht 1	2	Neutral 3	4	Sehr 5	Keine Anleitung -
a) Ulrike Anderssen-Reuster						
b) Susanne Heil						
c) Robert Hofberger						
d) Günter Hudasch						
e) Ulrike Juchmann						
f) Gabriela Martens						
g) Tineke Osterloh						
h) Michael Peterssen						
i) Alexandra Pfohlmann						
j) Lothar Schwalm						
k) Birgit Schoenberger						
l) Ruth Seehausen						
m) Thomas Ulrich						
n) Helga Ulrich						
o) Axel Wasmann						
p) Isabella Winkler						
q) Isabel von Roon						

23. Gibt es noch Dinge, die Du uns zu einigen Lehrer sagen möchtest?

Teil IV – Fragen zu den Modulen

24. Bitte fasse kurz Deine Gedanken und Gefühle zum Präsenz Modul zusammen.

25. Wie hast Du den Präsenz Modul im Vergleich zu den anderen Modulen (Affekt und Perspektiv) wahrgenommen und empfunden?

26. Bitte fasse kurz Deine Gedanken und Gefühle zum Affekt Modul zusammen.

27. Wie hast Du den Affekt Modul im Vergleich zu den anderen Modulen (Präsenz und Perspektiv) wahrgenommen und empfunden?

28. Bitte fasse kurz Deine Gedanken und Gefühle zum Perspektiv Modul zusammen.

29. Wie hast Du den Perspektiv Modul im Vergleich zu den anderen Modulen (Präsenz und Affekt) wahrgenommen und empfunden?

30. Bitte vergleiche die einzelnen Trainingsmodule miteinander und bewerte sie. Trage die entsprechenden Zahlen in die Tabelle ein: 1 (am besten gefallen), 2 (am zweitbesten gefallen), 3 (am wenigsten gefallen).

30) Trainingsmodule	Präsenz	Affekt	Perspektiv
a) Welches Modul hat Dir am besten gefallen?			
b) Welches Modul hat am meisten bei Dir bewirkt?			
c) Welches Modul hatte die stärksten Auswirkungen auf Deinen Alltag?			

31. Ich hatte die Reihenfolge (bitte entsprechend ankreuzen):

Präsenz—Perspektiv—Affekt

☐

Präsenz—Affekt—Perspektiv

☐

32. Wie zufrieden warst Du mit der Reihenfolge der Module?

Ich glaube, diese Reihenfolge war für mich optimal.

☐

Ich glaube, die umgekehrte Reihenfolge wäre für mich günstiger gewesen.

☐

Ich glaube, beide Reihenfolgen sind gleich gut.

☐

Ich kann das nicht beurteilen.

☐

33. Hat sich das Verhältnis zu Deinem Körper über das Training verändert? Wann ja, beschreibe kurz wie und gehe dabei auf die Beiträge der drei Module (Präsenz, Perspektiv, Affekt) ein!

34. Gibt es noch etwas, dass Du uns zu den Trainingsmodulen sagen möchtest?

Teil V – Allgemeine Fragen

35)	Gar nicht 1	2	Neutral 3	4	Sehr 5
a) Hat Dir das <i>ReSource Project</i> gefallen?					
b) Würdest Du Dich heute noch Mal für einen Teilnahme am <i>ReSource Projekt</i> entscheiden?					
c) Würdest Du das Projekt weiterempfehlen?					
d) Hast Du Dich gut betreut gefühlt?					

36. Gibt es Beispiele aus Deinem Alltag, bei denen Dir das Gelernte aus dem *ReSource Projekt* geholfen hat und die Du uns mitteilen möchtest?

37. Welches Erlebnis im Rahmen des *ReSource Projektes* fandst Du besonders bemerkenswert?

38. Denkst Du, dass das Projekt Dich verändert hat? Wenn ja, inwiefern?

39. Inwieweit haben sich Deine anfänglichen Erwartungen erfüllt?

40. Traten auch unerwartete Veränderungen auf?

41. Welcher Bestandteil des Projekts gefiel Dir am meisten? Warum?

42. Welcher Bestandteil des Projekts gefiel Dir am wenigsten? Warum?

43. Hattest Du spirituelle Erfahrungen während des *ReSource Projekts*?

44. Hast Du vor, in Zukunft andere Formen der Meditation auszuprobieren?

45. Gibt es noch etwas das Du uns abschließend mitteilen möchtest?

Appendix I – Factor Analyses Data

Appendix I1: Factor loading and factor correlations at T0 for Agency and Affiliation

Table I 1A and B Factor loadings with oblimin rotation (upper) and factor correlations (lower) at T0 for Agency and Affiliation. See Chapter 10.4 for further information.

Table I 1A Agency and Affiliation			
	Component		
	Sociability	Social anxiety	Agency
atq_sociability	0.830	-0.115	-0.058
independent_score	-0.006	-0.102	0.661
interdependent_score	0.179	0.616	-0.188
prosocialness	0.394	0.203	0.253
MA_Affil_Tend	0.786	0.181	-0.010
MA_Reject_Sens	-0.129	0.532	-0.530
mhc_swb	0.144	0.145	0.336
MMG_HopeForAffiliation	0.081	0.552	0.081
NEO_PIR_WARMTH (reversed)	-0.707	-0.087	-0.141
NEO_PIR_GREGARIOUSNESS	0.842	-0.072	-0.117
NEO_PROSOC	0.403	0.237	0.039
NEO_SOCIAL	0.824	-0.105	0.072
UCLA_Loneliness	-0.761	0.057	-0.016
COPE_Active	0.047	0.079	0.628
CERQ0.PlanningRefocus	-0.052	0.029	0.688
MMG_FearOfLosingControl	-0.056	0.656	-0.029
MMG_HopeForControl	-0.057	0.653	0.226
NEO_ACTIVE	0.242	-0.106	0.528
NEO_PIR_ASSERTIVENESS	0.100	-0.309	0.651
NEO_STRIVING	-0.096	0.183	0.538
% of Variance	26.950	12.203	8.635

Table I 1B Component Correlation Matrix			
Component	Sociability	Social anxiety	Agency
1			
2	0.128		
3	0.344	0.025	

Appendix I2: Factor loading and factor correlations at T0 for Compassion and Mindfulness

Table I 2 A and B Factor loadings with oblimin rotation (below) and factor correlations (next page) at T0 for Compassion and Mindfulness. See Chapter 10.4 for further information.

