How the implicit self navigates transitions - A mixed-methods approach to examining emotion regulation in challenging times

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ABSTRACT

Career transitions are inherently emotional and require individuals to regulate emotions effectively. During the transition from education to work, unregulated negative emotions in particular can be problematic, as they can jeopardize both the achievement of career goals and well-being. However, to date, we know little about how students regulate their emotions during transition and how they can be supported in doing so. While in traditional emotion regulation research, cognitive reappraisal (changing the way we think about a threatening situation) is the main approach to emotion regulation, this work explores how emotions can be regulated in a holistic, intuitive mode of processing. Based on Personality Systems Interaction theory (PSI, Kuhl, 2000), it explores how individuals can activate access to their implicit self as a central feature in such person-centered, intuitive modes of emotion regulation and thereby achieve important regulatory benefits.

This work combines a qualitative and a quantitative study in a sequential design. First, it qualitatively examines the experience of 48 students at the end of their studies who participated in a design thinking intervention to prepare for their transition. By analyzing texts in which students write freely about their experience, it was found that the strategies students use to regulate emotion vary depending on the positivity ratio of their texts. The results suggest that stronger emotion regulation (characterized by a higher positivity ratio) is associated with the flexible use of different strategies beyond cognitive reappraisal: intuitive action, emotion sharing and empathic exploration of other people's emotions, and noticing which is the nonjudgmental perception of incongruent feelings. The study provides preliminary evidence that design thinking can help expand the emotion regulation repertoire.

A subsequent online experiment aims to validate the preliminary finding that empathy-related activities, which are significant in design thinking, lead to better emotion regulation during challenging times. The second study therefore investigates whether empathically exploring another person's emotions can improve access to one's own implicit self (as measured by congruence between implicit and explicit motives). This information can be used to develop interventions aimed at promoting holistic emotion regulation during stressful transitions.

Keywords: transitions, emotion regulation, the implicit self, design thinking, empathy

ZUSAMMENFASSUNG

Berufliche Übergänge sind von Natur aus emotional und erfordern, dass Individuen Emotionen wirksam regulieren. Beim Übergang von der Ausbildung ins Berufsleben können vor allem unregulierte negative Emotionen problematisch sein, da sie sowohl das Erreichen von Karrierezielen als auch das Wohlbefinden gefährden können. Allerdings wissen wir bisher nur wenig darüber, wie Studierende ihre Emotionen während des Übergangs regulieren und wie sie dabei unterstützt werden können. Während in der traditionellen Emotionsregulationsforschung die kognitive Neubewertung (Änderung der Art und Weise, wie wir über eine bedrohliche Situation denken) der Hauptansatzpunkt für die Emotionsregulierung ist, wird in dieser Arbeit untersucht, wie Emotionen in einem ganzheitlichen, intuitiven Verarbeitungsmodus reguliert werden können. Auf der Grundlage der Personality Systems Interaction Theorie (PSI, Kuhl, 2000) wird untersucht, wie Individuen Zugang zu ihrem impliziten Selbst als zentrales Merkmal in solchen personenorientierten, intuitiven Formen der Emotionsregulation aktivieren und dadurch wichtige regulatorische Vorteile erzielen können.

Diese Arbeit kombiniert eine qualitative und eine quantitative Studie in einem sequenziellen Design. Zunächst werden die Erfahrungen von 48 Studenten am Ende ihres Studiums, die an einer Design Thinking Intervention zur Vorbereitung auf ihren Übergang teilgenommen haben, qualitativ untersucht. Durch die Analyse von Aufzeichnungen, in denen Studenten frei über ihre Erfahrungen schreiben, wurde festgestellt, dass die Strategien, die die Studenten anwenden, um Emotion zu regulieren, in Abhängigkeit vom Positivitätsgrad ihrer Texte variieren. Die Ergebnisse deuten darauf hin, dass eine stärkere Emotionsregulierung (gekennzeichnet durch einen höheren Positivitätsgrad) mit der flexiblen Anwendung verschiedener Strategien jenseits der kognitiven Neubewertung einhergeht: intuitives Handeln, Teilen von Emotionen und empathisches Erkunden von Emotionen anderer Personen sowie Urteilsfreies Wahrnehmen von inkongruenten Gefühlen. Die Studie liefert erste Anhaltspunkte dafür, dass Design Thinking zur Erweiterung des Emotionsregulation-Repertoires beitragen kann.

Ein anschließendes Online-Experiment zielt darauf ab, den vorläufigen Befund zu validieren, dass empathische Interaktionen, die bedeutsam im Design Thinking sind, Emotionsregulation im Übergang zwischen

Studium und Beruf unterstützen. In der zweiten Studie wird daher untersucht, ob das empathische Erkunden der Emotionen einer anderen Person den Zugang zum eigenen impliziten Selbst (gemessen an der Kongruenz zwischen impliziten und expliziten Motiven) verbessern kann. Diese Informationen können genutzt werden, um Interventionen zu entwickeln, die darauf abzielen ganzheitliche Emotionsregulation in belastenden Übergangsphasen zu fördern.

Stichworte: Berufliche Übergänge, Emotionsregulation, das Implizite Selbst, Design Thinking, Empathie

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And my biggest thanks to my family and friends for all the support you have shown me through the time of my PhD studies. You have been amazing in uplifting me when I was grumpy. You accompanied me to

the gym or in the mountains when my head was spinning. You gave me food when writing for about days and nights made me forget about it. You were a direct reflection of what this work claims: to emotionally master challenges we need others. Thank you for providing emotion regulation support.

Yours sincerely,
Désirée

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Introduction

Today, I felt especially sad and also a little bit angry at myself… For about two years now, I started to become very uncertain about what my future would look like. I do not know which future profession I should choose. This made me hesitate a lot for the choice of my master as well, as I think that the master is only a pathway to the future job one does wish for. This fear of the unknown paralyses me in my daily life. It ruins my motivation and my creativity for the day when I experience it.

(a quotation from
our fieldwork)

Problem and relevance description

Vocational transitions, such as from education to work, confront individuals with considerable and growing challenges (Lechner, Tomasik, Silbereisen, 2016; Róbert & Bukodi, 2005; Schoon, Martin & Ross, 2007). Transitions of any kind are inherently emotional. As a "period of discontinuity and flux" (Ashforth & Saks, 1995, p: 157), transitions may render individuals' existing representations of the world and themselves invalid, creating sensations of unpredictability and uncontrollability. Negative emotions may well accompany the experience (Chamandy & Gaudreau, 2019; Körner, Lechner, Pavlova, & Silbereisen, 2015; Hiroto & Seligman, 1975; Savickas & Porfeli, 2012).

Transitioning from education to work is one of the most important development tasks, and it may be characterized by both fear of failure and hope for success, rendering it a high-stakes change in which individuals are required to self-regulate emotional distress to positively transition into new career and life chapters. Increasing volatility, uncertainty, complexity, and ambiguity in the digitized world of work have accelerated the hype around emotion regulation or "emotional adaptability" (Wiens & Rowell, 2018). In response, ever more individuals are adopting a range of practices to self-optimize their affective experience, mindset, and energy.

The turbulent dynamics of today´s working environment coupled with the current pandemic likely intensify both uncertainty and the corresponding emotionality, thus giving even more relevance to researchers' claim that emotional self-regulation will become one of the most sought after competencies of the 21st century (e.g., Ashkanasy & Humphrey, 2011). The Swiss Index of Job Stress (2018) shows that more than one quarter of employees surveyed (25.4 % in 2016 and 27.1 % in 2018) report that their emotional burdens are higher than their emotional resources, thus leading to emotion exhaustion. Adversity's interference with individuals' striving starts on campus: Research shows that American college students' demand for counseling services has been steadily increasing, with more than 60% of those who use consultation reporting anxiety and depression as their top concerns (Center for Collegiate Mental Health, 2017, 2020). Luckily, we have numerous means at our disposal to regulate our emotions (Gross, 2008; Koole, 2009) and thus master transitions despite heavy demands.

With emotions lying "at the center of human experience and adaptation" (Lazarus, 1994, p. 5), there is little question about the importance of emotion regulation in understanding how people navigate transitions. The concept of emotion regulation has evolved into a rich but diverse research stream and has refined our understanding of how to influence our emotions. Effective emotion regulation in transitions guides personal goal construction (Dietrich, Jokisaari, & Nurmi, 2012), shapes the belief in one's ability to attain those goals, creates constructive strategies for their achievement (Nurmi, Salmela-Aro & Koivisto, 2002), fuels motivation to pursue goals (Carver & Scheier, 1998), and fosters well-being even in the face of emotional turmoil (e.g. Bonanno & Burton, 2013). By contrast, people who are less effective in emotion regulation are often "hijacked" (Goleman, 1995) by their own emotions. The plasticity of emotion regulation suggests a need to create and validate interventions designed to shape emotion regulation processes in helpful ways (Bonanno & Burton, 2013).

The introductory quote from our fieldwork voices the frustration that individuals in transitions from education to work often experience as a result of ineffective emotion regulation. Insufficient emotion regulation comes with far-reaching consequences, rendering knowledge on how to overcome it highly relevant. Failure in emotion regulation may surface as dwelling on negative affect, leading to, for instance, thinking the same dysfunctional thought over and over again until interrupting such

cycles becomes difficult (ruminative thinking). Our language offers various vividly descriptive expressions of such self-regulation failure which are reflective of the over-reliance on dysfunctional and narrow cognition: “analysis paralysis”, “tunnel vision” and “problem trance”. When individuals become stuck in counterproductive motivational-emotional states, it keeps them from effectively planning and enacting intentions (Kuhl, 2001; Koole, Schlinkert, Maldei & Baumann, 2019). Thus when negative emotions are under-regulated, little room may be left for holistic exploration of self-referential information and context-related opportunities, broad meaning-making reflections and flexible navigation through new territories. However, this is what challenging times of transitions in fact demand of us.

In this context, Kuhl, Koole and colleagues (Jostmann, Koole, van der Wulp, & Fockenberg, 2005; Koole & Coenen, 2007; Koole & Jostmann, 2004; Kuhl, 2001) have observed that, in contrast to emotion regulation deficiency, some people can quickly down-regulate negative affect in demanding situations, which leaves them capable of both restoring their well-being and attaining their higher-order goals despite adversity. These authors refer to the ability which sets such individuals apart as “action orientation” and emphasize that the beneficial influence these individuals assert on their emotions is anchored in intuitive and implicit as opposed to conscious emotion-regulation processes. The advent of personality systems interaction theory (PSI, Kuhl, 2000, 2001), which frames that dissertation, has brought increasing interest in the study of such implicit emotion regulation integrative of intuitive resources of the individual.

Working from the observation that transitions put individuals´ emotion regulation to the test, this work aims to enrich our knowledge on emotion regulation in transitions by exploring three thematic areas that deserve more attention:

First, scholars in the vocational domain have claimed that young cohorts entering the workforce are confronted with considerable uncertainty (Lechner, Tomasik, Silbereisen, 2016; Róbert, Bukodi, Blossfeld, Klijzing, Mills, & Kurz, 2005; Schoon, Martin & Ross, 2007) and that this requires them to find strategies to engage with the challenge. However, vocational psychologists have barely touched upon how they experience and regulate emotion (Hartung, 2011; Kidd, 2004). This study argues that transitions pose tremendous challenges in which the

individual's emotion regulation may be positioned as a central feature. In particular, this work aims to contribute to vocational research by providing insights into how tensions determine the emotional experience in transitions. The purpose of this study is to use a profound understanding of tensions to examine how individuals regulate their emotions to fully use their resources in transitions as they define and develop their careers. This work offers a categorization of emotion regulation strategies individuals employ during transitions.

Second, the thesis sheds light on an emerging issue in contemporary emotion regulation research: Whereas the exact relationship between cognition and emotion is still debated (Luo & Yu, 2015), most modern emotion regulation models endorse a neurological dualism between cognitive processes in the prefrontal cortex and the subcortical, limbic, emotion-reactivity-related areas such as the amygdala and anterior insula. On this basis, researchers often attribute effective emotion regulation to a person's ability to assert explicit, top-down cognitive control over emotions (e.g., Carver & Scheier, 1998), particularly by applying cognitive reappraisal: changing the way we think about stimuli to reduce negative feelings (e.g., Gross, 1998; Ochsner & Gross, 2008; Uusberg, Taxer, Yih, Uusberg, & Gross, 2019). This study explains why this perspective is incomplete and contributes to learning how to significantly enhance emotion regulation by tapping into the potential of more implicit, intuitive forms of emotion regulation that go beyond cognitive manipulation of emotion. In particular, this work seeks to uncover how a person can activate increased access to their "implicit self" (Kuhl, 2000; Kuhl & Koole, 2004) – a cognitive affective network that is supposed to help coordinate between cognition and emotion in a holistic, flexible, and intuitive processing mode (Baumann & Kuhl, 2002). This study`s results provide evidence that transitioning is experienced as draining when individuals do not get access to their implicit self. Particularly, it contributes to existing knowledge by showing that individuals high in emotion regulation apply various emotion regulation beyond cognitive strategies, whilst individuals with rather ineffective emotion regulation rely almost exclusively on them.

Third, the literature reviewed here depicts the process of navigating uncertainty during transitions as largely a matter for the individual and pays insufficient attention to how it might be part of broader social processes. This is a significant limitation, given the importance of supportive relational qualities in building strong capacity to regulate emotions.

We consider emotion as per se an interpersonal phenomenon that does not occur in isolation (Rimé, 2009). Thus, we respond to calls by several researchers (Bonanno & Burton, 2013; Grandey & Melloy, 2017; Kashdan & Rottenberg, 2010; Kobylińska & Kusev, 2019) for research that accounts for the social-situational context in which emotion regulation is embedded. Such a contextualized approach allows us to explore how individuals might act collectively to strengthen their resources to navigate transitions. This study shows that high emotion regulation is, amongst other strategies, associated with compassionately exploring and sharing emotions with others in challenging times, instead of suppressing emotion and avoiding sharing emotion, which is, however, widespread according to our results.

Supporting individuals in tackling the "wicked" problems (Rittel & Webber, 1973) of vocational wayfinding, more and more universities have launched group interventions. Following the example of the Stanford Life Design Lab, educators across the world are increasingly applying design thinking (DT) to such career-related interventions, often referred to as Life Design or Design Your Life. Such a group intervention which was conducted at the University of St. Gallen represents the context in which we gathered our data on emotion regulation during transitions.

Born in the field of user-centric product development, DT has evolved into a meta-disciplinary concept, which the most cited article to date on DT, “Design Thinking” in the *Harvard Business Review* (Brown, 2008), defines in multiple ways. It is referred to as a designer’s cognitive style for problem-solving (Bousbaci, 2008) or a set of practices which design agencies such as IDEO promote to advance innovation in large-scale companies (Brown, 2008). Meanwhile, DT has found its way into academic programs, which teach the concept to nondesigners in their higher education courses (Dunne & Martin, 2006; Plattner, Meinel & Weinberg, 2009).

As a human-centered approach it places importance on the idea that at the beginning of a design process one has to understand individuals’ challenges and needs to create meaningful solutions. Hence, the design process begins with the intuitive exploration of a problem space to gain a deeper understanding of the user case. Following the problem understanding, the second phase is the rich and multidimensional illumina-

tion of alternative solutions based on design imperatives such as "Encourage wild ideas!" and "Defer judgement!" (Lindberg, Noweski, Meinel, 2010, p. 33). Third, and at the heart of DT, (Schön, 1987) the problem and solution spaces are aligned by frequently iterating between ideation and transforming ideas into tangibles referred to as prototypes (Beverland, Wilner & Micheli, 2015). DT further defines a "team-based approach to innovation" (Brown, 2008, p. 86) that directs its users to collaborate radically over solo activities.

Particularly, when such interventions meet recent developments in career counseling, they are supposed to increase higher-order competencies which are of great demand in the "transitory, ever-changing workplace" (Del Corso & Rehfuss, 2011, p. 334), such as adaptability and self-construction of identity (Nota & Rossier, 2015; Savickas et al., 2009).

Research on DT applied for career construction embraces the richness of emotions people experience in vocational transitions (e.g., Bernardi, Bollmann, Potarca, & Rossier, 2017) and has shown that it helps self-regulate emotions in tough times (Rossier, Ginevra, Bollmann, Nota, 2017). Despite DT's increasing popularity and widespread application, it is not yet specified why and in which ways DT applied for vocational wayfinding supports emotion regulation. The study of effects of DT interventions on vocational wayfinding has mostly applied quantitative measures anchored in the positivist paradigm.

To the authors' best knowledge, DT and emotion regulation have not yet analyzed in a mixed-methods study. This is where this study contributes. Whilst we would not argue that DT interventions for vocational wayfinding are the only approaches to transitioning in uncertainty and developing emotion regulation resources, findings generated in such contexts are especially vivid. We consider such human-centered problem-solving interventions as spaces in which tensions of uncertainty inherent in vocational wayfinding are experienced, shared, and worked upon through creative practices which likely activate the implicit self. Thus, such interventions may provide valuable insights which contribute to our understandings on how emotion regulation can be supported.

Research questions

This work seeks to better understand emotion regulation as the cornerstone of our ability to navigate complex emotion-arousing situations and reach our goals while retaining our sense of self. To realize this aspiration, this thesis strives to theorize, explore, and empirically test emotion regulation strategies by applying mixed methods. The work pursues the question of how individuals in transitions regulate their emotion by drawing on PSI theory (Kuhl, 2000). Even though a body of research has accumulated on emotion regulation strategies, research on emotion regulation strategies in the context of transitions remains scarce, and the topic has not yet been theorized through the lens of PSI theory, which places the implicit self as central to emotion regulation. This work aims to address this gap through an in-depth qualitative analysis of the emotion regulation strategies of students in Switzerland transitioning from university to work life and through an experimental study on the implicit self. Specifically, this research was guided by three qualitative research questions and one subsequent quantitative question. Subsequent to qualitatively exploring tensions, strategies, and the DT-related mechanisms by which individuals influence their emotional experience in transitions, this research tests parts of the derived propositions under controlled conditions.

Research Question 1: Which tensions do individuals experience in transitions from university to work life?
Research Question 2: Which emotion regulation strategies do individuals employ in navigating transitions effectively?
Research Question 3: In which ways does design thinking shape emotion regulation?
Research Question 4: Does the design thinking practice of empathically inquiring another person`s situation and feelings increase access to one`s own implicit self and thus help regulate emotion in challenging times?

Beyond contributing to vocational research and emotion regulation literature, this work aims to empirically explore how emotion regulation can be enhanced in practice by applying DT principles. We want to bring these insights to the attention of individuals in challenging career transitions and to practitioners who provide counseling to such individuals.

Overview

The dissertation is organized into three chapters, which are framed by this introduction at the beginning and a general discussion and closing remarks at the end, as illustrated in Figure 1. The introduction aims to give the reader a general understanding of the relevance of the topic and the research questions guiding this work. The following outlines the research design which was applied and the structure of the dissertation.

Chapter 1 lays out the theoretical foundations by reviewing literature streams relevant to emotion regulation and showing how current understanding remains limited. The chapter begins with terms and concepts of emotion and emotion regulation and reviews findings on emotion regulation strategies mostly gathered through the lens of Gross's (1998, 2015) prominent taxonomy. We further review research that accounts for the particular context of transitions. We apply the person-oriented view of emotion regulation (Kuhl, 2000) to frame this work and thus underscore the relevance of the implicit self to emotion regulation in demanding times. After shedding light on the implicit self in emotion regulation, we examine its properties and neuropsychological correlates.

Chapters Two and Three are devoted to the empirical investigations, which follow a mixed-methods sequential exploratory design (Creswell, et al., 2003; Creswell & Plano-Clark, 2007). Instead of approaching research questions using either quantitative or qualitative research, mixed methods, frequently referred to as the "third methodological orientation" (Teddlie & Tashakkori, 2008), aim to advance scholarly conversation by bridging the traditional dichotomy and thus provide a more complete picture of the phenomenon under study (Bryman, 2006; Creswell, et al., 2003). Whereas the lion´s share of emotion research measures emotion regulation with self-report scales based on predefined categories, we propose that a multimethod approach may contribute to better capturing the multifaceted "nuances and complexities of emotions" (Castro, Kellison, Boyd & Kopak, 2010, p. 4) experienced in transitions. Specifically, starting with a qualitative phase enabled us to understand the individual and their various affective responses, inner conflicts, and aspirations holistically as they occur in their natural context.

This sequential exploratory design thus consists of distinct phases in which the first, qualitative phase, described in Chapter Two, informs

the development of data collection in the second, quantitative phase, reported in Chapter Three. Even though both studies are conducted independently and the second phase builds on the first, the two are connected such that merging of data from the two separate strands occurs at the data interpretation stage (Leech & Onwuegbuzie, 2007), explained in the General Discussion. Thus, this design, first, yields research-guiding "provisional theoretical relationships" (Edmondson & McManus, 2007, p. 1165) between constructs and develops hypotheses that are, second, selectively tested in a follow-up quantitative phase (Doyle, Brady & Byrne, 2009; Srnka, 2007). As the study draws on the strengths of both methodologies and then integrates the findings at the interpretative level, it likely enables us to achieve a greater degree of understanding and to draw more accurate inferences and conclusions (Creswell & Plano Clark, 2011; Tashakkori & Creswell, 2007).

In the first phase, the author and another researcher investigated the experience of transitioning and the emotion regulation strategies of business students at the University of St. Gallen in Switzerland. Collecting and analyzing students' reflections written in journal accounts over the period of one semester yielded important information. During that semester, participants attended a design thinking intervention intended to support them in finding their career path and were asked to record their experience in journal accounts. Here, participants were able to reflect and express their affective states precisely without the researcher intervening in the process. Beyond providing thick description of such research phenomena as tensions and emotion regulation strategies, this chapter also explains why we believe interventions in the design thinking paradigm can help individuals in transitions by increasing access to their implicit selves. This study has been presented at two academic conferences held by the Academy of Management in 2020 and will be submitted for publication in the *Journal of Vocational Behaviour* in 2022.

We observed that strategies students adopt vary as a function of the positivity ratio of the language in their texts. Results indicate that greater emotion regulation as indicated by greater positivity ratios (Fredrickson & Losada, 2005) are related to greater flexibility in applying various strategies beyond cognitive appraisal. The study provides initial support that interventions anchored in the design thinking paradigm may serve as emotion regulation support because they may elicit

the implicit self and thus equip individuals with greater emotion regulation repertoire to navigate transitions that are: intuitive action, emotion sharing and empathically turning towards another person in a pursuit to explore their situation and emotion, and non-judgmentally noticing feelings.

After investigating tensions and emotion regulation strategies in the first, qualitative phase of the study, practices related to design thinking have been distilled as powerful mechanisms that may positively impact emotion regulation and thus may make a wider array of psychological resources in the context of transitions available: Design thinking with its imperative to empathize in a pursuit to inquire another person`s perspective and feelings seemed to be prone to support one`s own emotion regulation. This initial result was surprising and led the researcher to elaborate on this intriguing hunch in the second, quantitative phase of this research. After inductively building theory, this dissertation then tested it against current theory and under controlled conditions in the second phase of this research.

Chapter Three outlines the quantitative phase of the study. Quantitative data was collected and analyzed to further refine our understanding of the nature of the provisional relations between the constructs empathic inquiry and access to the implicit self by testing the relation under controlled conditions. To remain within the scope of this dissertation and concentrate on the part of the framework most likely to advance research and practice, the authors experimentally examined whether empathically turning towards another person (in other words, putting oneself in another person's shoes, exploring their inner world, which we define as empathic inquiry) helps the inquirer to access their own implicit self. An online experiment with 157 participants was conducted to test the proposition that when individuals empathically explore another person`s situation and feelings, they increase access to their implicit self in the emotion regulation process and thus make greater emotion regulation resources available. This quantitative study targeted associations between constructs of interest, causality and strength of effects (Fetters, Curry & Creswell 2013) by deriving findings from a larger sample. However, we remain aware that the experimental setting inevitably detaches the phenomenon from the real-world context (Moghaddam, Walker, & Harre, 2003).

In the General Discussion, a conclusion of research findings is provided by merging the two studies. We elaborate on several theoretical implications to contribute to existing research and on several practical implications for individuals developing their careers in emotion-laden contexts and career professionals supporting these individuals. Lastly, the methodological limitations of the work and avenues for future research will be considered.

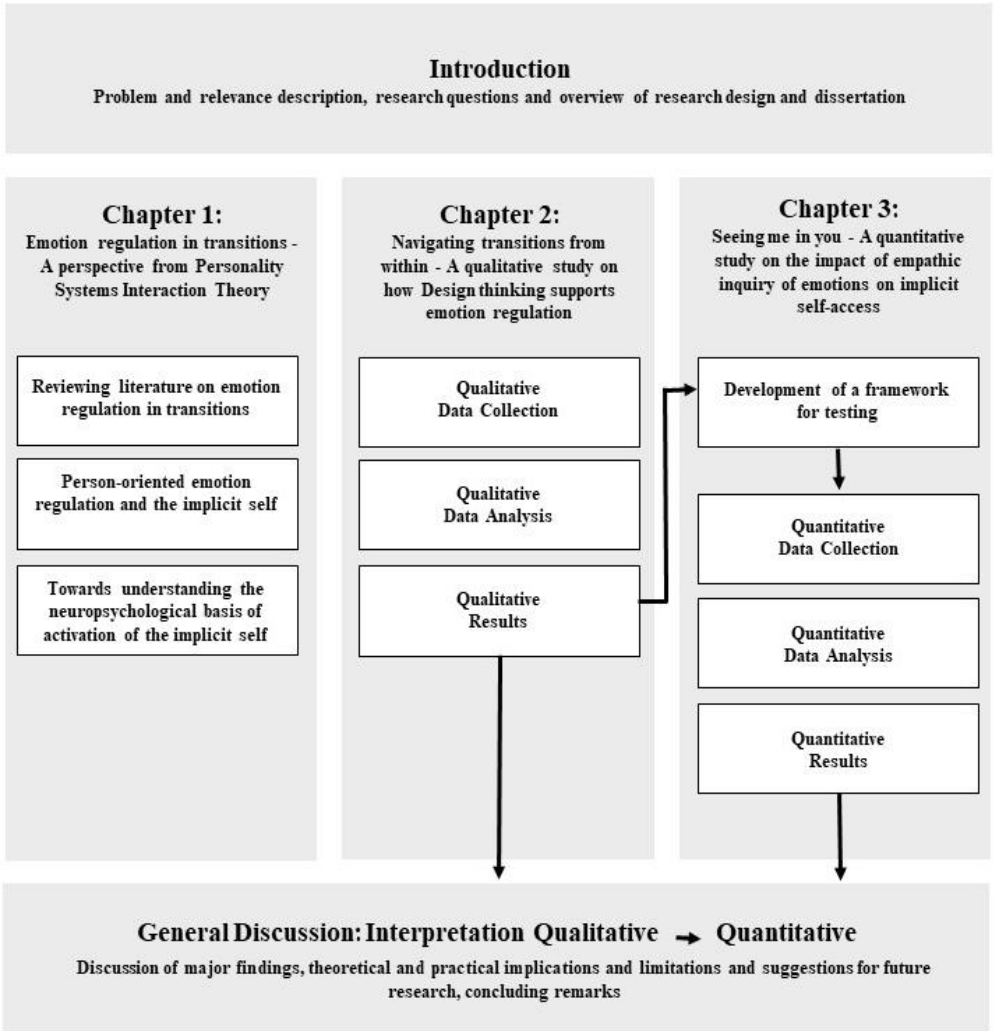

Figure 1: Overview of the dissertation structured along an exploratory sequential design (Creswell, et al., 2003; Creswell & Plano-Clark, 2007) (own illustration)

CHAPTER 1:
Emotion regulation in transitions - A perspective from Personality Systems Interaction Theory

1.1 Reviewing strands of literature on emotion regulation in transitions

According to Gross and Thompson (2007), people can influence what they feel, how intensely and for how long they feel it, and the extent to which they express their emotions. Even though such patterns of influence over emotions are often discussed as dispositional and thus by and large stable, people can improve how they regulate emotions, and this may be crucial for navigating through periods of discontinuity and transformation. Such an improvement may not only sustain people's mental health but also bring their authentic intentions to life. The plasticity of emotion regulation skills has helped drive the evolution of the concept of emotion regulation into a vibrant and diverse research stream over the past three decades. This development has produced a tremendous impact on our understanding of the various emotion regulation strategies people can employ (Gross, 2013).

Yet, knowledge on how people regulate their emotions in the particular context of vocational transitions leaves room for further investigations. For instance, by which strategies do people improve their current states of emotions and manage to pursue their long-term developmental goals at the same time? The insufficient state of current knowledge may be attributed to a lack of shared understanding of the complex, multifaceted phenomenon of emotion regulation within the research community (Lawrence, Troth, Jordan & Collins, 2011). Consequently, insight from psychology literature is just beginning to reach today's vocational audience.

Researchers in the vocational domain have examined how students transition from university to work. However, the role of emotion regulation has received little attention (Kidd, 2004; Hartung, 2011). According to the motivational theory of lifespan development (Heckhausen, Wrosch & Schulz, 2010), people use two main strategies to deal with the uncertainty inherent in transitions. They may engage by actively seeking to change stressors and thus achieve their developmental goals, for example by putting extra effort into university assignments or increasing their chances of obtaining internships. Alternatively, they may disengage from the stressor, for instance by devaluing the long-term goal in favor of short-term pleasure or by downgrading their career aspirations (Lechner, Tomasik & Silbereisen, 2016). Although disengagement may

protect one's self-esteem when goal attainment in the vocational domain is threatened by obstacles, engagement strategies have been found to be both subjectively preferred (Tomasik, Silbereisen, & Pinquart, 2010, Heckhausen et al., 2010) and objectively superior; they lead to both greater well-being (Haase, Heckhausen, & Köller, 2008) and more successful goal attainment (Körner, Lechner, Pavlova, & Silbereisen, 2015).

This work argues that such models apply an idealized, simplistic idea of how human action unfolds that is unsuited to explaining how individuals manage emotions in transitions (cf. Kazén, & Quirin, 2018). For a deeper understanding of transitioning, we position emotion regulation as a central feature. This literature review starts by clarifying what emotions are, then goes on to introduce concepts and strategies of emotion regulation, and reviews current debates in emotion regulation literature that we consider relevant to our research purposes. The chapter ends by arguing that current understanding of how transitions are navigated is limited and explaining how this work intends to contribute to research and practice.

Conceptualizations of emotion and emotion regulation

This work treats emotions as inherently functional; in concert with motivation and cognition, the "three constructs of mind" (Lazarus, 1991, p. 171) facilitate adaptation (Frijda, 1986; Ekman & Davidson, 1994). Regardless of whether emotions are positively or negatively charged, they carry important information about both internal sensations and the situations in which they are embedded (Jarymowicz & Imbir, 2015; McRae & Gross, 2020).

Through this information-laden characteristic, emotions work as lighthouses, thus potentially supporting navigation through the complexities of the social world (Cacioppo & Gardner, 1999; Tiedens, 2004). Both positive and negative emotions add meaning to experiences, shape how we think and respond to demands and threats, and channel our energy as action tendencies towards or against certain stimuli (Lazarus, 1991). However, negative emotion only unfolds its adaptive potential if it is regulated effectively.

Despite the functional value of both positive and negative emotions, demanding and threatening times such as transitions are likely to be experienced as unpleasant or overwhelming. Such unpleasantness provokes a discrepancy between how people want to feel and how they currently feel, with discrepancies generally triggering a process of emotion regulation in which people self-monitor emotional states in relation to their own standards and adjust their responses (Carver & Scheier, 1998; Tamir, 2009). Consequently, emotion regulation may be understood as a self-regulation process that encompasses any efforts by the individual to alter inner responses to bring current emotional states closer to desired emotional states (Erber & Erber, 2000; Larsen, 2000; Tice & Bratslavsky, 2000).

The lion's share of emotion regulation research favors the idea that humans strive to maximize pleasure and avoid pain. This is referred to as hedonic emotion regulation (e.g., Larsen, 2000) or need-oriented emotion regulation (Koole, 2009). For most individuals, effective emotion regulation in aversive situations thus involves recruiting positive emotions more frequently and decreasing the frequency and impact of negative emotions (Carstensen, Pasupathi, Mayr & Nesselroade, 2000). Researchers have accumulated evidence that cultivating positive emotions helps to dampen the effect of adversity (Fredrickson, Mancuso, Branigan & Tugade, 2000). Assuming that positive affect buffers negative affect, several studies anchored in positive psychology have shown that sustaining a high ratio, above a threshold of 2.9, of positive affect utterances relative to negative affect utterances or interactions indicates optimal emotional functioning of individuals, romantic partnerships, and work teams (Gottman, 1994; Fredrickson & Losada, 2005).

Contrary to the conventional wisdom that negative affect is to be eliminated, such conceptualizations of a ratio of positive to negative emotion imply that negative affect need not equal zero. Indeed, certain forms of negative emotion may have immediate functional value (Tamir, 2009), such as fostering sharp problem analysis (Andrews & Thomson, 2009) and inhibiting premature action (Kuhl, 2000) through a problem-focused, discrepancy-sensitive mode of attention. Hence, negative affect may even promote goal striving, provided negative affect is neither rigid nor pervasive but regulated effectively (Fredrickson & Losada, 2005). This is reflected in more recent definitions of emotion regulation which suggest that people´s attempts to influence their emotions go beyond downregulating negative affect such as fear, anxiety,

and stress and increasing positive affect; they also involve flexibly downregulating and upregulating negative and positive affective states, depending on the regulation goal at hand (e.g. McRae & Gross, 2020; Koole, 2009; Kuhl, 2000).

Researchers have further refined the hedonic view by stipulating that beyond immediate need satisfaction, people target a variety of goals that fall somewhere between hedonic goals such as immediate pleasure and subjective well-being and instrumental goals such as long-term benefits (Tamir, 2009). According to goal-oriented accounts of emotion regulation, people who pursue instrumental long-term goals, such as writing a thesis, working hard to get a job, and progressing on the career ladder, need, at least temporarily, to suppress unwanted emotions and behavioral impulses, such as the temptation to engage in pleasant activities. Yet, they may tolerate that frustration in return for the pleasure derived from successful goal pursuit (Tamir, 2009). Thus, people continuously balance pleasure with utility or, as emotion regulation models often imply, "hot" emotion with "cold" cognition.

Generally, the exact relationship between cognition, also referred to as the head, rationality, and reason and emotion termed the heart, intuition, and impulses, is still debated (Luo & Yu, 2015). More specifically, most modern emotion regulation models endorse a dualism between cognitive processes in the prefrontal cortex and the subcortical, limbic, emotion-reactivity-related areas such as the amygdala and anterior insula. On that basis, researchers often attribute effective emotion regulation to a person's ability to assert explicit, top-down control over emotions (e.g. Carver & Scheier, 1998), particularly by changing how we think about a stimuli to modify feelings (e.g., Gross, 1998). However, emotions' reciprocal interconnectedness with the brain, the body, and behavior (Izard, 2000; Damasio, 1998; Frijda, 1986) give people many levers beyond cognitive appraisals to change their emotions. Thus, researchers' strong focus on cognitive strategies has been fragmentary but fortunately is increasingly enriched by the new perspectives that have inspired this work.

Emotion regulation strategies in transitions

People have numerous ways to influence their emotions. One of the most prominent taxonomies is the categorization into sets of emotion regulatory families, depending on the phase in the emotion-generating

process (Gross, 1998, 2015). Emotion generation is the initial emotional response to a situation-attention-appraisal-response sequence. The sequence begins with a situation that interferes with or supports personal goal striving, subsequently triggers a person to direct attention to specific goal-relevant aspects of the situation, and results in the initial appraisal that current and desired emotional states are discrepant (Gross & Thompson, 2007). This, in turn, may be followed by subjective, physiological, and behavioral emotion responses.

For example, encountering a peer who shows off by communicating his or her successes in vocational wayfinding might interfere with another person's goal of securing self-esteem despite transition difficulties, which may lead to an angry response. Emotion regulation is a person's attempt to modify their initial emotional response. The initial emotional response can be modified by five levers (Gross, 1998; 2015).

When a situation causes stress, someone can focus on
- changing the emotion-arousing environment (situation selection) or
- changing elements of the situation (situation modification),
- changing the emotion through consciously shifting attention to certain environmental experiences (attention deployment) or
- interpreting situations differently (cognitive reappraisal) or
- changing the response to one's emotions (response modulation).

Table 1 shows these strategy families, exemplifies selected strategies, and illustrates the forms in which these strategies can occur in the vocational context. The examples are drawn from research based on Gross's (1998, 2015) process model (Diefendorff, Richard & Yang, 2008; McRae & Gross, 2020).