Table I 2A Compassion and Mindfulness						
	Component					
	Self-acceptance	Body awareness	Compassion for others	Self-judgment	Mindfulness	Observe
COSN_Common (reversed)	-0.655	0.067	0.210	0.002	0.285	-0.090
COSN_Disengagement	-0.023	0.109	0.831	0.022	0.000	0.110
COSN_Indifference	0.072	0.010	0.752	0.132	-0.055	0.119
COSN_Kindness (reversed)	0.053	0.139	-0.777	0.204	0.054	0.148
COSN_Mindfulness (reversed)	0.178	0.198	-0.533	0.035	0.033	0.003
COSN_Separation	0.095	0.092	0.690	0.130	-0.136	0.226
SCS_Isolation	-0.414	0.154	-0.039	0.366	-0.300	0.022
SCS_Mindfulness	0.579	0.236	0.125	-0.053	0.258	-0.082
SCS_Overidentified (reversed)	-0.237	0.016	-0.181	0.353	-0.489	-0.040
SCS_SelfJudgment	-0.316	0.195	-0.128	0.527	-0.294	0.107
SCS_SelfKindness	0.582	0.061	0.037	-0.226	0.211	-0.190
SCS_CommonHumanity	0.716	0.214	0.049	0.164	-0.013	0.052
FoC_Expressing	0.098	-0.227	0.351	0.647	0.148	-0.243
FoC_Responding	-0.018	0.046	0.380	0.564	-0.188	-0.002
FoC_Self	-0.159	-0.074	0.096	0.542	-0.218	0.031
adhs_attention (reversed)	0.168	-0.015	0.200	-0.070	-0.860	-0.051
atq_attentional_control	0.112	0.057	-0.052	0.043	0.810	0.163
atq_neut_perc_sens	-0.110	0.023	-0.236	0.017	0.153	-0.740
atq_affect_perc_sens	-0.071	0.150	0.007	0.079	-0.227	-0.734
FFA_Acceptance	0.591	0.140	0.040	-0.210	0.239	-0.140
FFA_Presence	0.311	0.354	-0.027	-0.087	0.229	-0.406
FFMQ_Aware	-0.117	0.150	-0.058	-0.088	0.808	-0.111
FFMQ_Describe	0.134	0.009	-0.246	-0.266	0.057	-0.306
FFMQ_Nonjudge	-0.192	0.144	-0.020	0.611	-0.196	0.005
FFMQ_Nonreact	0.560	0.087	0.179	-0.164	0.251	-0.179
FFMQ_Observe	0.189	0.212	-0.045	0.021	-0.111	-0.759
MAIA_attentionRegulation	0.140	0.718	-0.011	-0.070	0.266	0.001
MAIA_bodyListening	0.069	0.821	-0.033	-0.021	0.009	-0.126
MAIA_emotionalAwareness	0.094	-0.700	0.068	-0.030	-0.016	0.245
MAIA_notDistracting	-0.284	0.312	0.102	-0.646	-0.124	0.032
MAIA_Noticing	0.039	0.622	-0.104	0.034	0.008	-0.226
MAIA_notWorrying	0.165	-0.046	0.153	-0.520	0.034	-0.212
MAIA_selfRegulation	0.194	0.748	0.050	-0.178	0.051	0.072
MAIA_Trusting	0.306	0.339	-0.062	-0.126	0.239	-0.079
PBCS_Total	-0.175	0.389	-0.047	0.060	-0.170	-0.387
% of Variance	28.851	12.745	8.516	4.616	4.034	3.773

Table I 2B Component Correlation Matrix						
Component	Self-acceptance	Body awareness	Compassion for others	Self-judgment	Mindfulness	Observe
1						
2	0.127					
3	-0.004	-0.173				
4	-0.233	-0.159	0.086			
5	0.313	0.091	-0.081	-0.347		
6	-0.097	-0.365	0.129	0.128	-0.134	

Appendix I3: Factor loading and factor correlations at T0 for Positive and Negative Affect

Table I 3A and B Factor loadings with oblimin rotation (below) and factor correlations (next page) at T0 for Positive and Negative Affect. See Chapter 10.4 for further information.

Table I 3A Positive and Negative Affect			
	Component		
	Positive affect	Negative affect	Low arousal positive affect
atq_positive_affect	-0.761	-0.064	0.047
atq_negative_affect	-0.047	0.947	0.017
atq_fear	-0.056	0.911	0.199
atq_frustration	0.109	0.542	-0.265
atq_sadness	-0.098	0.740	-0.046
bdi_affective	0.378	0.394	-0.064
mhc_ewb (reversed)	0.719	0.045	-0.109
NEO_NEG_AFF	0.209	0.688	-0.058
NEO_PIR_POS_EMOTION	-0.866	0.032	-0.082
NEO_PIR_WARMTH (reversed)	0.675	-0.143	0.151
NEO_POS_AFF	-0.759	-0.050	0.122
PANAS_NEG	0.333	0.307	-0.208
PANAS_POS	-0.635	-0.240	-0.115
SAIS_Serenity	0.407	-0.216	0.509
TTPAS_Active	-0.556	-0.193	-0.539
TTPAS_Relaxed	-0.091	-0.076	0.773
TTPAS_Warmth	-0.613	0.031	0.557
% of Variance	34.611	16.326	7.769

Table I 3B Component Correlation Matrix			
Component	Positive affect	Negative affect	Low arousal positive affect
1	1.000	0.300	0.012
2	0.300	1.000	-0.266
3	0.012	-0.266	1.000

Appendix I4: Factor loading and factor correlations at T0 for Neuroticism and Sensation-seeking

Table I 4A and B Factor loadings with oblimin rotation (upper) and factor correlations (lower) at T0 for Neuroticism and Sensation-Seeking. See Chapter 10.4 for further information.

Neuroticism and Sensation-seeking		
	Component	
	Neuroticism	Sensation-seeking
atq_discomfort	0.288	-0.598
atq_intens_pleasure	0.066	0.884
NEO_PIR_EXCITE_SEEK	0.115	0.832
BPO_affect_inst	0.801	0.204
NEO_NEUROT	0.863	-0.099
FBL_emo	0.631	-0.090
STAI_ta	0.866	0.005
% of Variance	38.922	25.681

Component Correlation Matrix		
Component	Neuroticism	Sensation seeking
1	1.000	-0.127
2	-0.127	1.000

Appendix I5: Factor loading and factor correlations at T0 for Emotion Regulation

Table I 5A and B Factor loadings with oblimin rotation (below) and factor correlations (next page) at T0 for Emotion Regulation. See Chapter 10.4 for further information.

Table I 5A Emotion Regulation					
	Component				
	Resilience	Support-seeking	Acceptance	Self-blame	Panic
ER89	0.737	-0.071	-0.113	0.118	-0.035
CERQ0.Acceptance	-0.139	0.114	0.756	-0.077	-0.107
CERQ0.Catastrophizing	-0.103	0.187	-0.133	-0.204	0.545
CERQ0.OtherBlame	0.152	-0.078	0.080	-0.176	0.610

Emotion Regulation					
	Component				
	Resilience	Support-seeking	Acceptance	Self-blame	Panic
CERQ0.Perspective	0.337	0.030	0.614	0.007	0.024
CERQ0.PlanningRefocus	0.793	-0.042	0.033	-0.118	-0.045
CERQ0.PosReappraisal	0.626	-0.146	0.422	-0.211	-0.138
CERQ0.PosRefocus	0.373	-0.125	0.427	0.192	0.367
CERQ0.Rumination	0.104	0.117	-0.158	-0.683	0.193
CERQ0.SelfBlame	-0.073	0.024	0.080	-0.819	-0.036
COPE_Accept	0.035	0.168	0.650	-0.033	-0.297
COPE_Active	0.769	0.136	-0.038	0.035	-0.018
COPE_ActOut	-0.029	0.578	0.055	-0.172	0.057
COPE_Denial	-0.117	-0.013	-0.054	0.185	0.633
COPE_Distraction	0.010	0.205	0.471	0.243	0.304
COPE_Drugs	0.006	0.137	0.052	-0.098	0.420
COPE_EmootionalSup	0.044	0.840	0.044	0.120	0.033
COPE_Humor	0.044	-0.091	0.548	-0.022	0.103
COPE_InstrumentalSup	0.053	0.876	0.000	0.026	-0.032
COPE_Plan	0.691	0.174	-0.090	0.008	0.166
COPE_PosReinterp	0.508	-0.145	0.470	-0.086	-0.143
COPE_Religion	-0.154	-0.012	-0.112	0.228	0.139
COPE_SelfBlame	-0.172	-0.104	-0.023	-0.569	0.405
COPE-Withdrawal	-0.315	-0.176	0.524	0.041	0.153
% of Variance	18.914	10.756	9.163	7.362	5.701

Component Correlation Matrix					
Component	Resilience	Support-seeking	Acceptance	Self-blame	Panic
1					
2	0.079				
3	0.216	-0.038			
4	-0.071	-0.091	-0.013		
5	-0.121	0.104	0.038	-0.055	

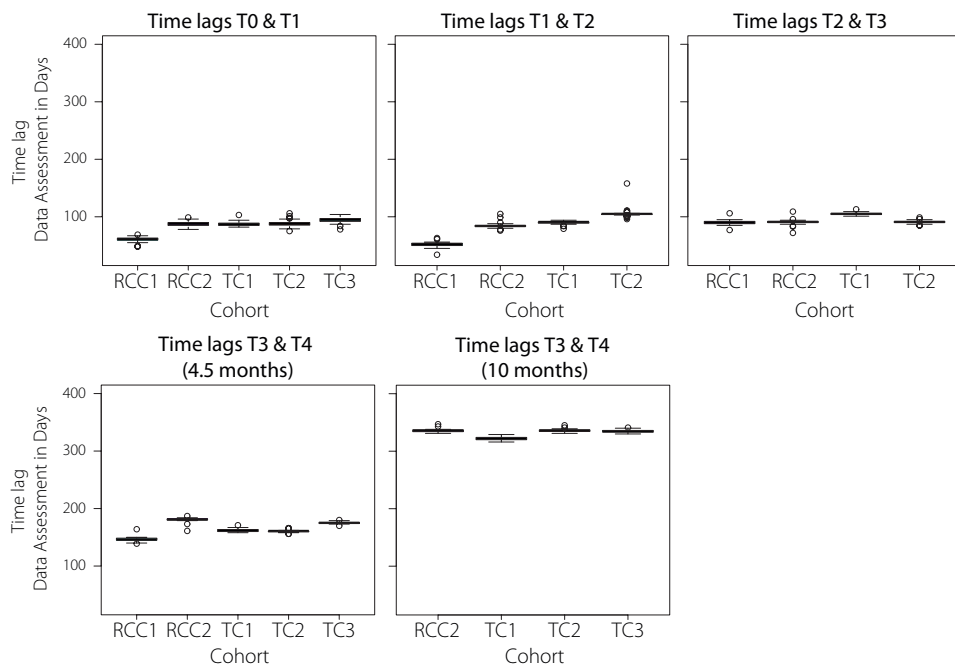
Appendix J – Time Lags between Measures

Appendix J1: Time Lags between Measures

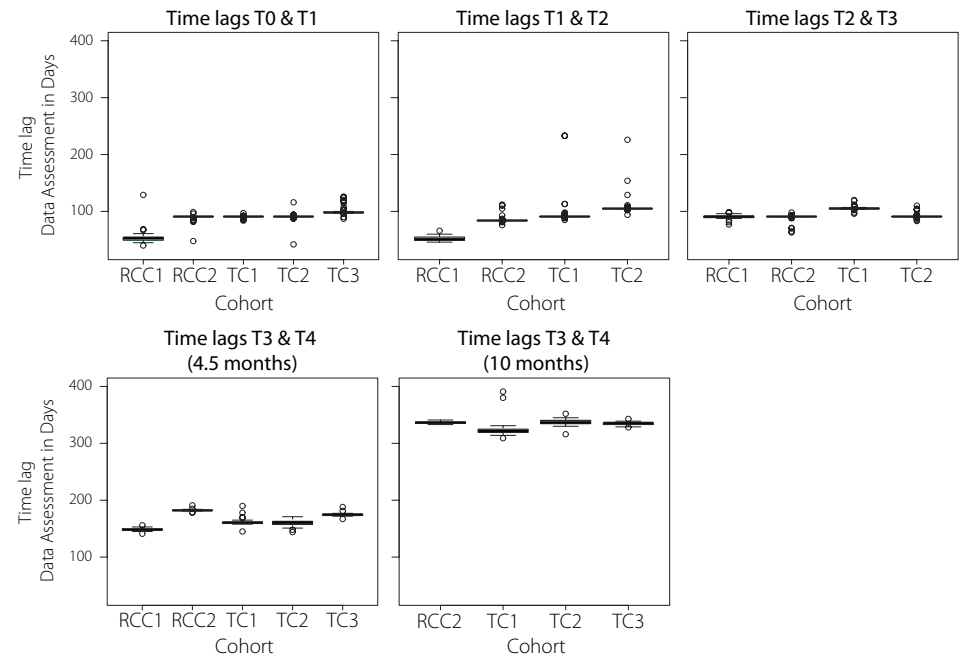
In this chapter, figures regarding the actual time lags of the assessed measures for MRI data, behavioral data, VR tasks, and the physiological assessment of the autonomic nervous system are reported. Figure J1 A–D below, depicts the time lags in days of the respective cohorts (TC1, TC2, TC3, RCC1, and RCC2) between the respective time points (T0–T1, T1–T2, T2–T3, T3–T4 (4.5 months), and T3–T4 (10 months)). The tables below (Table J 1A to 4B) show the respective numeric data and statistical comparisons. To test whether there were differences between cohorts in interval between testing, Bonferroni corrected Pearson *t*-tests were performed of all possible comparisons within each time point. Please note that TC2 (T2) was tested after and TC1 (T2) before the Christmas and New Year vacation period, which adds approximately 2 weeks and leads to significant differences between cohort TC1 and TC2. See also Appendix G3 for a summarized list of German vacation periods and the respective testing weeks of cohort TC1, TC2, and TC3. Note also that the follow-up measurement time point for TC3 was called T2 (4.5 months, 10 months) and data are shown together with the T4 data of the other cohorts. The follow-up measurements for RCC1 were only assessed at 4.5 months (T4) due to the small sample size of the cohort.