Table 1: Strategy Families, Selected Strategy and Example tactics

Emotion Generation Process	Strategy Family	Selected Strategy	Example tactics (in vocational context)
Situation	Situation Selection	Avoidance	Choosing to not engage with the emotion-eliciting situation (e.g., turning down an interview request or avoiding a conversation that one knows will make one feel bad)
	Situation Modification	Direct action	Taking action that impacts the situation directly once engaged (e.g., asking for support, changing the conversation or the conversation partner when a conversation causes stress, trying to solve a problem or deciding to remove oneself from an emotion-eliciting once it becomes unpleasant)
Attention	Attention Deployment	Distraction	Directing attention away (e.g., keeping oneself busy working on transition-unrelated issues or turning attention towards emotion boosting activities)
		Rumination	Recurrently directing attention towards negative feelings and its causes and consequences (e.g., mentally replaying unfavorable past or future scenarios)
Appraisal	Cognitive Change	Cognitive Reappraisal	Reinterpreting a situation by changing the meaning of it (e.g., finding humor in an unfortunate event or thinking that the job rejection was due to the unskilled interviewer)
		Acceptance	Welcoming emotions in a non-judgmental manner (e.g., recognizing negative emotions without the intent to change it)
Response	Response Modulation	Expressive Suppression	Trying to not express emotional states (e.g., by hiding how one really feels in encounters with others or keeping a professional face even when overwhelmed with disappointment)
		Physiological Intervention	Directly changing the emotion in its physiological aspects (e.g., physical actions such breathing, doing sports or drinking alcohol)

Note: Strategy families based on Gross´s (1998, 2015) emotion generation process model. Example tactics are drawn from McRae and Gross (2020).

Effectiveness of emotion regulation strategies in transitions

Research using Gross's categorization (Gross, 1998, 2008, 2014, 2015) has shown that intervening relatively early in the emotion-generating process appears to be most effective in altering the course of the emotional response, with cognitive reappraisal being the most studied strategy. Such antecedent-focused strategies focus on steps we take, either intentionally or automatically, before emotion-response tendencies are fully activated (Ochsner & Gross, 2008).

In contrast to antecedent-focused strategies, most researchers view response-focused strategies applied later in the emotion generation process as generally less effective. Suppressing emotions is the most prominent response-focused strategy. As a form of inhibiting ongoing emotion-expressive behavior, it aims to modulate the display of emotion that has already been fully generated. Emotional suppression may decrease outward expressions of emotion but not the inner emotional burden. Instead, it results in an incongruity between an individual's actual emotions and their outward display. In the long run, efforts to "talk ourselves out of emotions" often result in increased rumination and perseveration: Suppression of emotions may create a downward spiral, including anxiety, depression, and stress symptoms, which in turn create greater emotional burden, which then requires more extreme suppressive behavior (Geraerts, Merckelbach, Jelicic, & Smeets, 2006; Myers, Burns, Derakshan, Elfant, Eysenck, & Phipps, 2007).

Despite cognitive reappraisal being deemed a superior strategy in regulating emotions, strikingly, however, evidence shows that when people use cognitive appraisal for goals that are discrepant with content of their implicit self, such as meeting external expectations of an organization (Grandey & Melloy, 2017), cognitive reappraisal is a matter of "hard" self-control. Self-control refers to a person's conscious efforts to pursue goals against competing tendencies, which is especially important when goals are of high utility but not reflected in the personal need structure, or in other words, when they are other-imposed as opposed to self-congruent. Such self-controlled processes require the individual to consciously suppress responses to implicit needs, which is

generally accompanied by negative affect (Kuhl, 1996, Kuhl & Fuhrmann, 1998).

In line with limited resources theory (Baumeister et al., 1998), cognitive reappraisal is not only believed to be a conscious, effortful, and resource-demanding process but is also reliant on prefrontal operations, which have been shown to be restrained under negative emotionality (Arnsten, 2009; van Ast et al., 2014; Raio, Orederu, Palazzolo, Shurick, & Phelps, 2013). Coping with negative emotion, and resisting temptations require self-control, and after exerting such self-control, subsequent acts of self-control are more likely to fail (Muraven & Baumeister, 2000). This underscores the idea that self-control draws on a limited stock of resources which are likely depleted in situations of negative affect. In support of this assumption, Brotheridge and Grandey (2002) found that cognitive reappraisal is associated with emotion exhaustion and psychosomatic symptoms. This suggests that frequent attempts to delude oneself into feeling differently in order to meet external goals may come at high expense in the long term.

Backed up by neurobiology and experimental cognitive psychology, the current consensus is that the effectiveness of emotion-regulation processes does not necessarily require human consciousness, echoing the famous Freudian analogy that conscious processes represent but the tip of the iceberg (Freud, 1915). Hence, researchers have increasingly broadened their focus to more implicit, nonconscious, and automatic forms of emotion regulation, termed implicit emotion regulation or intuitive affect regulation, which operate without conscious monitoring and significantly enhance emotion regulation by compensating for the shortcomings of cognitive, conscious, and deliberate control (Gyurak, Gross & Etkin, 2011; Koole, Webb, Sheeran, 2015). The advent of PSI theory has brought increasing interest in the study of such implicit forms of emotion regulation. Yet, because the implicit self operates largely beyond consciousness, its conceptualization and measurement still pose immense challenges to researchers.

The neuropsychological perspective views explicit and implicit emotion-regulation processes as facilitated by distinct brain systems. Whereas explicit emotion regulation is mostly realized by specific regions of the prefrontal cortex, which are engaged in voluntary attention and cognition control, implicit emotion regulation is mainly performed

by subcortical regions such as the amygdala, ventral striatum, and anterior insula, where emotions are both generated and regulated through implicit processes (Guendelman, Medeiros & Rampes, 2017). The fact that implicit emotion regulation directly impacts the epicenter of emotion may explain why implicit emotion regulation can unfold its effectiveness without energy-draining cognitive detours.

Whereas Wilms, Lanwehr, and Kastenmüller (2020) recently showed that suppression may be beneficial for achieving social goals (e.g., avoiding conflict), other research indicates that suppressive emotion regulation in transitions may even come at social costs (Srivastava, Tamir, McGonigal, John & Gross, 2009). Interestingly, Srivastava and colleagues' (2009) longitudinal study showed that students' control of emotions by not expressing them during a transition results in lower social support, lower closeness to others, and decreased social satisfaction post-transition. These findings held true across a variety of assessment methods: weekly diaries, end-of-term self-reports, and peer reports.

Consequently, the question arises which strategies does existing literature indicate are best suited to support individuals in transitions? The "best suited" formulation requires some clarification. According to Sheppes and Gross (2012) the effectiveness of emotion regulation depends on three factors: (a) the resources required, (b) the emotional intensity of the stimuli that needs to be dealt with, and (c) whether short-term relief or long-term adaptivity is sought. Researchers investigating emotion regulation strategies draw on diverse understandings of effectiveness and are not always explicit about these. Nonetheless, this discussion of existing research results about emotion regulation in transitions attempts to summarize the findings in accordance with the criterion of effectiveness.

Suppressing emotions in transitions is resource-intense, likely to lead to unfavorable long-term outcomes, and is not even effective in yielding real-time changes in emotion, because it intervenes in the emotion generation process when the emotion is already fullblown, thus rendering response-focused strategies generally ineffective. Despite its proposed adaptivity in the long-term, cognitive reappraisal is strongly reliant on prefrontal cognitive resources and is thus fragile in situations characterized by high-intensity emotions, which likely take over command. It may also lead to detrimental effects in the long term, especially when

such cognitive appraisals are at odds with the personal need structure, thus creating a conflict between what we think and actually feel. Distraction seems to be effective in the short term to repair mood because it helps to distant oneself from unwanted negative emotions (Sheppes et al., 2011, 2014) and thereby makes cognitive resources available for solving other urgent demands (Van Dillen & Koole, 2007). However, the extent to which a person can create sustainable change in uncertain transitions by distracting attention to the issues at hand is questionable, rendering the individual less adaptable.

Situation selection and attention deployment have often been analyzed through the lens of rather maladaptive strategies such as avoidance and distraction, respectively. However, following the argument that the earlier in the emotion generative process, the better, we speculate that situation selection and attention deployment as antecedent strategies may offer potential to advance individuals' emotion regulation during transitions. Consistent with the observation that findings across and within research domains are mixed regarding the effectiveness of emotion regulation practices, scholarly agreement is emerging that emotion regulation is determined by a person's ability to draw flexibly on a wide array of practices and adaptively switch between them (Kobylińska & Kusev, 2019; Aldao, Sheppes & Gross, 2015; Aldao, 2013; Bonanno & Burton, 2013; Aldao, Nolen-Hoeksema & Schweizer, 2010). Consequently, current research requires investigation into how people manage to flexibly regulate emotions and alternate between strategies. Hence, this work presents findings of an inductive study on emotion regulation strategies to better understand how individuals in uncertain transitions flexibly and dynamically assert influence on their emotions and what supports them in doing so.

1.2 Person-oriented emotion regulation and the implicit self

Here, we introduce person-oriented emotion regulation, the theoretical framework of this study. These paragraphs specify how the implicit self is viewed in person-oriented emotion regulation and how we might support self-access and thus enable greater emotion regulation resources

and greater flexibility in dealing with threatening and demanding situations.

Emotion regulation research traditionally focuses on either instrumental goals or hedonic need satisfaction: achieving a career-related goal or feeling better after an aversive event, respectively. However, Nurmi, Salmela-Aro & Koivisto (2002) assert that an individual's adaptability in transitions encompasses both striving for goal attainment and fostering mental health. The classic "either–or" models generally assume that cognition helps organize for goal achievement and emotion tends to disorganize. However, emerging research has highlighted the importance of an optimal balance between goal-oriented, top-down self-control and more implicit, emotion-reactive, bottom-up regulation in tackling challenges.

Balance models of emotion regulation

Researchers that propose balance models (e.g. Cole, Martin & Dennis, 2004; Blair & Dennis, 2010; Kuhl & Fuhrmann, 1998, 2000) take the stance that emotions themselves impact on the control processes that, in turn, are thought to steer emotions. For example, emotions guide attention, generate other emotions, and trigger behavioral tendencies. Figure 2 juxtaposes hierarchical and balanced models of emotion regulation. Here, we propose that an integrative view that dynamically balances hedonic and instrumental goals is best-suited to understanding the phenomenon of emotion regulation in transitions.

This balanced approach to emotion regulation has raised interest in person-oriented emotion regulation, derived from PSI (Kuhl, 1984, 2000), which is a new and promising approach to capturing emotion regulation. Kuhl and colleagues conceive effective emotion regulation as a dynamic process that includes both hedonic goals such as maintaining mental health through the downregulation of negative affect and instrumental goals such as enacting career-related activities through the upregulation of positive affect. They refer to such dynamic emotion regulation as action orientation (Kuhl & Kazén, 1999; Kuhl, 2001; for review see Koole, 2009, Baumann, Kazén, Quirin, & Koole, 2018; Koole, Schlinkert, Maldei & Baumann, 2019).

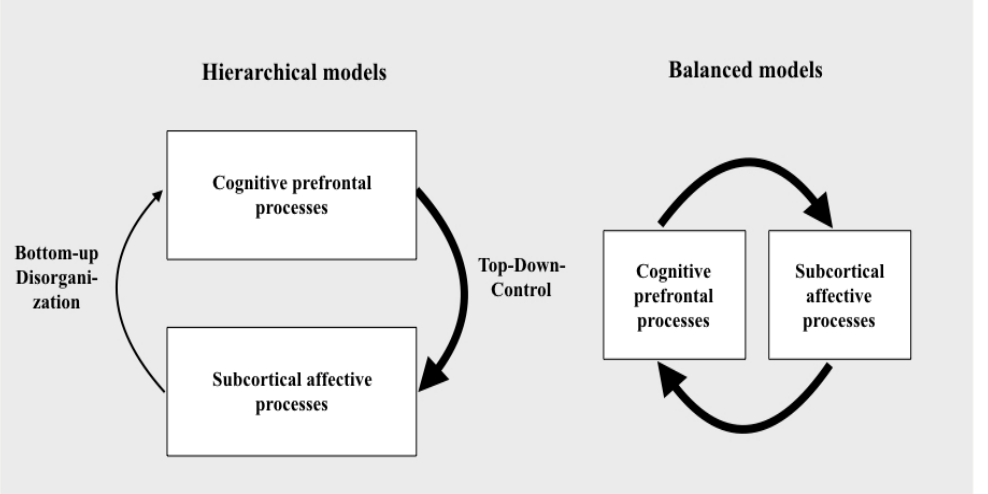

Figure 2: Hierarchical Control and Balance Models of Emotion Regulation (own illustration, cf. Dennis, O'Toole & DeCicco, 2012)
Note: Hierarchical models of emotion regulation assuming a top-down relationship between cognition and emotion (left) highlight the regulation of cognitive control processes on affective processes. Even though this approach acknowledges that emotion affects cognition, this influence is thought to be weaker and often perceived as of rather disturbing character. In contrast, balance models (right) highlight the mutual beneficial regulation of these processes, while depending on whether the goal is hedonic or instrumental, one or the other could become more relevant in exerting control.

By contrast, ineffective emotion regulation, termed state orientation, is conceptualized as a state in which individuals are often "hijacked" by their own emotions (Goleman, 1995; Kuhl, 1981), inasmuch that they more frequently find themselves stuck in overwhelming emotional states that keep them from enacting their intentions (Koole et al., 2019). Thus, dynamic changes between positive and negative affective states are vital for effective emotion regulation (Kuhl & Koole, 2008).

This theoretical framework offers great potential to advance our knowledge of emotion regulation in navigating transitions. Indeed, researchers confirm that such person-oriented forms of emotion regulation unfold their potential especially when people have to deal with demanding conditions (Koole & Jostmann, 2004; Jostmann & Koole, 2010) or inner conflict (Koole, Govorun, Cheng, & Gallucci, 2009). Growing evidence supports the proposition that, particularly under

stressful conditions, emotional self-regulatory advantages derive from improved access to the self, equivalent with the implicit self or extension memory (Kuhl, 2000; Baumann, Kaschel & Kuhl, 2005; Koole & Jostmann, 2004).

Introducing the implicit self

The implicit self is conceptualized as extended networks of associations (Dijksterhuis, 2004) which organize person-oriented information in the form of "cognitive–affective representations of autobiographical experiences, motives, and emotional preferences" (Koole & Kuhl, 2003, p: 44). The implicit self represents a rich experiential knowledge base with heterogeneous contents of self-relevant information: It stores stable needs, which are equivalent to motives, such as gaining satisfaction or recognition from achievement. These are important driving forces and include goals such as doing a PhD, eating more healthily, and doing the laundry and more fine-grained preferences for immediate affective-evaluative responses, such as enjoying teamwork over solo projects, preferring a down-to-earth type of culture when choosing potential employers, and liking different types of cars or chocolate (Baumann et al., 2018).

Notably, the implicit self is conceptually different from explicit self-concepts which people develop through self-reflection (Swann, Chang-Schneider, & Larsen McClart, 2007). In contrast to explicit self-knowledge, the implicit self is largely inaccessible to introspection (Greenwald & Banaji, 1995) because it largely operates implicitly. It coordinates psychological resources in a holistic, flexible, parallel-distributed processing mode (Kuhl & Koole, 2004) that is capable of handling vast amounts of complex information at speeds that far outperform the capacity of the conscious mind (Koole & Jostmann, 2004). Put simply, the implicit self can be regarded as an intelligent form of intuition that can support emotion regulation in demanding times (Baumann & Kuhl, 2002; Koole & Jostmann, 2004).

Research suggests that indeed between and within subjects it varies greatly how they access their implicit selves: how well they know what they really want, need, and feel (Baumann et al. 2018; Quirin & Kuhl, 2018). A large body of research supports the assumption that decreased access to the implicit self functions as a "hidden stressor" (Baumann et al., 2005) which emerges in various emotion-regulatory disadvantages that we consider particularly problematic during transitions.

The greater the disconnection between the implicit self and affect regulatory systems, the greater the incongruence between what people say and do and what they really feel and want. The less people know what they feel and want, the greater the threats to adaptive functioning and mental health (e.g., Gross & Muñoz, 1995), the more likely people are to be invaded by the social expectations, goals, and intentions of others (Kuhl & Kazén, 1994), and the more people engage in ruminative thoughts that cannot be stopped voluntarily and procrastinate (Koole, Smeets, van Knippenberg, & Dijksterhuis, 1999; Kuhl & Beckmann, 1994). Such incongruence decreases intrinsic motivation (Deci & Ryan, 1985; Sheldon & Kasser, 1995) and goal pursuit must be accompanied by high self-control effort (Baumann et al., 2018; Muraven & Baumeister, 2000; Kehr, 2004), potentially leading to a state of depleted cognitive resources (Baumeister, Bratslavsky, Muraven & Tice, 1998; Arnsten, 2009, Inzlicht, Schmeichel, Macrae, 2014, Baumeister, Schmeichel, & Vohs, 2007).

The implicit self facilitates emotion regulation

Representing a core construct within PSI theory, the implicit self is ideally suited for supporting emotion regulation that is integrative of the wholeness of a person. Researchers refer to such emotion regulation that is integrative of the implicit self as intuitive affect regulation (Koole & Jostmann, 2004; Koole & Coenen, 2007). In line with emergent scholarly agreement, we propose that when people manage to access their implicit selves in the emotion-regulation process during transitions, they gain a number of important regulatory advantages:

First, such access enables individuals to downregulate negative affect and to restore positive affect even under frustrating conditions, thus enabling personal growth (Koole & Jostmann, 2004, Quirin & Kuhl, 2008). A central assumption deduced from PSI theory is that high negative affect, often experienced in today's uncertain education and work context, triggers a discrepancy-sensitive problem focus which inhibits extension memory and thus limits access to implicit needs, goals and preferences (Baumann & Kuhl, 2002; Kazén, Baumann, & Kuhl, 2003). When the self is inhibited under conditions of strong negative affect, it signals to the individual that prior experiences and self-knowledge are insufficient to cope with the current situation. In fact, negative affect is conducive to positively transitioning, as it forces the person to seek out new information that is potentially at odds with what the person learned

before (Baumann et al., 2018). Once this new information helps to lower negative affect, this downregulation energizes extension memory so that it can start integrating this new information into the larger autobiographical networks of the self (Linville, 1987; Rothermund & Meiniger, 2004; Showers & Kling, 1996; Koole & Kuhl, 2003) and build new coherent narratives (Baumann & Kuhl, 2002). Such integration makes people less vulnerable to emotional disturbance in stressful life events and supports their well-being (Rholes, Michas, & Shroff, 1989). Thus equipped with new information and an activated self, the person can shape congruent intentions and generate the positive affect that is required to channel their focus towards enacting their intentions with volitional efficiency (Koole & van't Spijker, 2000; Kuhl & Kazen, 1999), as is explained below.

Second, emotion regulation that is integrative of the self facilitates the formation of self-congruent goals rooted in autobiographical information. The implicit self represents an individual's personal need structure, including motives, preferences, and goals that are personally meaningful, stored in the shape of associations, even when this information cannot be articulated at explicit levels (Koole, 2009; Kuhl, Quirin, Koole, 2015; Gollwitzer & Sheeran, 2006, 2009; Koole, Schlinkert, Maldei & Baumann, 2019; Sheeran & Webb, 2016). The totality of such associations operates as a complex and fast computational network that is triggered and extended automatically through relevant experiences (Koole & Coenen, 2007). By automatically forming associations between the self and inputs from the external world (Dijksterhuis, 2004), the implicit self allows people that attend to it to shape intentions that are rooted in deeply personal parameters (Baumann & Kuhl, 2002; Kuhl, 2000, 2001), thus leading to meaningful and congruent motives, preferences and goals. These action intentions can be perceived as meaningful because they both are rooted in values, motives, and autobiographical experiences and potentially match the context. Thus, they likely translate into self-determined behavior as opposed to self-alienated behavior (Baumann & Kuhl, 2002; Unsworth & Mason, 2016, Sheldon & Elliot, 1999; Ryan & Deci, 2000; Sheldon, 2014; Thrash & Elliot, 2002). Findings that suggest that discrepancies between self-aspects create psychological distress also imply that such explicit–implicit congruence is associated with emotional well-being (Baumann, Kaschel, & Kuhl, 2005), higher life satisfaction (Hofer, Chasiotis, & Campos, 2006), and identity development (Hofer, Busch, Chasiotis, & Kiessling, 2006).

Third, when individuals build intentions that are congruent with their implicit self, goal pursuit is supported by volitional efficiency (Koole, Govorun, Cheng & Gallucci, 2009; Sheldon & Kasser, 1995; Sheldon, 2014). This includes, for instance, lower effort exertion (Sheldon and Elliot, 1999), more energy (Deci & Ryan, 2008), and greater experience of purpose and autonomy (Niemiec & Ryan, 2009). Such volitional efficiency is supported by a quality of the implicit self for which it is highly deemed: it is fast, intuitive, and holistic, and it has highly context-sensitive information processing capacity (Koole & Coenen, 2007). The activation of the self provides the individual with a broad perception of contextual parameters that allows them to gain an overview of the situation and to avoid narrow-minded tunnel vision. Through this broad attention to both self- and context-relevant information, the implicit self may enable the perception of situational parameters that potentially serve to align or collide with self-related aspects (e.g., Koole, Webb, Sheeran, 2015; Bargh & Williams, 2007; Berkman & Lieberman, 2009; Koole, 2009; Mauss, Bunge & Gross, 2007). When triggered by contexts that provide opportunities or hindrances for need satisfaction, activation of the implicit self may provide the individual with a broader set of action options and assist in the enactment of meaningful action intentions.

For example, a person who is aware of their need for achievement due to an increased access to their implicit knowledge base will intuitively notice situations in which they can challenge themself and thus satisfy their needs. Unsurprisingly, research shows that intentions that are reflective of the information provided by extensive networks of extension memory have a higher likelihood of being implemented than other-imposed goals (Koestner, Lekes, Powers, & Chicoine, 2002; Deci & Ryan, 2008) and translate into higher work performance (Lang, Zettler, Ewen, & Hülsheger, 2012). Once intentions are enacted, a greater capacity to downregulate negative affect sets individuals apart in pursuing challenging goals, because they likely show greater perseverance in the face of setbacks (Brunstein & Olbrich, 1985). Thus, an iterative process of downregulating negative affect states and upregulating positive ones may support individuals in flexibly navigating the iterative process from problem to solution. Figure 3 illustrates the interplay of cognitive and affective systems involved in emotion regulation according to PSI theory (Kuhl, 2000).

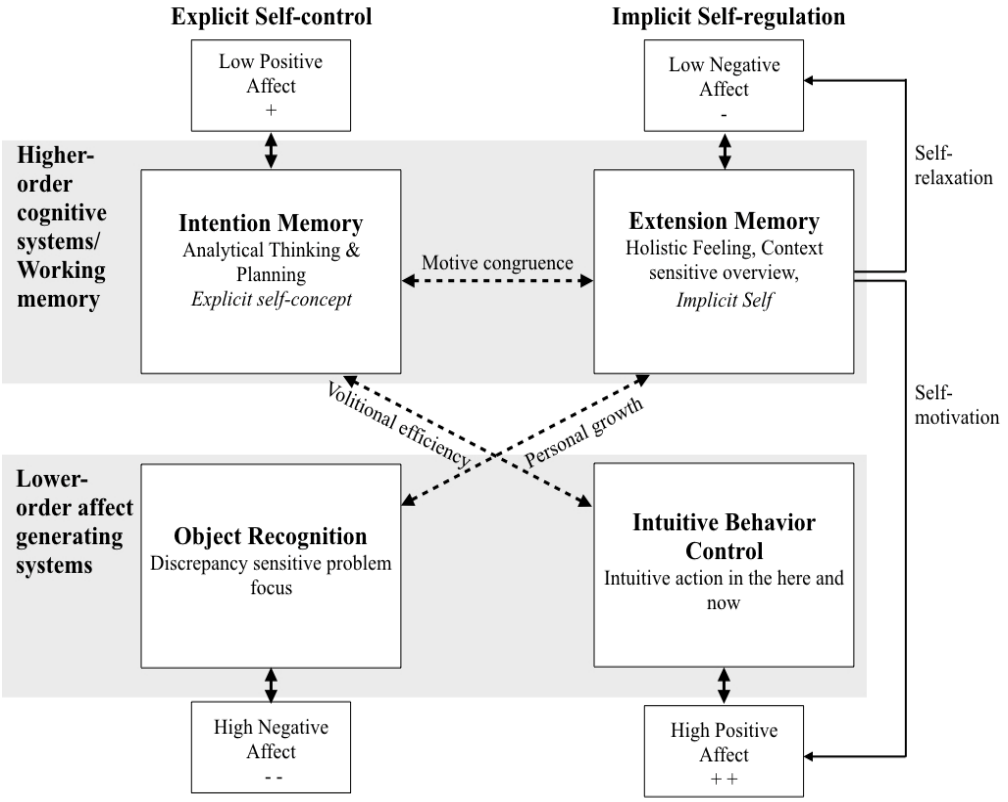

Figure 3: Cognitive–affective systems modulating affect as derived from personality systems interaction theory (Kuhl, 2000), as cited in Baumann et al. (2018)

Note: Dashed arrows indicate antagonisms between cooperating systems. Dynamic regulation of affect impacts on how individuals coordinate between higher-order cognitive systems such as working memory and lower-order affect generating systems. Affective changes from low to high positive affect foster volitional efficiency. Affective changes from high to low negative affect reduce self-alienation and foster personal growth. Crosstalk between intention and extension memory fosters motive congruence. Self-motivation helps to deactivate an overly strong intention memory under demanding conditions. Self-relaxation helps to reactivate extension memory under threatening conditions.

1.3 Towards understanding the neuropsychological basis of implicit self-activation

Research into person-oriented emotion regulation has begun to accumulate self-regulation strategies to help people access their implicit selves in the emotion-regulation process. Neuropsychological research

has provided evidence that functions of the implicit self are supported by two distinct brain regions, the right prefrontal cortex and the hippocampus. The hippocampus is a multifunctional structure of the limbic system that manipulates large amounts of information from both cortical and subcortical areas (Quirin et al, 2015).

Right prefrontal cortex and the hippocampus

Whereas the right prefrontal cortex is associated with the processing of self-referential information (Keenan, Nelson, O'Connor, & Pascual-Leone, 2001) and the storage of past experiences in the episodic memory (Tulving, Kapur, Craik, Moscovitch, & Houle, 1994; Wheeler, Stuss, & Tulving, 1997), the hippocampus appears to be critically involved in emotion processing (Santangelo et al., 2018) by supporting retrieval of episodic information (Tulving & Markowitsch, 1998) and applying it to navigation in space and time (Buzsaki & Moser, 2013). In other words, the hippocampus's ability to organize numerous associations not only assists in mentally accessing past episodes but primarily allows us to find our way around any current "episode."

The hippocampus may provide the functional basis for the dynamics of intuitive affect regulation, but it has also been shown to be inhibited when a critical threshold of stress cortisol is exceeded, typically under pervasive negative emotionality (McEwen et al., 1995). Meanwhile, researchers in the domain of PSI theory (e.g., Quirin, 2015) have stipulated that this phenomenon of decreased self-access in individuals with restricted emotion regulation may be attributed at least in part to diminished hippocampus functioning (Quirin et al., 2015). Thus, under stress past resources lay dormant that means that emotion relevant resources are still present, but access via the hippocampus is inhibited. The converse implication is that stimulation of right-hemispheric processes organized by the hippocampus enhances self-access, and researchers in PSI theory are beginning to utilize that knowledge to support emotion regulation.

Autonomic nervous system

The integrated networks of the self are further closely connected with the autonomic nervous system. Research indicates that bodily activities such as controlled breathing and progressive muscle relaxation assert positive influence on emotion regulation that is integrative of the implicit self. In particular, mindfulness-based stress reduction (MBSR), a meditation practice attempting at training a nonreactive, nonjudgmental

awareness of present-moment experience (Kabat-Zinn, 2005) has repeatedly been shown to be effective in changing the brain structures relevant to emotion regulation (Goldin & Gross, 2010).

Interestingly, according to one meta-analysis of effects of mindfulness-based interventions on emotion regulation (Guendelman, Medeiros & Rampes, 2017), robust results indicate that emotion-reactivity-related subcortical areas such as the hippocampus, amygdala, and anterior insula (Hölzel et al., 2008), which are also associated with the implicit self, are structurally changed by mindfulness. Thus, when people learn to focus their attention on present experience with a non-evaluative state of mind, they contribute to sustainably altering their cognitive–affective processing and improving their emotion regulation.

Supportive social situations activate the implicit self

In their book chapter on "Measures, Causes, and Consequences of Self-Access", Baumann, Kazén, Quirin and Koole (2018) claimed that the implicit self can be activated when individuals process social situations. For instance, practices such as encouraging people to visualize an accepting person or express their feelings to another person have been found to help elicit the self in the very moment (Baumann et al., 2018). They postulated that "parents, teachers, managers, and therapists may support the self in children, students, employees and clients in multiple ways" and concluded that what is required is, first and foremost, good relationship quality (Baumann et al. 2018, p. 24). This is supported by the finding that when people experience supportive environments, particularly in their upbringing but of no less importance in their adult lives, they can build stronger connections between the implicit self and their affect regulatory systems, thus forming the basis for more effective emotion regulation that is integrative of the self (Koole & Jostmann, 2004; Kuhl, 2000; for empirical evidence, see Kopp, 1989).

Putting feelings into words activates the implicit self

Further, expressive writing (Pennebaker & Chung, 2007, Klein & Boals, 2001) has been shown to be impactful in regulating emotion that is integrative of the self. Whereas writing studies traditionally asked people to write about traumatic experiences, more recent studies have expanded the scope of writing topics to emotional events such as losing a job or transitioning to college and found that transforming feelings about upsetting or demanding events into language improves both

health and goal performance. Research testing variations on the expressive writing method has shown mixed results; consequently, no conclusion can yet be reached on whether a writing task should be oriented towards focusing on the good or bad aspects of negative situations. As researchers have consistently found positive effects after providing broad and open questions, they recommend giving individuals the opportunity to disclose deeply personal facets of their lives and freely associate whatever is at the top of their minds. We consider this suggestion compatible with the finding that emotion regulation that is integrative of the implicit self operates in a fast-processing, abstract and associative manner instead of the logical, sequential mode of thinking which would otherwise likely be triggered by specific questions (Pennebaker & Chung, 2007).

Even though researchers have not yet explicitly analyzed whether the hippocampus is involved in putting feelings into words, research suggests that the right ventrolateral prefrontal cortex, where emotion knowledge is stored, is indeed engaged (Torre & Liebermann, 2018). Similarly, Barrett and colleagues (2001) provided evidence that emotion regulation was stimulated by activating networks of emotion knowledge (Barrett, Gross, Christensen, & Benvenuto, 2001). They asked people to report intense negative experiences in their daily lives using a diary method and found that the expansion of a person's emotional vocabulary is important for regulating affect (Barrett et al., 2001; Lane & Garfield, 2005; Lindquist & Barrett, 2008). Specifically, they found that participants who demonstrated an advanced ability to read off their internal emotional states, differentiate between them, and translate them into words reported using nearly 30% more strategies to reduce negative emotions and increase positive emotions over the course of two weeks than did participants low in emotion differentiation (Barrett et al., 2001).

Developing and using networks of emotion knowledge activates the implicit self

Studies on expressive writing and Barrett and colleagues' studies on emotion vocabulary share the common ideas that words convey our inner world into the real world and that they not only reflect our emotional states but may also influence our emotion regulation. However, investigating mechanisms that may explain why this is the case is a matter of future research (Kashdan, Barrett & McKnight, 2015). In the absence of one single explanation why putting feelings into words helps regulate

emotion, researchers favor the assumption that the process of verbally labeling an emotion represents “a metaphorical translation of an analog experience into a digital one” (Pennebaker & Chung, 2007, p. 3), thereby using existing cognitive–affective associations and creating new ones. Wood, Lupyan, and Niedenthal (2016) suggested that once a threat has been transformed into symbolic format, it signals to the brain that the need for alarm is reduced. This process involves abstract thinking (Kross, Ayduk, & Mischel, 2005) and triggers psychological distancing (Nook, Schleider, & Somerville, 2017), which have both been shown to relate to emotion regulation.

When more differentiated networks of emotion knowledge are associated with greater emotion regulation, it renders analysis of how we acquire and refine such emotion knowledge promising. As with learning language during upbringing, we build emotion knowledge in social encounters with significant others. In our childhood, we acquire new words when someone teaches us what constitutes the category “dog” and what differentiates a “dog” from a “cow.” In this acquisition process, we frequently activate cognitive representations of categories and refine them by building new categories and associations. Even though emotion regulation is most often considered a self-regulating process and researchers aim to provide the individual with levers to steer their own emotional experience, we take Baumann and colleagues` (2017) proposition that emotion regulation cannot be isolated from the social and interpersonal environment in which it occurs further and argue that empathic interpersonal activities may help elicit and thus strengthen the self in the self-regulatory process in transitions.

Emotion knowledge stored in the implicit self might be accessed and acquired in empathic encounters in which people exchange their ideas on, for instance, how situations may feel, how feelings may differ, and how emotions are expressed. When we assume another person's perspective to grasp their feelings, needs, intentions, expectations, and opinions so as to better comprehend their state of being, we may use our existing cognitive–affective representations and build new emotion categories to be stored in our associative networks. Perner and Wimmer (1985) refer to such emotion-relevant knowledge as “theory of mind.”

Assuming that both processes - understanding others and understanding oneself – may draw on neurocognitive circuits associated with the implicit self, activation may represent an investment in building up that

important emotion regulation resource. Consistent with PSI theory's assertion that affect-regulatory skills are acquired from social experiences, we propose that activation of emotion networks located in the self-system is critical to the ability not only to understand others but also to access the self. Such activation may allow people to intuitively establish touch with their selves, thus setting in motion a chain of emotion regulatory advantages. We presume that such activities may translate into greater congruence as a result of the activation of the self-system.

The activation of the implicit self may help people master the emotional roller coaster of today's uncertain world with both a sense of self and a sensitive perception of demands and opportunities. Thus, we find the theoretical lens that focuses on person-oriented emotion regulation is ideally suited to framing a study that aims to understand how people can elicit their selves so as to dynamically regulate their affective experience in transitions. Integrating the entirety of an individual's needs, goals, and motives with their context inclines that individual more to meaningful action despite uncertainty (Ryan & Deci, 2000). In the first study, the author examines how design thinking, a collaborative innovation method, may help regulate emotion in transitions and derives the proposition that it does so by triggering self-access. The second quantitative study applies an innovative measure derived from PSI theory, motive congruence, to validate whether the practice of empathically exploring another person`s feelings is accompanied by the activation of the implicit self.

CHAPTER 2:
Navigating transitions from within - A qualitative study on how Design thinking supports emotion regulation

2.1 Overview and Objective

Study Phase 1 examines the tensions students feel when navigating uncertain transitions and the emotion regulation strategies that students employ that help steer their emotional experience so that it contributes to moving smoothly into new career and life chapters. We gathered insights through the lens of PSI theory (Kuhl, 2000). These put the implicit self in the foreground to provide individuals facing dynamic change with theoretical and practical leverage points for regulating emotions in uncertain times.

Our study involved 48 respondents who attended a design thinking (DT) intervention and freely formulated their reflections about their experience of the transition from university to work life in written journals. In total, we collected more than a thousand pages of reflections. Participants in our study wrote at length about the uncertain nature of their transitions from university to workplaces, how their fears interfered with their ambitions, and how their struggles were often related to judgmental thinking that led them to be harsh with themselves and one another. Their careers are subject both to social norms, for instance about what constitutes a good career, and to the participants' individual paths.

They navigated the tensions inherent in the uncertain transition by managing to view themselves in the light of external requirements and norms. Indeed, thriving in the transition was described as partly a matter of regulating emotions so as to access their selves despite adversity and enact intentions in congruence with these selves. As our participants not only reflected about their transition but also about applying methods from the DT paradigm, we were able to collect data on our respondents' approach to regulating emotion in transitions and how DT eventually helped to elicit the self.

2.2 Study Context Design Thinking

The co-author's broad interest in how people transition from, for instance, university to work, led him to create and conduct career interventions at the University of Saint Gallen. These interventions have

emerged as a design thinking (DT) approach to help individuals design their careers and manage transitions with a sense of self, identity, and purpose (Stanford Life Design Lab, 2019).

Participants in our study are students attending such a course over 12 weeks on using the design thinking (DT) innovation method to develop their own future. The course is called “Design Your Life” and is an adaptation of the popular course “Design Your Life” at Stanford University. According to the Stanford model, the DT principles are
(1) empathize,
(2) define,
(3) ideate,
(4) prototype, and
(5) test.

When people apply these steps to career wayfinding, as exemplified in Table 2, they first empathize by focusing on what they desire and value, then define a challenge or a vision, ideate by creating various desired futures, prototype ideas by implementing them with little effort and risk, and finally test what they have learned by translating them into new action (cf. Hasso Plattner Institute for Design at Stanford, 2020; Kernbach & Eppler, 2020).