Figure J1A–D Mean time lags (days) between cohorts and time points between certain experiment types such as behavioral data (A), physiological data (B), MRI tasks (C), and Virtual Reality experiments (D). Please note that due to the vacations over the Christmas and New Year holidays, the distances between TC1 and TC2 is about 14 days (T1 to T2 and T2 to T3). The follow-up measurement time point for TC3 was called T2 (4.5 months, 10 months) and data are shown together with the T4 data of the other cohorts. The follow-up measurements for RCC1 were only assessed at 4.5 months (T4) due to the small sample size of the cohort.

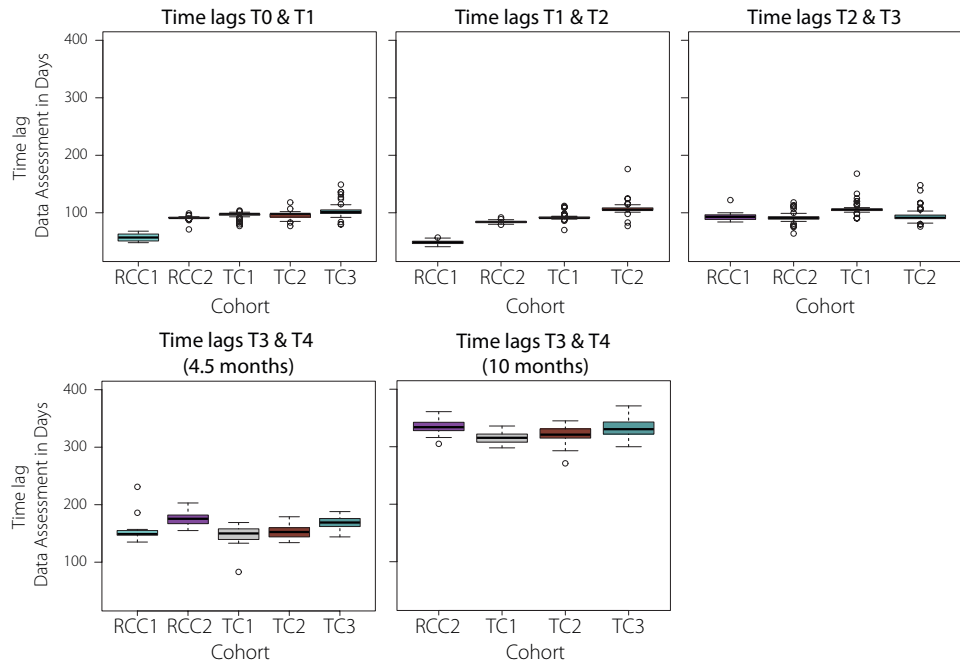
A Behavioral Data



B Physiological Data



C Magnetic Resonance Imaging Data



D Virtual Reality Experiment Data

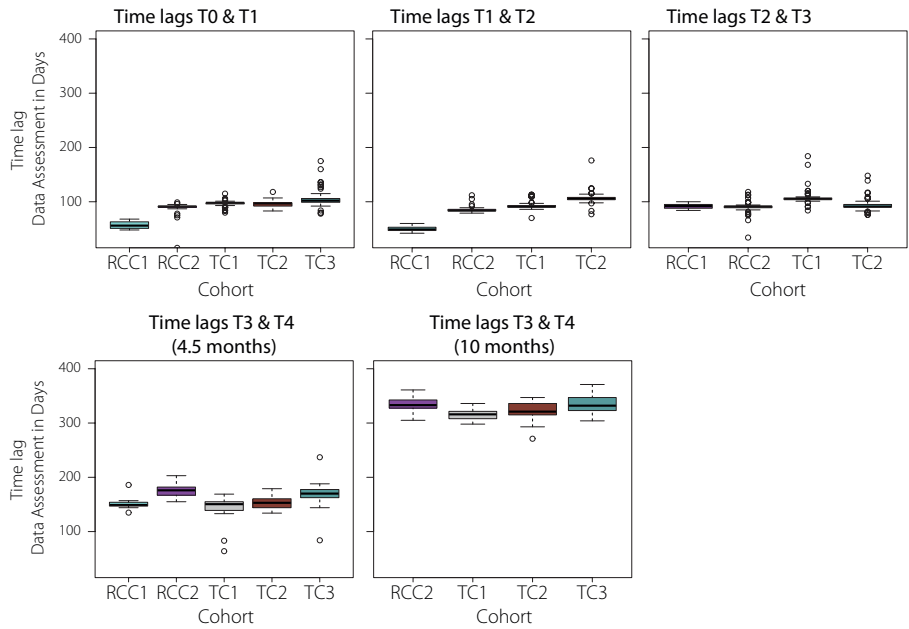


Table J 1A and 1B Numeric data (behavioral tasks) regarding the time lags between testing of cohorts. Bonferroni corrected Pearson t-tests were performed of all possible comparisons within each time point.

Table J 1A	Behavioral Data			95% Confidence Interval	
Interval	Cohort	Mean	Std. Error	Lower Bound	Upper Bound
T0–T1	RCC1	60.44	0.79	58.89	62.00
	RCC2	87.62	0.54	86.56	88.68
	TC1	87.51	0.46	86.60	88.43
	TC2	88.05	0.46	87.14	88.96
	TC3	94.27	0.46	93.36	95.18
T1–T2	RCC1	51.92	0.93	50.09	53.75
	RCC2	84.25	0.63	83.00	85.50
	TC1	90.24	0.54	89.17	91.31
	TC2	105.00	0.54	103.93	106.07
T2–T3	RCC1	90.27	0.61	89.06	91.48
	RCC2	90.72	0.43	89.87	91.56
	TC1	105.07	0.37	104.34	105.80
	TC2	90.92	0.36	90.21	91.63