Table 2. Design thinking phases and principles

	Empathize	**Define**	**Ideate**	**Prototype**	**Test**
Design thinking	or discovery, with the goal to understand the audience/user for who one is designing a product or a service	or interpretation, which involves describing the point of view and needs of the individual	which includes brainstorming to produce as many creative solutions as possible	Or experimentation, where a potential solution is crafted to be able to manipulate and identify flaws	or evolution, which includes sharing the prototype with the target users to obtain feedback and lead to modifications

Table 2. Design thinking phases and principles

Design thinking applied to career construction (Kernbach & Eppler, 2020)	Focuses on the narration of stories, crystallizing what individuals think of themselves, what they desire and value. The more stories are told in group context and the more it is explored what lies behind the stories, the more individuals develop their identities (Savickas, 2012).	On the basis of an emphatic understanding of the self, the focus is directed towards defining a challenge or a vision, and elaborating on it (often in written form), e.g., in which profession could I use my strengths? how could I succeed in finding my dream job?	Creative stories and visuals are employed to envision desired futures based on strengths, values, preferences, and with the aim to communicate it to others. Of note, quantity and originality of ideas are more important than quality, and possible obstacles on the way to achievement are considered.	After ideation, action in the shape of experimentation is encouraged by implementing ideas with as little effort and risk as possible, thereby reducing obstacles and resistance in the course of action.	After the implementation of the prototype, experience is translated into learning and new actions. This underlines the iterative character.

Note: In our conceptualization of the Design thinking phases and principles we largely draw on the Stanford model, see Hasso Plattner Institute of Design at Stanford (2020) available at: http://web.stanford.edu/~mshanks/MichaelShanks/files/509554.pdf.
For further reading on how these principles are applied to careers, see the work by e.g., Kernbach and Eppler (2020).

The course consists of four parts. The first part was about understanding and finding out what matters to the students and who they are in terms of values, skills, and interests. The second part was about using the insights from the first phase to develop ideas to bring more of themselves into their professional and nonprofessional futures. The third part used

the ideas from the second part and encouraged students to run low-risk prototypes and experiments to verify their assumptions by creating actual experiences; these ranged from talking to someone working in a job that the students would love to do one day to serving mini-internships and reflecting about these experiences with their fellow students. The fourth phase focused on understanding inner voices and possible obstacles to turning their thinking into action, also known as the knowing–doing gap or the intention–action gap. At the end of the course, students wrote a reflection paper in which they documented a number of activities in class and reflected about what they had learned and how it would affect them in the future. These student papers about the design thinking process and their course experience provide the data for this study.

2.3 Data Collection

Our study involved 48 participants who formulated their reflections about their transitory experience from university to working life in written journals. Informants in our study were students at a Swiss university at postgraduate level with diverse origin and ethnic background. Some 23 respondents were female, 25 were male. Age ranged from 20 to 30. All of them participated voluntarily in a design thinking intervention to support vocational wayfinding (see Chapter 2.2 above).

In total, we collected more than a thousand pages of reflections. Participants were asked simply to document their thoughts, allowing them to introduce their own topics and reflect broadly. Notably, when assigning the task, we did not intend to learn about their specific emotion regulation strategies. Indeed, we originally aimed at learning more about the support DT can offer during transitions. The richness of our data on emotion regulation in transitions led us to shift our focus away from DT and drove our attention to emotion regulation. Thus, we refrain from elaborating on the intervention itself as beyond the scope of this work.

In line with the idea that much of the world with which we deal is socially constructed (e.g., Weick, 1988), we started interviewing respondents about their experience and invited them to reflect on how they per-

ceived themselves during the interventions and which impact they observed on themselves. An insight emerged that led us to reflect on and adapt the initial plan to conduct a series of interviews: Even though the participants' emotional reactions in DT interventions were rich, when interviewed, the depth of their reflections seemed to largely depend on their momentary mood, the social interaction with the interviewer, how we framed the questions, and the answers they expected us to want to hear. This observation is in accordance with Alvesson (2003), who argues that interviewing in emotion research faces difficulties.

Seeking an alternative, less intrusive procedure for collecting and analyzing qualitative data that might yield important information on emotion regulation, we were surprised to realize that their personal reflections in written form were richer than we could ever have expected. Within the journals, individuals wrote in depth about their tensions and expressed their affective experiences and regulation strategies precisely without the researchers' intervening in the process. In the absence of experimenter biases, the participants could exclusively follow their inner monologues without feeling disturbed or embarrassed by an observer. In addition, the respondents completed the documentation of their inner dialogues in a convenient and familiar situation, which eliminated the important confounding effect of location. Consequently, the constructs and interrelations identified can be considered as largely free from the influence of the researchers' scope of interest.

2.4 Data Analysis

We iteratively coded the data with a particular focus on the tensions that individuals experience in transitions and their strategies for influencing their emotional experience. To develop theoretically abstract, second-order themes from the coded, first-order categories, the researcher grouped those codes that were similar in character and scope. Although we adopted an inductive approach to coding, the literature on PSI theory (Kuhl, 2000) and Gross's (1998) process model informed the themes identified in the data. We tried to ascertain the families of emotion regulation strategies that people used to navigate future uncertainty in their transitions. Within this process, the first-order concepts and second-order themes were continuously refined by comparing the findings emer-

gent from the empirical data with our theoretical ideas. Thus, our approach could be categorized as hybrid (Fereday & Muir-Cochrane, 2006).

When we had developed and validated our codes, we searched for distinguishing elements in our data. As we intuitively realized that strategies varied with the general affective tone of the written journals, we applied another method for the text analysis to supplement our findings. Consistent with the compelling idea that language has psychological value, inasmuch as it provides "rich information about beliefs, fears, thinking patterns, social relationships, and personalities" (Pennebaker, Boyd, Jordan, & Blackburn, 2015, p: 1), we applied one of the most popular software solutions for text analysis, the Linguistic Inquiry and Word Count 2015[1] (LIWC2015; Pennebaker et al., 2015), to analyze the emotional tone of our text material.

We applied the LIWC2015 to generate two values for each respondents' journals: one representing the proportion of negative emotion relative to the total word count and one for the proportion of positive emotion. As the objective of our LIWC analysis was to gain insights into emotion regulation, we computed a third variable, the ratio of positive emotions to negative emotions. Here, we draw on the well-established finding that greater "ratios of positivity" in language expression relate to better emotional states and thus are indicative of better emotion regulation (Fredrickson & Losada, 2005). Through this procedure, we were able to distinguish the respondents in our sample into those with high ratios and those with low ratios, indicating higher and lower emotion regulation, respectively. According to the conceptual and mathematical work of several researchers (Losada & Heaphy, 2004; Fredrickson & Losada, 2005), 2.9 is the critical tipping point. Despite the numerical tipping

[1] Based on a lexicon that extracts and counts various, psychologically meaningful characteristics of text (Dudău & Sava, 2020), LIWC2015 has been successfully applied to generate insights into language use and individual differences in psychological parameters, such as well-being, and social processes (for a review, see Boyd, 2017). The software uses a dictionary of 6549 words, word stems, and emoticons assigned to approximately 90 semantic categories, based on psychometric standards (for more information on the laborious process under which it was developed, see Pennebaker et al., 2015). LIWC2015 operates by detecting the meaning of words from the input text according to predefined dictionary variables. Each dictionary entry belongs to one or more word categories. For example, the word "cried" is part of the categories emotional tone, negative emotion, sadness, and past focus. Words such as "love," nice," and "sweet" reflect positive emotions. It contains emotion subdictionaries with 1393 words and word stems from established emotion rating scales, such as the PANAS (Watson, Clark, & Tellegen, 1988), which rendered it a valid and reliable method for our purposes.

point being debated[2] (e.g., Friedman & Brown, 2018), we believe that positive and negative affect and the dynamics between them are indeed important indicators of emotion regulation for both mental health and goal striving.

In our sample, the overall positivity ratio is 3.09. The meaning of such a value is better evaluated with a sense of the degree to which emotion language typically varies across settings. Table 3 compares data from our sample with data that Pennebaker and colleagues (2015)[3] collected between 1986 and 2015 in other settings. Certainly, what is most insightful for our purposes is the comparison of our value with emotion language found in expressive writing and natural speech. Our overall positivity ratio of 3.09 lies within the range that expressive writing and natural speech span, with values of 1.21 and 4.46, respectively, and comes closest to the positivity ratio found on Twitter (see Table 3). However, further analysis and interpretation of such comparisons of ratios, although potentially yielding interesting insights, are beyond the scope of this work.

Applying the threshold of 2.9 as the differentiator, it separates our sample into two subgroups (see Table 4): High positivity ratio with n = 31 (15 female, 16 male) and low positivity ratio with n = 17 (7 female, 10 male). Whereas the high positivity group showed an average positivity ratio of 3.86, the low-positivity group averaged at a ratio of 2.17.

[2] Fredrickson and Losada´s (2005) ratio does not specify the context in which language occurs, which is one of the critiques (Friedman & Brown, 2018).

[3] In analyzing expressive writing, Pennebaker and colleagues examined 29 datasets from studies in which people, similarly to our task, were asked to write about emotional topics. Samples included people of various age groups, health status, and occupation. Natural speech included text samples from diverse study transcripts gathered in various types of research, ranging from longitudinal studies in which people´s day-to-day conversation were recorded, such as from couples, to less emotional content recorded from strangers interacting in public spaces (Pennebaker et al., 2015).

Table 3. Percentage of Positive Emotion and Negative Emotion in language depending on setting and the Positivity ratio (positive to negative emotion)

Category	Our sample	Blogs	Expressive Writing	Novels	Natural Speech	NY Times	Twitter
Positive Emotion	3.98	3.66	2.57	2.67	5.31	2.32	5.48
Negative Emotion	1.29	2.06	2.12	2.08	1.19	1.45	2.14
Positivity Ratio	3.09	1.78	1.21	1.28	4.46	1.6	2.56

Note: Percentages of positive emotion and negative emotion in language rely on research by Pennebaker, Boyd, Jordan, and Blackburn (2015). The Positivity ratio is calculated as Positive Emotion divided by Negative Emotion.

Table 4

Group Comparison (High vs. Low Positivity Group)

Group/ Variable	High Positivity (n=31)	Low Positivity (n=17)
Positive Emotion, M_{pos}	4.17	3.62
Negative Emotion, M_{neg}	1.08	1.67
Positivity Ratio, M_{ratio}	3.86	2.17

2.5 Findings

In the study reported here, we captured emotion regulation in two ways: through our respondents' accounts of what they did about regulating the emotion rollercoaster and through an analysis of how they used linguistic markers in their written journals. For the latter, we applied the positivity ratio to distinguish our respondents' general emotion regulation

into more effective and less effective. In our analysis, the positivity ratio derived from the emotional tone of their journals was applied as a central, distinguishing feature. Whereas participants with high and low positivity ratios did not differ significantly in the tensions they described, we found intriguing differences in how they regulated emotion.

First, we give a summary of our findings regarding tensions and summarize how high-positivity informants differed from low-positivity participants in strategy use. Second, we examine the tensions experienced and their implications for transitioning from the perspective of our informants. Figure 4 shows the tensions our informants experienced as derived from first- and second-order codes, and selected quotations supporting our interpretation of tensions are displayed in Appendix A. Third, we provide a comprehensive overview of the emotion regulation strategies applied in the transition and describe the unearthed strategies in more detail. Figure 5 illustrates the strategies of emotion regulation derived from first- and second-order codes. Selected quotations supporting our emerging interpretation on strategies are displayed in Appendix B. Fourth, we examine what supports emotion regulation in transitions and to what extent DT exerts supporting influence.

Summary of findings

Previous research using PSI (Kuhl, 2000) suggested that the self-system, which stores self-referential, autobiographical information such as preferences, needs, and values, is inaccessible during states of negative affect. Thus, negative emotionality experienced in the transition renders transitioning in accordance with one´s self complicated and gives rise to feelings of incongruence and emotion regulation difficulties. Our findings confirm this. Respondents from both groups reported a variety of tensions. Such tensions reflected a preoccupation with both incongruence within the internal structures of the self, such as inner conflict arising from competing desires, and incongruence between self and context. Students wrote how they sought accomplishment and wanted to transition with a sense of authenticity. However, a prevailing theme in their transitions was fear of failure and the fear of exposing themselves to others, who could potentially judge them for their fears, ideas, and aspirations. Navigating the tensions inherent in the uncertain tran-

sition, our participants described how they attempted to discover themselves in the light of implicit external requirements and norms and inner conflict.

We observed that whereas both groups experienced similar tensions (see Figure 4), high-positivity informants showed less avoidance of the unpleasant situation and more nonjudgmental noticing of tensions than low-positivity informants. Even more importantly, high-positivity respondents reported using a greater variety of strategies and switching flexibly between them. High-positivity respondents' strategies included (1) acting intuitively and thus changing the emotion-arousing context, (2) changing the emotion itself by broad attention directed towards self- and context-related aspects (noticing), (3) cognitive change, and (4) changing the emotional response through showing empathy and sharing emotion. Thus, our findings echo the argument that emotion regulation flexibility is associated with greater adaptability (Kobylińska & Kusev, 2019; Aldao, 2013; Bonanno & Burton, 2013); individuals flexibly make use of a variety of emotion regulation strategies in the process of emotion generation, depending on individual and situational demands.

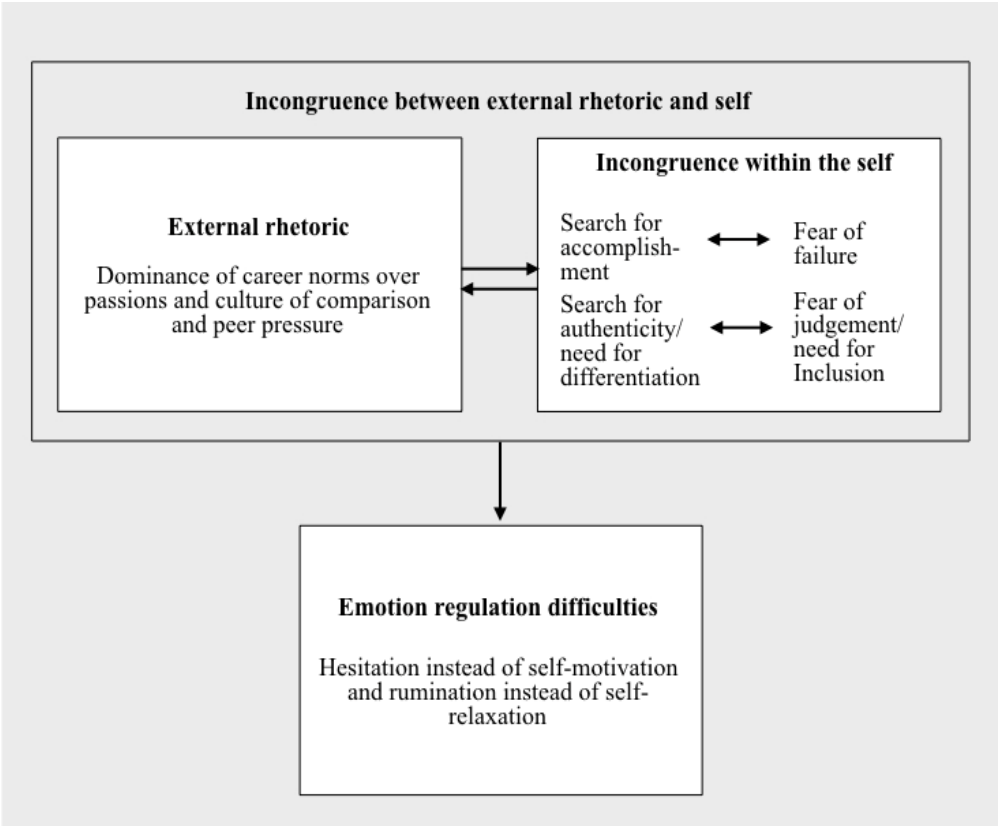

Figure 4. Emotion regulation difficulties as a result of incongruence between external rhetoric and self and competing inner tendencies creating incongruence within the self (own illustration)

Note: Incongruence between self and context arises as a result of an invasive external rhetoric. This external rhetoric is more or less explicit and argues that career should be above other life domains. It also includes external preconceptions about what constitutes a good career, and this may interfere with the pursuit of one's own passions. It is accompanied by a culture of comparison and competition instead of cooperation, thus leading to the prevailing idea that transitioning into working life might be a lonely process that can only be mastered alone. Incongruence within the self results from both the dominant external rhetoric and competing internal tendencies. Opposing tendencies are the search for accomplishment versus fear of failure and the search for authenticity and the need to be different from others versus fear of being judged and of losing belongingness to a certain group.

The majority of respondents with high positivity ratios used noticing as an attention selection frequently in an attempt to shift nonjudgmental

attention to aspects of their selves that were congruent. Shifting attention by concentrating on positive self-aspects such as strengths, interest, values, and preferences enabled their implicit self to emerge as both a system of self-referential knowledge and a dormant emotion regulation resource. It allowed them to access the self in its positive qualities such as autobiographical experiences, interests, strengths, preferences and values, and to recognize incongruence if they experienced tensions. In other words, to regulate their transitory experience, they asked themselves frequently in a self-compassionate way "Who am I and how can I bring more of myself into my life?"

Directing attention toward their selves seemed to make emotion regulation resources available for whatever intention and challenge they sought to pursue in accordance with their selves. We consider this particularly successful in transitioning, because they frequently reported more career optimism, more hope, and the feeling of being equipped to tackle whatever life throws at them. Those respondents who frequently reported how new self-aspects emerged to them were less harsh in their judgements about themselves and others, reported less rumination, and began to regard the future as something that would emerge in their favor:

> I learned that it is okay to be stuck at times but you have to know how to get unstuck. I am not concerned with the fear of being stuck anymore. In contrast, I feel more confident in my abilities to get unstuck again. No matter what impediments will come my way, I am feeling more secure in overcoming them. (Informant 5, KH, high positivity ratio).

Subsequently to practicing such nonjudgmental, curious noticing of self and associated feelings of congruence, high-positivity informants chose to engage in a range of other strategies fluidly and adaptively, providing seeds for change and new ways of dealing with the transition. Flexibly alternating between strategies, they for instance modified emotion-arousing situations by selecting environments that matched their affective preferences and values and by mindfully turning to others for support and new perspectives. Likewise, they engaged in creating empathic encounters with other persons by sharing emotions vulnerably and exploring others` emotions.

Hence, high-positivity respondents flexibly applied various strategies across the whole emotion generation process. What is more, their broad application of strategies also contributed actively to shaping new conditions and realities so that, for instance by empathically inquiring others` situation and feelings, they created a new relational setting, a psychological safe space in which emotions could be shared. Similarly, they gave rise to new emotion regulation resources for themselves and others. Therefore, by neither simply suppressing nor unloading their emotions on others but showing presence, interest, and compassion towards others and their stories, they created an emotional chain including curiosity, compassion, vulnerability, and dynamic emotion regulation. When individuals mutually inquired about each other`s situation and feelings, when they explored each other with questions and empathically listened with the intent to understand, new self-related knowledge and resources became available to them.

Low-positivity informants, in contrast, frequently ruminated about their tensions, creating recurrent thoughts such as that transitioning was a competition in which one has to prove one´s competence and worth and should ultimately prevent failure in order to secure self-esteem. Thus, they potentially reproduced dysfunctional thought and emotion. Interestingly, low-positivity respondents also reported making strong efforts to intentionally change their thoughts by cognitive reappraisal, yet they made fewer links to other emotion regulation strategies. In other words, low-positivity respondents seemed to stay in their heads by recurrently appraising the situation without making use of the various other levers on the situation-attention-appraisal-response sequence. Table 5 compares the strategies used in low and high positivity ratio profiles.

The inaccessible self, or what makes transitioning so draining

Our data provides strong support for an incongruence of the self as it relates to the external world. Individuals wanted to conform to external ideas and norms of careers as these ideas guided them on what constitutes a successful career. However, such external norms are often experienced as invasive, making it hard for individuals to know what they actually want. Conversely, students experienced an inner urge to find their true passions and wanted to listen to their inner voices, but these did not speak clearly to them. These opposing tendencies reflect two fundamental but competing human needs that are seemingly triggered

during transitions: the need for inclusion and the need for differentiation. They thus echo the notion of the "social self" as striving for "being the same and different at the same time" (Brewer, 1991, p. 475). Consequently, much of the discomfort our informants experienced in preparing for their future careers seemed to be related to the notion that "the transition from study to professional life raises many identification questions" as one of our informants noted (Informant 19, DE, high positivity ratio).

Table 5. Qualitative Findings Regarding Emotion Regulation Strategies Associated with Design Thinking

Noticing ***(frequently found in High Positivity Profiles)***	• Noticing incongruence through non-judgmental self-inquiry • Attention towards (positive and negative) self-aspects for a more holistic self-perception
Cognitive reappraisal ***(dominantly found in Low and frequently found in High Positivity Profiles)***	• Reappraisal of the unfortunate situation • Reappraisal of the goal • Reappraisal of future-expectation by embracing the emergent character of the process
Intuitive action ***(frequently found in High Positivity Profiles)***	• Selecting Environments • Turning thoughts into tangible prototypes • Turning towards others without judgement and expectations
Empathy (Empathic Inquiry and Emotion Sharing) ***(frequently found in High Positivity Profiles)***	• Pausing one´s emotion in favor of inquiring and listening to another person (Empathic Inquiry) • Creating psychological safety and enabling emotion sharing, facilitating dynamic emotion regulation and self-access

Our data revealed these contradictory tendencies and showed its consequence: It resulted in negative emotions increasing the regulation demand in transitions as individuals not only aim to transition successfully by optimizing their cognitive–affective functioning but also want to achieve a sense of optimal belonging and distinctiveness. This produced inner conflicts resulting in incongruence within the self. Selected quotations illustrating our interpretations are to be found in Appendix A.

As an example of incongruence between self and context, one of our informants argues that the university creates a specific rhetoric of valuing career over other aspects of life:

> After studying at that university for so many years, I actively have to remind myself that I live in a bubble and that we were taught to put our career first way too much. I was taught to always be efficient and do something productive, while in reality it's ok to not be productive once in a while. In my opinion, it's the hardest to break out and unblock. It took me a while to understand what the culture at university is but also to realize that not everyone thinks and lives like that. How might I decrease the feeling of having to adjust myself to the culture considering the life choices I make? (Informant 24, AG, high positivity ratio)

The example above shows the individual's efforts to distant herself from a university rhetoric which creates discrepancies for her. In a similar vein, an Asian exchange student outlined her frustration that imagining a future is a matter of her both finding passion and adhering to external norms, with the latter being so dominant that the true passion is hard to unearth:

> It was very tough to think about my future work. To be honest, I can not even have any idea of how I will work in this rapidly changing world. When I was little, my dream was crazier and more creative, but now my dream is too realistic. Therefore, I need to think my future more freely and creatively like a child. Part of me think much of money, reputation, and social status. Because of this, sometimes I miss my true passion. For being myself, I need to stay away from the too realistic world. (Informant 18, DH, high positivity ratio)

More or less explicit external expectations seem to intrude on transitioning from university to work. Such external rhetoric resulted in the

experience of inner conflict, indicating that tensions were interrelated with each other. The following account shows that such discrepancies come with "a strange feeling" and pressure, interfering with ideas and intentions related to transitioning.

> Today I had a conversation with a colleague about the future, what we were going to do after the master, jobs and life in general. Now I have a strange feeling. Before the conversation, I thought that I would first take some time off, think about what is important to me in life, what I enjoy doing, which jobs I want to look for and then apply specifically to them. But after our talk, I suddenly felt completely under pressure. She had started to apply for jobs three months ago and now she already has a job offer. Although she hasn't said it in words, I have the feeling that it is not okay the way I want to do it. Just doing nothing and then having a gap in the CV is not something that makes a good impression. (Informant 30, AS, low positivity ratio)

Here, the informant bounces between what she wants and what she believes others expect her to do. Congruence with her own preferences on transitioning may be traded against complying with the external context: making a "good impression." In other words, congruence within the self is weighted against fitting oneself to external requirements.

Another topic emerging from the account above is the fear of other's judgment. One informant puts his finger on the issue of fearing judgmental thinking by saying:

> What blocks me stems from fearing the others' judgement. I feel like I am not the only caught in this trap, but sometimes it feels like we act in order to meet others' expectations rather than to really work for our own self-being and to meet our own expectations. There is a sort of pressure that pushes us to shape our lives around some preconfigured idea of how we should look like, how we should act in different circumstances and what we should think. Indeed, you can only feel at your best when authenticity is in play. Yet we live in a society which is highly judgmental, and this is why I believe you can really feel at your best with family and close friends, or even by yourself. (Informant 33, GB, low positivity ratio)

In this account, the constant struggle of the self becomes visible. Reflecting the strong influence of others' judgement, our informant went on to describe how his efforts to find a job in investment banking were rather a result of internalizing his peer group's ideas:

> Probably for peer pressure or a competitive spirit, I started to do what literally everybody else was doing, applying for investment banking and consulting. Eventually, I managed to secure an internship in the industry, but I really started to reflect and question this choice only recently. I found crazy that I was so desperate to find a position in a job that I did not even know existed a few weeks before. Then I tried to dig deeper to really understand if this was the right career path for me. I answered myself that yes I liked it, I liked the industry, I liked that I was constantly learning something, I liked that I was surrounded by smart people, but something was missing….I am not really interested in that, but I felt that it was the right thing to do as everyone around me was trying to achieve that and I did not want to feel less capable than them. (Informant 33, GB, low positivity ratio)

In the same vein, another informant articulates that adhering to external norms and expectations seemingly resulted in the feeling that what was missing might be authenticity:

> My value system has certainly been strongly influenced by the university context, in which academic achievements are very strongly weighted and there is very little room for authenticity. (Informant 19, DE, high positivity ratio)

Besides the desire to comply broadly with implicit requirements to secure self-esteem such as finding a highly recognized job in investment banking, we observed that our respondents experienced an inner urge for self-accomplishment and self-actualization. Questions such as "Who am I? What do I want? Do I live my life in accordance with what is most important to me?" that center on authenticity of self are frequently articulated in our respondents' accounts. Thus, our informants often echoed postmodern researchers' notion of authenticity as "the degree to which a particular behavior is congruent with a person's attitudes, beliefs, values, motives, and other dispositions" (Jongman-Sereno, & Leary, 2018, p: 133; Ryan & Deci, 2000, Kuhl, 2000) or as "congruence with the 'true self'" (Jongman-Sereno, & Leary, 2018, p:

134) by reporting a discrepancy between what they really feel, want, and believe and what they in fact say and do.

It emerged that respondents' sense of authenticity is both crucial and hard to achieve in the transition from university to work. Managing these contrasting tendencies was a recurrent theme in our data and respondents were "struggling to find answers to those questions." (Informant 37, JB, high positivity ratio)

As discussed in the literature review, the absence of such congruence, in other words difficulty accessing the self-system, gives space for emotion regulation difficulties. This is reflected in our data: respondents recurrently reported that a number of important regulatory functions were impaired. Consistent with PSI theory, these emotion regulation functions include the ability to restore positive affect under frustrating or difficult conditions to enact intentions and the ability to downregulate negative affect. The following accounts offer examples of problems upregulating positive affect to enact intentions:

> Today I was not able to work on my master thesis the way I wanted to, because I was worrying about my plans where I want to work after university… Instead of picking up the thoughts and letting them go, I digress and spend time on social media. (Informant 19, DE, high positivity ratio)

Similarly, informant 21 noted:

> Today, I felt especially sad and also a little bit angry at myself because of one block that remains consistent in my daily life. For about two years now, I started to become very uncertain about what my future would look like. I do not know which future profession I should choose. This made me hesitate a lot…This fear of the unknown paralyses me in my daily life. It ruins my motivation and my creativity for the day when I experience it. It is an emotional block: fear of failure. (Informant 21, AD, high positivity ratio)

The accounts lead to a recurrent theme: fear of failure is one particular negative affect that students are confronted with on their transitory journey. The quotations above provide examples of problems in self-motivation, the ability to upregulate positive affect to meet demands, but the following two accounts show impaired self-relaxation, the inability to

self-soothe when experiencing negative emotions. Informant 31 refers to the issue of impaired self-relaxation by articulating how negative emotions in strained situations lead to a downward spiral which becomes difficult to stop:

> Another thing I noticed is, that in many situations, especially when I'm stressed, things are not going the right way or when I'm triggered in an emotional way, I start to talk to myself in a negative way. Those negative thoughts then usually don't stop and start a negative thought loop, that's getting worse and worse. (Informant 31, JS, high positivity ratio)

Such negative feelings of fear arising in transitions may often be self-imposed rather than dictated by reality, as one of our informants reflected:

> A lot of my discomfort and sense of failure originated not from a personal lack of capabilities but instead from me being in the way of myself. (Informant 15, DL, low positivity ratio)

Our analysis so far shows that emotion regulation in transitions might be a matter of undoing the incongruence that is experienced and thus achieving greater levels of congruence so as to better regulate emotions. To summarize, our data on tensions demonstrates that, to thrive in transitions, individuals have to carefully manage to define their own pathways in accordance with their desires, values, and preferences despite having difficulties accessing their selves in negative emotionality and being confronted with intrusive external norms.

As a matter of fact, students in our cohort shared the common concern of successfully beginning a career despite uncertainty. Because our respondents are all in the same boat, one might expect that the common concern might foster mutual support in regulating emotion. Indeed, informants argued that their conversations are often dominated by questions about progress on wayfinding and future job opportunities. However, Informant 19 claimed that such interactions were not characterized by interest and mutual support but instead shaped by social comparison and competition:

> Very often I realize, that the conversations I have with people I meet at the University are restricted to the same topic (questions about

> grades and future job opportunities) and I find myself getting stuck on the topic. Instead of showing true interest and learning from the person, I simply compare the person with my own professional situation. In retrospect, I often think why I didn't change the conversation to more personal life situations. The culture of comparison often shapes the communication structure and increasingly pushes questions of life in the background. In the end, I live in a comparative culture, talking a lot of time about academic and professional success…Instead of compassion and empathy, negative feelings as jealousy and insecurity come up which hinder me to show real interest in the person. (Informant 19, DE, high positivity ratio)

In contrast to relational theories of careers (Blustein, 2011; Kidd, 2004), which place importance on the social dimensions of wayfinding such as networking and mutual support, our data supports the notion of uncertain vocational transitions being a rather "lonely process." Informant 4 referred to a conversation he had with his peers. According to them, it can be implied that everyone needs to figure out career-related questions on their own:

> In the group it was interesting to exchange ideas with my teammates as we were all shortly before our thirties. We all agreed that finding the right place for oneself it is a big topic for us and amongst our friends. All three being searchers the question was raised whether those people that go a straight way have the second thoughts later in life, as currently they are probably to busy with their career/families etc. Also we discussed on the meaning of a loneliness in this process. All of us agreed that even when opening up to other people we all feel that it is per definition a lonely process as no one else can take the decisions and actions related with it away from you. (Informant 4, TS, high positivity ratio)

The quotation contains instances of both a sense of belonging to a subgroup and the desire of distinctiveness from some other group, thus reflecting the idea that transitioning is a matter of navigating in such a way that a new social identity can be shaped. Often our respondents rather not turn to their peers in request for mutual exchange and support on the journey. In our data, respondents raised issues such as fear of judgement by others, fear of being embarrassed when opening up, and fear of appearing incompetent in the eyes of other students as reasons for not turning to their fellow students.

Our analysis leads to conclude that students may rebel against these "others" as they may represent the external voices that create the rhetoric from which they want to distant themselves in order to give space to their true selves. The following extracts may provide initial evidence for this notion. Two informants explained how they avoid specific social encounters to keep themselves free from negative emotions arising from encounters with such "others":

> What I do is to identify specific people who make me feel like I have to adjust to the culture and restrain myself from talking to them about anything work or study related. (Informant 24, AG, high positivity ratio)

> In some situations, I don't even engage with people or start talking because I assume in advance that I would not benefit from a conversation or a relationship with that person. Triggers for such a behavior would often be if a person starts talking about "Consulting" or "Summer Internships". Since I study at the University of St. Gallen, I have quite often been confronted with those topics which is why I maybe try to avoid them so eagerly. (Informant 27, VF, low positivity ratio)

Thus, not turning towards others may in itself represent an attempt to regulate emotions by avoiding specific situations. Likely, these examples come with the short-term benefits of releasing negative emotions that potentially arise from the avoided situations. However, as social situations are multifaceted, such short-term benefits may also come at costs, such as a lack of inspiration or belonging, creating further tensions, and depriving oneself of learning opportunities. Instead of sharing hardships and vulnerabilities with other students along the way, students in our sample often engaged in judgmental assumptions about others and themselves, thereby likely reproducing the competitive rhetoric from which they want to escape. The following informant makes visible a contradiction that arises from both relying on supportive environments in one´s development and fearing exposure to others:

> Without my supportive environment I would not have been able to complete my studies that easily. Furthermore, my positive thoughts, which are created through the positive feedback from my environment, contributed to the fact that I started studying and not working.

But at the same time, she writes:

> I had concerns about what others might think of me… To be honest, at first, I was very afraid about opening up to complete strangers and talking about myself. (Informant 11, NW, high positivity ratio)

These tensions were amongst the most common in these data, with those with high and low positivity ratios being similarly affected. Our respondents mentioned the importance of feeling connected and appreciated by a supportive environment as their main values, drivers in their career choices and necessary for navigating the transition, but distanced themselves from showing up openly in group settings, as the following informant writes: "The transition from study to professional life raises many identification questions. Social bonds give me strength and trust in my person in this phase. However, such a need for belonging seems to be often unmet in university contexts, as the same informant elaborated earlier on the culture of comparison and how it holds him back from engaging with others with interest:

> Instead of compassion and empathy, negative feelings such as jealousy and insecurity come up which hinder me to show real interest in the person. (Informant 19, DE, high positivity ratio)

Building such strong bonds in university environments seems to be different from socializing in private contexts. It results in students not sufficiently using their academic networks as emotion regulation support to overcome uncertainties and obstacles when transitioning.

Strategies of emotion regulation of high and low positivity ratio informants

As our respondents composed their reflections over a semester, they were digging deeper into the DT paradigm and acquainting themselves with the mindset and techniques taught in the class. Those techniques were derived from the DT principles. Besides learning about the approach, they also met regularly, virtually or in person, to discuss their insights, present their future career designs and provide feedback to each other. Finally, they documented their reflections in the journals that they handed in at the end of the semester. In the next section, we

explore their emotion regulation responses to future uncertainty that were shaped by their learning from DT.

Noticing

In alignment with Mason´s (2002) notion of noticing, referred to as the nonjudgmental, curious observation of the self, our respondents often directed attention towards self-aspects that were congruent or incongruent with the situation when they felt emotional. Noticing implies observing one`s own emotions of incongruence, and only then they often dynamically changed their emotions. Stopping negative emotion from spiraling automatically caused a relief of negative affect. When they nonjudgmentally explored their emotions, they used their concentration to actively steer attention and choose what to mentally focus on to regulate emotions, such as the source of emotions or certain aspects of a situation. Besides recognizing when tensions caused feelings, noticing included attention to positive feelings of congruence, giving our informants guidance on how to navigate.

Our participants shifted attention away from negative experiences towards positive self-aspects, such as strengths, values, and resources for more holistic self-perception. In particular, when they reflected on career related questions, they memorized situations in which they felt powerful, efficacious or focused on circumstances to be grateful for or on the present moment instead of ruminating about the past or fearing the future. This result is in alignment with the proposition that attention represents a very valuable instrument for navigating uncertainty as it serves as a filter through which we select, zoom into, and magnify the stimuli we experience in our live events (Wadlinger & Isaacowitz, 2011; Parkhurst, Law, & Niebuhr, 2002).

In an attempt to self-soothe, this informant wrote:

> A negative part can always be balanced by something positive, or at least that is my idea. For example, I am an introverted person (negative thoughts/desperations) but in my job I can compensate the lack of self-confidence with competence, determination and also kindness and helpfulness… If we think and act like this, it helps us to see life in a more positive way. It is the whole package that makes us who we are. (Informant 11, NW, high positivity ratio)

In this informant's account, shifting attention to the positive was seemingly not intended to erase negative aspects from the gaze yet resulted in a balanced co-existence of negative and positive aspects. Such concentration on the positive does not equate to positive thinking because it does not deny the experience of negative emotions. Instead, it resembles a conscious decision to direct attention towards the self-system in an appreciative manner despite the existence of negative affect, thus generating both a more holistic perception of the self and greater capacity to deal with adversity. Interestingly, our next informant shifted attention not only to positive self-aspects such as behaviors, interests, values, and preferences that describe herself best but also to environments that bring out the best in her:

> In our life there are an infinite number of factors that affect us both positively and negatively, but I think that in order to design our life and along with that to be able to reach our final state of peace and happiness, I decided that I had to look for the elements that would positively affect our development. I think about what environment brings out the best in me and what behaviors represent me best as an employee. Above all, I am a team player and have great strength in being socially intelligent. I also always stay curious as well as include various points of views to make up my own mind. (Informant 1, CDS, high positivity ratio)

In line with PSI theory's notion of accessing the self-system, she mindfully attends to self- and context-related information stored in the self-system, such as autobiographical information related to behaviors, values, strengths, interests, and contextual parameters of environments that enabled her to be herself. We realized that such attention shifts were often initiated and fostered by others who helped elicit resources of the self. The following quotation shows that gaining an understanding of the self includes mentally focusing on the sources of emotions so as to arrive at the deep root causes of a problem or an opportunity:

> Re-reading and thinking about what my group member told me helped me in singling out some elements that really made me feel at my best…I realized that I feel great when I work really hard for something whatever it could be and I am rewarded with a positive result afterword. It leaves me with a sense of accomplishment….You should really start to question why you want something and arrive at the deep root causes of a problem or opportunity. In this case having

> a group of critic listener can be of great help. A good starting point to change is to know ourselves. This is why is fundamental to have a deep understanding of our character, our strength, our weaknesses, what we are grateful for and our blocks. (Informant 33, GB, low positivity ratio)

In the following informant's experience, noticing the incongruence changed her attention to generating approaches to how to achieve greater congruence:

> I saw a job posting, and although I rationally thought I had all the necessary qualifications, I did not want to apply because I thought I was not good enough for the job. While reflecting on these blockages I wondered how different my life would be or how I would feel if I did not have these blocks. I feel that when I ask myself these questions, I am more inclined to identify such blocks when they come up and also tell myself to not believe them. (Informant 32, RA, high positivity ratio)

In accordance with work on narrative career consulting, we presume that noticing sets in motion a chain of important emotion regulation processes (da Silva et al., 2020). Respondents noticed when desires or values were unmet and shifted their attention to further inquire "what exactly is it that triggers or blocks me" so as to detect sources of incongruence. Once attention was directed towards incidences of incongruence with an interrogative mind, they distanced themselves from the problematic emotion and thus created an exception to the dysfunctional narrative. This exception seemed to generate a positive energy to dissolve the discrepancy, leading them to express the self with some sort of agency and assertiveness and to conceptualize a new state of congruence: "I wondered how different my life would be or how I would feel if I did not have these blocks….I also tell myself to not believe them."