Table J 1A	Behavioral Data			95% Confidence Interval	
Interval	Cohort	Mean	Std. Error	Lower Bound	Upper Bound
T3–T4 (4.5)	TC1	162.29	0.76	160.79	163.79
	RCC1	146.79	0.85	145.10	148.48
	RCC2	180.05	0.83	178.41	181.70
	TC2	160.61	0.77	159.08	162.14
	TC3	175.29	0.76	173.79	176.79
T3–T4 (10)	TC1	322.30	0.67	320.96	323.65
	RCC2	336.11	0.74	334.63	337.58
	TC2	336.17	0.67	334.83	337.51
	TC3	335.11	0.76	333.60	336.63

Table J 1B	Behavioral Data				95% Confidence Interval	
Interval	Cohort	Comparison	Difference	Std. Error	Lower Bound	Upper Bound
T0–T1	RCC1	RCC2	-27.176*	0.954	-29.873	-24.48
		TC1	-27.068*	0.914	-29.653	-24.484
		TC2	-27.606*	0.913	-30.187	-25.026
		TC3	-33.825*	0.914	-36.409	-31.24
	RCC2	RCC1	27.176*	0.954	24.48	29.873
		TC1	0.108	0.71	-1.899	2.115
		TC2	-0.43	0.708	-2.431	1.572
		TC3	-6.649*	0.71	-8.655	-4.642
	TC1	RCC1	27.068*	0.914	24.484	29.653
		RCC2	-0.108	0.71	-2.115	1.899
		TC2	-0.538	0.654	-2.385	1.31
		TC3	-6.756*	0.656	-8.61	-4.903
	TC2	RCC1	27.606*	0.913	25.026	30.187
		RCC2	0.43	0.708	-1.572	2.431
		TC1	0.538	0.654	-1.31	2.385
		TC3	-6.219*	0.654	-8.066	-4.371
	TC3	RCC1	33.825*	0.914	31.24	36.409
		RCC2	6.649*	0.71	4.642	8.655
		TC1	6.756*	0.656	4.903	8.61
		TC2	6.219*	0.654	4.371	8.066
T1–T2	RCC1	RCC2	-32.327*	1.125	-35.32	-29.334
		TC1	-38.314*	1.077	-41.179	-35.448

Table J 1B	Behavioral Data				95% Confidence Interval	
Interval	Cohort	Comparison	Difference	Std. Error	Lower Bound	Upper Bound
T1–T2		TC2	-53.077*	1.077	-55.943	-50.211
	RCC2	RCC1	32.327*	1.125	29.334	35.32
		TC1	-5.987*	0.835	-8.208	-3.766
		TC2	-20.750*	0.835	-22.971	-18.529
	TC1	RCC1	38.314*	1.077	35.448	41.179
		RCC2	5.987*	0.835	3.766	8.208
		TC2	-14.763*	0.769	-16.809	-12.717
	TC2	RCC1	53.077*	1.077	50.211	55.943
		RCC2	20.750*	0.835	18.529	22.971
		TC1	14.763*	0.769	12.717	16.809
T2–T3	RCC1	RCC2	-0.448	0.748	-2.438	1.542
		TC1	-14.800*	0.714	-16.702	-12.899
		TC2	-0.651	0.711	-2.542	1.241
	RCC2	RCC1	0.448	0.748	-1.542	2.438
		TC1	-14.352*	0.565	-15.857	-12.848
		TC2	-0.203	0.56	-1.695	1.288
	TC1	RCC1	14.800*	0.714	12.899	16.702
		RCC2	14.352*	0.565	12.848	15.857
		TC2	14.149*	0.515	12.778	15.521
	TC2	RCC1	0.651	0.711	-1.241	2.542
		RCC2	0.203	0.56	-1.288	1.695
		TC1	-14.149*	0.515	-15.521	-12.778
T3–T4 (4.5)	RCC1	RCC2	-33.261*	1.189	-36.669	-29.852
		TC1	-15.502*	1.139	-18.769	-12.235
		TC2	-13.819*	1.15	-17.118	-10.521
		TC3	-28.502*	1.139	-31.769	-25.235
	RCC2	RCC1	33.261*	1.189	29.852	36.669
		TC1	17.758*	1.123	14.537	20.98
		TC2	19.441*	1.134	16.188	22.694
		TC3	4.758*	1.123	1.537	7.98
	TC1	RCC1	15.502*	1.139	12.235	18.769
		RCC2	-17.758*	1.123	-20.98	-14.537
		TC2	1.683	1.083	-1.422	4.788
		TC3	-13.000*	1.071	-16.071	-9.929

Table J 1B	Behavioral Data				95% Confidence Interval	
Interval	Cohort	Comparison	Difference	Std. Error	Lower Bound	Upper Bound
T3–T4 (4.5)	TC2	RCC1	13.819*	1.15	10.521	17.118
		RCC2	-19.441*	1.134	-22.694	-16.188
		TC1	-1.683	1.083	-4.788	1.422
		TC3	-14.683*	1.083	-17.788	-11.578
	TC3	RCC1	28.502*	1.139	25.235	31.769
		RCC2	-4.758*	1.123	-7.98	-1.537
		TC1	13.000*	1.071	9.929	16.071
		TC2	14.683*	1.083	11.578	17.788
T3–T4 (10)	RCC2	TC1	13.801*	1.001	11.092	16.51
		TC2	-0.069	1.001	-2.778	2.641
		TC3	0.994	1.062	-1.88	3.869
	TC1	RCC2	-13.801*	1.001	-16.51	-11.092
		TC2	-13.870*	0.952	-16.447	-11.293
		TC3	-12.807*	1.016	-15.557	-10.057
	TC2	RCC2	0.069	1.001	-2.641	2.778
		TC1	13.870*	0.952	11.293	16.447
		TC3	1.063	1.016	-1.687	3.813
	TC3	RCC2	-0.994	1.062	-3.869	1.88
		TC1	12.807*	1.016	10.057	15.557
		TC2	-1.063	1.016	-3.813	1.687

* = $p < .001$, Bonferroni corrected within time point

Table J 2A and 2B Numeric data (physiological tasks) regarding the time lags between testing of cohorts. Bonferroni corrected Pearson t-tests were performed of all possible comparisons within each time point.