In journal accounts high in positivity, informants concentrated on positive self- and context-related aspects and nonjudgmental noticing of instances of incongruence. Both strategies seemed to help turn negative emotion into something new and thus facilitated the activation of positive emotions. They reported that they managed to stop ruminating and to integrate negative emotions into a more coherent, balanced experience.

Cognitive reappraisal

Cognitive appraisal implies the mechanism by which we assign meaning to what we see through our filters of perception. Hence, the emotional impact of an unfavorable situation can be changed by intentionally changing the evaluations of situations (Gross, 1998, Ochsner & Gross, 2008). Echoing recent work on cognitive reappraisal by Uusberg, Taxer, Yih, Uusberg, and Gross (2019), we identified three ways in which our informants attempted to reappraise and thereby regulated emotions, differentiated by the particular dimension that is reinterpreted: the situation, the goal, and the expectation about how the situation may evolve.

Cognitive change occurred in different ways: First, respondents re-evaluated an unfortunate situation, for instance from a mistake or failure to a learning opportunity in order to create a more favorable impact on their emotions. Second, respondents changed the goal in an attempt to regulate emotions, for example prioritizing a goal that increases congruence as opposed to an other-imposed goal that creates discrepancies and inner conflict. Third, they changed their expectation about how their future would develop. According to Uusberg et al. (2019), the dimension of expectation integrates reappraisals of responses to the question "How will this situation evolve?" with corresponding reappraisals on how to cope with questions such as "and what could I do about it?". In our data, a frequent example of reappraisal of expectation is reflected in the idea that the future emerges step by step as a result of an ongoing process instead of a once-and-for-all event. On the basis of such appraisal informants may have dared acting so as to experiment their way forward. In times of uncertain transitions, controllability and predictability are challenged. Changing responses to the questions above enabled our respondents to deal with high degrees of uncertainty by engaging in low-risk prototypes. Next, we provide examples of the types of cognitive change that resulted in emotion regulation.

First, reappraisal of an undesired situation as a helpful learning experience as opposed to a shameful failure contributes to better regulating the emotion attached to the experience, as this account shows:

> I always used to think that everything is about winning and losing, and when something went wrong, I had many negative thoughts thinking that everything was lost. And changing this mindset helped in many ways, because the growth mindset did really help me grow,

> I learned how to learn with my mistakes, situations or plans that go wrong. That gave more maturity to deal with problems in life, in a way that I also improved my emotional intelligence. (Informant 20, EF, low positivity ratio)

Reflective of findings by Uusberg et al. (2019), the statement above implies changing the perception of how good or bad a situation is and integrating it with thoughts about the question "Does the situation help or hurt me and by how much?". The following quotation for instance, shows that the informant allows herself to make mistakes and accepts failure when trying out new ideas, in turn uplifting her emotional experience:

> I mean, even though I always try to do the right thing, sometimes after doing it, I feel that it was not the best decision and that is okay. When after each experience or after pursuing a new idea, I empathize with myself and am curious about what I have learned and how I will continue from that experience, then suddenly no experience seems to be wasted. Besides, the pressure eases and life seems to be more pleasant, because I think you only know what you want when you have experienced it. It also makes you more authentic when you know yourself better and follow up on it. (Informant 32, RA, high positivity ratio)

She describes an incremental process of trying things and then self-compassionately and curiously working with the effects of her trials. In addition to mentioning emotion regulatory benefits, she also refers to the experience of greater congruence through the interpretation of the transitory challenge as an ongoing process. A further aspect of the situation that was reconstructed is accountability: "How much responsibility for this situation belongs to me. . . and how much to someone or something else?". In our sample, respondents reduced negative affect by reappraising mistakes as helpful and cognitively reassessed their accountability by for instance presuming that agency indeed resides within them but that not everything can be controlled. In that regard, one informant argues which "psychological relief" it provides for him, "if you stop losing your mind over things or occurrences over which you have zero control":

> There are countless things in life, which we cannot immediately steer and to me personally it helps extraordinarily much to stay aware of

> this lack of control. It is thus not about running through life without purpose or caring but rather about being selective as to where I want to invest my mental energy and where it proves to be useful. (Informant 15, DL, low positivity ratio)

Here, the informant implies that cognitive reappraisal may affect attention selection strategies since it changes where he intentionally directs his attention.

A second, less popular approach was that respondents changed the appraisal of the goal to regulate emotions. One informant stated that when he prepares for job interviews, he always bears in mind to "redefine success as being able to conduct the interview to the best of my abilities, rather than relating it strictly to getting the job". (Informant 25, FF, low positivity ratio)

A considerable number of our respondents who applied goal reappraisal mastered their overwhelming feelings in transitions by changing their goal inasmuch as they made sure their priorities were covered, thus achieving congruence. Another way of changing the goal to regulate emotions that was less frequently applied is to intentionally downscale one´s expectations. For instance, one informant (Informant 8, SL, low positivity ratio) talks about his experience of not keeping up with all the tasks that come with the transition, such as exams, applications, job interviews etc. In an attempt to regulate his emotions, he refers to how he lowers his expectations by actively reminding him on not to over-exaggerate what he can achieve in the short-term. He chose to value feelings of being "kind towards oneself" above adhering to extrinsic goals, thus fostering self-access to regulate emotions in uncertain times. This seemed to be particularly helpful when goals were other-imposed and thus not relevant to the self-system.

Third, our respondents chose to change the expectation of how situations may evolve, providing them with new levers with which to steer the process. An intriguing observation is that the DT paradigm may have provided our respondents with the opportunity to change their appraisals; they frequently reflected how they started thinking of the future as emerging in an ongoing process of trial and error instead of a once-and-for-all event, as postulated here:

> I don't want to give the impression that the uncertainty and negativity about my future disappears, because this is not the case. I still struggle to visualize my future work self, and more broadly the future itself, but now I see someone that has been able to make his background in finance and economics relevant for the field of renewables and ecology. I am not able to say how, when and if it will happen. I am no longer focused on the end goal. I am concentrating on the process instead. In other words, I am prototyping. I have taken action by jumping from the least effort/time intensive prototyping (desk research) to the most intensive. I have recently applied for an internship at….I am still waiting for an answer and I have my fingers crossed. (Informant 25, FF, low positivity ratio)

The situation is appraised as being uncertain, with volatile dynamics making it unable to say "how, when and if" things will happen. This allows the actor to follow a step-by-step approach by working with the intermediate results emerging from iterations. The previous account also shows that such reconstruction of future expectation relies on a strong perception of the self as a prerequisite for such flexible maneuvering: "but now I see someone that has been able to make his background in finance and economics relevant for the field of renewables and ecology". He goes on to explain how his changed construal of how the situation will evolve leads to new ways of coping:

> The keyword here is patience, which is something that most of us tend to forget, especially in a social context that emphasizes instant gratification. As I will focus on the process of designing my life, rather than the end goal, I will make mistakes, I will throw away some prototypes, but I am confident that some amazing ideas will also emerge from failure and chaos. This once again reflects the Design thinking idea of playing around with ideas and projects, not following any direction but generating one. (Informant 25, FF, low positivity ratio)

The quote above shows that such a reappraisal of expectations creates a new focus of attention, thus reflecting the interrelatedness of emotion regulation strategies. As a result of his reappraisal, the informant chose to concentrate his attention on the process, demonstrating the link between cognitive reappraisal and attention allocation. This example shows that attentional deployment and reappraisal used successfully in conjunction can help individuals to orient their attention towards certain

aspects, which allows them to adequately reappraise the meaning of the emotional experience. Then, according to Wadlinger and Isaacowitz (2011), these strategies may augment each other's efficiency, thereby reinforcing the likelihood of being enacted as a future strategy combination.

Embracing future uncertainty and unpredictability by cognitively changing the dimension of expectancy, our respondents chose to shift their attention not only to the process or the "now" but also to what lies in their hands, as narrated here:

> The more I focus on the now, the more the future will be the result of my true inner voice and match my vision. I have a choice how I want to perceive my environment and the people I interact with. If I can build up confidence to tackle and solve obstacles, I have a great potential to experience life in its fullness. Whatever comes, I can handle it. In summary, I believe my future will be positive. A future that allows me to bring my personality to any workplace. But also, a future that requires me to remain adaptable and not to assume a linear career development. (Informant 15, DL, low positivity ratio)

From our respondents' insight into how they dealt cognitively with the uncertainty of the transition, it appears to us that the element of hope that things work out in their favor plays an important role, particularly in low-positivity profiles. Snyder's cognitive model of hope defines hope as "a positive motivational state that is based on an interactively derived sense of successful (a) agency (goal-directed energy), and (b) pathways (planning to meet goals)" (Snyder, Irving, & Anderson, 1991, p. 287), with both dimensions evident in the previous quote. Agency is reflected in "I have a choice… I have a great potential to experience life in its fullness" and "it requires me to be adaptable," whereas the part "Whatever comes, I can handle it" shows that the informant is confident of finding many ways around any problem. Likewise, both agency and pathways are to be found in the following statement:

> I learned that it is okay to be stuck at times but you have to know how to get unstuck. I am not concerned with the fear of being stuck anymore. In contrast, I feel more confident in my abilities to get unstuck again. No matter what impediments will come my way, I am feeling more secure in overcoming them. (Informant 5, KH, high positivity ratio)

Researchers (e.g. Rimé, 2009; Bandura, 1989) have frequently stated self-efficacy beliefs to achieve future goals determine the emotional experience in transitions. Beyond that, we find indications that the notion of hope becomes increasingly essential, particularly when situations are characterized by high degrees of uncertainty. Self-efficacy beliefs are not universally applicable, because they require the individual to have mastered equivalent situations before so as to memorize and rely on the resources built up in similar past experiences. However, when uncertain transitions confront individuals with experiences beyond their existing knowledge base, self-efficacy beliefs become insufficient in boosting the emotional experience. At this point, hope may need to step in. This does not imply that hoping that a transition will happen is enough to downregulate emotions of anxiety and upregulate positive affective states, nor will it result in actual transition success. Rather, our respondents were clear about where to put energy in and where to let go and hope to positively transition despite uncertainty.

Cognitive change was present amongst respondents with low and high positivity profiles. However, in low-positivity profiles, cognitive change was the dominant strategy, and it showed fewer links to other emotion regulation strategies. An early antecedent-focused regulatory process, noticing, may hold greater promise for changing the emotional experience than cognitive change. Attentional deployment may serve as a precursory strategy for other emotion regulation processes, such as cognitive reappraisal. For example, to reappraise a negative situation for emotion regulation, attention must disengage from the negative interpretation and reorient to finding or creating evidence for an alternative interpretation (Wadlinger & Isaacowitz, 2011). We frequently observed that process in our data. With the help of DT, individuals may have reoriented their attention towards aspects of the self, their context, their goals, and the process by which they expected to reach their goals. This, in turn, allowed them to adequately reappraise the meaning of unfavorable aspects.

Intuitive action

Intuitive action encompasses entering emotion-evoking situation as well as intuitively engaging in activities that serve to change the emotion arousing environment (Gross, 1998, 2005), such as selecting specific contexts and exploiting opportunities to test ideas with others. As

an incidence of the latter, particularly our high-positivity respondents step-by-step turned their thoughts into tangible results and turned towards others for support and open feedback, and in turn, eventually received intrinsic and/or extrinsic reward, uplifting their emotional experience and progressing on transitory path.

Respondents intentionally approached particular situations and contexts in which they could feel congruent. We could extract from out data that respondents precisely reflected about the particular characteristics of their future career environment in which they could live up to their ideas of purpose and belonging and be able to experience the related positive emotions. It also included to avoid situations in which this was not given. Independently from whether they choose to approach or avoid, it included awareness of the characteristics of situations that typically make them emotional (Gross, 1998), but it also assumes self-knowledge as individuals need to make solid decisions about which situations to seek out and which to avoid.

Far from attempting to avoid the uncertain transition, our respondents reported how they searched for situations in which they could test whether their ideas and intentions will work out for them, for instance, by creating a series of prototypes related to their career issues. The idea of prototyping is described by this informant:

> I focused on several fragments or conditions that I would like to incorporate in my future but the overall picture is still not completely visible to me…I like to create new experience but was more fixated on an all-or-nothing mentality. Prototyping showed me a less risky way of creating new experience that I truly enjoy… After having finished the class I am convinced that even though I still have not a fully visible image of myself in the future, I have learned how to prototype my way towards this image and to make it tangible…. In fact, I am looking forward to a short telephone interview with a woman that I found on LinkedIn. She took a career path that I am interested in as well. The class motivated me to actually go out of my way and simply ask people if they are interested in sharing their story. (Informant 5, KH, high positivity ratio)

In the context of vocational transitions such prototypes range from, for instance, making a phone call with a person in the desired job to increase knowledge that may be relevant for intention implementation

and doing a short internship to get a real-life experience about an envisioned job, as the next informants explains:

> Luckily enough, even without being aware of it, I already developed a quite advanced prototype of being an entrepreneur. Indeed, during my bachelor, I founded an entrepreneurial club during which I was exposed to several entrepreneurs and made me fall in love with this world. I was able through conversations to have some life design interviews and to shadow entrepreneurs in their daily activities. Perhaps, I only lacked the most advanced way of prototyping, namely an internship. (Informant 33, GB, low positivity ratio)

Prototyping is a core activity, practice or habit in the Design thinking paradigm, which aims at „exploring the solution space" (Lande & Leifer, 2009, p. 1) by relying on iterative phases of experimenting with ideas, bringing them to life as time- and cost-efficient as possible, receiving feedback, learning and refining concepts further. It may unfold its positive impact by several positive effects. It reduces the risk of acting by breaking down big goals in small steps and clarifying them as tests. Thus, uncertainties and fear of failure are significantly reduced. It rather encourages individuals to dare acting despite uncertainty by engaging in low-risk tests of their ideas (instead of making assumptions, ruminating about them or procrastinating), and thereby potentially serving as a mechanism to overcome the intention-action gap. Moreover, by enacting small scale behavioral "mini-experiments" in order to step-by-step put newly shaped intentions to practice and progress, a person receives quick and immediate feedback by the prototype itself which adds up to new positive cognitive and affective resources required for way-finding.

According to the following account, after changing the situation by actively and intuitively making mini-experiences she pauses and reflects which even helps her to access the self in a more self-compassionate way, thus enabling more confidence to act, grounded in authenticity:

> After each experience or after pursuing a new idea, I empathize with myself and am curious about what I have learned and how I will continue from that experience, then suddenly no experience seems to be wasted. Besides, the pressure eases and life seems to be more pleasant, because I think you only know what you want when you have experienced it. It also makes you more authentic when you know

> yourself better and follow up on it. (Informant 32, RA, high positivity ratio)

By taking on a learner´s perspective, the situation was perceived as a continuous process of becoming their true selves. We derive that by experimenting one´s way forward the actor becomes able to access qualities which go beyond conscious thinking and planning: the experience itself and the implicit self. Instead of cognitively processing the transition in all its threatening details, through creating real-life tangible experiences, the opportunity arises to relate it in a sensory, more holistic way. Thereby prototyping gives experience-based insights preference over conscious, effortful thinking. Further, in alignment with Kuhl´s concept of self-development, once this newly acquired information helps to down-regulate negative affect, the implicit self is energized and new experiences can be integrated into its associative cognitive–affective networks. Thus such an iterative cycle of acting upon intentions and checking the experience against information stored in the self continuously activates and thus shapes the implicit self as emotion regulation resource.

Prototyping as a means of directly acting in order to change the situation did not come natural to most of our respondents, especially when they considered themselves rather perfectionist or overthinking. It included a cognitive change towards the idea that wayfinding is an on-going process that needs actions and reflections, thus demonstrating the permeable boundaries between emotion regulation strategies. The cognitive change related to prototyping seemed to not only impact on emotions but also generated a new way of thinking about the career transitions as being an emerging process, as he explains:

> I know now that finding the right path will be a continuous process, and I won't know overnight. Becoming more aware of how I can tackle my various interests and that there need not be an "immediate cut" if I feel that I did not end up in the right field or position, has helped me in a terrific way to be less insecure and anxious about my future. The course has erased my thinking that I must know my path straight away. It is okay if try various things out and prototype my way through different interests of mine. To conclude, I am significantly more optimistic about my future and excited about the steps and experiences that will follow. (Informant 15, DL, low positivity ratio)

Third, informants adopted an active approach towards openly but selectively turning towards others, such as peers or individuals with specific experiences, in request for feedback and support. Applying this strategy, individuals stopped staying in their heads spinning around questions and instead acted upon their action tendencies by including others in the process and only thereby changed the emotion-eliciting situation. An informant explained how through Design Thinking she developed a more open approach towards others:

> I tried to trigger as many dialogs with other people as possible that provided me with a more clear vision of what job field I want to work in the future… I had very lovable and deep conversations with my friends…I found that taking the time to talk about ourselves in a positive, appreciative and honest manner enhanced our friendships even more…Especially since I would consider myself more of an introverted person that likes to deal with conflicts on my own, I felt comfortable to share a part of me. In fact, I left behind any expectations that usually accompany collaborative group settings such as peer pressure, e.g., having to provide the best story. (Informant 5, KH, high positivity ratio)

Further, informant 32, in particular, stated that she had worked on her transitioning a lot before, "but it was always alone":

> However, through this course I realized how much more fun and liberating (also because the ability to work on a team is one of my character strengths) it is when experiences are shared. It showed me that we all have our own struggles. I believe that to achieve the most, you have to take feedback, accept it, adapt and move forward. (Informant 32, RA, high positivity ratio)

Here, Design Thinking seems to unfold its impact by encouraging collaboration and engaging in conversations on their transitory journey. Digging deeper into the Design Thinking paradigm seems to have offered the respondents a new perspective on the positive outcomes of engaging in social situations during their transition. Here, one informant explicitly refers to the Design thinking intervention as being causal in his mind change:

> I still had not found a job that I could see myself doing in the long-term. That is why, when I was presented with the same question in

> class, I gave an honest, three-words, answer: "I don't know". As I think about that question today though, after having gone through the course, I am quite surprised to find myself giving a very different answer. In particular, what I have learned from this intervention is the power of teamwork, of radical collaboration and the awareness that I am not alone. Opening up to other people's ideas, sharing my story, acknowledging where I was starting from, and letting other people contribute to my life design process has allowed me to get unstuck by coming up with a clearer pathway to build for my future… the best ideas come from working with a supportive community, recognizing that it is other people's inputs that will take you to the next level. (Informant 25, FF, low positivity ratio)

In disclosing themselves and presenting themselves as searchers for career solutions, they also challenged the dominant rhetoric of competition for achievement and success by rather demonstrating high levels of vulnerability, and compassion towards others, and by not being afraid to opening up to others. Thus their positive turning-towards-each-other strategy challenged the prevailing social norm of competition and comparison, rendering transitions a lonely process. This links into our fourth family of strategies namely emotion sharing and empathic inquiry which we will describe in the next paragraphs.

Emotion sharing and empathic inquiry

Altering the emotional expression late in the emotion generative process after response tendencies have been initiated (Gross, 1998, p: 285), our respondents explained how they prevented emotional expression by suppressing emotions (often in favor of pursuing social goals), or how they expressed their emotions in a socially shared language by sharing vulnerabilities with like-minded others. In contrast to the conventional conceptualization that response modulation is less effective, we identified impactful response modulation strategies beyond suppression: emotion sharing and empathically inquiring others.

Whereas emotion sharing includes emotionally disclosing to others despite the fear of judgment, empathically inquiry implies pausing one´s emotions in favor of the social goal to hold room for another person´s emotions and stories. Yet, by appreciatively inquiring another person new, more favorable and fearless social conditions were created which enabled the emergence of more supportive relationships. In light of our analysis, through the development of such social conditions, they did

not only tap into career-making advise and insights but also facilitated better access to the self-system. It further emerged from our data that when participants inquired each other empathically it resulted in a change of both context- and self-relevant parameter inasmuch as a new psychologically safer context was created and the cognitive–affective representations stored in the self-system may have been activated and updated through empathically making sense about another person.

The accounts of our informants showed that suppression of emotions is often chosen as a default strategy in favor of social goals, such as pretending to be the perfect intern or junior professional, "always smiling and being helpful despite feeling insecure" or "keeping negative emotions and thereby making them even stronger". Similarly, one informant explains that when he meets people, he tends to present himself quite often under a good mood and consequently people think he was very much convinced, and self-confident in whatever he says. However, he realized that such strategy comes with a downside:

> Moving on, I would like to improve this side of my personality and share more my concerns and anxiety whenever I can in order to "use" the group power in alleviating the issues we are facing together. (Informant 24, SE, high positivity ratio)

Acknowledging that he would be better off if he manages to distant himself from impression management, he refers to a strategy to regulate the emotional response which is sharing emotions instead of suppressing it. According to our informant, the strategy of sharing vulnerabilities may come at costs and benefits. He may trade his convincing, self-confident impression on others against what he gets from the group process when opening up. What emerged from the group processes when sharing vulnerable emotions and thus "alleviating the issues we are facing together" was articulated in various forms, such as "a psychological relief" or "a feeling safe and comfortable". Further, "it enabled subsequent meaningful conversations" in which they collectively shaped insights on what matters in their vocational transitions and in life in general. Sharing emotions was frequently experienced as something intense which, however, yielded a dynamic change of emotions. Describing herself as a student for whom sharing emotions is off character, she reflected how she felt when she shared an emotion fueled, memorable moment with another person:

> That day when l talked about this story I cried, same as when I was writing this reflection. Not only cried for the memorable moment, but also for that day I face my fear and a miracle happened. (Informant 17, KL, low positivity ratio)

Opening up towards fellows often required individuals to overcome unpleasant emotions such as fear of exposure or fear of judgment in the first place. A student who was just about to tell her fellows about a moment in which she felt best described her emotions like this:

> At the beginning when I told my story, my heart was beating very hard, I was getting the best of myself towards two unknown people and my nerves, my anxiety and my pride were feelings that appeared and left at all times. I could not even look at the faces of my colleagues because I was afraid not to receive the faces that I was imagining in my head (of admiration or curiosity). To tell the truth, I did not have a good time in those minutes. Then when I finished telling, there was a silence between them as of who started with the feedback and I really felt that it was going to explode, I could not deal with the anxiety of knowing what they were going to tell me and at the same time with fear of what they would tell me. Finally everything in my body calmed down and the feedback I received was quite as I expected, but the whole process was really challenging. (Informant 1, CDS, high positivity ratio)

This finding links into Rime´s (2009) observation that individuals tend to deny social sharing of emotions when they anticipate being exposed to harmful emotions, or as in our informants´ example, if they fear that the feedback will not match their expectations. In that regard, our informants also refer to an essential enabler for sharing emotions: abandoning the idea that one has to be afraid of being judged. The Design thinking intervention directly prompted them to collaborate in groups and discuss visions of their futures, help each other brainstorming on ideas and prototypes. Even though carefully and actively listening to others was part of the instructions, they were, however, not specifically invited to share emotions. However, in our informant´s experience, once a new climate was established that „makes it seem “okay” when you talk about new ideas and sometimes deeply personal concerns“, emotion sharing was initiated. He goes on to explain:

> Through the mutual telling of stories, a feeling has developed within the group, as if we have known each other for a long time. The empathic listening and questioning reinforced this feeling. I was very surprised that you can build such personal connections with these methods in such a short time. I could learn a lot from others and concentrate on trying to understand others instead of bringing about a good impression of myself. (Informant 31, JS, high positivity ratio).

Reflective of previous work on emotion sharing, our data shows that once they managed to open up an emotional chain was nudged that „brings interactants closer to one another“ (Rimé, 2009, p: 45). Our data provides evidence for such emotional chain that likely resulted in both a new collective emotional space related to feelings of togetherness as well as in dynamic emotion regulation on an individual level, as our informant narrates:

> I felt very stuck…But after I sat down with the team, that changed. I teamed up with a German girl and a Spanish boy. The German girl was the friend of a friend and I knew her by sight, but she always seemed very tough and unapproachable to me. However, when she started to tell her story and the Spanish boy and I tried to create a space of psychological security, there was a change. Suddenly I felt very vulnerable and very touched by her story. It changed the way I perceived her, and it felt really liberating. What happened next was somehow magical (I can't find a better word to describe it). The Spanish boy told us that he had planned to tell a different story, but now he wanted to tell a more personal one, because he felt safe in our group. I was the last one to tell the story and I also felt very safe and comfortable in sharing my story. Having the opportunity to talk about things that are valuable and that are meaningful is quite rare. (Informant 32, RA, high positivity ratio)

Pausing ones´ own emotions in favor of inquiring another person´s state of mind and emotions created a psychological safe, fearless space, thus modifying the social situation itself. Such effect of the response-focused emotion regulation strategy on the situation again goes to demonstrate the interrelatedness of emotion regulation strategies (Gross, 1998).

Besides holding thoughts about the German girl as „unapproachable“, the informant and her fellows created a „space of psychological security“ including vulnerability and compassion, which enabled the mutual sharing of meaningful aspects of transition related topics. When being present in the conversation and listening to the other person´s story, the informant experienced a dynamic change in affective states from „stuck“ and „blocked“ via „vulnerable“, „touched“ and „liberated“ to „safe and comfortable“.

Likewise, another informant described show she practiced empathic, curious inquiry and active listening, and thus set in motion an emotional chain spiraling up towards more confidence and enjoyment:

> My colleagues started to talk about their special moment and I got more confident from time to time because I recognized that they really enjoyed answering all my questions… After some time, I was really looking forward until it was my turn to tell my story and answer all their questions. (Informant 11, NW, high positivity ratio)

It further emerged from our data that once our participants started inquiring each other empathically, thus creating a new safe environment, new knowledge became accessible. The following informant describes the importance of non-judgmental thinking in facilitating such encounters:

> By adopting non-judgmental thinking in this class, I was able to interact with other people without the prejudice and absorb new knowledge and ideas easier. (Informant 16, YK, low positivity ratio)

A frequently stated learning from opening up was that, besides assuming in the first place „that everyone else studying here does not have self doubts and succeeds all the time“, actually „everyone else is struggling with the same “shit” and that no one is actually perfect…We are all in the same boat: students more or less at the “end” of their educational journey.“ (Informant 7, SB, high positivity ratio).

Such discovery frequently resulted in greater connectedness, emotional ease and even in the emergence of new self-related resources such as higher self-confidence, as narrated by her:

> I think that I have become more open and know better how to deal with certain situations. I also feel that I have become a bit more self-confident, because I have seen that many very extroverted personalities, who have also attended this course, have similar problems as I do. (Informant 11, NW, high positivity ratio).

The mutual acquisition of insights links into Rime´s conceptualization of emotion sharing as a „powerful social tool at the service of continual updating of shared knowledge, theories, and representations“ (Rimé, 2009, p: 45). Interestingly, besides the finding that assumptions about each other were updated, new knowledge about the self could be generated. Shedding light on that intriguing aspect of inquiry, we found that showing empathy towards someone else by inquiring and carefully listening also helped to better access own interest, values and skills, as Informant 44 framed it:

> Listening to someone else's story helped me understanding my own story in terms of interest, values and skills better as well, because I could analyze it form an objective perspective and therefore see how I should analyze my own story. I could apply this on several different moments of my life now and it is easier for me to figure out what really is important to me. (Informant 44, RV, low positivity ratio)

Thus echoing the notion of self-access (Kuhl, 2000; Baumann, Kazén, Quirin & Koole, 2018), such empathic encounter with another person may have enabled better access to qualities of the self stored in his self-system. We presume that mindfully turning towards others may help unearthing the self which often lays dormant under negative affective states, in turn, likely leading to greater emotion regulation through its activation.

What comes to us as a striking observation is that inquiring others, in other words, making up ones´ mind about someone else, even when confronted with own emotion regulation demands, seemed to activate the self and generate dynamic affect regulation. Drawing upon emotion regulation research on how to activate the self, we postulate that through the curious, nonjudgmental and appreciative inquiry of another person´s mind, inquirers may likewise activate their self-system providing them with new self-relevant information and implicit emotion regulation resources. In line with this argumentation, empathy researchers have shown that assuming another person's perspective, grasp feelings,

needs, intentions, expectations in our fellow human beings so as to better comprehend that person's state of being (Perner & Wimmer 1985; Singer & Lamm, 2009) is closely related to better understanding oneself. Perner and Wimmer (1985) refer to that person knowledge as „Theory of mind". From a social neuro-cognitive perspective, theory of mind and the self draw on closely related neuro-cognitive circuits, with the ventral lateral prefrontal cortex being vital to understanding both social situations and oneself (e.g. Wagner, Haxby & Heatherton, 2012) and organizing information in the extension memory.

How does Design thinking support emotion regulation?

Our data show that individuals have various emotion regulation strategies at their disposal to defy the feeling of "being stuck" in transitions, and that this repertoire can be flexibly extended by interventions based upon the ideas of the Design thinking paradigm. The respondents in our study managed emotions so as to change their responses to distressing emotional stimuli during transitioning and make progress toward their personal goals. Approaches ranged from noticing and cognitive reappraisal to intuitive action and empathy related strategies such as emotion sharing and empathic inquiry.

We illuminate how an innovative mindset associated with design thinking with its key pillars, such as experimentation, collaboration and empathy, equips students with emotion regulation strategies to better navigate transitions in times of uncertainty, regardless of whether they qualify as high or low in emotion regulation abilities. Indeed, they often praised how hands-on experimenting their uncertain way forward with prototypes positively impacted their emotions, how turning towards others supported them in finding positive anchors and how empathically inquiring others and themselves positively influenced their experience. We conclude that design thinking unfolds its emotion regulatory potential as its practices prompt the individual to flexibly draw on emotion regulation strategies beyond cognitive reappraisal and help eliciting the self.

By analyzing our journals, we further unearthed that design thinking changed the way individuals directed their attention (noticing) by, for instance, attending to particular questions guiding their attention, by

writing thoughts down which helped them to feel differently and visualizing relevant aspects of their transition.

The practice of writing was associated with surprising insights beyond consciousness, as one of our informant (10, IHT, low positivity ratio) described: „When I first got to writing, the whole idea…sort of 'flew' out of me." Moreover, an informant describes how externalizing emotion eliciting thoughts through autobiographical writing (about passions, wishes, feelings and blockages) helped uplift the emotional experience:

> I was sometimes having thoughts like "What could be the reason for that particular feeling?" or "Why do I stop myself from doing this and that?"Only taking about 5-10 minutes each evening for a journal helped me a lot with identifying some blocks, or just in general, to shed some light on broader problems I had. Finding these patterns and looking for ways on how to fix them, provided me with many new ideas that I'm already implementing and that I will continue with in the future, to eventually fix those issues. It helps you to catch your mind having distracting thoughts, recognizing them and pulling your mind back into the now. (Informant 31, JS, high positivity ratio)

Beyond elaborating on the benefits of expressive writing, he goes on to mention to importance of cultivating non-judgmental awareness of the self (noticing):

> Just realizing in the evening, that you've had negative self-talk, is too late, you have to catch those thoughts as soon as they are popping up, stop them and therefore prevent the loop of negative self-talk before giving it a chance. (Informant 31, JS, high positivity ratio)

However, generally speaking, even though we could find support for design thinking positively impacting their emotion regulation, we did *not* gather rich data on what supported individuals in creating that broader nonevaluative awareness and perception of the self (noticing). Echoing the Koole, Webb and Sheeran`s notion (2015) that people may "feel better without knowing why" when they implicitly regulate emotion, we are not surprised that participants in our study did not always explicitly refer to what impacted changed their attention.

Research on DT argues that, accelerating the facilitation of solutions to problems and enabling learning, a central piece of design thinking is the use of visualization. It is evident that visualization helps to share thoughts, work towards a common understanding and thus enables faster transformation from insights into action (Kernbach & Nabergojv, 2018). Despite the importance of visualization, within design thinking little is known about how visualization facilitates problem solving (Kernbach & Nabergojv, 2018), neither about how it may help regulating emotion. Yet, following our argumentation that activating the implicit self as associative networks of emotion relevant content helps fostering emotion regulation, we believe that Design Thinking´s principle to visualize may have contributed to greater self-access through specific attention guiding processes.

Because self-access requires the activation of extended cognitive networks, it required practices or experiences that help activating such high-level cognitive processes and thus foster emotion regulation (cf. Koole, Webb, Sheeran, 2015). Our research develops the argument that applying Design thinking principles may provide such emotion regulation support by activating extended cognitive networks. We speculate that, particularly, through Design thinking´s principle to visualize abstractly, it facilitates emotion regulation through shifting and broadening the scope of attention. Particularly, imaginative techniques such as abstract visualization (of what inspired them, what they desired, how their future could look like) required the individual to mentally work in visual and temporal space (to imagine future scenarios which have both temporal and spacial dimensions). This may have resulted in the emergence of new self-referential information as a matter of activation of the self.

We bring forward the argument that this process is at least in part facilitated through the role of hippocampus which is both involved in higher-order spatial-temporal perception (Lee, Yeung & Barense, 2012) and, as we argued earlier, in emotion regulation. Even though it was long assumed that the prefrontal cortex regions are responsible for the visual-spatial perception of stimuli, recent work applying functional magnetic resonance imaging (fMRI) has demonstrated that hippocampus is critically involved when presented stimuli are complex that require navigation in space and time (Lee & Rudebeck, 2010; Lee, Yeung

& Barense, 2012). A number of studies underscored the role of hippocampal activity in the processing of sequences that have a temporal dimension (e.g., Tubridy & Davachi, 2011) and require the ability to perceive and recognize scenes from multiple viewpoints. Thus, we argue that when applying visuals that require visual-spatial thinking, the hippocampus as our “brains´s navigation system“ or “cognitive atlas" (Nau, Julian, Doeller (2018) is engaged.

Through hippocampus´ connectedness to both higher-order cognition and lower-level affect, as laid out earlier, we speculate that when applying visual thinking to challenges, hippocampus´ involvement may implicitly assists in both gaining new insights and feeling differently without knowing why. Such new self-relevant information frequently emerged to them, specifically when under restricted time they were forced to produce something intuitively (visually or physically) from the top of their minds without having the chance to overthink it. Additionally, by cultivating the practice of noticing, respondents could capitalize on that new information in forming new ideas and intentions reflective of their selves.

CHAPTER 3:
Seeing me in you - A quantitative study on the impact of empathic inquiry on implicit self-access

3.1 Overview and Objective

Despite the power of the implicit self has entered the discourse in emotion regulation research, there is still much to be learned, e.g., how the implicit self can be activated so as to benefit from its emotion regulatory functions. This is where that study positions itself. The implicit self with its holistic, flexible, parallel-distributed processing mode enables emotion regulation in demanding times (Kuhl & Koole, 2004; Koole & Jostmann, 2004; Koole & Coenen, 2007) as it assists in shaping intentions and actions that are both rooted in deeply personal parameters and cued by particular environmental demands (Baumann & Kuhl, 2002; Kuhl, 2000, 2001). Such congruence is associated with a variety of beneficial outcomes such as emotional well-being (Brunstein, Schultheiss, & Grassman, 1998; Sheldon & Elliot, 1999), higher life satisfaction (Hofer & Chasiotis, 2003; Hofer, Chasiotis, & Campos, 2006) and identity development (Hofer, Busch, Chasiotis, & Kiessling, 2006).

Provided that efficient emotion regulation that is integrative of the implicit self can be influenced by external stimuli, this research wants to advance our understanding of how experiences and practices foster access to the self. Despite the great importance of developing emotion regulation skills to self-regulate emotion more or less independently from others, we propose that emotion regulation inevitably represents a social phenomenon that is situated in and shaped by social environments.

In an experimental design, we measured whether exploring another persons´s feelings and experiences results in greater self-access conceptualized as motive congruence, i.e. overlap between explicit and implicit motives. We propose that when people empathically inquire another person, they make use of their own cognitive-affective representations stored in the self-system, thus activating their implicit self. Further, we propose that this activation is accompanied by dynamic emotion regulation inasmuch that it increases positive affect and decreases negative affect and that greater self-access leads to a more optimistic outlook on life (as measured by base line positive affect, life satisfaction and hope).