Table J 2A	Physiological Data			95% Confidence Interval	
Interval	Cohort	Mean	Std. Error	Lower Bound	Upper Bound
T0–T1	RCC1	55.78	1.41	53.01	58.55
	RCC2	89.54	0.98	87.61	91.46
	TC1	90.61	0.85	88.94	92.28
	TC2	90.72	0.85	89.04	92.39
	TC3	100.39	0.87	98.67	102.11
T1–T2	RCC1	49.69	3.77	42.26	57.13
	RCC2	85.87	2.59	80.76	90.98
	TC1	97.51	2.24	93.11	101.92
	TC2	107.55	2.21	103.20	111.90

Table J 2A	Physiological Data			95% Confidence Interval	
Interval	Cohort	Mean	Std. Error	Lower Bound	Upper Bound
T2–T3	RCC1	90.76	3.38	84.09	97.43
	RCC2	89.34	2.32	84.76	93.92
	TC1	99.78	1.99	95.85	103.71
	TC2	91.60	1.95	87.75	95.45
T3–T4 (4.5)	RCC1	148.59	1.32	145.98	151.20
	RCC2	182.48	1.19	180.13	184.83
	TC1	162.59	1.16	160.29	164.89
	TC2	159.39	1.13	157.14	161.64
	TC3	174.91	1.16	172.61	177.21
T3–T4 (10)	RCC2	309.79	13.33	283.25	336.33
	TC1	327.19	12.68	301.94	352.44
	TC2	337.22	12.11	313.09	361.34
	TC3	335.29	14.09	307.23	363.35

Table J 2B	Physiological Data				95% Confidence Interval	
Interval	Cohort	Comparison	Difference	Std. Error	Lower Bound	Upper Bound
T0–T1	RCC1	RCC2	-33.758*	1.714	-38.605	-28.911
		TC1	-34.830*	1.645	-39.482	-30.179
		TC2	-34.938*	1.645	-39.59	-30.287
		TC3	-44.608*	1.657	-49.295	-39.921
	RCC2	RCC1	33.758*	1.714	28.911	38.605
		TC1	-1.072	1.296	-4.737	2.592
		TC2	-1.181	1.296	-4.845	2.484
		TC3	-10.850*	1.311	-14.559	-7.141
	TC1	RCC1	34.830*	1.645	30.179	39.482
		RCC2	1.072	1.296	-2.592	4.737
		TC2	-0.108	1.203	-3.509	3.293
		TC3	-9.778*	1.22	-13.227	-6.328
	TC2	RCC1	34.938*	1.645	30.287	39.59
		RCC2	1.181	1.296	-2.484	4.845
		TC1	0.108	1.203	-3.293	3.509
		TC3	-9.669*	1.22	-13.119	-6.22
	TC3	RCC1	44.608*	1.657	39.921	49.295
		RCC2	10.850*	1.311	7.141	14.559

Table J 2B	Physiological Data				95% Confidence Interval	
Interval	Cohort	Comparison	Difference	Std. Error	Lower Bound	Upper Bound
T0–T1		TC1	9.778*	1.22	6.328	13.227
		TC2	9.669*	1.22	6.22	13.119
T1–T2	RCC1	RCC2	-36.180*	4.579	-48.367	-23.994
		TC1	-47.821*	4.386	-59.495	-36.147
		TC2	-57.860*	4.371	-69.494	-46.227
	RCC2	RCC1	36.180*	4.579	23.994	48.367
		TC1	-11.641*	3.425	-20.757	-2.525
		TC2	-21.680*	3.406	-30.745	-12.615
	TC1	RCC1	47.821*	4.386	36.147	59.495
		RCC2	11.641*	3.425	2.525	20.757
		TC2	-10.039*	3.142	-18.402	-1.677
	TC2	RCC1	57.860*	4.371	46.227	69.494
		RCC2	21.680*	3.406	12.615	30.745
		TC1	10.039*	3.142	1.677	18.402
T2–T3	RCC1	RCC2	1.42	4.103	-9.504	12.345
		TC1	-9.018	3.926	-19.47	1.434
		TC2	-0.84	3.906	-11.238	9.558
	RCC2	RCC1	-1.42	4.103	-12.345	9.504
		TC1	-10.438*	3.061	-18.587	-2.289
		TC2	-2.26	3.035	-10.34	5.819
	TC1	RCC1	9.018	3.926	-1.434	19.47
		RCC2	10.438*	3.061	2.289	18.587
		TC2	8.178*	2.79	0.749	15.607
	TC2	RCC1	0.84	3.906	-9.558	11.238
		RCC2	2.26	3.035	-5.819	10.34
		TC1	-8.178*	2.79	-15.607	-0.749
T3–T4 (4.5)	RCC1	RCC2	-33.888*	1.772	-38.975	-28.801
		TC1	-14.003*	1.754	-19.038	-8.968
		TC2	-10.803*	1.737	-15.79	-5.816
		TC3	-26.321*	1.754	-31.356	-21.286
	RCC2	RCC1	33.888*	1.772	28.801	38.975
		TC1	19.885*	1.657	15.129	24.642
		TC2	23.085*	1.639	18.379	27.791
		TC3	7.567*	1.657	2.81	12.324

Table J 2B	Physiological Data				95% Confidence Interval	
Interval	Cohort	Comparison	Difference	Std. Error	Lower Bound	Upper Bound
T3–T4 (4.5)	TC1	RCC1	14.003*	1.754	8.968	19.038
		RCC2	-19.885*	1.657	-24.642	-15.129
		TC2	3.2	1.62	-1.45	7.849
		TC3	-12.318*	1.638	-17.019	-7.617
	TC2	RCC1	10.803*	1.737	5.816	15.79
		RCC2	-23.085*	1.639	-27.791	-18.379
		TC1	-3.2	1.62	-7.849	1.45
		TC3	-15.518*	1.62	-20.167	-10.868
	TC3	RCC1	26.321*	1.754	21.286	31.356
		RCC2	-7.567*	1.657	-12.324	-2.81
		TC1	12.318*	1.638	7.617	17.019
		TC2	15.518*	1.62	10.868	20.167
T3–T4 (10)	RCC2	TC1	-17.401	18.392	-67.227	32.425
		TC2	-27.428	18.009	-76.214	21.359
		TC3	-25.505	19.393	-78.042	27.032
	TC1	RCC2	17.401	18.392	-32.425	67.227
		TC2	-10.027	17.533	-57.524	37.47
		TC3	-8.104	18.952	-59.446	43.239
	TC2	RCC2	27.428	18.009	-21.359	76.214
		TC1	10.027	17.533	-37.47	57.524
		TC3	1.923	18.58	-48.41	52.257
	TC3	RCC2	25.505	19.393	-27.032	78.042
		TC1	8.104	18.952	-43.239	59.446
		TC2	-1.923	18.58	-52.257	48.41

* = $p < .001$, Bonferroni corrected within time point

Table J 3A and 3B Numeric data (MRI experiments) regarding the time lags between testing of cohorts. Bonferroni corrected Pearson t-tests were performed of all possible comparisons within each time point.