3.2 Propositions and Hypotheses

“Empathy is about finding echoes of another person in yourself”, Mohsin Hamid, a Pakistani Novelist, aptly worded in an interview in the New Yorker in 2012 (Leyshon, 2012, September). Whilst the affective component of empathy is concerned with one's emotional response to the affective state of another person (i.e. the tendency to experience sympathy or compassion for another person who is in distress), in its cognitive form, empathy entails the ability to assume another person's perspective, grasp feelings, needs, intentions, expectations or opinions in our fellow human beings so as to better comprehend that person's state of being (Perner & Wimmer 1985; Singer & Lamm, 2009). Indeed, researchers further describe empathy as the “capacity to understand others and experience their feelings in relation to oneself“ (Decety & Jackson, 2004, p. 71). This connection between others and self may be reflective of some interesting cognitive-affective relations which existing research is beginning to better understand and which we have illuminated in our previous study 1, as described in Chapter Two.

In our qualitative study, we concluded that when individuals step in another person's mind, dive into their feelings, values, are welcoming of echoes of the other person in themselves, they may not only create a better understanding between each other but may also path the way to better access to the implicit self. Thus, we derived the proposition that empathically turning towards others might benefit one´s own emotion regulation through increased access to the implicit self. From a social neuro-cognitive perspective, such processing may be supported by networks of person knowledge, also referred to as “theory of mind” (Perner & Wimmer, 1985) which may draw on neuro-cognitive circuits closely related to the implicit self. The ventral lateral prefrontal cortex is vital to understanding social situations (e.g, Wagner, Haxby & Heatherton, 2012) and is also shown to be associated with the storage of own autobiographical content.

Even though people develop conscious concepts of the self (Swann, Chang-Schneider, & Larsen McClart, 2007), through their reliance on conscious processes such explicit self-concepts are believed to be restricted inasmuch that they are not reflective of the full depth of human existence (Koole & DeHart, 2007). Hence, the explicit self is conceptually and neuropsychological different from the implicit self (Baumeister et al., 1998). According to personality systems interaction

theory (PSI, Kuhl, 2000), self-access can be operationalized as overlap between the implicit and explicit self, building upon the finding that there is a natural discrepancy between the implicit and explicit self, with greater congruence being indicative of greater self-access and thus better intuitive affect regulation (Baumann et al., 2018).

Although research suggests that the implicit self may be triggered automatically through practices and experiences (Koole, Webb, Sheeran, 2015; Rothermund, Voss & Wentura, 2008), little is actually known about the nature of those practices and experiences and the mechanisms by which they assert that regulatory impact. This may be in part due to uncertainty about appropriate use of available measures of the implicit self (Uhlmann, Leavitt, Menges, Koopman, Howe & Johnson, 2012).

In alignment with Baumann et al. (2018), self-access, in this study, is conceptualized and measured as a congruence between implicit and explicit motives (motive congruence). The three classical motives, which differ in terms of how explicit they are, include: affiliation (the desire to gain pleasure from building and keeping close and affectionate relationships with other people), achievement (the desire to derive pleasure from mastering challenging tasks), and power (the desire to experience pleasure from having an impact on others) (McClelland, 1987; Schultheiss & Köllner, 2014). Each motive is believed to have an explicit and implicit representation, which are associated with the intention memory and extension memory, respectively (Baumann, Kaschel, & Kuhl, 2005). Congruence in motives is typically not achieved unless the implicit self is elicited.

The well-established idea behind motive congruence is that there is a natural disconnection between antagonistic personality systems (Kuhl, 2000), i.e., between extension memory (the implicit self) and explicit self-concepts (intention memory) (Baumann et al., 2018), with greater disconnection representing greater hurdles to self-access and thus constrain emotion regulation (Kuhl, 2000). Consistent with that framework, motive congruence is assumed to be reflective of strengthened communication between the two opposing systems - extension memory and intention memory - which are associated with implicit and explicit motives, respectively (Baumann, Kaschel, & Kuhl, 2005), thus enabling greater emotion regulation (see Figure 3, p. 36).

Congruence is shown to support emotion regulation. Researchers who applied motive congruence have repeatedly shown that when implicit and explicit need for achievement go hand in hand, they mutually reinforce each other. For instance, when a person is aware of her implicit need for achievement at work and in the gym, and hence seeks out opportunities to show her competence in the job, but in addition to that makes time available for exercising so as to improve her performance in the physical domain. It is argued that people gain satisfaction from making life-time available for the pursuit of goals that are in congruence with their implicit motives, leading to greater emotional well-being (Roch, Rösch & Schultheiss, 2017) and life satisfaction (Hofer & Chasiotis, 2003). It is also shown that motive-congruent behavior is associated with flow experience (Rheinberg, 2008; Schoch & Schüler, 2012) and the formation of a more stable and coherent identity (Hofer, Busch, Chasiotis, & Kiessling, 2006).

On the contrary, incongruence is associated with various disadvantages. Based on the assumption that explicit goals which are different from implicit motives require effortful self-control (Kuhl & Fuhrmann. 1998), in his longitudinal field study with 82 managers Kehr (2004) showed that implicit/explicit motive discrepancies lead to depletion of self-control resources in the long run, with self-control requiring the individual to consciously suppress responding to implicit needs. This is effortful, likely depletes limited cognitive resources and results in negative affect. Consequently, there is a relationship between implicit/explicit discrepancies and impaired subjective well-being (Kuhl, 1996, Kuhl & Fuhrmann, 1998; Kehr, 2004). Hence, incongruence is believed to be associated with effortful emotion regulation and the probability of inner conflict as a matter of competing action tendencies (Kuhl, 1996; Kuhl & Fuhrmann, 1998), which makes achievement of incongruent goals not only strenuous and cognitively effortful but also more unlikely (Sheldon, 2014).

With regards to the positive aspects of motive congruence, researchers considered the identification of factors that influence the degree of congruence between implicit and self-attributed motives to be a main challenge that should be addressed in research (e.g., Emmons, 1997; Baumann et al., 2018). Brunstein, Schultheiss & Maier (1999) assumed that congruence between an individual's implicit and explicit motives is not

dispositional but is instead achieved during the course of individual development and mediated by emotional self-regulation processes as formulated in PSI theory (Brunstein, 2001, Kuhl, 2000).

We propose that inquiry into each other's experience taps into the often hidden capacity for self-congruent change through self-access. Inquiry may initiate a generative process as such that new mental representations and assumptions are created. We assume that building such new emotion knowledge about another person activates the extension memory or implicit self (we use both words interchangeably to refer to cognitive-affective representations about one´s needs, goals and preferences), where other and self-relevant knowledge is stored and manipulated. Thus, reflecting the introductory statement by Hamid, investigating feelings, needs, intentions, expectations or opinions in our fellow human beings may help to access our implicit selves and thereby improves access to that important functional basis facilitating emotion regulation. Those propositions link into work on appreciative inquiry (Cooperrider, 2012; Powley, Fry, Barrett, & Bright, 2004, Barrett & Fry, 2005) which discuss inquiry to be a key change lever in organizational transformations.

On the basis of the above stated findings, the following experiment proposes and tests whether acquiring emotion knowledge on other´s emotional states through empathic inquiry may facilitate intuitive affect regulation and thus generate self-access which is indicated by a greater congruence between the implicit and explicit self. Persons who empathically explore another person´s state of mind are expected to mobilize a wider access to the self, as for understanding another person we may make use of our own cognitive-affective representations.

> Thus, our hypothesis 1 predicts a significant effect of empathic inquiry on the activation of the implicit self, with a higher motive congruence in the treatment group regarded a proximal evidence that the implicit self is activated, thus providing closer alignment of implicit and explicit self.

To provide a more holistic view on how empathic inquiry works on self-access as measured by motive congruence, we propose that the effect of empathic inquiry is transmitted through intuitive affect regulation as

formulated in PSI theory (Brunstein, 2001, Kuhl, 2000). Because empathic inquiry is proposed to activate cognitive-affective networks of the implicit self which are connected to emotion systems, we aim at investigating whether empathic inquiry leads to dynamic changes in emotion as evidenced by changes in positive and negative affect measured before and after the treatment and whether this, in turn, impacts on motive congruence.

> Hypothesis 2 hypothesizes that empathic inquiry has an indirect effect on motive congruence though intuitive affect regulation which operates as mediator, that is, empathic inquiry leads to increased affect regulation as compared to the control group, which in turn leads to heightened motive congruence.

As we propose that motive congruence is associated with various emotional self-regulatory advantages, we want to examine whether greater values of motive congruence are positively related to individual´s positive outlook as measured by general positive affect, life satisfaction and hope.

> Hypothesis 3 tests whether there is an association between levels of congruence and degrees of positive outlook, with closer alignment of implicit and explicit need for achievement positively correlating with values of the multivariate positive outlook as measured by general positive affect, life satisfaction and hope.

To summarize, self-access (as indexed by motive congruence) is expected to occur given the proposed emotion regulatory effects of empathic inquiry. Greater self-access, in this study, is conceptualized and measured as greater congruence between implicit and explicit achievement motives, because congruence is typically not achieved unless the implicit self is elicited. Persons who do not inquire empathically are expected to show less access to the self, as indicated by lower congruence. We expect that effects hold true when controlling for several relevant factors as derived from previous studies. The proposed mediation model is illustrated in figure 5.

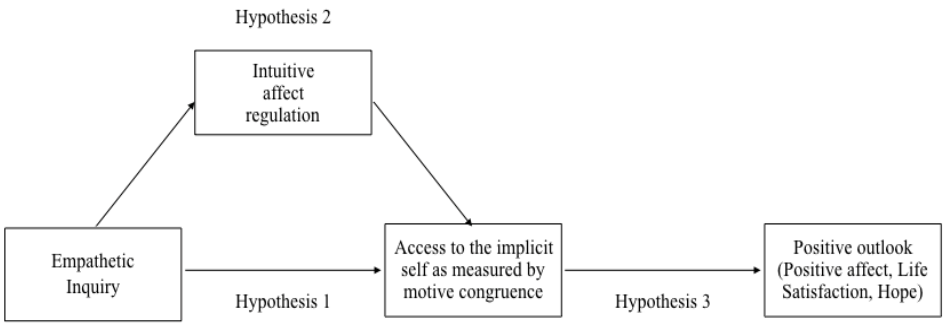

Figure 5: Conceptional Model including Hypotheses (own illustration)

3.3 Participants

Participants included a diverse sample of 164 individuals (61.4% female) aged between 18 to 60 years (M = 28.98 years, SD = 6.2). Participants were recruited to equal parts via social media postings and through the service offered by Prolific. To provide the voluntary participants who have been reached via online postings on social media with an incentive, the researcher donated 3 CHF to a charitable organization of the participant's choice upon completion of the survey. Participants recruited by Prolific were paid 2.25£ for their participation.

To make sure that all recruited participants in our sample completed the study which included watching a video in full length, three attention checks were included. First, the researcher checked whether the participants technically watched the video by a control item that the survey platform Unipark includes automatically. Second, it was checked whether they watched it with their sound on as instructed with a question that could only be answered when the participant listened to a sound file. Third, with questions related to the video content, we ensured that they paid considerable attention to the video. Following that procedure, we excluded six participants from our sample, resulting in the sample size of 158.

3.4 Procedures

An experimental intervention approach, realized with two levels of the factor, was applied: a treatment condition including empathic inquiry and a neutral control group. Participants were randomly assigned to the control group (CG; n = 76; 61.8% female; M = 29.21 years, SD = 6.08) or the experimental group with the hypothesized congruence-enhancing stimuli (TG; n= 82; 61% female; M = 28.77 years, SD = 7.54). Dependent variables were differences in motive congruence within the domain of achievement, changes in affect and positive outlook variables, controlling for variables that have been shown to be associated with congruence according to previous studies.

The study consisted of two groups - treatment and control group. Before randomly assigning the participants to their group and after the treatment, implicit affect was assessed. The effect of treatment on intuitive affect regulation is measured by comparing implicit affective states before and after the treatment measured by a short variant of the Implicit Positive Affect Negative Affect Test (IPANAT) (Quirin, Kazén, Kuhl, 2009). IPANAT reliably measures affect states on an indirect way by asking participants to rate the extent to which artificial words (SAFME, VIKES, TUNBA, TALEP, BELNI, SUKOV) express certain moods. Those words are initially tested to be affectively neutral. Thus, the affective states participants indicate can be regarded projections of their own affective states. IPANAT is considered to have high internal consistency and retest reliability (reliabilities greater than .80). Especially, due to the fact that the researcher is interested in implicit forms of emotion regulation and in this experiment affect is measured twice, the IPANAT as a short and implicit test is ideally suited for the experiment. It further contributes to keeping the participants relatively open to the experimenter´s propositions.

Subsequently to measuring baseline implicit positive and negative affect, participants received instructions for the two different manipulations. Whereas in the neutral condition, neutral affect was induced by asking the participants to watch a nature documentary, in the experimental empathic inquiry condition, the participants are instructed to watch an emotional movie scene. The application of emotion-eliciting film clips is based on the premise that emotional films are superior to alternative methods (e.g., static images) in inducing discrete emotions (Westermann, Spies, Stahl, & Hesse, 1996, Gross & Levenson, 1995,

Schaefer, Nils, Sanchez, & Philippot, 2010) and more complex emotions (Rottenberg, Ray & Gross, 2007; Philippot, 1993), in part because they offer the unique advantage of providing emotionally intense spatial-visual and auditory information.

We attempted at eliciting empathy by presenting the participants a 3.5-min long video clip composed of two scenes from the movie "The Pursuit of Happiness". Scenes are illustrated in the following Figure 6. The first scene shows a homeless father in a subway with his young son. The father tells him fantasy stories as he plans for them to spend the night in a public bathroom. The scene ends with a fearful and sad father with his sleeping son as someone is banging on the bathroom door. In the second part of the video scene, the father receives the message that he got accepted for a prestigious job. Underscoring the positive shift of the story, the protagonists says: "This is happiness" as he runs out to

Figure 6. Two scenes from the movie "The pursuit of happiness"

streets close to tears for the sake of the positive news. In previous research, particularly the first video sequence was tested to reliably evoke empathic concern (Howard, 2014[4]), whereas the second scene was shown to elicit positive emotions.

This treatment was designed to facilitate empathy with another persons´ state of thinking and feeling. Whereas empathic concern relates most closely to our everyday conceptions of empathy as it refers to the tendency to experience sympathy or compassion for another person who is in distress, empathic inquiry further implies the efforts of the participants to put themselves in the shoes of that person. The participants in the experimental group were primed to empathically inquiry by the following instruction before seeing the video. "Listen for the emotionally loaded words and signs of joy and fear, frustration and hope. Pay attention to the words they use. Note the tone in their voice and their body language. Resist the urge to rush to judgment. Rather try to feel what they feel." After watching the video as instructed with their hearts and minds open, participants were asked to freely elaborate on three questions in order to inquire the feelings of the protagonists.: *"*Across both scenes, which emotions did you observe?*",* *"*What do you think is of importance to the father? What does he desire?*"* and "Which strengths helped the father to master that situation?".

In contrast, participants in the control group were asked to watch a neutral scene. Here, a BBC documentation on whales was applied that has been tested to be associated with neutral affective states (Howard, 2014) and participants were instructed to recall three details of the documentation.

[4] According to a study by Howard (2014) in which the Post Film Questionnaire (PFQ, Rottenberg, Ray, & Gross, 2007) was applied, the first movie scene (see the scene: https://www.youtube.com/watch?v=t1TC-pegncQ) is shown to elicit the most intense and discrete levels of empathic concern compared to other film clips (Howard, 2014). In Howard´s study (2014), the empathic concern scenario has been tested to likewise evoke negative affect which can be explained by theory suggesting that empathic concern likely translates into feelings of one's own distress and anxiety (Batson & Shaw, 1991). As in this research, it was not intended to induce negative emotions, the scene has been matched with another scene from the same movie, which likely elicits positive emotions (see the scene: https://www.youtube.com/watch?v=56fngopihOo), thus providing the participants with an emotional stimulus that includes both negative and positive affect. As we matched those two scenes (Figure 6), participants were not only asked to put themselves in the shoes of a person experiencing a rather miserable situation (scene 1) but were subsequently able to feel positive emotions by learning how the situation turned out well (scene 2).

After having induced the manipulation, it was assessed to what extent the video elicited empathic concern. The Emotional Response Questionnaire (ERQ) (Coke, Batson & McDavis, 1978) was administered that reliably measures empathic concern by six adjectives: sympathetic, moved, compassionate, tender, warm and softhearted. Participants were asked to rate to what extent they felt the emotions after having watched the video on 7- point scale ranging from 1 (strongly disagree) to 7 (strongly agree). Raw scores were summed up to yield an overall empathic concern score, ranging from 0 to 42 (M = 34.07, SD = 5.76, and Cronbach´s alpha = 0.86).

After the treatment and manipulation check, it was measured - in this sequence - affect, motive congruence (operationalized as overlap between implicit and explicit need for achievement), hope and life satisfaction as dependent variables and life stress, general levels of empathy, self-reflection, self-determination and action control as confounding variables. The online experiment lasted for approx. 15 minutes and participants were asked to conduct the experiment in one session because we hypothesized that the treatment in the beginning of the experiment asserts an influence on the subsequent variables, with time delays between stimulus and measurement of the dependent variables supposedly causing unwanted effects.

3.5 Measures

Motive congruence. At the core of the experiment, the impact of the manipulation on self-access was measured by applying motive congruence as the most widely established conceptualization and measure of self-access (Baumann et al., 2018). It is not possible to measure access to the implicit self by asking people about their feelings or experiences. Therefore, psychologists, mostly guided by the PSI framework (Kuhl, 2000, 2001), have developed measures that go beyond self-reports. Motive congruence operationalizes access to the self by the level of overlap between explicit, self-reported ratings of motives and implicit indirectly assessed motives.

Explicit motives are consciously accessible and can thus be measured

via self-report. For example, a hard-working person may self-identify as an "achievement-oriented person". Implicit motives, on the contrary, have been conceptualized as associative networks related to unconscious needs (Deci & Ryan, 2000) or generalized preferences derived from emotional experiences in the interface between the individual and his or her environment during early childhood (McClelland, 1987). Such associations are believed to be stored in the self-system, and are thus not accessible through conscious introspection. When excluding from consideration that discrepancies might also stem from unreliable measurement of past research, implicit and explicit motives may at least be positively correlated (Thrash, Maruskin & Martin, 2012), with greater alignment of implicit and explicit motives shown to be indicative of greater activation of the implicit self and and thus greater dynamic emotion regulation (Baumann et al., 2018).

Implicit need for achievement. Because implicit motives are not consciously accessible, it is assessed via projective tests such as, in this study, the Multi-Motive Grid (MMG) by Sokolowski, Schmalt, Langens and Puca (2000). It is a semi-projective procedure that combines the advantages of projective measurement techniques (which are both renowned and contested) with the advantages of internal consistency, retest reliability and external validity usually attributed to self-

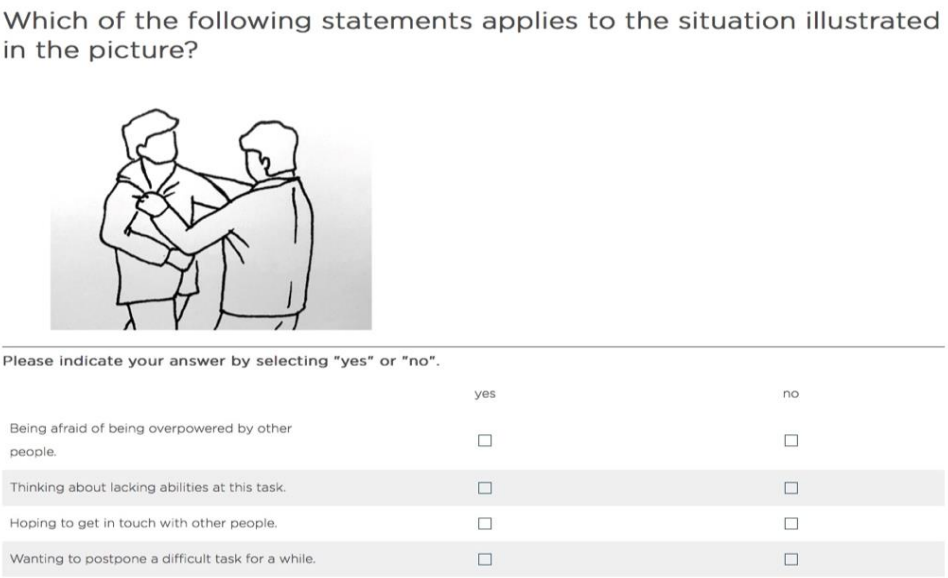

Figure 7: Example task of the Multi-Motive-Grid (Task 3 in the original version of the MMG, Sokolowski, Schmalt, Langens, & Puca, 2000)

report questionnaires. The test person is randomly presented a series of ambiguous picture sketches (see examples in Figures 7 and 8) and is then asked to indicate whether different statements seem to apply to the scene depicted.

The MMG typically measures all three motive domains that are achievement, affiliation and power and further differentiates the three dimensions into hope and fear, with, for instance, in the achievement domain resulting in the subdimensions hope for success and fear of failure.

From the six motive scores that can potentially be assessed with good discriminant validity, here only hope for success (HS) and fear of failure (FF) were assessed, constituting the implicit need for achievement. Whereas the situation statements (here referred to as items) "Feeling good about one's competence" and "Feeling confident to succeed at this task" indicate hope for success, "Thinking about lacking skills in this task" and "Wanting to postpone a difficult task for a while" load on fear of failure. In favor of questionnaire length, the affiliation motive and the power motive were excluded from measurement but a fair amount of items were kept as filler items. Such fillers make the procedure less transparent for the respondent and thus less susceptible to manipulation. By focusing only on one motive, the original amount of 14 situations was reduced to 8, and thereby it yielded an item reduction from 94 to 50. With this reduction the completion time was halved to approximately seven minutes.

When the respondents chose to answer with "yes" to a factor-relevant item, a value of 1 was assigned for the item. A value of 0 was assigned, when the participants chose to respond with "no" to a factor-relevant item. In the analysis, responses to filler items were excluded from consideration. A maximum value of 16 describes an individual very high in achievement motivation who seeks for situations in which performance is tested (hope for success, max = 8) and is motivated to work hard so as to prevent failure (fear of failure, max = 8). Motive raw scores for implicit fear of failure (M = 4.80, SD = 2.33) and implicit hope for success (M = 4.80, SD = 2.33) were summed up to yield an overall implicit need for achievement score, ranging from 0 to 16 (M = 7.78, SD = 2.95, and alpha = 0.68). Internal consistency scores of the two subdimensions were below the satisfactory level but in alignment with previous studies. Whereas Schmalt and colleagues (1999) reported

Cronbach's alphas of 0.62 for fear of failure and 0.66 for hope for success, in this study internal consistency scores ranked at 0.54 and 0.67, respectively.

Which of the following statements applies to the situation illustrated in the picture?

Please indicate your answer by selecting "yes" or "no".

	yes	no
Feeling confident to succeed at this task.	☐	☐
Feeling good about one's competence.	☐	☐
Thinking about lacking abilities at this task.	☐	☐
Hoping to get in touch with other people.	☐	☐
Wanting to postpone a difficult task for a while.	☐	☐

Figure 8: Example task of the Multi-Motive-Grid (Task 12 in the original version of the MMG, Sokolowski, Schmalt,

Explicit Need for Achievement. Explicit need for achievement was assessed by the Revised Version of the Achievement Motives Scale (AMS-R) (Lang & Fries, 2006) which is a well-established and frequently used 10-item scale to explicitly assess hope for success and fear of failure. Whereas most studies in the context of motive congruence apply the Personality Research Form (PRF) to measure explicit motives (Brunstein & Maier, 2005; Schultheiss & Brunstein, 2010), it does not adequately measure the fear component, which is why in this study we considered the AMS-R the more appropriate choice. Participants rated their agreement to ten items, five for fear of failure (e.g., "Even if nobody is watching, I feel quite anxious in new situations.", "I feel uneasy to do something if I am not sure of succeeding") and five hope for success (e.g., „I enjoy situations, in which I can make use of my abilities", „I am attracted by tasks, in which I can test my abilities"). Response

scales ranged from 1 (strongly disagree) to 7 (strongly agree). Scores for explicit fear of failure (M = 22.35, SD = 7.31) and explicit hope for success (M = 26.23, SD = 4.80) were calculated as the sum of item scores, with scores ranging from 10 to 70. Internal consistency scores of the dimensions fear of failure and hope for success were reasonably high, with Cronbach's alpha of 0.90 and 0.82, respectively. A total explicit need for achievement score was calculated by adding up the two dimensions. The internal consistency for explicit need for achievement in the current sample was lower, with a Cronbach's alpha of 0.64, but still sufficient.

Derivation of Incongruence Index. Analytic strategies for modeling motive congruence have varied across studies. These strategies range from testing moderation of the implicit-explicit relation (e.g., Trash & Elliot, 2002), taking an interaction approach as such that one motive moderates the effect of the other (e.g., Hofer, Chasiotis et al., 2006) or deducing difference scores based on standardized implicit and explicit motive variables (e.g., Kehr, 2004). In the first two cases, implicit and explicit motives are modeled as separate variables, whereas in the latter study scores are combined into a single discrepancy index. This study follows Kehr´s (2004) procedure by standardizing the implicit and explicit scores and reducing them to a single incongruence variable, which is treated as the dependent variable[5]. The factor empathic inquiry is predicted to be causing an increase in congruence between implicit and explicit motives, which is reflected in a lower discrepancy index. Because implicit scores ranged from 2 to 16 and explicit scores from 10 to 70 and deviated from a normal distribution, participants' implicit motive scores and explicit scores were subjected to z-transformations and

[5] Even though several researchers in the domain of motive congruence have employed such discrepancy measures (e.g., Kehr, 2004; Schultheiss et al., 2011) some controversial aspects related to such discrepancy measures are worth mentioning. Edwards (1991, 1994) criticized discrepancy measures, particularly absolute difference scores (as used in the present research) because they ignore the directionality of the difference. However, this is not a serious concern here because this research did not specify predictions for a predominance of implicit or explicit motive scores in the discrepancy score. Psychological inner conflicts resulting from incongruence are supposed to occur regardless of whether implicit motives are higher than explicit motives or vice versa (Sokolowski, 1996, Sheldon, 2014; Kuhl & Fuhrmann, 1998; Kehr, Bles & von Rosenstiel, 1999). Edwards further criticizes that discrepancy measures are not able to equally represent the measures they are composed of (implicit and explicit measure of need for achievement) "unless the variances of these measures happen to be equal" (Edwards, 1994, p. 60). To make sure that this analysis does not suffer from that aspect, the component measures were subjected to standardization before calculating discrepancy scores. Furthermore, Rogosa (1995) claimed that the correlation between the component variables should be lower than .40. Otherwise such discrepancy measures would lead to unreliable results (Rogosa, 1995). However, same as in previous research consistently suggesting that the correlations between implicit and explicit motives are low (Sokolowski et al., 2000), in this study, the criterion of a low correlation coefficient of .33 was met. Given these arguments, applying a discrepancy measure in the present research seemed acceptable.

then these transformed z-scores were used in all further analyses. Next, the absolute differences between explicit and implicit z-scores were calculated. In a final step, these scores were subjected to a log transformation after adding a constant of 1 to ensure normal variable distributions. Thus, the algorithm for the latter two steps was: incongruence score = log (1 + | implicit z score – explicit z score |). Higher scores on this measure indicate more incongruence or discrepancy.

Implicit Affect and Implicit Affect Regulation. To assess implicit affect, we used the IPANAT (Quirin, Kazén, Kuhl, 2009), which was designed to reliably assess affect states on an indirect way by asking participants to rate the extent to which artificial words (SAFME, VIKES, TUNBA, TALEP, BELNI, SUKOV) express certain moods. Three negative items (helpless, tense, inhibited) and three positive items (happy, cheerful, energetic) were used as a mood adjective checklist. Items were presented in random order with the primer "To which extent does the word express the particular mood" and participants could endorse each item on a 7-point scale ranging from 1 (strongly disagree) to 7 (strongly agree). In full awareness of the fact that it lists the quality of statements, but in favor of an adequate test length, only two words were applied in the experiment – one before and one after the treatment. Summed across positive and negative items, scores for positive and negative affect vary between 3 and 21 per affect and measurement. Before the treatment: implicit positive affect (M = 12.69, SD = 4.13, alpha = 0.81), implicit negative affect (M = 8.61, SD = 3.64, alpha = 0.74); and after the treatment: implicit positive affect (M = 10.34, SD = 4.22, alpha = 0.84), implicit negative affect (M = 10.30, SD = 3.77, alpha = 0.61). As an additional measure indicating the affective states of the participants, the ratio between positive to negative affect before and after the treatment was calculated. By subtracting the baseline affect ratio (positive to negative affect before the treatment) from the post-treatment affect ratio, an affect change score was created. Subsequently, that score was log-transformed after adding a constant of 1 to ensure normal variable distributions (affect change score = log (1 + | Post Ratio Positive to Negative Affect – Pre (Baseline) Ratio Positive to Negative Affect |). That procedure generates an indicator of a respondent´s degree of change of affect during the experiment, not accounting for directionality of affective change.

Positive Outlook. Positive outlook was measured as a multivariate consisting of three variables: First, baseline positive affect was measured

by IPANAT before the treatment (M = 12.69, SD = 4.13, alpha = 0.81, as stated above). Second, satisfaction with life was measured by applying the widely established single-item satisfaction with life scale[6] (SWLS by Diener, Emmons, Larsen & Griffin, 1985). In this sample, average life satisfaction ("I am very satisfied with my life." rated on a scale from 1 (strongly disagree) to 7 (strongly agree)) averaged at M=4.53 with a standard deviation of SD=1.62. As a third variable, hope was measured by the 6-item adult state hope scale (Snyder et al., 1996). Example items are „At the present time, I am energetically pursuing my goals." and „There are lots of ways around any problem that I am facing now.", representing the two dimensions agency (goal-directed energy), and pathways (planning to meet goals), respectively. Rated on a 7 point-scale, an overall hope score ranging from 6 to 42 was calculated (M= 26.07, SD=7.03, alpha = 0.87).

Inclusion of covariates. Beyond gender and age, this study aimed at including a variety of control variables that are established causes or moderators of the independent variable (empathic inquiry) and dependent variable (motive congruence). Amongst researchers, it is a well-known dilemma between decent questionnaire length and a likewise valid and reliable measurement of confounding factors. This may lead researchers to consider to not cover all covariates by applying the existing multiple item scales (Diamantopoulos et al., 2012). Certain arguments such as decreasing participant burden are regarded acceptable reasons to use single items in measuring confounding variables. Even though from a content validity perspective, theoretically speaking, any item is in fact representative of the construct it measures (Bollen & Lennox,1991), a pragmatic but justifiable procedure was applied to choose (at least) one item per dimension: When related research provided information on psychometric properties of the items and items seemingly differed in their ability to represent the construct (different values of internal consistency), that item with the highest loading factor was chosen. When no item seemed superior, because items were equally reliable, or previous research did not report on loading factors, the author singled out one item per dimension upon face validity as suggested by Rossiter (2002). In a multi-eyed procedure with another researcher who was blind to the hypotheses, it was discussed whether items represented paraphrases of one another and then one item that appeared most comprehensible was selected.

[6] It is shown to perform very similarly compared to the multiple-item SWLS, demonstrating high criterion and construct validity and reliability (Cheung & Lucas, 2014).

Life Stress - current threats and demands. It was controlled for stressful events a person experiences in life by using two items of the life stress scale as applied in the study by Baumann, Kaschel & Kuhl (2005). According to PSI theory, stressful life events can be differentiated into demands and threats. Whereas demanding events (such as conflicts or obstacles) are associated with reduced positive affect (Kuhl, 2001, p. 243) and activation of intention memory, threatening life events (e.g., danger, major life changes, painful experiences, unpredictability) are associated with increased negative affect (Kuhl, 2001, p. 243) and inhibition of extension memory. One item measured the currently experienced demands ("My current life circumstances are very tough.") and one item the extent of currently experienced threats ("I must deal with big changes in my life"). Participants rated their agreement on the 7-point scale from 1 (strongly disagree) to 7 (strongly agree). As internal consistency of the two-item measure was relatively low (alpha = 0.53), the researcher decided to treat demands (M = 3.53; SD = 1.70) and threats (M = 4.75; SD = 1.60) separately, resulting in two values ranging from 1 to 7.

Private body consciousness, self-monitoring and preference for consistency. Thrash, Elliot & Schultheiss (2007) in their work on determinants of motive congruence found that people high in self-monitoring tend to present desirable versions of themselves to suit their various social situations and thereby likely distant themselves from their selves. On the opposite, being aware of bodily sensations and the general desire for consistency in one´s actions likely contribute to greater congruence in motives. According to Trash et al. (2007), amongst individuals high in private body consciousness, high in preference for consistency, and low in self-monitoring, the correlation between implicit and explicit need for achievement was $r = .46$ ($p < .05$). Yet, among individuals with the opposite profile of traits, the correlation was only $r = –.30$ (ns). As all three moderators were found to account for the variance in motive congruence in previous research, in this study all three measures were applied by using a single item on a scale from 1 (strongly disagree) to 7 (strongly agree): The private body consciousness scale by Miller, Murphy, & Buss (1981) was represented by the item "I am sensitive to internal bodily tensions." (M = 4.88; SD = 1.50). Self-monitoring was measured with the scale developed by Gangestad and Snyder (2000) by the item "In different situations and with different people, I act like very different persons" (M= 4.15; SD = 1.76). Further, this study included

one reverse-coded item, which was transformed, from the preference for consistency Scale (PFC-B) by Cialdini, Trost & Newsom (1995): "It doesn´t bother me much if my actions are inconsistent." (M = 3.24; SD = 1.56).

Empathy. Empathy was measured by the Empathy Quotient as developed by Baron-Cohen and Wheelwright (2004). Two items with the highest loading factors according to Baron-Cohen and Wheelwright (2004) were chosen, one representing affective empathy ("I can tune into how someone else feels rapidly and intuitively.") and one representative of the cognitive form of empathy ("I can easily work out what another person might want to talk about."). Moreover, as this study entailed watching a video scene, a third reverse-coded item was integrated: "I usually stay emotionally detached when watching a film." Item response scales ranged from 1 (strongly disagree) to 7 (strongly agree). After transforming the last reverse-coded item, overall scores, summed across items, can vary between 3 and 21 (M = 14.99, SD = 3.16, and alpha = 0.53). As internal consistency of the three-item measure was relatively low (alpha = 0.53), the researcher proceeded with affective empathy (M = 5.17, SD = 1.30), cognitive empathy (M = 4.86, SD = 1.40) and film related empathy (M = 4.96, SD = 1.67) as distinctive variables with values between 1 and 7.

Self-Reflection and Insight. As stated earlier, people may develop mature explicit self-concepts through their acts of self-reflection. As a covariate for self-access, the Self-Reflection and Insight Scale (SRIS) was applied using one item per subscale which are Engagement in Self-reflection, Need for Self-reflection and Insight (Grant, Franklin, Langford, 2002). Respective items are: "I frequently examine my feelings.", "It is important to me to try to understand what my feelings mean." and "Often I find it difficult to make sense of the way I feel about things." After reversing the third item, overall scores, summed across items, can vary between 3 and 21 (M = 14.92, SD = 3.43, and alpha = 0.58). As internal consistency of the three-item measure was relatively low (alpha = 0.58), two distinct variables have been created, with values between 1 and 7, by averaging the first two items engagement in and need for self-reflection to one self-reflection indicator (M = 5.26, SD = 1.49, alpha = 0.81) and keeping insight (M = 4.40, SD = 1.69) as distinctive variable. Here, the lower average in insight compared to self-reflection (engagement in and need for self-reflection) reflects previous research

suggesting that people often practice self-reflection but reflective thinking can be ruminative and thus does not necessarily translate into new insights (Grant, Franklin, Langford, 2002).

Self-Determination. Trash and Elliot (2002) showed that individuals who are more self-determined display greater motive congruence. Likewise, Hofer, Busch, Bond, Kärtner, Kiessling, and Law (2010) reported that self-determination moderated the relation between implicit and explicit need for achievement, such that the correlation was higher among individuals high in self-determination. Self-determination was measured applying the Perceived Choice and Awareness of Self Scale (PCASS). As items in the long version seemed paraphrases and internal consistency was high for all items (alphas ranging from .85 to .93)(Sheldon et al. 1996), another researcher who was blind to the hypotheses was asked which of the items seem to resemble each other and which one is most comprehensible. Through this procedure, two items per subscale Perceived Choice and Awareness of Self were extracted which were different in character (Sheldon et al., 1996). For instance, to measure perceived choice participants were asked to indicate on a 7-point scale the degree to which the one statement feels true, relative to the other: "I always feel like I choose the things I do." or "I sometimes feel that it is not really me choosing the things I do." Awareness of Self was measured by again asking the respondents to specify which of two statements feels more true to them at the time of completion (e.g., "I feel that I am rarely myself." versus "I feel like I am always completely myself."). After transforming the reverse-coded items, a sum was calculated, allowing for the interpretation that higher scores (ranging between 4 and 28) reflect a higher level of self-determination ($M = 18.92$; $SD = 4.56$). The internal consistency of our four-item version of the scale leveled at alpha = 0.72, which is lower than the full scale according to previous studies ($\alpha = 0.85$ to 0.93) (Sheldon, Ryan & Reis, 1996).

Action orientation. In the study, it was controlled for action orientation using two items of the action control scale (ACS, Kuhl, 1994) which consists of two sub-scales: The first sub-scale taps into demand-related action orientation (also known as decision-related action orientation), and relates to volitional efficiency in up-regulating positive affect. The second sub-scale concerns threat-related action orientation (also known as failure-related action orientation), and relates to the ability to down-regulate negative affect so as to enable personal growth despite adversity (Kuhl, 1994). Each sub-scale was represented by one item. Each of

the ACS items describes a stressful situation, to which people can respond in a more or less action-oriented manner. To measure demand-related action orientation, participants were presented the situation „When I have an obligation to do something that is boring and uninteresting," and were offered to options to choose which of the following two statements feels more true to them: "It can take a while before I can bring myself to do it" versus „I do it an get over it", with the latter representing the more action-oriented choice. They indicated on a 7-point scale the degree to which the one statement applied, relative to the other. Thus a score between 1 and 7 reflected their degree of demand-related action orientation (M = 3.53; SD = 1.70). Threat-related action orientation was measured by presenting the respondents with the following scenario: „When several things go wrong on the same day,…." and the two options „I usually don't know how to deal with it." and „I just keep on going as though nothing had happened." Individuals voting closer to the second option, relative to the other, scored higher on action orientated as they show a greater ability to down-regulate negative affect (M = 4.07; SD = 1.54). Summing up the two dimensions, we yielded a low alpha for the action orientation scale (M = 7.60; SD = 2.65; alpha = 0.50), demonstrating that the two items measure indeed different aspects, thus we kept the variables separately and included a total action score on top.

3.6 Results

Descriptive Statistics and Correlations

Table 6 provides descriptive statistics and associations between discrepancy score and the other variables in our study, showing discriminative validity of the variables in our study and some distinct patterns emerging from the correlation matrix. For the better overview, selected correlations are illustrated in the following tables.

First, like in previous studies (e.g., Schultheiss & Brunstein, 2010), implicit and explicit achievement motives were not significantly associated (see Table 7), neither when fear of failure and hope for success were treated and compared separately nor when aggregated implicit and explicit z-scores were checked for correlation. The discrepancy score was correlated significantly and negatively with one of its constituting

motive variable which is implicit hope for success (r = -.26), indicating that part of the variance in congruence reflected whether a person was high in the implicit hope for success motive. As the discrepancy score only correlated with hope for success and not with the other constituting elements, this suggests that the discrepancy score predominantly captured variance uniquely related to the lack of fit between explicit and implicit motives, regardless of the absolute levels of their constituting measures.

Second, higher discrepancy scores, indicating lower congruence, were negatively and significantly associated with baseline implicit positive affect (measured before the treatment) (r= -.18; $p < .05$), implicit hope for success (r= -.26; $p < .01$), current experience of life stress in the form of threats (r= -.19; $p < .05$), self-monitoring (r= -.16; $p < .05$) as well as affective empathy (r= -.16; $p < .05$) and cognitive empathy (r= -.18; $p < .05$). In other words, persons with a low congruence profile were more likely to experience less positive affect in the beginning of the experiment, scored lower in implicit hope for success, reported both that they experience less threatening life stress and that they less often engage in self-monitoring and scored less in both empathy dimensions - affective and cognitive. Table 8 summarizes all variables which make a significant statistical contribution to our model estimating (in)congruence. By going back and forth between both our correlational data and theoretical considerations derived from previous studies, the researcher decided which variables to include in the analysis to estimate (in)congruence.

This data so far supports the notion of PSI theory that the experience of positive affect is related to congruence (Baumann, Kaschel & Kuhl, 2005), even though it explains only a small portion of variance, $R^2 = .03$, $F(1, 155) = 5.088$, $p = 0.025$. Further, whereas Thrash, Elliot & Schultheiss (2007) observed that self-monitoring as the tendency to frequently observe oneself in order to present desirable versions of oneself is associated with distance between explicit and implicit selves, our correlation matrix shows the opposite tendency: discrepancy is negatively and significantly associated with self-monitoring, $R^2 = .02$, $F(1, 155) = 3.93$, $p = 0.049$, indicating that persons who observe themselves frequently in order to adjust to their social surroundings are also more likely to be congruent in their implicit and explicit need for achievement.

One explanation for the above mentioned reverse effect (of self-monitoring on motive congruence) can be attributed to the fact that we applied only one high-loading item, namely “In different situations and with different people, I act like very different persons”, thereby losing construct validity. Gangestad and Snyder´s self-monitoring theory contends that, in contrast with the chameleon-like high self-monitors, low self-monitors tend to present rather true-to-themselves versions of themselves across various social situations (Gangestad & Snyder, 2000).

Table 6: Means, Standard Deviations and correlations with confidence intervals

Means, standard deviations, and correlations with confidence intervals

Variable	M	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	25	26	27
1. DATA_R.DISCREPANCY_SCORE	0.30	0.17																														
2. DATA_R.AFF_CHANGE_SCORE	-0.64	1.66	.13 [-.03, .28]																													
3. DATA_R.Pre_Pos	12.69	4.13	-.18* [-.33, -.02]	-.53** [-.63, -.41]																												
4. DATA_R.Pre_Neg	8.57	3.65	.06 [-.10, .22]	.61** [.50, .70]	-.24** [-.38, -.09]																											
5. DATA_R.Pre_Ratio	1.87	1.25	-.16* [-.31, -.01]	-.83** [-.88, -.78]	.60** [.49, .69]	-.74** [-.81, -.67]																										
6. DATA_R.Post_Pos	10.34	4.22	-.05 [-.20, .11]	.64** [.54, .73]	.00 [-.15, .16]	.33** [.18, .46]	-.30** [-.43, -.15]																									
7. DATA_R.Post_Neg	10.30	3.76	-.04 [-.20, .11]	-.44** [-.56, -.31]	.34** [.20, .47]	.11 [-.05, .26]	.09 [-.07, .24]	-.27** [-.41, -.12]																								
8. DATA_R.Post_Ratio	1.23	0.92	.01 [-.14, .17]	.66** [.57, .74]	-.13 [-.28, .02]	.08 [-.08, .23]	-.14 [-.29, .02]	.75** [.68, .81]	-.67** [-.75, -.57]																							
9. DATA_R.IMPLICIT_Fear_Failure	3.08	1.70	-.00 [-.16, .15]	-.12 [-.27, .04]	.19* [.03, .33]	-.01 [-.16, .15]	.11 [-.04, .27]	.09 [-.07, .25]	.19* [.04, .34]	-.05 [-.21, .11]																						
10. DATA_R.IMPLICIT_Hope_Success	4.70	1.94	-.26** [-.40, -.11]	-.09 [-.24, .07]	.14 [-.01, .29]	-.00 [-.16, .15]	.10 [-.06, .25]	.10 [-.06, .25]	.13 [-.03, .28]	-.02 [-.18, .14]	.30** [.15, .43]																					
11. DATA_R.SUM_Implicit_Z	-0.00	1.00	-.17* [-.32, -.02]	-.12 [-.28, .03]	.20* [.05, .35]	-.01 [-.16, .15]	.13 [-.02, .28]	.12 [-.04, .27]	.20* [.04, .34]	-.04 [-.20, .12]	.78** [.70, .83]	.83** [.78, .87]																				
12. DATA_R.EXPLICIT_Fear_Failure	22.35	7.31	-.06 [-.22, .09]	-.12 [-.27, .04]	.01 [-.15, .17]	-.08 [-.23, .08]	.12 [-.04, .27]	-.25** [-.39, -.10]	-.01 [-.17, .14]	-.06 [-.21, .10]	-.06 [-.22, .10]	-.18* [-.32, -.02]	-.15 [-.30, .00]																			
13. DATA_R.EXPLICIT_Hope_Success	26.23	4.80	.03 [-.13, .19]	-.03 [-.18, .13]	.15 [-.00, .30]	-.01 [-.16, .15]	.08 [-.08, .23]	.14 [-.02, .29]	.14 [-.02, .29]	.06 [-.10, .21]	-.03 [-.18, .13]	.09 [-.07, .24]	.04 [-.11, .20]	-.33** [-.46, -.18]																		
14. DATA_R.SUM_explicit_Z	0.00	1.00	-.04 [-.20, .11]	-.14 [-.29, .02]	.11 [-.05, .26]	-.08 [-.23, .08]	.17* [.01, .32]	-.16* [-.31, -.01]	.08 [-.08, .23]	-.02 [-.18, .14]	-.08 [-.23, .08]	-.12 [-.27, .04]	-.12 [-.28, .03]	.78** [.72, .84]	.33** [.18, .46]																	
15. DATA_R.LifeSatisfaction	4.54	1.62	.00 [-.16, .16]	-.06 [-.21, .10]	.21** [.05, .35]	.07 [-.09, .22]	.04 [-.11, .20]	.09 [-.07, .24]	.19* [.03, .33]	-.04 [-.20, .11]	.17* [.02, .32]	.09 [-.07, .24]	.16* [.00, .31]	-.31** [-.45, -.16]	.39** [.25, .51]	-.06 [-.21, .10]																
16. DATA_R.Life_stress_threat	4.75	1.60	-.19* [-.34, -.04]	.02 [-.13, .18]	.05 [-.11, .20]	.06 [-.10, .21]	.00 [-.15, .16]	.03 [-.12, .19]	.05 [-.11, .20]	.04 [-.11, .20]	-.08 [-.24, .08]	.02 [-.13, .18]	-.03 [-.19, .12]	.09 [-.07, .24]	.25** [.10, .39]	.25** [.10, .39]	-.03 [-.18, .13]															
17. DATA_R.Life_stress_Demands	3.53	1.70	-.06 [-.21, .10]	-.01 [-.16, .15]	.05 [-.11, .20]	-.04 [-.19, .12]	.00 [-.15, .16]	.05 [-.11, .20]	.00 [-.16, .16]	-.00 [-.16, .15]	.03 [-.13, .18]	-.07 [-.22, .09]	-.03 [-.18, .13]	.14 [-.02, .29]	-.11 [-.26, .04]	.07 [-.09, .22]	-.43** [-.55, -.29]	.36** [.22, .49]														
18. DATA_R.Private_Body_Consc	4.88	1.50	-.04 [-.19, .12]	-.03 [-.19, .12]	.04 [-.12, .19]	.02 [-.13, .18]	.07 [-.09, .23]	-.03 [-.19, .12]	.05 [-.11, .21]	.04 [-.12, .19]	.03 [-.13, .18]	-.04 [-.19, .12]	-.01 [-.17, .15]	.31** [.16, .44]	.07 [-.09, .22]	.35** [.21, .48]	-.19* [-.34, -.04]	.10 [-.06, .25]	.15 [-.01, .30]													
19. DATA_R.Self_Monitoring	4.15	1.76	-.16* [-.31, -.00]	-.02 [-.18, .13]	-.01 [-.17, .14]	.03 [-.12, .19]	.04 [-.12, .19]	.00 [-.16, .16]	.01 [-.15, .17]	.01 [-.15, .17]	-.01 [-.16, .15]	-.07 [-.23, .09]	-.05 [-.21, .11]	.23** [.08, .38]	-.05 [-.20, .11]	.20* [.04, .35]	-.14 [-.29, .02]	.05 [-.11, .20]	.06 [-.09, .22]	.17* [.02, .32]												
20. DATA_R.Pref_Consistency	3.24	1.56	.08 [-.07, .24]	.16* [.00, .31]	.00 [-.15, .16]	.11 [-.04, .26]	-.17* [-.32, -.02]	.13 [-.02, .28]	-.01 [-.17, .14]	.05 [-.11, .20]	.11 [-.05, .26]	.02 [-.13, .18]	.08 [-.08, .23]	-.07 [-.23, .08]	.06 [-.10, .21]	-.04 [-.19, .12]	.08 [-.08, .23]	-.05 [-.21, .10]	.08 [-.08, .23]	-.13 [-.28, .02]	.07 [-.09, .22]											
21. DATA_R.Aff_Empathy_tune	5.17	1.30	-.16* [-.31, -.01]	.03 [-.13, .18]	.18* [.03, .33]	-.01 [-.17, .14]	.10 [-.05, .26]	.21** [.06, .35]	-.02 [-.18, .14]	.19* [.03, .33]	.15 [-.01, .30]	.16* [.00, .31]	.19* [.04, .34]	-.11 [-.26, .05]	.37** [.23, .50]	.14 [-.02, .29]	.18* [.03, .33]	.17* [.01, .32]	-.01 [-.16, .15]	.19* [.04, .34]	-.07 [-.23, .08]	-.03 [-.18, .13]										
22. DATA_R.Aff_Empathy_film	4.96	1.69	.05 [-.11, .20]	-.04 [-.20, .12]	-.07 [-.22, .09]	-.08 [-.24, .07]	.08 [-.08, .23]	-.05 [-.21, .11]	.00 [-.15, .16]	.03 [-.13, .18]	.08 [-.07, .24]	-.09 [-.24, .07]	-.01 [-.17, .14]	.16* [.00, .31]	.08 [-.08, .23]	.21** [.06, .36]	.14 [-.02, .29]	.05 [-.11, .20]	-.10 [-.25, .06]	.13 [-.03, .28]	-.20* [-.35, -.05]	-.11 [-.26, .05]	.11 [-.05, .26]									
23. DATA_R.Cognitive_Empathy	4.86	1.40	-.18* [-.33, -.03]	-.09 [-.24, .07]	.27** [.12, .41]	.06 [-.10, .21]	.15 [-.01, .30]	.09 [-.07, .24]	.10 [-.05, .26]	.04 [-.12, .20]	.20* [.04, .34]	.23** [.08, .37]	.27** [.11, .41]	-.16* [-.31, -.01]	.45** [.31, .56]	.13 [-.03, .28]	.32** [.17, .45]	.20* [.05, .35]	-.05 [-.20, .11]	.26** [.10, .40]	-.08 [-.23, .08]	.04 [-.11, .20]	.69** [.60, .77]	.11 [-.05, .26]								
24. DATA_R.Self_reflection_Engagement	5.05	1.54	-.07 [-.22, .09]	.00 [-.16, .16]	.11 [-.05, .26]	-.06 [-.21, .10]	.16* [.01, .31]	.19* [.04, .34]	-.12 [-.27, .04]	.22** [.07, .37]	-.05 [-.21, .10]	-.00 [-.16, .16]	-.03 [-.19, .13]	-.06 [-.22, .09]	.07 [-.08, .23]	-.02 [-.17, .14]	.10 [-.06, .25]	.14 [-.01, .29]	.02 [-.13, .18]	.29** [.14, .43]	.06 [-.09, .22]	-.19* [-.34, -.04]	.35** [.21, .48]	.08 [-.08, .24]	.32** [.17, .45]							
25. DATA_R.Self_reflection_Need	5.47	1.41	-.02 [-.18, .14]	-.02 [-.18, .13]	.17* [.01, .32]	-.03 [-.19, .12]	.16* [.01, .31]	.19* [.03, .34]	-.05 [-.21, .10]	.18* [.02, .32]	.00 [-.15, .16]	.01 [-.15, .17]	.01 [-.15, .16]	-.08 [-.23, .08]	.22** [.07, .37]	.07 [-.09, .22]	.11 [-.04, .27]	.19* [.03, .34]	-.03 [-.19, .13]	.21** [.05, .35]	-.04 [-.20, .12]	-.13 [-.28, .03]	.35** [.21, .48]	.19* [.03, .34]	.30** [.15, .43]	.69** [.59, .76]						
26. DATA_R.Self_reflection_Insight	4.40	1.69	-.10 [-.25, .06]	-.08 [-.23, .08]	.11 [-.05, .26]	-.03 [-.18, .13]	.08 [-.08, .23]	.08 [-.08, .23]	.16* [.01, .31]	-.03 [-.19, .12]	.02 [-.14, .17]	.15 [-.01, .30]	.11 [-.05, .26]	-.41** [-.53, -.27]	.33** [.18, .46]	-.19* [-.34, -.04]	.37** [.23, .50]	.11 [-.05, .26]	-.25** [-.39, -.10]	-.10 [-.25, .06]	-.15 [-.30, .01]	-.02 [-.18, .13]	.26** [.11, .40]	.15 [-.01, .30]	.33** [.18, .46]	.14 [-.02, .29]	.18* [.02, .33]					
27. DATA_R.Self_Determ	18.93	4.56	-.02 [-.18, .14]	-.15 [-.30, .01]	.26** [.11, .40]	-.02 [-.18, .14]	.14 [-.01, .29]	.09 [-.06, .25]	.27** [.12, .41]	-.07 [-.23, .09]	.02 [-.13, .18]	.20* [.04, .34]	.14 [-.01, .29]	-.37** [-.50, -.22]	.35** [.20, .48]	-.14 [-.29, .02]	.60** [.48, .69]	.06 [-.10, .21]	-.34** [-.47, -.20]	-.13 [-.28, .03]	-.19* [-.34, -.04]	-.03 [-.19, .13]	.16* [.00, .31]	.19* [.03, .34]	.23** [.07, .37]	.21** [.05, .35]	.28** [.13, .42]	.61** [.50, .70]				
28. DATA_R.Action_Control_Down	4.07	1.54	-.12 [-.27, .04]	.05 [-.11, .20]	.08 [-.08, .23]	-.01 [-.16, .15]	-.03 [-.19, .12]	.10 [-.05, .26]	.05 [-.11, .20]	.04 [-.12, .20]	.08 [-.07, .24]	.28** [.13, .42]	.24** [.08, .38]	-.38** [-.51, -.24]	.29** [.14, .43]	-.19* [-.34, -.03]	.33** [.18, .46]	-.08 [-.23, .08]	-.19* [-.34, -.04]	-.18* [-.33, -.03]	-.10 [-.25, .06]	-.02 [-.17, .14]	.16* [.00, .31]	-.05 [-.20, .11]	.19* [.03, .34]	-.02 [-.18, .14]	.09 [-.07, .24]	.37** [.23, .50]	.39** [.25, .51]			
29. DATA_R.Action_Control_Upreg	3.53	1.70	.00 [-.15, .16]	-.13 [-.28, .03]	.01 [-.15, .17]	-.06 [-.21, .10]	.11 [-.04, .27]	-.12 [-.27, .03]	.02 [-.14, .17]	-.08 [-.24, .07]	.06 [-.10, .21]	.09 [-.07, .24]	.09 [-.07, .24]	-.11 [-.27, .04]	.11 [-.05, .26]	-.04 [-.20, .11]	.21** [.06, .36]	.02 [-.14, .17]	-.16* [-.31, -.00]	-.16* [-.31, -.00]	-.10 [-.25, .06]	-.21** [-.35, -.05]	.02 [-.14, .18]	.03 [-.13, .19]	.02 [-.14, .18]	-.08 [-.23, .08]	-.01 [-.17, .15]	.08 [-.08, .23]	.20* [.05, .35]	.33** [.19, .47]		
30. DATA_R.age	28.98	6.86	.03 [-.13, .18]	.00 [-.16, .16]	-.01 [-.17, .14]	-.13 [-.28, .02]	.02 [-.14, .17]	-.04 [-.20, .11]	-.02 [-.17, .14]	.02 [-.13, .18]	-.10 [-.26, .05]	-.02 [-.17, .14]	-.07 [-.22, .09]	-.01 [-.16, .15]	-.04 [-.19, .12]	-.03 [-.19, .13]	.06 [-.10, .22]	-.04 [-.20, .11]	.01 [-.14, .17]	.16* [.01, .31]	-.03 [-.18, .13]	.07 [-.08, .23]	.01 [-.14, .17]	.10 [-.06, .25]	-.01 [-.17, .15]	.13 [-.03, .28]	.13 [-.03, .28]	.05 [-.11, .20]	.02 [-.14, .18]	.16* [.01, .31]	-.09 [-.25, .07]	

Note. M and SD are used to represent mean and standard deviation, respectively.
Values in square brackets indicate the 95% confidence interval.
The confidence interval is a plausible range of population correlations
that could have caused the sample correlation (Cumming, 2014).
* indicates p < .05. ** indicates p < .01.

Table 7

Implicit and explicit achievement motives: Means, standard deviations, and significant correlations with confidence intervals

Variable	M	SD	1	2	3	4	5	6	7
1. Discrepancy Score (z-score)	0.30	0.17							
2. Implicit Fear of Failure	3.08	1.70	-.00 [-.16, .15]						
3. Implicit Hope for Success	4.70	1.94	-.26** [-.40, -.11]	.30** [.15, .43]					
4. ∑ Implicit Need for Achievement (z-score)	0.00	1.00	-.17* [-.32, -.02]	.78* [.70, .83]	.83* [.78, .87]				
5. Explicit Fear of Failure	22.35	7.31	-.06 [-.22, .09]	-.06 [-.22, .10]	-.18** [-.32, -.02]	-.15 [-.30, .00]			
6. Explicit Hope for Success	26.23	4.80	.03 [-.13, .19]	-.03 [-.18, .13]	.09 [-.07, .24]	.04 [-.11, .20]	-.33* [-.46, .18]		
7. ∑ Explicit Need for Achievement (z-score)	0.00	1.00	-.04 [-.20, .11]	-.08 [-.23, .08]	-.12 [-.27, .04]	-.12 [-.28, .03]	.78** [.72, .84]	.33* [.18, .46]	

Note: M and D are used to represent mean and standard deviation, respectively. Values in square brackets indicate the 95% confidence interval. The confidence interval is a plausible range of population correlations that could have caused the sample correlation (Cumming, 2014).
* indicates $p < .05$. ** indicates $p < .01$.

Table 8

Variables correlating with Discrepancy: Means, standard deviations, and correlations with confidence intervals

Variable	M	SD	1	2	3	4	5	6	7
1. Discrepancy Score (z-score)	0.30	0.17							
2. Baseline Positive Affect	12.69	4.13	-.18* [-.33, -.02]						
3. Implicit Hope for Success	4.70	1.94	-.26** [-.40, -.11]	.14 [-.01, .29]					
4. Life Stress: Threat	4.75	1.60	-.19* [-.34, -.04]	.05 [-.11, .20]	.02 [-.13, .18]				
5. Self-Monitoring	4.15	1.76	-.16* [-.31, -.00]	-.01 [-.17, .14]	-.07 [-.23, .09]	.05 [-.11, .20]			
6. Affective Empathy	5.17	1.30	-.16* [-.31, -.01]	-.18* [.03, .33]	.16* [.00, .31]	.17* [.01, .32]	-.07 [-.23, .08]		
7. Cognitive Empathy	4.86	1.40	-.18* [-.33, -.03]	.27* [.12, .41]	.23* [.08, .37]	.20* [.05, .35]	-.08 [-.23, .08]	.69* [.60, .77]	

Note: M and D are used to represent mean and standard deviation, respectively.
Values in square brackets indicate the 95% confidence interval.
The confidence interval is a plausible range of population correlations that could have caused the sample correlation (Cumming, 2014).
* indicates $p < .05$. ** indicates $p < .01$.

Another possible explanation for the reverse effect could be that such other-directedness does not necessarily mean that a person acts self-distanced but rather behaves sensitive to the context. Theory on emotion regulation towards greater congruence indeed conceives emotion regulation as contextual sensitive, inasmuch that contextual demands are carefully perceived and, in turn, shape how effectively individuals coordinate between different psychological subsystems (Rothermund, Voss & Wentura, 2008).

Counterintuitively, in our sample the experience of life stress measured by the item “I must deal with big changes in my life” is negatively correlated with the discrepancy score, indicating that experiencing more threatening life events is associated with greater congruence. Whereas PSI theory proposes that threatening stressors potentially inhibit self-access and thereby may hinder congruence, Baumann et al.´s (2005) add to that line of argumentation that current life stress may only lead to incongruence when the stressors exceed emotion regulation abilities, in other words, when individuals are not able to cope with stressful life events. The researcher therefore expects efficient emotion regulation, which was measured by two action control items from the ACS-90 (Kuhl, 1984), to constitute a moderator of how people cope with threatening situations (Jostmann & Koole, 2010).

Upon the basis of that argumentation, it was tested whether the ability to down-regulate affect may work as a moderator. The main effect of threatening life stress on discrepancy was marginally significant, $b = .039$, $t(153) = 1.683$, $p = .09$. Further, a statistically significant effect of the ability to down-regulate negative affect on discrepancy was found, $b = .057$, $t(153) = 2.104$, $p = 0.03$, when controlling for life stress. The life stress (threat) X down-regulation of negative affect interaction was statistically highly significant, $b = -.015$, $t(153) = -2.811$, $p < 0.01$. The interaction model showed a better fit as it explained a significant and greater proportion of variance in discrepancy scores, $R^2 = .10$, $F(3, 153) = 5.761$, $p < 0.001$, compared to the model without the interaction term, $R^2 = .055$, $F(2, 154) = 4.489$, $p < 0.05$. The descriptive statistics provide initial support for the notion that current life stress may even go hand in hand with congruence, provided individuals possess the ability to down-regulate negative affect.

Notably, in contrast to previous work on variables associated with motivational congruence, our discrepancy score was not correlated with self-determination, body consciousness, preference for consistency, self-reflection or self-reflection insight. This leads us to reduce the complexity related to the variety of possible covariates which was measured in this study by excluding those variables from further procedures.

Predicting Discrepancy

To predict discrepancy, those variables were included in a hierarchical linear regression which were shown to be significantly correlated to the criterion variable in this sample (see table 8): implicit hope for success, the interaction of life stress and the ability to down-regulate negative affect, positive affect and self-monitoring. Prior to conducting the analysis, the four relevant mathematical assumptions of regression models were tested[7] and met: normality of the errors, linearity, independence and homoscedasticity of the errors (Gelman & Hill, 2006).

The author entered these variables into a hierarchical regression conducted on discrepancy scores with five steps, with one variable (or interaction term) added to the overall model at each step: implicit hope for success (model 1), the interaction term of life stress X the ability to down-regulate negative affect (model 2), baseline positive affect (model 3), self-monitoring (model 4), affective and cognitive empathy (model 5). The variables were added in order of highest correlated to least correlated variable, according to descriptive statistics. By comparing the models using Sig. F change as indicator, it was found that - except for affective and cognitive empathy which was added at step 5 - the predictors added at each step before made a significant contribution to the overall model (see Table 9).

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[7] The Shapiro-Wilk-test was applied to evaluate the normality assumption and indicated that the distribution of all variables in our regression model were significantly different from normal distribution ($p < .05$), thus violating the assumption. However, as normality tests have been criticized because they often yield significant deviations from normality even at large sample sizes (Ghasemi & Zahediasl 2012), there is growing scientific controversy about the importance of adhering to the normality assumption in general, and about how much deviation might be tolerable under which circumstances (Knief & Forstmeier, 2021).

As the robustness of regression methods to deviations from normality of the regression errors also depends on outliers (e.g., Puth, Neuhauser & Ruxton 2014), we checked for extreme observations. The analysis of outliers showed that per variable there were one to three outliers in the data, which were values more than 3 standard deviations away from the mean. However, Cook's distance as a measure to identify points that negatively affect the regression implied that they are not influential as they were within the range of 3 standard deviations, hence they were kept in the analysis.

Given our skewed data which violates the normality assumption, we followed the general wisdom that transformations can mitigate such problems (Osborne & Overbay 2004) and log-transformed our variables. The dependent variable and the log-transformed predictors were linearly related (Williams, Grajales & Kurkiewicz 2013) which we checked through visual inspection of scatterplots. An examination of correlations (see Table 8) revealed that no independent variables were highly correlated, with the exception of expected correlations between the two empathy variables and the correlation between them and baseline positive affect. However, as the correlations were relatively low and the Durbin–Watson test for independence of residuals (Field, 2013) was insignificant, with a test statistic of 1.967831 and the corresponding p-value of 0.818, the assumption is met that there is no multicollinearity (Quinn & Keough, 2002).

There was homoscedasticity (or homogeneity of residuals variance) as assessed by visual inspection of the spread of the response around the regression line, with residuals distributed approximately equally above and below zero (Gelman & Hill, 2006).

The successive regression yielded four statistically significant models. The hierarchical multiple regression (Table 9) revealed that at stage one, implicit hope for success accounted for 9.3% of the variation in discrepancy. The inclusion of the interaction term for life stress (threat) and action control (down-regulation of negative affect) in the second step accounts for a statistically significantly increased amount of variance in discrepancy, by adding additional 7.6% of variation in the output variable. This supports that a moderating effect is present. Introducing baseline positive affect in the third step explained an additional 1.5% of variation and adding self-monitoring as the fourth block to the regression model explained an additional 3.1% of the variation in discrepancy. Because with the integration of the empathy variables the model became insignificant with a p-value of 0.69245 (see Sig. F Change), the significant model 4 was kept as final model estimating discrepancy ($F(6, 150) = 6.851$, $p < 0.001$, $R^2 = .215$, $R^2_{\text{Adjusted}} = 0.1837$).

The analysis shows that all four variables in model 4 significantly predict values of discrepancy, with the interaction term of life threat and down regulation of negative affect being the most important predictor. However, baseline positive affect is only significant at a 10% significance level. Notably, together the four sets of predicting variables accounted for 21.5% of the variance in discrepancy, leaving us to conclude that the variance captured with model 4 is still small.

Table 9

Summary of Hierarchical Regression Analysis for Variables predicting Discrepancy

Variable		b	*t*	sr^2	R^2	95% CI	ΔR^2	Sig. F change
Step 1					.093	[.02,.19]	.093	
	Implicit Hope for Success	-0.12	-3.986 ***	.09				
Step 2					.169	[.06, .26]	.076	0.00312 **
	Implicit Hope for Success	-0.11	-3.474 ***	.07				

	Life Stress Threat X Action Control Downreg. Negative Affect	-0.30	-2.686 **	.04				
Step 3					.184	[.06, .27]	.015	0.09498 .
	Implicit Hope for Success	-0.10	-3.139 **	.05				
	Life Stress Threat X Action Control Downreg. Negative Affect	-0.30	-2.752 **	.04				
	Baseline Positive Affect	-0.06	-1.661 .	.01				
Step 4					.215	[.08, .30]	.031	0.01677 *
	Implicit Hope for Success	-0.10	-3.298 **	.06				
	Life Stress Threat X Action Control Downreg. Negative Affect	-0.28	-2.601 *	.02				
	Baseline Positive Affect	-0.06	-1.668 .	.01				
	Self-Monitoring	-0.08	-2.429 *	.03				
Step 5					.219	[.08, .29]	.004	0.69245
	Implicit Hope for Success	-0.10	-3.298 **	.05				
	Life Stress Threat X Action Control Downreg. Negative Affect	-0.28	-2.601 *	.03				
	Baseline Positive Affect	-0.06	-1.668 .	.01				
	Self-Monitoring	-0.08	-2.429 *	.03				
	Cognitive Empathy	-0.00	-0.056	.00				
	Affective Empathy	-0.05	-0.675	.00				

Note: b represents unstandardized regression weights. t represents t-value including significance level, with * indicating $p < .05$. ** indicating $p < .01$. and '.' indicating $p < .1$. sr2 represents the semi-partial correlation squared. R^2 represents the

proportion of variability in the dependent variable Discrepancy that is explained by the model variables. ΔR^2 represents the change in R^2 values from one model to the other, thus represents the incremental increase in the model R^2 resulting from the addition of a predictor, or set of predictors, to the regression equation. Square brackets are used to enclose the lower and upper limits of a confidence interval.
ΔR^2

Testing Hypothesis 1: Does Empathic Inquiry Increase Motivational Congruence?

The descriptive statistics by group (see Table 10) show that neither sample means nor sample medians which are more robust against outliers than the sample mean differ substantially between groups. The control group average discrepancy score ranks at M = 0.30, with SD = 0.18, Median = 0.30, with scores ranging from 0.01 to 0.69. In the experimental group, in which participants were prompted to empathically inquiry, discrepancy averages at M = 0.31, with SD = 0.17, Median = 0.32 and scores ranging from 0.01 to 0.74.

Table 10

Descriptive Statistics Discrepancy by Group

Group/ Variable	Experimental Group (n=81)	Control Group (n=76)
M	0.31	0.30
Median	0.32	0.30
SD	0.17	0.18
SE	0.02	0.02

Table 11 shows the ANOVA table for these data when the covariates were not included. It is clear from the significance value that there are no differences in discrepancy between the two groups, $F(1,155)= 0.14$; $p = 0.707$., therefore empathic inquiry in the treatment condition seems to have no significant effect on discrepancy.

Table 11

ANOVA results on group effect using Discrepancy as the dependent variable

Predictor	Sum of Squares	df	Mean Square	F	p	partial_eta2	CI_90_partial_eta2
(Intercept)	6.68	1	6.68	217.71	.000		
Group	0.00	1	0.00	0.14	.707	.00	[.00, .02]
Error	4.76	155	0.03				

Note: Values in square brackets indicate the bounds of the 90% confidence interval for partial eta-squared.

Even though in the first step hardly any distributional differences between the two groups regarding the output variable discrepancy can be observed, the researcher continues the analysis by conducting an ANCOVA to filter out the effect of the variables that significantly impacted on discrepancy in making comparisons between the two groups. These variables are implicit hope for success, baseline positive affect, the interaction term of life stress X the ability to down-regulate negative affect and self-monitoring shown in the analytic step above.

Before running an one-way ANCOVA to determine the effect of treatment on motivational congruence when holding constant the covariates in our study, ANCOVA assumptions we tested and fulfilled[8]. As illustrated in Table 12, the group still has no significant impact on the discrepancy score, even when controlling for the covariates, $F(1,149)=0.14$, $p= .711$. Except for baseline positive affect, the covariates, were still significantly related to the discrepancy score (Implicit hope for Success $F(1,146)=10.89$, $p<.001$, the interaction of Life Stress Threat with the down-regulation of negative affect dimension of action

[8] In addition to the previously checked regression assumptions, one of the fundamental assumptions underlying ANCOVA is that of no interaction between factor and covariates (i.e., homogeneity of the within-group slopes), meaning that groups do not differ significantly on the covariates. This criterion is met as the interaction terms between the covariates and the grouping variable were not statistically significant (Group x Implicit Hope for Success p = .10, Group X Interaction Term p =. 969, Group X Baseline Pos. Affect p = .41, Group X Self-Monitoring p =. 27), thus ruling out the possibility that effects of interest were primarily due to initial between-group differences.

control F(1,146)=6.84, p<.01, and Self-Monitoring F(1,146)=5.69, p<.05.

Table 12

ANCOVA results on group effect using Discrepancy as the dependent variable and controlling for covariates

Predictor	Sum of Squares	df	Mean Square	F	p	partial_eta2	CI_90_partial_eta2
(Intercept)	0.01	1	0.01	0.22	.640		
Group	0.00	1	0.00	0.14	.711	.00	[.00, .02]
Implicit Hope for Success	0.27	1	0.27	10.89	.001	.07	[.02, .14]
Life Stress Threat X Action Control Downreg. Negative Affect	0.17	1	0.17	6.84	.009	.04	[.00, .10]
Baseline Positive Affect	0.07	1	0.07	2.68	.104	.02	[.00, .07]
Self-Monitoring	0.14	1	0.14	5.69	.010	.04	[.00, .10]
Error	3.74	149	0.03				

Note: Covariates are log-transformed, Values in square brackets indicate the bounds of the 90% confidence interval for partial eta-squared.

Further, another model on group effect was modeled by additionally controlling for the empathy variables. The group effect was still insignificant, F(1,147) = 0.115, p = .735. Accordingly, there is no evidence in support of hypothesis 1.

Testing Hypothesis 2: Does change in affect mediate the effect of treatment on motive congruence?

Even though analysis does not yield support for a significant total effect of treatment on discrepancy, it is tested whether accounting for the within-subject changes in affect may contribute to strengthen the relation between group as the factor and dependent variable discrepancy.

Whereas statistical mediation analysis is commonly used to investigate by what mechanism an intervention brings about its effects (Valente, Pelham, Smyth & MacKinnon, 2017), according to new school of thought, such analysis of mediating mechanisms does not necessarily require a total effect of the intervention x on the dependent variable y (Hayes, 2018).

Prior to testing whether and to what extent changes in affect may contribute to building a relationship between treatment and congruence, descriptive statistics of the affect variables in this study are provided. Thereby we get an idea as to whether the manipulation yielded the expected changes in affect. The following boxplots (figure 9) allow for a visual inspection of the means and spread of the relevant affect scores, which are positive affect and negative before the treatment, positive and negative affect after the treatment and the change of positive affect and negative calculated as the delta between pre- and post-scores per positive and negative affect. The left box plot in the respective cell indicates the values of the control group as indicated by 0 and the right box plot illustrates the experimental group as indicated by 1.