Table J 3A	MRI Data			95% Confidence Interval	
Interval	Cohort	Mean	Std. Error	Lower Bound	Upper Bound
T0–T1	RCC1	57.60	1.40	54.85	60.35
	RCC2	90.94	0.96	89.05	92.83
	TC1	96.14	0.82	94.53	97.75
	TC2	95.42	0.83	93.79	97.06
	TC3	103.62	0.83	101.99	105.25

Table J 3A	MRI Data			95% Confidence Interval	
Interval	Cohort	Mean	Std. Error	Lower Bound	Upper Bound
T1–T2	RCC1	48.74	1.50	45.78	51.70
	RCC2	84.10	1.03	82.08	86.13
	TC1	92.36	0.88	90.63	94.09
	TC2	107.10	0.87	105.38	108.82
T2–T3	RCC1	93.35	2.14	89.12	97.57
	RCC2	91.84	1.47	88.94	94.73
	TC1	106.82	1.31	104.25	109.40
	TC2	94.48	1.24	92.04	96.92
T3–T4 (4.5)	TC1	147.26	3.63	140.04	154.48
	TC2	153.05	3.38	146.34	159.76
	RCC1	156.31	3.96	148.44	164.18
	RCC2	175.33	3.73	167.92	182.75
	TC3	167.59	3.84	159.96	175.22
T3–T4 (10)	TC1	315.14	3.35	308.46	321.81
	TC2	321.41	3.35	314.73	328.08
	RCC2	334.13	4.05	326.05	342.22
	TC3	332.43	4.19	324.06	340.80

Table J 3B	MRI Data				95% Confidence Interval	
Interval	Cohort	Comparison	Difference	Std.Error	Lower Bound	Upper Bound
T0–T1	RCC1	RCC2	-33.343*	1.697	-38.143	-28.544
		TC1	-38.537*	1.62	-43.121	-33.953
		TC2	-37.823*	1.626	-42.423	-33.222
		TC3	-46.020*	1.626	-50.62	-41.42
	RCC2	RCC1	33.343*	1.697	28.544	38.143
		TC1	-5.194*	1.262	-8.763	-1.624
		TC2	-4.479*	1.269	-8.07	-0.888
		TC3	-12.676*	1.269	-16.267	-9.086
	TC1	RCC1	38.537*	1.62	33.953	43.121
		RCC2	5.194*	1.262	1.624	8.763
		TC2	0.714	1.166	-2.583	4.011
		TC3	-7.483*	1.166	-10.78	-4.186
	TC2	RCC1	37.823*	1.626	33.222	42.423
		RCC2	4.479*	1.269	0.888	8.07

Table J 3B	MRI Data				95% Confidence Interval	
Interval	Cohort	Comparison	Difference	Std.Error	Lower Bound	Upper Bound
T0-T1		TC1	-0.714	1.166	-4.011	2.583
		TC3	-8.197*	1.174	-11.517	-4.877
	TC3	RCC1	46.020*	1.626	41.42	50.62
		RCC2	12.676*	1.269	9.086	16.267
		TC1	7.483*	1.166	4.186	10.78
		TC2	8.197*	1.174	4.877	11.517
T1-T2	RCC1	RCC2	-35.363*	1.819	-40.21	-30.516
		TC1	-43.619*	1.739	-48.253	-38.985
		TC2	-58.364*	1.736	-62.989	-53.738
	RCC2	RCC1	35.363*	1.819	30.516	40.21
		TC1	-8.256*	1.353	-11.861	-4.652
		TC2	-23.001*	1.349	-26.594	-19.408
	TC1	RCC1	43.619*	1.739	38.985	48.253
		RCC2	8.256*	1.353	4.652	11.861
		TC2	-14.745*	1.239	-18.046	-11.444
	TC2	RCC1	58.364*	1.736	53.738	62.989
		RCC2	23.001*	1.349	19.408	26.594
		TC1	14.745*	1.239	11.444	18.046
T2-T3	RCC1	RCC2	1.511	2.597	-5.409	8.431
		TC1	-13.475*	2.508	-20.159	-6.79
		TC2	-1.13	2.474	-7.723	5.462
	RCC2	RCC1	-1.511	2.597	-8.431	5.409
		TC1	-14.986*	1.964	-20.219	-9.752
		TC2	-2.642	1.919	-7.757	2.473
	TC1	RCC1	13.475*	2.508	6.79	20.159
		RCC2	14.986*	1.964	9.752	20.219
		TC2	12.344*	1.798	7.553	17.135
	TC2	RCC1	1.13	2.474	-5.462	7.723
		RCC2	2.642	1.919	-2.473	7.757
		TC1	-12.344*	1.798	-17.135	-7.553
T3-T4 (4.5)	TC1	TC2	-5.782	4.959	-20.067	8.503
		RCC1	-9.049	5.373	-24.526	6.427

Table J 3B	MRI Data				95% Confidence Interval	
Interval	Cohort	Comparison	Difference	Std.Error	Lower Bound	Upper Bound
T3–T4 (4.5)		RCC2	-28.070*	5.209	-43.073	-13.068
		TC3	-20.325*	5.287	-35.553	-5.098
	TC2	TC1	5.782	4.959	-8.503	20.067
		RCC1	-3.267	5.203	-18.254	11.719
		RCC2	-22.288*	5.033	-36.784	-7.791
		TC3	-14.543	5.114	-29.272	0.186
	RCC1	TC1	9.049	5.373	-6.427	24.526
		TC2	3.267	5.203	-11.719	18.254
		RCC2	-19.021*	5.441	-34.693	-3.349
		TC3	-11.276	5.516	-27.163	4.612
	RCC2	TC1	28.070*	5.209	13.068	43.073
		TC2	22.288*	5.033	7.791	36.784
		RCC1	19.021*	5.441	3.349	34.693
		TC3	7.745	5.356	-7.681	23.171
	TC3	TC1	20.325*	5.287	5.098	35.553
		TC2	14.543	5.114	-0.186	29.272
		RCC1	11.276	5.516	-4.612	27.163
		RCC2	-7.745	5.356	-23.171	7.681
T3–T4 (10)	TC1	TC2	-6.273	4.732	-19.126	6.581
		RCC2	-18.997*	5.255	-33.271	-4.723
		TC3	-17.292*	5.365	-31.867	-2.718
	TC2	TC1	6.273	4.732	-6.581	19.126
		RCC2	-12.724	5.255	-26.999	1.55
		TC3	-11.019	5.365	-25.594	3.555
	RCC2	TC1	18.997*	5.255	4.723	33.271
		TC2	12.724	5.255	-1.55	26.999
		TC3	1.705	5.832	-14.137	17.546
	TC3	TC1	17.292*	5.365	2.718	31.867
		TC2	11.019	5.365	-3.555	25.594
		RCC2	-1.705	5.832	-17.546	14.137

* = $p < .001$, Bonferroni corrected within time point

Table J 4A and 4B Numeric data (Virtual Reality experiments) regarding the time lags between testing of cohorts. Bonferroni corrected Pearson t-tests were performed of all possible comparisons within each time point.