Regardless of the group they were assigned to, participants implicit positive affect (M = 12.69, SD = 4.13) is higher than their implicit negative affect (M = 8.58, SD = 3.65), when they started the experiment. From both visual inspection and comparison of group means, it can be derived that before the treatment affect scores seemingly do not differ between the groups. This was to be expected and contributes to the robustness of our calculations. After the treatment, positive affect ($M_{Control}$ = 10.34; $SD_{Control}$ = 4.41; M_{Treat} = 10.35, SD_{Treat} = 4.06; t (152) = -0.005, p = .99) and negative affect ($M_{Control}$ = 9.92; $SD_{Control}$ = 3.82; M_{Treat} = 10.65; SD_{Treat} = 3.7,, t (154) =-1.22, p = .22) reached more or less equal levels close to the value 10 (with plausible values between 3 and 21), in both groups, indicating that in both groups positive affect decreased and negative affect increased. T-tests were conducted to check whether there were group differences in post-treatment affect, however, with no significant effect.

Visually inspecting the boxplots in the third row illustrating affect change (conceptualized as delta between post and pre-treatment affect measures) leads to assume that, in the experimental group participants´ positive affect decreased less compared to the control group. Yet, group comparison yields no significant effect as evidenced by t-test statistics

and high corresponding p-value ($M_{Control}$ = -2.63, $SD_{Control}$ = 5.9, M_{Treat} = -2.07, SD_{Treat} = 5.9,, t (154) = -0.596, p = .55). Thus, the treatment did not succeed in positively influencing participants´ emotions as such that negative affect decreases and positive affect increases, providing us, however, with a plausible explanation about why we cannot find group effects of discrepancy.

As under hypothesis test 1, the regression of the dependent variable motive congruence on empathic inquiry fails to provide support for a proposed total effect and the visual inspection under hypothesis test 2 did not support the proposed relation between the grouping variable empathic inquiry and the dependent mediating variable affect change, it will be refrained from proceeding with the regression analysis for mediation of affect change between empathic inquiry and motive congruence. Consequently, hypothesis 2 cannot be confirmed.

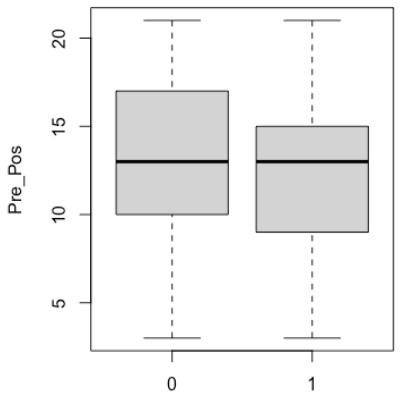
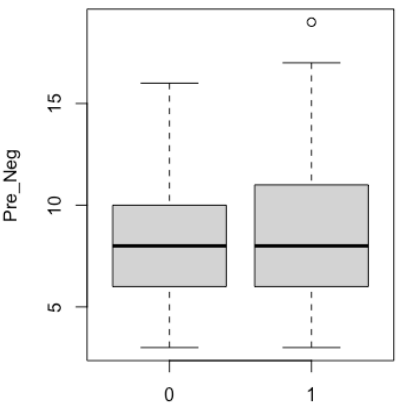
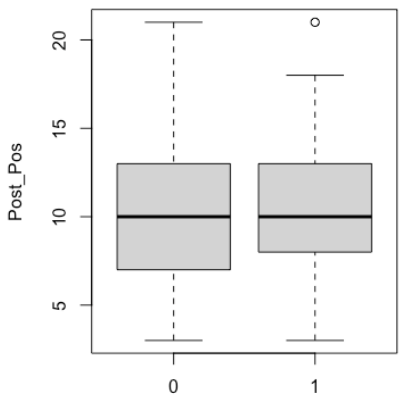
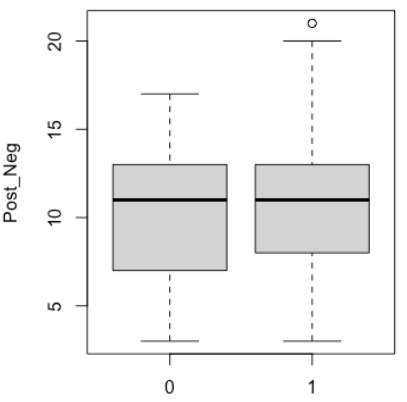
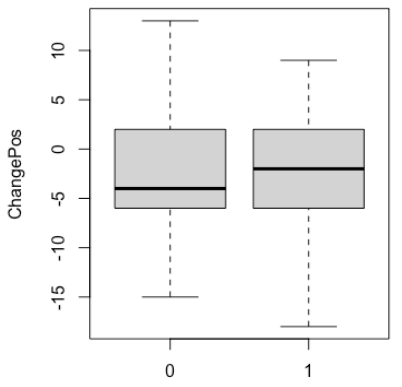
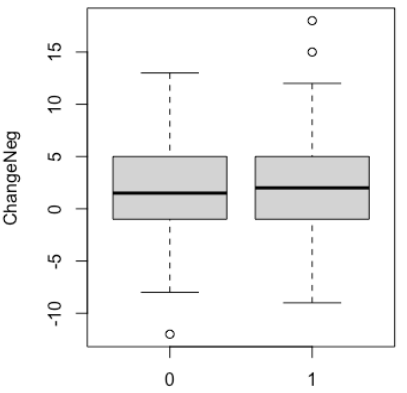
	Positive Affect	Negative Affect
Pre Treat Affect	 $M_{Control}$ = 12.97, $SD_{Control}$ = 4.28, M_{Treat} = 12.42, SD_{Treat} = 3.99, t (152) = 0.83, p = .40	 $M_{Control}$ = 8.33, $SD_{Control}$ = 3.45, M_{Treat} = 8.8, SD_{Treat} = 3.84, t (154) = -0.81, p = .41
Post Treat Affect	 $M_{Control}$ = 10.34, $SD_{Control}$ = 4.41, M_{Treat} = 10.35, SD_{Treat} = 4.06, t (152) = -0.005, p = .99	 $M_{Control}$ = 9.92, $SD_{Control}$ = 3.82, M_{Treat} = 10.65, SD_{Treat} = 3.7, t (154) =-1.22, p = .22
Affect Change	 $M_{Control}$ = -2.63, $SD_{Control}$ = 5.9, M_{Treat} = -2.07, SD_{Treat} = 5.9, t (154) = -0.596, p = .55	 $M_{Control}$ = 1.59, $SD_{Control}$ = 4.72, M_{Treat} = 1.85, SD_{Treat} = 5.16, t (155) = -0.329, p = .74

Figure 9: Positive and Negative Affect in Control (0) and Treatment group (1) before the treatment (PreTreat Affect), after the treatment (PostTreat Affect) and the delta (Affect Change)

Testing Hypothesis 3: Does Motivational Congruence Increase Positive Outlook (Positive Affect, Hope and Life Satisfaction)? Does Treatment Increase Positive Outlook (Positive Affect, Hope and Life Satisfaction)?

A MANCOVA with the three positive outlook measures as dependent variables and condition and discrepancy as factors, controlling for implicit hope for success, was run to see whether groups systematically differ on positive outlook measures. Prior to conducting a multivariate analysis, a series of Pearson correlations were performed between the dependent variables Positive Affect, Hope and Life Satisfaction in order to test the MANCOVA assumption that the dependent variables would be correlated with each other in a moderate range but not too strongly so as to prevent multicollinearity (i.e., .20 - .60 as noted by Meyers, Gamst, and Guarino, 2006; or < r = 0.90 as suggested by Tabachnick and Fidell, 2012). As can be seen in Table 13, patterns of correlations were observed amongst most of the dependent variables, suggesting the appropriateness of a MANCOVA[9], however with r = .66 slightly above the conservative range suggested by Meyers et al. (2006).

Table 13

Testing correlations between dependent variables: Means, standard deviations, and correlations with confidence intervals

Variable	M	SD	1	2
1. Positive Affect	23.03	5.92		
2. Hope	26.71	7.03	-.13 [-.02, 28]	
3. Life Satisfaction	4.54	1.62	.21** [.05, .35]	.66** [.56, .74]

Note: M and D are used to represent mean and standard deviation, respectively.
Values in square brackets indicate the 95% confidence interval.
The confidence interval is a plausible range of population correlations that could have caused the sample correlation (Cumming, 2014).
* indicates p < .05. ** indicates p < .01.

[9] Additionally, the Box's M value of 20.8 was associated with a p-value of .142, which was interpreted as non-significant based on Huberty and Petoskey's (2000) guideline (i.e., p < .005). Thus, the variances for each dependent variable are approximately equal in all groups plus covariances between pairs of dependent variables are approximately equal for all groups for the purposes of the MANCOVA. The condition x discrepancy interaction and the group x implicit hope for success interaction were non-significant (p = .412 and p = .871, respectively), thus we met the MANCOVA assumption, that is, the regression lines for the groups are parallel.

A MANCOVA with the three positive outlook measures as dependent variables and condition and discrepancy as factors, controlling for implicit hope for success (Table 14), did not indicate a main effect of condition (p = .662), which suggests that the groups did not systematically differ on positive outlook measures. However, the main effect of Implicit hope for success on positive outlook became marginally significant at 95% confidence level, Wilks´s Lamda = .928, F(3, 147) = 3.777, p = .01., demonstrating that seemingly the variable implicit hope for success covarying with discrepancy is better suited to predict the positive outlook variables compared to discrepancy or treatment. The multivariate effect size partial_eta2 was estimated at .064, which implies that 6.4% of the variance in the canonically derived dependent variable positive outlook was accounted for by levels of Implicit hope for Success. Table 14 illustrates the results of the MANCOVA for Wilks's Lamda and type III.

Table 14

MANCOVA results on Positive Outlook variables using Group, Discrepancy and the covariate Implicit Hope for Success as dependent variables

Predictor		Sum Sq	Mean Sq	F (1, 149)	p	partial_eta2
Hope						
	Group	0.0001	0.00007	0.0009	.976	
	Discrepancy	0.0011	0.00106	0.0130	.909	
	Implicit Hope for Success	0.5395	0.53946	6.5767	.011 *	0.0422
	Residuals	12.2219	0.08203			
Life Satisfaction						
	Group	0.0923	0.092301	0.7385	.391	
	Discrepancy	0.0000	0.000001	0.0000	.997	
	Implicit Hope for Success	0.1973	0.197331	1.5787	.211	
	Residuals	18.6239	0.124993			
Positive Affect						
	Group	0.0120	0.01203	0.1559	.694	

Discrepancy	0.4096	0.40959	5.3078	.022 *	0.0343
Implicit Hope for Success	0.3722	0.37220	4.8233	.029 *	0.0313
Residuals	11.4981	0.07717			

Note: Covariates are log-transformed, Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' '

To answer the question to which positive outlook variable the marginal effect of implicit hope for success on positive outlook can be attributed, a series of follow-up ANOVAs on positive affect, hope and life satisfaction was computed. Prior to conducting the ANOVAs, the homogeneity of variance assumption was tested for dependent variables. Based on a series of Levene's F tests, the homogeneity of variance assumption was considered satisfied as non-significant p-values (between .322 and .996) indicated that there are equal variances between groups, suggesting that the ANOVA would be robust in this case (Howell, 2009). As can be seen in Table 14, neither group nor discrepancy significantly contributed to a multivariate effect on the positive outlook variables, as high p-values indicated.

However, hope and positive affect contributed to a significant effect of Implicit Hope for Success on Positive outlook, with $F(1, 149) = 6.576$, $p = 0.01$, partial $\eta 2 = .042$ and $F(1, 149) = 4.823$, $p = 0.029$, partial $\eta 2 = .031$, respectively. The very small partial eta squares ($\eta 2$) show, however, that the variance explained by the independent variable implicit hope for success is negligibly low.

Results indicate that the treatment was not successful in increasing positive outlook, nor was the discrepancy score a suitable predictor for positive outlook variables. However, implicit hope for success which was included in this analysis as covariate of discrepancy yielded a significant effect on positive outlook, explaining a small proportion of 6.4% of the variance.

Additional Analysis

Interestingly, additional analysis revealed that the variable cognitive empathy was best suited to explain variance in positive outlook, holding

constant implicit hope for success, with $F(1, 153) = 15.5623$, $p < 0.001$, partial $\eta 2 = .2361$. A significant multivariate effect with such a high partial $\eta 2$ estimated at .2361 implies that 23.61% of the variance in the canonically derived dependent variable positive outlook was accounted for by levels of cognitive empathy. Even though our treatment which was designed to trigger empathy did not succeed in increasing levels of positive outlook, yet participants´ self-reported cognitive empathy appeared to be significantly associated with the dependent variable.

Summary of Results

We could not find statistical support for our proposition that empathically inquiring another person´s state of feeling facilitates greater levels of self-access as measured by the overlap between implicit and explicit need for achievement. Further, persons who empathically explored another person´s feelings in a given situation in the empathic inquiry condition did not experience greater affect regulation compared to persons who were presented a neutral affect scenario, even though they reported to have experienced high levels of empathy. Thus we could not confirm our hypotheses that empathic inquiry through making use cognitive-affective networks of emotion regulation impacts on self-access. What is more, contrary to existing research, we could not replicate the effect shown in previous studies that higher congruence correlates with well-being related variables such as life satisfaction (e.g., Roch, Rösch & Schultheiss, 2017; Baumann, Kaschel & Kuhl, 2005). In our study, motive congruence as the most widely and frequently applied measure of self-access failed to correlate with positive outlook which was composed of the variables general positive affect, life satisfaction and hope.

However, we could contribute to existing knowledge on predicting motive congruence by showing that in this sample hierarchical regression yielded the result that 21,5% of the variance in discrepancy between implicit and explicit need for achievement could be explained by the variables implicit hope for success, the interaction between life stress and the ability to down-regulate negative affect, positive affect and self-monitoring. The analysis shows that a model containing those variables significantly predicts values of discrepancy, with the interaction term

of life threat and down regulation of negative affect being the most important predictor. This provides initial support for the notion that current life stress may even go hand in hand with congruence, provided individuals possess the ability to down-regulate negative affect (Baumann et al.´s, 2005), thus echoing the finding that effective emotion regulation, in that case particularly the ability to reduce negative affect after aversive events asserts a moderating effect on self-access (Jostmann & Koole, 2010). The data further aligns with the notion of PSI theory that the experience of positive affect is related to congruence as it is proposed to facilitate access to the implicit self-system (Baumann, Kaschel & Kuhl, 2005).

Moreover, whereas Thrash, Elliot & Schultheiss (2007) observed that self-monitoring as the tendency to frequently observe oneself in order to present desirable versions of oneself is associated with distance between explicit and implicit selves, our analysis shows the opposite tendency: discrepancy is negatively and significantly associated with self-monitoring, indicating that persons who "in different situations and with different people, act very differently", in other words, who are very sensitive to their social surroundings, are also more likely to be congruent in their implicit and explicit selves. Deviating from Gangestad and Snyder´s self-monitoring theory (2000), upon the basis of our result, we come to assume that there is a difference between chameleon-like other-directedness and context-sensitivity, with the latter indeed representing a constituting quality of the implicit self. This may serve as a possible explanation why, according to this study, the other-directed self-monitoring measure is predictive of motive congruence.

Discussion and Conclusion

This study's contribution is to introduce PSI theory's concept of the implicit self (Kuhl, 2000) as a central feature in emotion regulation to the career literature on vocational transitions. This study further advances the scholarly conversation about emotion regulation by investigating individuals' emotion regulation strategies through both qualitative and quantitative approaches in a mixed-methods sequential design. Such a design enables in-depth and usable conclusions to be drawn from a multilayered analysis; thus, its combination of results is of particular importance (Bryman, 2016). Taking this methodologically mixed perspective on emotion regulation has provided various theoretical and practical contributions, which are detailed below. After elaborating on the implications of this study, we address limitations and suggest avenues for future research.

Theoretical Implications

Although vocational psychologists studying how people transition have scarcely considered how emotion is experienced and regulated (Kidd, 2004; Hartung, 2011), this study has shown that transitioning from education to work gives rise to a plethora of negatively experienced challenges. Regardless of whether our informants were "good" or "bad" at regulating emotions, vocational wayfinding potentially challenged individuals at a very profound, identity-related level. It may trigger both negative emotion and the drive to undo discrepancies resulting from such negative emotion.

Research with PSI theory (Kuhl, 2000) suggested that effective emotion regulation in demanding times depends on access to the implicit self, which stores identity-relevant, autobiographical information such as preferences, needs, and values, but that such access is denied under strong and unregulated negative affect. This study's findings confirm this. Indeed, transitioning was accompanied by symptoms associated with a lack of self-access, such as ruminative, judgmental thinking, procrastination, and individuals not knowing what they want. However, informants also described how the transition required them to contact the implicit self so as to form and enact self-congruent intentions as

opposed to adopting external ideas about career wayfinding. Consequently, positively transitioning may be a question of whether individuals manage to access their implicit selves despite adversity.

Our experimental study's results indeed support such an interpretation. The experiment showed that participants' values of congruence between implicit and explicit motives, which were indicative of greater self-access, were higher when they reported experiencing more current life stress provided they also scored higher in the ability to downregulate negative emotion. Therefore, this study's results confirm the notion that experiencing challenging life stress may be accompanied by increased self-access, provided individuals remain capable of regulating emotion in threatening situations (Baumann et al., 2005; Jostmann & Koole, 2010). Consequently, transitioning may not only be supported by access to the self-system, but highly demanding situations and inner conflict may even provide opportunities to experience qualities of the self. Consequently, the implicit self can be viewed as a navigator that is triggered in demanding situations and assists in intuitively regulating the uphills and downslopes of transitioning towards greater congruence, provided access to it is not blocked by unregulated negative affect resulting from, for instance, ruminative or judgmental thinking.

Our data further aligns with another postulate of PSI theory, that positive affect is related to access to the implicit self (Baumann, Kaschel & Kuhl, 2005). Positive affect seems to be both facilitative of self-access and a result of self-access. In the experimental study, positive affect was among the variables that predicted self-access. In the qualitative part of this study, high positivity informants frequently described how they tapped into new self-related knowledge through their acts of emotion regulation, and how this seemed to be accompanied by positive emotion.

These findings are in alignment with the perspective that the full spectrum of positive and negative emotions has functional value: positive transitioning may be rooted in some adversity that subsequently and iteratively requires the individual to use emotion regulation to reduce negative affect and enter states of higher positive affect. In analyzing students' journal accounts to understand how they regulate emotionally in transitions, this study defined the emotion regulation strategies that individuals employed and specified the extent to which these strategies promoted self-access. The strategies are noticing, cognitive reappraisal,

intuitive action, and empathic inquiry and emotion sharing; these were derived from a thematic analysis of what individuals wrote in reflection journals as they participated in a semester-long design thinking (DT) intervention. Notably, the strategies we identified and present here are neither exhaustive nor mutually exclusive.

Beyond analyzing respondents' accounts of what they did about regulating their emotional turmoil, emotion regulation was also captured through an analysis of how they used language in their written journals. Several indicators were derived from a linguistic analysis: the proportion of positive-affect terms relative to overall word count, the negative-affect terms relative to total word count, and a positivity ratio derived by dividing one by the other. This distinguished our sample into individuals with more effective and less effective emotion regulation, depending on whether their assigned ratio value was above or below a threshold of 2.9 (Fredrickson & Losada, 2005). Using the positivity ratio as a distinguishing feature in our sample indicated that whereas participants with high and low positivity ratios did not differ significantly in the tensions they described, there were substantial and intriguing differences in how they regulated emotion.

Noticing played a vital role in this study. The qualitative study provided clear evidence that respondents with high positivity ratio used the strategy of noticing frequently. Noticing encompasses shifting attention to feelings of congruence and incongruence. Such noticing allowed them to access qualities of the self, such as autobiographical experiences, future-relevant preferences, and guiding values, and to recognize incongruence and explore its causes. When regulating their transitional experience, they asked themselves frequently in a self-compassionate, curiously investigative way, "Who am I, when do I feel good, when not, and how can I bring more of myself into my life?". Such self-exploration provided them with a basis for other emotion regulation strategies, such as intuitive action to undo incongruence.

The importance of noticing incongruence has parallels in research on identity formation, which refers to awareness to feelings of incongruence as primary mechanisms that stimulate progress in identity transformation (Adams & Marshall, 1996) as a main issue in adolescence (Erikson, 1968). It is also in accordance with literature that suggests that achieving congruence is contingent on the extent to which individuals introspect and self-examine their emotional experience (Brunstein et

al., 1999; Hofer, Busch, Chasiotis, & Kießling, 2006; Brunstein, 2001; Kuhl & Beckmann, 1994).

Similarly to high positivity informants, individuals low in positivity detected feelings of incongruence. However, low positivity informants frequently and predominantly used cognitive appraisal to overcome the incongruence. They observed and analyzed patterns in their thinking and feeling and then attempted to change their thinking about the challenge to feel better. Importantly, whereas low positivity ratio profiles showed an over-reliance on cognitive strategies, high positivity respondents reported using a greater variety of strategies and switched flexibly between the strategies. Thus, this research showed that effective emotion regulation, as indicated by the positivity ratio, is associated with broadening the scope of emotion regulation strategies. We conclude that thinking oneself into feeling differently may not be sufficient unless it is accompanied by other emotion regulation strategies which are integrative of the implicit self.

This study's conceptualization of four strategies, derived qualitatively from the analysis of written journal accounts, adds to previous research into vocational transitions which examined the effects on transitioning of predefined strategies such as suppression, cognitive reappraisal, and distraction. Our findings contradict research postulating the effectiveness of cognitive reappraisal (e.g., Gross, 1998; Ochsner & Gross, 2008; Uusberg, Taxer, Yih, Uusberg, & Gross, 2019) but echo the suggestion that greater emotion regulation encompasses greater flexibility in strategy application (Kobylińska & Kusev, 2019; Aldao, 2013; Bonanno & Burton, 2013). M

High positivity informants applied two more strategies in regulating emotion which were inspired by the DT practices of experimentation, collaboration, and empathy. These strategies are intuitive action and empathic inquiry and emotion sharing. In this sense, DT helped to enrich our informants' emotion regulation repertoires. This informant's reflection summarizes how DT unfolded its impact:

> The mindset of life design also helped me to change my perception of open questions about my future. I used to feel quite overwhelmed and worried when thinking of the unanswered questions in my life. I even had really bad times when I felt like I couldn't cope with any of it and felt depressed. Even though I don't yet have a detailed plan

> for my career or just the next couple of months and years, I certainly feel more capable to deal with upcoming challenges and open questions than I did a couple of months ago. I stop spinning the same questions and thoughts over and over again in my head, and instead go out there and try something, create prototypes and include other people in the process. Furthermore, these insights and my improved skills in active listening and empathy already proved to be of great value. (Informant 12, LB, high positivity ratio)

Instead of cognitively digesting the transition in all its threatening details, high positivity informants gave intuitive action preference over conscious, effortful thinking. After noticing a discrepancy, they may have rather quickly stepped away from thinking about it towards engaging in small-scale action to test possible solutions. They played with behavioral micro-experiments to decrease discrepancy and considered them as trials, or prototypes as encouraged by DT. Such experiments revealed new information to them: real-life, tangible experiences to which they could relate in a more sensory, holistic way and to which others could even contribute. Such immediate feedback may have automatically enabled the detection of further opportunities for action, in turn affecting their emotions positively. Iterative cycles of courageously enacting ideas and checking these against reality broke with patterns of rumination and procrastination because it reduced our informants' fear of the unknown parameters of transitioning. In alignment with PSI theory's concept of personal growth (Koole & Jostmann, 2004, Quirin & Kuhl, 2008), once this newly acquired information helps to downregulate negative affect, the new experience can be integrated into associative cognitive–affective networks of the self and thus potentially shapes the implicit self as an emotion regulation resource.

We are aware that such intuitive actions must be preceded by cognitive processes. We assume that before daring to intuitively act, creative methods applied in DT, which included writing and working visually, may have broadened individuals' perspectives from negatively experienced narrow-mindedness such as rumination to a wider and more intuitive perception of opportunities. This underscores the vital role creativity plays in constructing and developing a person's professional identity (Barbot, Besançon & Lubart, 2015) and adaptability (Amabile, Barsade, Mueller & Staw, 2005; Zhou & Shalley, 2003).

We add to this by postulating that creative, creative methods broaden perspectives both by supporting individuals in distancing themselves from their concerns and by helping explore and exploit opportunities for action, particularly when creative work is used to stimulate meaningful exchange with others. Our informants, indeed, reported greater hope in being able to handle obstacles and find their ways after the DT intervention. However, in only a few cases did informants explicitly refer to specific practices which contributed to generating that greater capacity: too few to allow valid inferences between practices and emotion regulation effects. Such lack of explicitness may be due to the unconscious automatism with which effects emerge in the creative process, which does not allow the individual to consciously observe causes and effects.

Consistent with previous findings on expressive writing (e.g., Klein & Boals, 2001; Pennebaker et al, 2015; Pennebaker & Chung, 2007), our results suggest that the act of putting thoughts into words promotes insight into the self and thus downregulates emotional distress. These beneficial effects may arise because expressive writing helps to restructure initially agitating emotional events into coherent narratives that support individuals in acquiring more differentiated knowledge of their selves and emotions. The broadening effect of such creative practices on cognition and emotion may have contributed to greater awareness of congruence and incongruence of the self and increased flexibility in emotion regulation strategies.

DT may also have supported emotion regulation through the illumination of various alternative solution scenarios that were all rooted in our informants' values, interests, and strengths (see, for instance, "Odyssey Plans" by Burnett & Evans, 2016). As explained earlier in this dissertation, reflecting on one`s values, interests, and strengths is associated with implicit self-activation. Associative thinking, as opposed to its linear alternative, triggers the implicit self, and the process of checking alternatives for self-compatibility has been found to be related to eliciting the implicit self (Kazén, Baumann, & Kuhl, 2003). We further speculate that associative positively influences emotion regulation when individuals realize the range of options open to them and that there is no single right answer to how to transition and achieve greater congruence. When alternative action options are rooted in parameters of the self, individuals may be able to rapidly decide on intuitive action.

Our informants high in positivity also reported how they applied empathy-related strategies to regulate emotion during the transition. Turning towards peers in an appreciative and open manner created conditions for new emotion regulation resources to emerge. DT places importance on the idea that empathically understanding the individuals' challenges and needs is a prerequisite for a collective design process. When applied to vocational wayfinding, as in our study, DT begins with the intuitive exploration of autobiographical experience, values, interests, and strengths to gain a deeper understanding of the individual. We showed that when individuals in transitions empathically turned towards each other, listened without judgment, did not critique or even advise, but reflected on and asked the person sharing to say more about something interesting, they experienced high relationship quality.

Consistent with PSI theory, we argue that in such psychologically safe interactions the implicit self is triggered, and through its activation it develops stronger connections with emotion-arousing systems (Koole & Jostmann, 2004). In contrast, low positivity informants tended to avoid engaging in social encounters with peers and were judgmental about others. Therefore, managing emotionality in uncertain transitions may not be an isolated process but a social one in which individuals either confirm the predominant logic of judgmental comparison and competition, and thus deprive themselves of emotion regulation support, or challenge it through empathic, nonjudgmental acts of mutual inquiry of feelings that positively affect their own and others' emotional experience.

We argue that through empathy, a skill that allows individuals to understand and share feelings, they are not only able to put themselves in another person's shoes but may also connect with their emotional experience as stored in the implicit self. This study hypothesized that the implicit self, a cognitive–affective network that operates as an emotion regulation compass in threatening times, may be activated in such empathic encounters, even in the person who provides support by empathically exploring another person's emotions. We theorized that this may be the case because people may use their own cognitive–affective representations stored in their implicit selves when they attempt to make sense of what another person feels.

This study tested for the first time whether empathically exploring another person's state of mind and feeling predicts activation of the implicit self, conceptualized as congruence between implicit motives and explicit motives. We expected that when prompted to engage empathically with another person's story and inquire about that person's state of mind, people were more likely to employ cognitive-affective networks linked to the implicit self than a control group (Hypothesis 1). Further, we hypothesized that changes in affect mediate the effect of treatment on self-access, conceptualized as motive congruence (Hypothesis 2) and that motive congruence or treatment may be associated with greater positive outlook as indicated by higher degrees of positive affect, hope, and life satisfaction (Hypothesis 3). However, this study failed to find significant support for these hypotheses. In the section on methodological limitations, several arguments are presented to explain why effects failed to materialize. One explanation reasons about empathic inquiry and why, against initial assumptions, it may not result in immediately measurable self-access. The other explanation focuses on the design of the treatment, which may have not succeeded in triggering associative networks of the implicit self.

Nevertheless, the assumptions mentioned above about the meaningfulness of empathic inquiry led us to conclude that human-centered design processes that start by empathizing help individuals meet the challenges of transitioning and constructing meaningful careers despite adversity. Particularly when empathizing is accompanied by creative practices following the DT imperatives "Encourage wild ideas!" and "Defer judgement!" (Lindberg, Noweski, Meinel, 2010, p. 33), a process of associative thinking is stimulated that may be conducive to activation of cognitive networks of the implicit self.

This research makes significant contributions to understanding how people may access their selves. The implicit self may operate as a resourceful navigator in times of transitions; thus, we want to encourage scholars to further study how individuals can enhance self-access by individual and collective practices so as to advance their emotion regulation flexibility to master transitions.

Practical Implications

It will become increasingly critical for educators, counsellors, and companies to better understand emotion regulation and perhaps even help unleash this critical competence to support their students, clients, and employees, respectively, in navigating uncertain transitions. This work derived practical information that can be used to develop interventions for fostering emotion regulation in harmony with the implicit self. What matters to navigating transitions are greater repertoires of emotion regulation strategies that go beyond cognitive reappraisal, including noticing, intuitive action, and empathic inquiry and emotion sharing. Applying design thinking in educational and vocational settings may open the door not only to greater creativity during the transition but also greater self-access and thus equip individuals with valuable emotion regulation support.

Due to DT's potential to fully capture what individuals need, what their environmental context requires, and "to create real fixes" (Nash, 2019, p. 9), we stipulate that it will be increasingly applied not only to redesign entire systems, for instance school systems, but also to promotes change in culture, because it develops how actors collaborate. It may thus shape the cultivation of 21st-century skills, such as empathy, collaboration and experimentation with innovation. Therefore, educational institutions such as business schools are no longer places in which people learn to deliver market value but are also a home of human connection and creative potential.

We infer that when people tap into the emotional knowledge stored in the implicit self, this network of knowledge becomes broader and more differentiated and forms an extended memory system that allows people to downregulate unwanted emotions and progress in transitions with a sense of self despite adversity. Our analysis has produced several points of practical guidance:

- Write about your experience, and give preference to whatever comes to your mind. Freely elaborate on how you feel about the transition. The more you allow your mind to freely associate, the more you engage the networks of the implicit self.

- Vividly envisage episodes of your life in which you felt most congruent: at your best. What can you learn from those episodes about your needs, values, interests, and strengths? Explore, but do not evaluate yourself harshly. Write about these episodes and tell others about them.
- Include significant others in your self-exploration. Allow vulnerability when talking to others about what you desire and value and ask them to help you discover qualities of your implicit self without judgment. high quality interactions create conditions that support emotion regulation.
- When you realize you are experiencing incongruent feelings, notice with broad awareness what you can learn about yourself. What values or needs are in conflict? How can you bring more of what is important to you into your life? Which needs, values, interests, and strengths may help?
- Visualize your desired future states and generate multiple options. Options can be created by variously configuring your multiple needs, values, interests, and strengths. As long as your options are to some extent compatible with your implicit self, you have more than one "right" path to greater congruence. How do the options resonate with you?
- Decrease the gap between intention and action by intuitively acting your way forward. Define how you can easily test whether plausible steps bring you closer to desired states of feeling. Test your ideas quickly, and be open and receptive to the immediate feedback emerging from new experience. Go with the effects.
- Empathically turn towards your peers. Listen to others nonjudgmentally. Get in touch with their stories, help make sense of their stories, and see what resonates with you. The more you connect empathically, the more you engage and refine your cognitive–affective networks of the self.
- Consider your transition as a process which will bring you first negative emotion that, when effectively downregulated, offers seed for positive change that better aligns you with your implicit self.

Methodological Limitations and Suggestions for Future Research

This study contributed to understanding the multilayered nature of emotion regulation in transitions. The researchers first looked qualitatively at the whole person holistically within that person's natural context through emotion regulation tensions, emotion regulation strategies, and patterns distinguishing high from low emotion regulation profiles. Second, the study examined the underlying unobservable mechanisms of such cognitive–emotional processing to ascertain quantitatively to what extent the emotion regulation strategy of empathic inquiry into another person's feelings establishes access to the implicit self.

Despite their promising advantages, mixed-method designs also pose challenges. Criticisms have been voiced that quantitative and qualitative research methods cannot be mixed in a single work as they have incompatible ontological and epistemological origins (e.g., Sale, Lohfeld & Brazil, 2002). Whereas ontological considerations concern how reality is conceptualized, the epistemological stance is related to what constitutes acceptable knowledge and how it emerges. Researchers arguing against the incompatibility thesis suggest that the validity of scholarly claims should not be judged by their ontological or epistemological boundedness but by their practical applicability and the relevance of their implications for particular target groups (Johnson & Onwuegbuzie, 2004; Tashakkori & Teddlie, 2003). Furthermore, when investigating complex, multilayered phenomenon it is recommended to use various research methods appropriate to understand the different layers of the stratified phenomenon (Danermark, Ekström & Karlsson, 2019). However, the validity of this study and its findings are still limited by several factors. In the following, Study 1 and Study 2 are analyzed separately to identify methodological limitations and corresponding suggestions for future research.

Study 1

The first part of the study allowed individuals to talk openly about how they regulate their emotions from their own perspective and in their own words. This was crucial to achieve understanding of the full range of

strategies used by these individuals. Most importantly, social-desirability bias was excluded, because the informants could follow their inner stream of emotions and thoughts without feeling disturbed or embarrassed by an observer. In addition, the informants completed the documentation in a convenient and familiar situation, which eliminated another important confounding effect. Consequently, the constructs unearthed can be considered as largely free from the influence of the researchers' interests. Hence, an initial framework grounded in the individuals' experience provided a general understanding and a thick description of the research phenomenon. Yet, it is not intended to satisfy the criteria associated with quantitative research of generalizability, replicability, reliability, and validity.

This study is based on a sample of 48 informants from an elite business school and thus cannot be generalized to all students transitioning from university to work life nor to other types of transitions in vocational life. However, the purpose of qualitative research is to acquire thick description rather than generalizable results, and this study represents a fully contextualized approach (Gelo, Braakman, Gerhard, & Benetka, 2008) to engaging with this specific population: students transitioning from education to work and applying design thinking to their career-related questions.

For several reasons, the business school sample in the first study might be considered a special population with specific characteristics which might even further restrict the study results' validity for other student populations: At an elite business school, where financial success is an omnipresent concern, hopes of associating oneself with financial success when transitioning to the labor market might be especially high. Coupled with growing occupational uncertainties, this may threaten the mastery of career-related transitions and may expose individuals to exceptionally high emotion regulatory burdens (Silbereisen, Pinquart, & Tomasik, 2010).

Moreover, competition, which business students might encounter daily, may cancel out collective emotion regulation potential: One cannot simultaneously be competitors and seek for and give emotion regulation support. Emotional regulation support may be significantly reduced in environments which are perceived to be unsupportive (Koole, Kuhl, Jostmann & Finkenauer, 2006; Kuhl, 2000). This study showed that careers then become particularly objectified as a means of communicating

one's competence and achievement to others, leading some students to disengage from social encounters to restore self-esteem. This is particularly problematic against the background of relational theories of work and careers which highlight the role of support in social relationships (Blustein, 2011; Kidd, 2004).
Another particular feature of business schools is that students typically favor careers in investment banking and consulting above other career goals. To align with a logic that values a certain type of career and implicitly devalues other pathways, individuals may pursue career plans which are not in congruence with their true selves. Contexts defined by such one-dimensional career rhetoric may well lay particular relevance on both incongruence, which has been shown to be associated with obstacles to emotion regulation, and congruence, regarded as both an enabler and a result of effective emotion regulation. Whilst at the business school, our informants' tensions were experienced strongly, and stereotypes about how to transition were prominent. However, navigating uncertainty might play out very differently in educational and vocational contexts where students create alternative narratives about careers. Hence, future research may learn from expanding the scope to other settings.

In addition to analyzing what individuals did to manage emotions in transitions, the analysis stressed the relevance of how they narrated their experience. We sense that analyzing the "how" of informants' narratives may represent a fruitful avenue for further investigation into emotion regulation in its less conscious, more momentary forms. Applying the Linguistic Inquiry and Word Count 2015 (LIWC2015; Pennebaker et al., 2015) to analyze the emotional tone in the text material helped to distinguish two groups: Informants with greater positivity ratios showed greater variability in emotion regulation strategy use, which were reflected in accounts of congruence. Those with low positivity ratios showed less variability in emotion regulation strategy application with a focus on cognitive reappraisal through effortful forms of regulation, more rumination, and greater tendency to judge and socially compare themselves instead of engaging in collective efforts to navigate uncertainty. Although the positivity ratio we applied to distinguish two groups by level of emotion regulation has been frequently used in previous research, it is also debated. We recommend future researchers to include other explicit or implicit measures to differentiate between groups that are high and low in emotion regulation, such as those we included in our experimental study, to predict self-access.