Table J 4A	Virtual Reality Data			95% Confidence Interval	
Interval	Cohort	Mean	Std. Error	Lower Bound	Upper Bound
T0–T1	RCC1	56.96	2.25	52.53	61.40
	RCC2	89.06	1.55	86.01	92.10
	TC1	96.67	1.33	94.06	99.28
	TC2	95.38	1.34	92.74	98.03
	TC3	103.89	1.36	101.20	106.57
T1–T2	RCC1	49.44	1.57	46.34	52.54
	RCC2	85.33	1.10	83.16	87.51
	TC1	92.91	0.96	91.02	94.81
	TC2	106.93	0.94	105.07	108.78
T2–T3	RCC1	92.04	2.71	86.69	97.39
	RCC2	90.26	1.92	86.48	94.04
	TC1	109.03	1.72	105.64	112.43
	TC2	93.51	1.62	90.32	96.71
T3–T4 (4.5)	TC1	144.18	4.10	136.04	152.33
	TC2	154.13	3.93	146.33	161.92
	RCC1	151.24	4.67	141.97	160.50
	RCC2	176.33	4.54	167.33	185.34
	TC3	168.68	4.41	159.92	177.45
T3–T4 (10)	TC1	315.26	3.18	308.92	321.60
	TC2	322.23	3.25	315.75	328.71
	RCC2	333.69	3.82	326.09	341.29
	TC3	335.28	3.60	328.11	342.44

Table J 4B	Virtual Reality Data				95% Confidence Interval	
Interval	Cohort	Comparison	Difference	Std. Error	Lower Bound	Upper Bound
T0–T1	RCC1	RCC2	-32.093*	2.734	-39.825	-24.361
		TC1	-39.705*	2.614	-47.099	-32.311
		TC2	-38.422*	2.623	-45.842	-31.002
		TC3	-46.926*	2.633	-54.373	-39.478
	RCC2	RCC1	32.093*	2.734	24.361	39.825

Table J 4B	Virtual Reality Data				95% Confidence Interval	
Interval	Cohort	Comparison	Difference	Std. Error	Lower Bound	Upper Bound
T0–T1		TC1	-7.612*	2.039	-13.38	-1.845
		TC2	-6.329*	2.051	-12.13	-0.528
		TC3	-14.833*	2.063	-20.669	-8.997
	TC1	RCC1	39.705*	2.614	32.311	47.099
		RCC2	7.612*	2.039	1.845	13.38
		TC2	1.283	1.889	-4.058	6.625
		TC3	-7.221*	1.902	-12.6	-1.841
	TC2	RCC1	38.422*	2.623	31.002	45.842
		RCC2	6.329*	2.051	0.528	12.13
		TC1	-1.283	1.889	-6.625	4.058
		TC3	-8.504*	1.915	-13.919	-3.089
	TC3	RCC1	46.926*	2.633	39.478	54.373
		RCC2	14.833*	2.063	8.997	20.669
		TC1	7.221*	1.902	1.841	12.6
		TC2	8.504*	1.915	3.089	13.919
T1–T2	RCC1	RCC2	-35.893*	1.922	-41.012	-30.774
		TC1	-43.470*	1.845	-48.384	-38.557
		TC2	-57.489*	1.834	-62.374	-52.604
	RCC2	RCC1	35.893*	1.922	30.774	41.012
		TC1	-7.577*	1.463	-11.473	-3.681
		TC2	-21.595*	1.449	-25.455	-17.735
	TC1	RCC1	43.470*	1.845	38.557	48.384
		RCC2	7.577*	1.463	3.681	11.473
		TC2	-14.018*	1.345	-17.602	-10.435
	TC2	RCC1	57.489*	1.834	52.604	62.374
		RCC2	21.595*	1.449	17.735	25.455
		TC1	14.018*	1.345	10.435	17.602
T2–T3	RCC1	RCC2	1.78	3.321	-7.068	10.628
		TC1	-16.992*	3.212	-25.55	-8.435
		TC2	-1.474	3.159	-9.89	6.941
	RCC2	RCC1	-1.78	3.321	-10.628	7.068
		TC1	-18.772*	2.577	-25.638	-11.907

Table J 4B	Virtual Reality Data				95% Confidence Interval	
Interval	Cohort	Comparison	Difference	Std. Error	Lower Bound	Upper Bound
T2–T3		TC2	-3.254	2.51	-9.942	3.434
	TC1	RCC1	16.992*	3.212	8.435	25.55
		RCC2	18.772*	2.577	11.907	25.638
		TC2	15.518*	2.364	9.219	21.817
	TC2	RCC1	1.474	3.159	-6.941	9.89
		RCC2	3.254	2.51	-3.434	9.942
		TC1	-15.518*	2.364	-21.817	-9.219
T3–T4 (4.5)	TC1	TC2	-9.943	5.678	-26.264	6.377
		RCC1	-7.053	6.212	-24.909	10.802
		RCC2	-32.152*	6.114	-49.725	-14.578
		TC3	-24.502*	6.025	-41.819	-7.185
	TC2	TC1	9.943	5.678	-6.377	26.264
		RCC1	2.89	6.099	-14.638	20.418
		RCC2	-22.208*	5.999	-39.449	-4.968
		TC3	-14.559	5.908	-31.538	2.42
	RCC1	TC1	7.053	6.212	-10.802	24.909
		TC2	-2.89	6.099	-20.418	14.638
		RCC2	-25.098*	6.506	-43.798	-6.398
		TC3	-17.449	6.423	-35.908	1.01
	RCC2	TC1	32.152*	6.114	14.578	49.725
		TC2	22.208*	5.999	4.968	39.449
		RCC1	25.098*	6.506	6.398	43.798
		TC3	7.649	6.328	-10.538	25.836
	TC3	TC1	24.502*	6.025	7.185	41.819
		TC2	14.559	5.908	-2.42	31.538
		RCC1	17.449	6.423	-1.01	35.908
		RCC2	-7.649	6.328	-25.836	10.538
T3–T4 (10)	TC1	TC2	-6.966	4.551	-19.299	5.366
		RCC2	-18.427*	4.968	-31.889	-4.964
		TC3	-20.017*	4.802	-33.031	-7.003
	TC2	TC1	6.966	4.551	-5.366	19.299
		RCC2	-11.46	5.014	-25.047	2.127

Table J 4B	Virtual Reality Data				95% Confidence Interval	
Interval	Cohort	Comparison	Difference	Std. Error	Lower Bound	Upper Bound
T3–T4 (10)		TC3	-13.051	4.85	-26.193	0.092
	RCC2	TC1	18.427*	4.968	4.964	31.889
		TC2	11.46	5.014	-2.127	25.047
		TC3	-1.59	5.243	-15.799	12.618
	TC3	TC1	20.017*	4.802	7.003	33.031
		TC2	13.051	4.85	-0.092	26.193
		RCC2	1.59	5.243	-12.618	15.799

* = $p < .001$, Bonferroni corrected within time point