Study 2

This quantitative work may move us forward by responding to the call to develop "new approaches to capturing emotion regulation and its less conscious and more momentary nature, situated within a social-organizational context" (Grandey & Melloy, 2017, p.11). We may advance research into the indirect assessment of the implicit self with motive congruence (Baumann et al., 2017), an innovative measure of self-access derived from PSI theory. Such techniques may provide useful information beyond introspection that may contribute to the discourse on implicit emotion regulation in vocational contexts.

However, the experimental study failed to observe treatment effects of empathic inquiry on congruence (Hypothesis 1), nor did affect regulation operate as a mediator in this hypothesized relationship (Hypothesis 2). Furthermore, differences in positive outlook measured by positive affect, life satisfaction, and hope could not be attributed to differences in congruence or group (Hypothesis 3). Although these hypotheses must be rejected, the findings provide substantial support for a predictor model of self-access conceptualized as motive congruence. This study's predictor model of motive congruence echoes several findings in previous studies. Individuals high in congruence were more likely to experience positive affect at the beginning of the experiment, scored higher in implicit hope of success, reported that they experience more threatening life stress, were better at downregulating negative affect, and often engaged in self-monitoring.

This chapter advances several arguments why effects failed to materialize. One explanation reasons about empathic inquiry and why this, against the initial assumptions, may not result in immediately measurable self-access. Another explanation focuses on the design of the treatment, which may not have succeeded in triggering the associative networks of the implicit self. Further, we offer one explanation why congruence was not associated with positive outlook variables.

Recent research on empathic concern postulates that whereas the human tendency to feel with others who are in distress may be universal and automatic, from a cognitive–affective perspective, empathically investigating about another person's state of mind and feelings may be hard work (Cameron et al., 2019). It requires the actors to create mental

space to feel other emotions and to reach decisions about another's viewpoint. This may involve suppressing or at least pausing one's own emotions for the moment to make room for other people's emotions. Empathic inquiry may thus not translate directly into favorable emotion regulation and corresponding self-access. Instead, it may represent an investment in a relational setting which "pays off" its emotion regulation advantages at later stages, for instance when the other person confirms the relationship-building act of inquiry with an affect-laden response which then impacts on the inquirer's feelings. Thus, we conclude that our idea of empathic inquiry may have been conceptionally too "one-way" and should include interactional qualities influencing the inquirers' cognitive–affective networks of the implicit self later.

The second explanation concerns the design of both treatment and control groups. In the treatment group, participants were prompted to inquire about a person´s standpoint by responding to questions such as "Which emotions did you observe?"; "What do you think is of importance to the person? What does the person desire?". Against what was intended, these questions may have triggered a rather analytic style of thinking, which is associated with intention memory as opposed to extension memory and the implicit self. Consequently, researchers might include broader questions in future experiments to trigger an explorative style of sensing, such as "What comes up to your mind?" which is likely to activate associative cognitive–affective networks.

An alternative explanation for the missing treatment affect could be that both experimental and control group stimuli triggered greater self-access: the experimental group due to empathic inquiry and the control group due to an affectively neutral nature scene. This scene may have provided the control-group participants with the opportunity to calm down and relax for a moment, which may have been conducive to eliciting the self, as suggested by studies on mindfulness (e.g., Guendelman, Medeiros & Rampes, 2017). Future research might include a group in which motive congruence is tested without any preceding stimulus.

Lastly, the experiment failed to find a significant relationship between either treatment or motive congruence and positive outlook. At first glance, the absent relationship between motive congruence and positive outlook contradicts existing research. However, researchers have also

stipulated that the effect of congruence on well-being may be contingent on goal attainability, with congruence between implicit needs and explicit needs only predicting more well-being if corresponding goals are formulated and successfully pursued (Schultheiss et al., 2008; Schultheiss, 2013). The experience of progress on self-congruent goals may thus be a stronger predictor of well-being than motive congruence per se. To observe greater impact on positive outlook variables, future studies should therefore complement the motive congruence approach that was used here with a measure of goal implementation.

Concluding remarks

Emotions may operate as signposts that guide cognition and behaviors in potentially functional ways, but unregulated negative affect is an unfavorable condition for navigating through demanding times. This study responds to the observation that the need for flexible emotion regulation has increased under ever-changing circumstances due to individuals' insufficient emotional self-regulation abilities, which often leaves them feeling incongruent.

By drawing on PSI theory, we not only place emotion regulation at the core of navigating demanding times, such as transitions, but also claim that individuals need to access their "implicit selves" to effectively regulate emotion. The implicit self is key because it represents a network of needs, values, interests, and strengths that guide the exploration of individuals' future and vocational decisions. When people learn to engage the implicit self, they can not only construct their careers on the path from education to work but also strengthen their ability to master emotional situations. Challenging times demand both conscious, effortful, cognition-oriented forms of emotion regulation and person-oriented, intuitive, and self-accepting forms of emotion regulation (Baumann et al., 2018).

Those of our informants who showed greater emotion regulation used emotion regulation strategies conjointly and relied on various regulation strategies to alter their emotions beyond cognitive reappraisal, including noticing congruence and incongruence, intuitive action, and

empathic inquiry and emotion sharing. Researchers and practitioners can create and validate interventions designed to elicit the implicit self and thereby foster transitioning with both greater flexibility in dealing with emotional challenges and higher congruence with self-relevant parameters.

By adopting a perspective that is integrative of the social context, we show how students' collective efforts to provide each other with emotion regulation support can lead to the reduction of an implicit but immensely harmful, noncompassionate climate of competition and comparison which constrains their self-access and thus their emotional progression in transitions. This is where this work advanced new propositions. On the basis of our mixed-methods results, we conclude that both individual and shared, collective practices are relevant to gaining access to the self and that the identification of factors that elicit the implicit self as an emotion regulation resource in transitions continues to be an important avenue for future research.

APPENDICES

APPENDIX A: Tensions experienced in transitions (codes and representative quotes)

Tensions experienced during pervasive negative emotionality in transitions

Second-Order Codes	First Order Codes	Representative Quotes
In-congruence between self and context	Dominance of career norms over passions	*„After studying at that university for so many years, I actively have to remind myself that I live in a bubble and that we were taught to put our career first way too much. I was taught to always be efficient and do something productive, while in reality it's ok to not be once in a while. In my opinion, it's the hardest to break out off and unblock. It took me a while to understand what the culture at university is but also to realize that not everyone thinks and lives like that. How might I decrease the feeling of having to adjust myself to the culture considering the life choices I make?"* (Informant 24, AG, High Positivity Ratio)
		„It was very tough to think about my future work. To be honest, I can not even have any idea of how I will work in this rapidly changing world. When I was little, my dream was crazier and more creative, but now my dream is too realistic. Therefore, I need to think my future more freely and creatively like a child. Part of me think much of money, reputation, and social status. Because of this, sometimes I miss my true passion. For being myself, I need to stay away from the too realistic world." (Informant 18, DH, High Positivity Ratio)
	Culture of comparison and peer pressure rendering transitioning a „lonely	*"Very often I realize, that the conversations I have with people I meet at the University are restricted to the same topic (questions about grades and future job opportunities) and I find myself getting stuck on the topic. Instead of showing true interest and learning from the person, I simply compare the person with my own professional situation. In retrospect, I often think why I didn't change the conversation to more personal life situations. The culture of comparison often shapes the communication structure and increasingly pushes questions of life in the background. In the end, I live in a comparative culture, talking a lot of time about academic and professional success…Instead of compassion and empathy, negative*

Tensions experienced during pervasive negative emotionality in transitions

Second-Order Codes	First Order Codes	Representative Quotes
	pro-cess“	*feelings as jealousy and insecurity come up which hinder me to show real interest in the person.“* (Informant 19, DE, High Positivity Ratio)
		“Today I had a conversation with a colleague about the future, what we were going to do after the master, jobs and life in general. Now I have a strange feeling. Before the conversation, I thought that I would first take some time off, think about what is important to me in life, what I enjoy doing, which jobs I want to look for and then apply specifically to them. But after our talk, I suddenly felt completely under pressure. She had started to apply for jobs three months ago and now she already has a job offer. Although she hasn't said it in words, I have the feeling that it is not okay the way I want to do it. Just doing nothing and then having a gap in the CV is not something that makes a good impression.” (Informant 30, AS, Low Positivity Ratio)
		"In the group it was interesting to exchange ideas with my teammates as we were all shortly before our thirties. We all agreed that finding the right place for oneself it is a big topic for us and amongst our friends. All three being searchers the question was raised whether those people that go a straight way have the second thoughts later in life, as currently they are probably to busy with their career/families etc. Also we discussed on the meaning of a loneliness in this process. All of us agreed that even when opening up to other people we all feel that it is per definition a lonely process as no one else can take the decisions and actions related with it away from you.“ (Informant 4, TS, High Positivity Ratio)

Tensions experienced during pervasive negative emotionality in transitions

Second-Order Codes	First Order Codes	Representative Quotes
		„The transition from study to professional life raises many identification questions. Social bonds give me strength and trust in my person in this phase. …. Togetherness, discovery and leadership seem to be aspects of life which are very important to me. I have a clear idea of the values that make a group feel that they belong together. …My value system is strongly connected to the desire to be able to actively shape the social environment I live in.“ But at the same time: *„Instead of compassion and empathy, negative feelings as jealousy and insecurity come up which hinder me to show real interest in the person.“ (*Informant 19, DE, High Positivity Ratio)
In-congruence within the self through competing tendencies	Search for authenticity vs. Fear of Judgement	*"Probably for peer pressure or a competitive spirit, I started to do what literally everybody else was doing, applying for investment banking and consulting. Eventually, I managed to secure an internship in the industry, but I really started to reflect and question this choice only recently. I found crazy that I was so desperate to find a position in a job that I did not even know existed a few weeks before.“* (Informant 33, GB, Low Positivity Ratio) *„My value system has certainly been strongly influenced by the university context, in which academic achievements are very strongly weighted and there is very little room for authenticity.“* (Informant 19, DE, High Positivity Ratio) *„What blocks me stems from fearing the others' judgement. I feel like I am not the only caught in this trap, but sometimes it feels like we act in order to meet others' expectations rather than to really work for our own self-being and to meet our own expectations. There is a sort of pressure that pushes up to shape our lives around some preconfigured idea of how we should look like, how we should act in different circumstances and what we should think. Indeed, you can only feel at your best when authenticity is in play. Yet we live in a society which is highly judgmental, and this is why I believe you can really feel at your best with family and close friends, or even by yourself.“* (Informant 33, GB, Low Positivity Ratio)

Tensions experienced during pervasive negative emotionality in transitions

Second-Order Codes	First Order Codes	Representative Quotes
	Search for Accomplishment vs. Fear of Failure	*„I thought a lot about my future; which job I wanted to try and what master I wanted to do afterwards. Deeper questions such as what I want to achieve in life or what makes me happy came to my mind as well. I was struggling to find answers to those questions.“* (Informant 37, JB, High Positivity Ratio)
		“I cannot make progress with present problems or decisions because I am too busy worrying about the implications of these issues and how they could affect my plans for the future. When I experienced this, I felt scared on the one hand and unprepared on the other hand, which was quite painful.” (Informant 27, VF, Low Positivity Ratio)
		„When I think about finances and work, I am gained by depressing feelings. I feel under a survival threatening pressure that I picture as a giant shoe crushing me, while trying to escape it.“ (Informant 43, NT, Low Positivity Ratio)
	Need for differentiation vs. Fear of Exposure and losing belongingness	*„Without my supportive environment I would not have been able to complete my studies that easily. Furthermore, my positive thoughts, which are created through the positive feedback from my environment, contributed to the fact that I started studying and not working.“* But at the same time: *„I also had concerns about what others might think of me..To be honest, at first, I was very afraid about opening up to complete strangers and talking about myself“* (Informant 11, NW, High Positivity Ratio)
Emotion regulation difficulties	Hesitation instead of self-motivation	*„Today, I felt especially sad and also a little bit angry at myself because of one block that remains consistent in my daily life. For about two years now, I started to become very uncertain about what my future would look like. I do not know which future profession I should choose. This made me hesitate a lot for the choice of my master as well, as I think that the master is only a pathway to the future job one does*

Tensions experienced during pervasive negative emotionality in transitions

Second-Order Codes	First Order Codes	Representative Quotes
		wish for. This fear of the unknown paralyses me in my daily life. It ruins my motivation and my creativity for the day when I experience it. It is an emotional block: fear of failure.“ (Informant 21, AD, High Positivity Ratio)
	Rumination instead of self-relaxation	*„Another thing I noticed is, that in many situations, especially when I’m stressed, things are not going the right way or when I’m triggered in an emotional way, I start to talk to myself in a negative way. Those negative thoughts then usually don’t stop and start a negative thought loop, that’s getting worse and worse.“* (Informant 31, JS, High Positivity Ratio)

APPENDIX B: Emotion regulation strategies in transitions associated with Design Thinking (codes and representative quotes)

Emotion Regulation Practices associated with Design Thinking

Second-Order	First Order Codes	
Noticing	Attention towards (positive and negative) self-aspects for holistic self-perception	*„A negative part can always be balanced by something positive, or at least that is my idea.… If we think and act like this, it helps us to see life in a more positive way. It is the whole package that makes us who we are.“* (Informant 11, NW, High Positivity Ratio)
		„In our life there are an infinite number of factors that affect us both positively and negatively, but I think that in order to design our life and along with that to be able to reach our final state of peace and happiness, I decided that I had to look for the elements that would positively affect our development. I think about what environment brings out the best in me and what behaviors represent me best as an employee. Above all, I am a team player and have great strength in being socially intelligent. I also always stay curious as well as include various points of views to make up my own mind.“ (Informant 1, CDS, High Positivity Ratio)
		You should really start to question why you want something and arrive at the deep root causes of a problem or opportunity. In this case having a group of critic listener can be of great help. A good starting point to change is to know ourselves. This is why is fundamental to have a deep understanding of our character, our strength, our weaknesses, what we are grateful for and our blocks.“ (Informant 33, GB, Low Positivity Ratio)

Emotion Regulation Practices associated with Design Thinking

Second-Order	First Order Codes	
	Noticing incongruence through non-judgmental self-inquiry	*„I saw a job posting, and although I rationally thought I had all the necessary qualifications, I did not want to apply because I thought I was not good enough for the job. While reflecting on these blockages I wondered how different my life would be or how I would feel if I did not have these blocks. I feel that when I ask myself these questions, I am more inclined to identify such blocks when they come up and also tell myself to not believe them.“* (Informant 32, RA, High Positivity Ratio)
		„It helps you to catch your mind having distracting thoughts, recognizing them and pulling your mind back into the now. Just realizing in the evening, that you've had negative self-talk, is too late, you have to catch those thoughts as soon as they are popping up, stop them and therefore prevent the loop of negative self-talk before giving it a chance.“ (Informant 31, JS, High Positivity Ratio)

Emotion Regulation Practices associated with Design Thinking

Second-Order	First Order Codes	
Cognitive reappraisal	Reappraisal of the unfortunate situation	*„It provides such a psychological relief if you stop losing your mind over things or occurrences over which you have zero control. There are countless things in life, which we cannot immediately steer and to me personally it helps extraordinarily much to stay aware of this lack of control. It is thus not about running through life without purpose or caring but rather about being selective as to where I want to invest my mental energy and where it proves to be useful.“* (Informant 15, DL, Low Positivity Ratio)
		„I always used to think that everything is about winning and losing, and when something went wrong, I had many negative thoughts thinking that everything was lost. And changing this mindset helped in many ways, because the growth mindset did really help me grow, I learned how to learn with my mistakes, situations or plans that go wrong. That gave more maturity to deal with problems in life, in a way that I also improved my emotional intelligence.“ (Informant 20, EF, Low Positivity Ratio)
		„It provides such a psychological relief if you stop losing your mind over things or occurrences over which you have zero control. There are countless things in life, which we cannot immediately steer and to me personally it helps extraordinarily much to stay aware of this lack of control. It is thus not about running through life without purpose or caring but rather about being selective as to where I want to invest my mental energy and where it proves to be useful.“ (Informant 15, DL, Low Positivity Ratio)

Emotion Regulation Practices associated with Design Thinking

Second-Order	First Order Codes	
	Reappraisal of the goal	*„When I prepare for job interviews, I always bear in mind to redefine success as being able to conduct the interview to the best of my abilities, rather than relating it strictly to me getting the job.“* (Informant 25, FF, Low Positivity Ratio)
		„Therefore, I should be more kind towards myself and accept that at certain times I cannot deliver as much as I may wish.“ (Informant 8, SL, Low Positivity Ratio)
		„Only now I am starting to realize that it is not always about grades and university diploma but about personality and character. I believe that my past years, which have not always been easy in terms of self-doubt, have actually helped me in becoming the person I am at the moment.“ (Informant 7, SB, High Positivity Ratio)
	Reappraisal of future-expectancy by embracing the emergent character of the process	*„I don't want to give the impression that the uncertainty and negativity about my future disappears, because this is not the case. I still struggle to visualize my future work self, and more broadly the future itself, but now I see someone that has been able to make his background in finance and economics relevant for the field of renewables and ecology. I am not able to say how, when and if it will happen. I am no longer focused on the end goal. I am concentrating on the process instead. In other words, I am prototyping. I have taken action by jumping from the least effort/time intensive prototyping (desk research) to the most intensive. I have recently applied for an internship at….I am still waiting for an answer and I have my fingers crossed.“* (Informant 25, FF, Low Positivity Ratio)

Emotion Regulation Practices associated with Design Thinking

Second-Order	First Order Codes	
	Reappraisal of future-expectancy by embracing the emergent character of the process	*„The keyword here is patience, which is something that most of us tend to forget, especially in a social context that emphasizes instant gratification. As I will focus on the process of designing my life, rather than the end goal, I will make mistakes, I will throw away some prototypes, but I am confident that some amazing ideas will also emerge from failure and chaos. This once again reflects the Design thinking idea of playing around with ideas and projects, not following any direction but generating one.“* (Informant 25, FF, Low Positivity Ratio)
		"I have a choice how I want to perceive my environment and the people I interact with. If I can build up confidence to tackle and solve obstacles, I have a great potential to experience life in its fullness. Whatever comes, I can handle it. In summary, I believe my future will be positive. A future that allows me to bring my personality to any workplace. But also, a future that requires me to remain adaptable and not to assume a linear career development.“ (Informant 15, DL, Low Positivity Ratio)
		„I mean, even though I always try to do the right thing, sometimes after doing it, I feel that it was not the best decision and that is okay. When after each experience or after pursuing a new idea, I empathize with myself and am curious about what I have learned and how I will continue from that experience, then suddenly no experience seems to be wasted. Besides, the pressure eases and life seems to be more pleasant, because I think you only know what you want when you have experienced it. It also makes you more authentic when you know yourself better and follow up on it.“ (Informant 32, RA, High Positivity Ratio)

Emotion Regulation Practices associated with Design Thinking

Second-Order	First Order Codes	
	Reappraisal of future-expectancy by embracing the emergent character of the process	*„I know now that finding the right path will be a continuous process, and I won't know overnight. Becoming more aware of how I can tackle my various interests and that there need not be an "immediate cut" if I feel that I did not end up in the right field or position, has helped me in a terrific way to be less insecure and anxious about my future. The course has erased my thinking that I must know my path straight away. It is okay if try various things out and prototype my way through different interests of mine. To conclude, I am significantly more optimistic about my future and excited about the steps and experiences that will follow."* (Informant 15, DL, Low Positivity Ratio)

Emotion Regulation Practices associated with Design Thinking

Second-Order	First Order Codes	
Intuitive action	Selecting Environments	*„I see myself in a position that I like, in the area of my preference and with an environment nice, chill and relaxed, I cannot with stressful environments and a lot of work throughout the day. I think this is also related*
	Turning thoughts into tangible prototypes	*„I focused on several fragments or conditions that I would like to incorporate in my future but the overall picture is still not completely visible to me. After having finished the class I am convinced that even though I still have not a fully visible image of myself in the future, I have learned how to prototype my way towards this image and to make it tangible…. In fact, I am looking forward to a short telephone interview with a woman that I found on LinkedIn. She took a career path that I am interested in as well. The class motivated me to actually go out of my way and simply ask people if they are interested in sharing their story.“* (Informant 5, KH, High Positivity Ratio)
		„I realized that I am a person that needs to act, and to do things with a tangible and visible feedback to my work. The clearer the feedback the more satisfaction I can get.“ (Informant 4, TS, High Positivity Ratio)
		„After each experience or after pursuing a new idea, I empathize with myself and am curious about what I have learned and how I will continue from that experience, then suddenly no experience seems to be wasted. Besides, the pressure eases and life seems to be more pleasant, because I think you only know what you want when you have experienced it. It also makes you more authentic when you know yourself better and follow up on it.“ (Informant 32, RA, High Positivity Ratio)

Emotion Regulation Practices associated with Design Thinking

Second-Order	First Order Codes	
	Turning towards others without judgement and expectations	*„I still had not found a job that I could see myself doing in the long term. That is why, when I was presented with the same question in class, I gave an honest, three-words, answer: "I don't know". As I think about that question today though, after having gone through the course, I am quite surprised to find myself giving a very different answer. In particular, what I have learned from this intervention is the power of team work, of radical collaboration and the awareness that I am not alone. Opening up to other people's ideas, sharing my story, acknowledging where I was starting from, and letting other people contribute to my life design process has allowed me to get unstuck by coming up with a clearer pathway to build for my future….the best ideas come from working with a supportive community, recognizing that it is other people's inputs that will take you to the next level."* (Informant 25, FF, Low Positivity Ratio)
		„I tried to trigger as many dialogs with other people as possible that provided me with a more clear vision of what job field I want to work in the future… I had very lovable and deep conversations with my friends…I found that taking the time to talk about ourselves in a positive, appreciative and honest manner enhanced our friendships even more…" (Informant 5, KH, High Positivity Ratio)
		„Especially since I would consider myself more of an introverted person that likes to deal with conflicts on my own, I felt comfortable to share a part of me. In fact, I left behind any expectations that usually accompany collaborative group settings such as peer pressure, e.g. having to provide the best story." (Informant 5, KH, High Positivity Ratio)

Emotion Regulation Practices associated with Design Thinking

Second-Order	First Order Codes	
	Turning towards others without judgement and expectations	*„However, through this course I realized how much more fun and liberating (also because the ability to work on a team is one of my character strengths) it is when experiences are shared. It showed me that we all have our own struggles. Besides, I believe that to achieve the most, you have to take feedback, accept it, adapt and move forward.“* (Informant 32, RA, High Positivity Ratio)
		„When I meet people, I tend to present myself quite often under a good mood and consequently people have a hard time picking out the intense focus, or rather my worry for a particular topic. This results in, people thinking that I am very much convinced, and self-confident in whatever I say. Moving on, I would like to improve this side of my personality and share more my concerns and anxiety whenever I can in order to “use” the group power in alleviating the issues we are facing together.“ (Informant 34, SE, High Positivity Ratio)

Emotion Regulation Practices associated with Design Thinking

Second-Order	First Order Codes	
Empathy and Emotion Sharing	Empathic Inquiry	*„My colleagues started to talk about their special moment and I got more confident from time to time because I recognized that they really enjoyed answering all my questions…After some time, I was really looking forward until it was my turn to tell my story and answer all their questions.“* (Informant 11, NW, High Positivity Ratio) *„By adopting non-judgmental thinking in this class, I was able to interact with other people without the prejudice and absorb new knowledge and ideas easier.“*(Informant 16, YK, Low Positivity Ratio) *„Listening to someone else's story helped me understanding my own story in terms of interest, values and skills better as well, because I could analyze it form an objective perspective and therefore see how I should analyze my own story. I could apply this on several different moments of my life now and it is easier for me to figure out what really is important to me.“* (Informant 44, RV, Low Positivity Ratio)

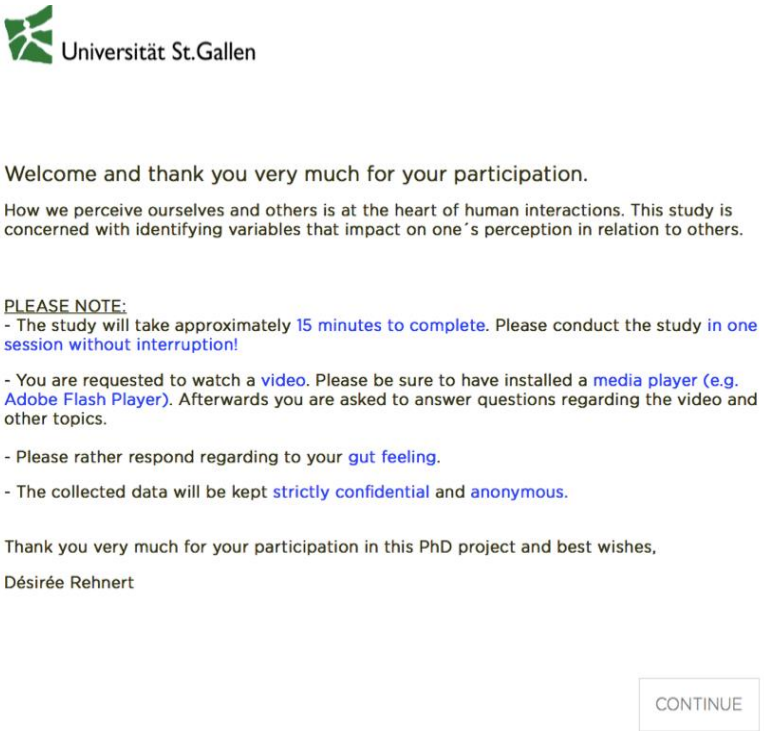
Emotion Regulation Practices associated with Design Thinking

Second-Order	First Order Codes	
	Emotion sharing	*„That day when l talked about this story I cried, same as when I was writing this reflection. Not only cried for the memorable moment, but also for that day I face my fear and a miracle happened.“*(Informant 17, KL, Low Positivity Ratio)
		„At the beginning when I told my story, my heart was beating very hard, I was getting the best of myself towards two unknown people and my nerves, my anxiety and my pride were feelings that appeared and left at all times. I could not even look at the faces of my colleagues because I was afraid not to receive the faces that I was imagining in my head (of admiration or curiosity). To tell the truth, I did not have a good time in those minutes. Then when I finished telling, there was a silence between them as of who started with the feedback and I really felt that it was going to explode, I could not deal with the anxiety of knowing what they were going to tell me and at the same time with fear of what they would tell me. Finally everything in my body calmed down and the feedback I received was quite as I expected, but the whole process was really challenging.“ (Informant 1, CDS, High Positivity Ratio)

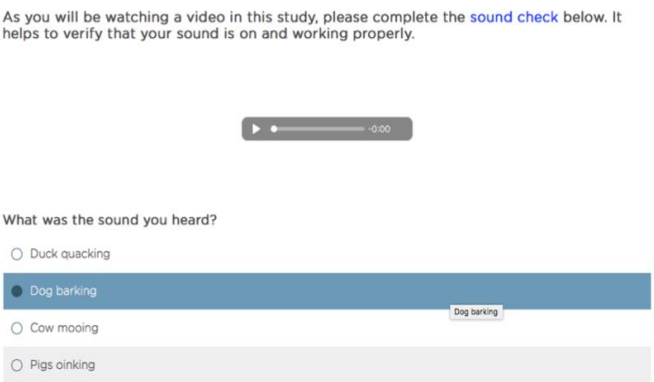
Emotion Regulation Practices associated with Design Thinking

Second-Order	First Order Codes	
	Emotion sharing	*„I felt very stuck. I felt blocked to think about a situation where I felt best and I tried to find out something big. But after I sat down with the team, that changed. I teamed up with a German girl and a Spanish boy. The German girl was the friend of a friend and I knew her by sight, but she always seemed very tough and unapproachable to me. However, when she started to tell her story and the Spanish boy and I tried to create a space of psychological security, there was a change. Suddenly I felt very vulnerable and very touched by her story. It changed the way I perceived her, and it felt really liberating. What happened next was somehow magical (I can't find a better word to describe it). The Spanish boy told us that he had planned to tell a different story, but now he wanted to tell a more personal one, because he felt safe in our group. I was the last one to tell the story and I also felt very safe and comfortable in sharing my story. Having the opportunity to talk about things that are valuable and that are meaningful is quite rare.“* (Informant 32, RA, High Positivity Ratio)

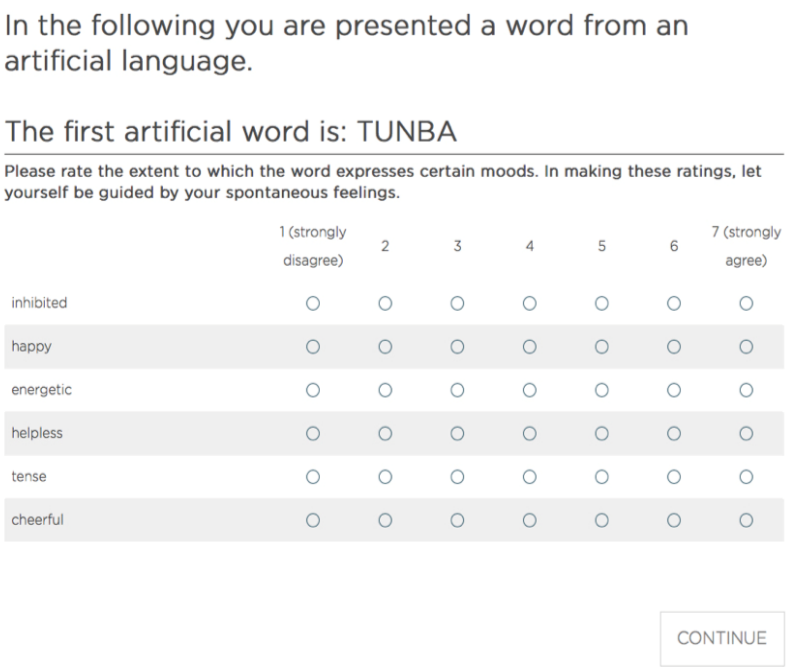
APPENDIX C: Online Experiment



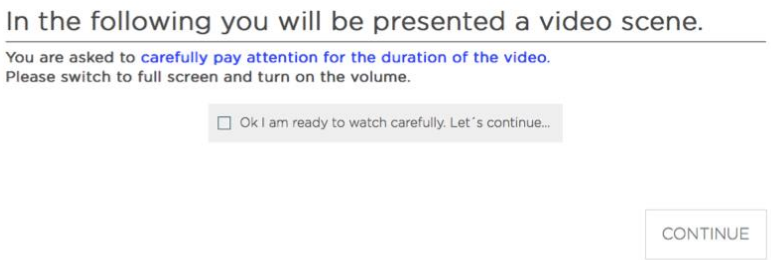
Page 1: Welcoming and thanking the participant. An objective of the study is given, intendedly in simple and superficial words: “The study is concerned with identifying variables that impact on one´s perception in relation to others”, so that the participant is not influenced.



Page 2: Sound check. The participant listens to a sound file and then has to correctly choose the identified sound from the list. If the participant´s choice is a wrong, the experimenter excludes the participant from the study.

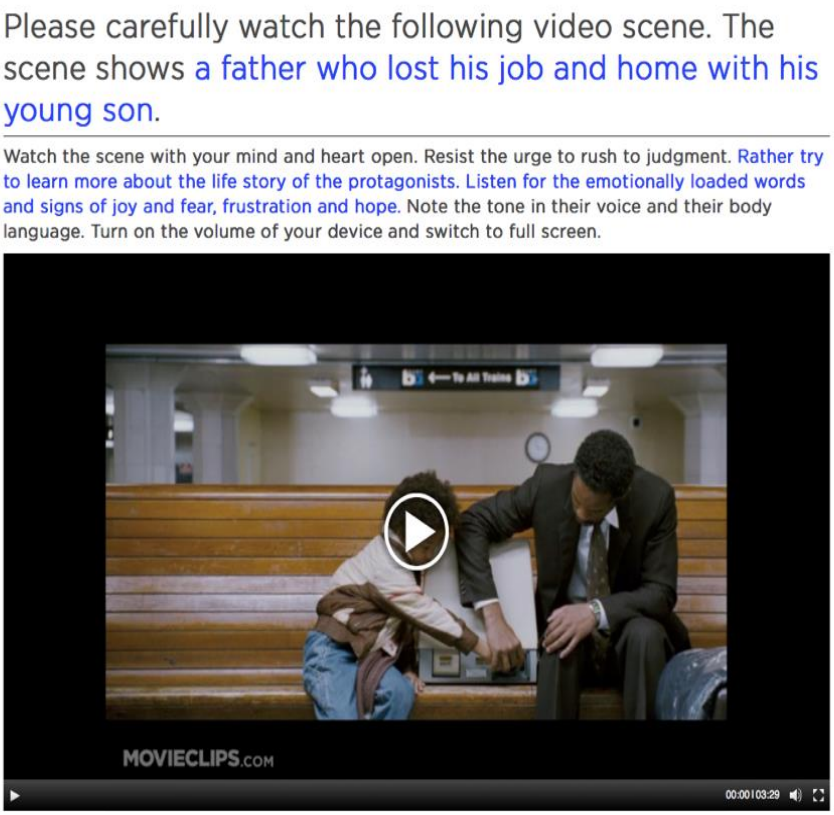


Page 3: The IPANAT (Quirin, Kazén & Kuhl, 2009) was administered which measures implicit affect by asking respondents to rate to what extent an artificial word is associated with spontaneous feelings. As the selection of words is tested to be emotionally neutral, the respondent´s answers can be considered a projection of her or his actual emotional state. From this measurement, the researcher deducted the respondent´s baseline positive and negative affect. The adjectives happy, energetic and cheerful were indicative of positive affect, whereas inhibited, helpless and

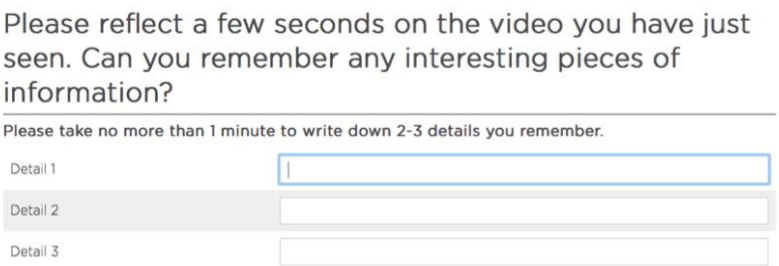


Page 4: The participant´s commitment to watching the following video scene is checked.

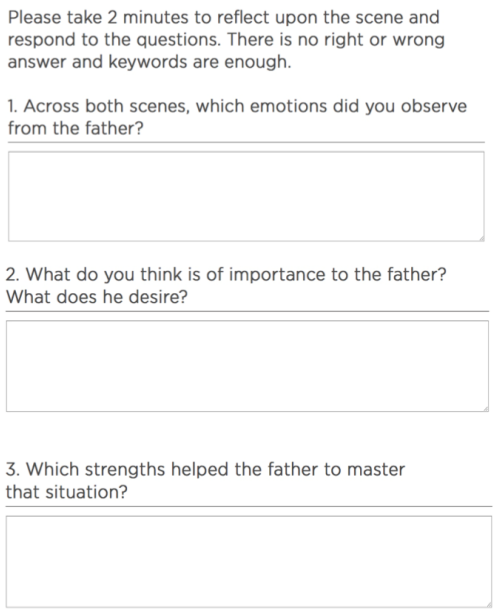
Page 5a: In the control condition, the participant is presented a neutral affect nature scene which lasts for two minutes. The participant is not able to click the "Continue"-Button unless 90 percent of the video has been watched.



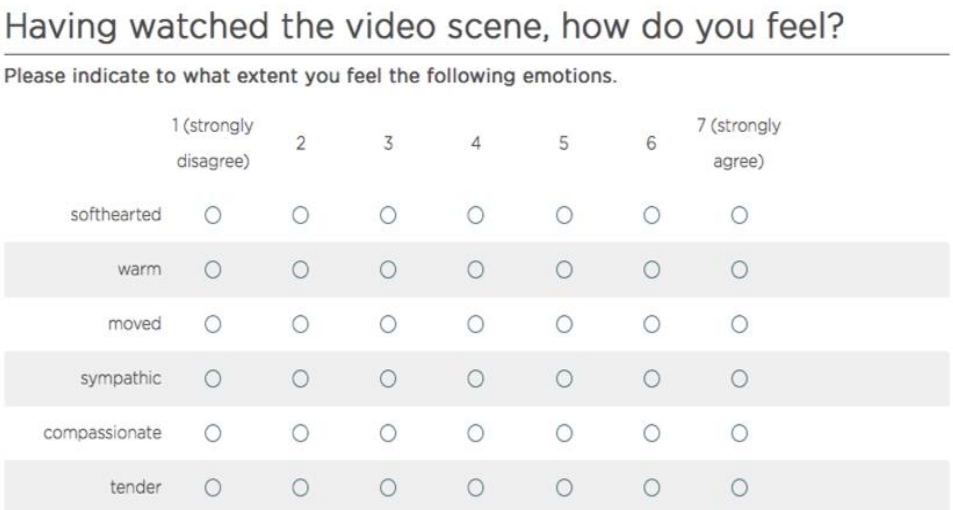
Page 5b: In the experimental condition, the participant is presented a 3.5min long video which is supposed to elicit empathic concern. The instruction prompts the participants to carefully listen with his or her mind and heart open (see instruction above). The participant is not able to click the "Continue"-Button unless 90 percent of the video has been watched.



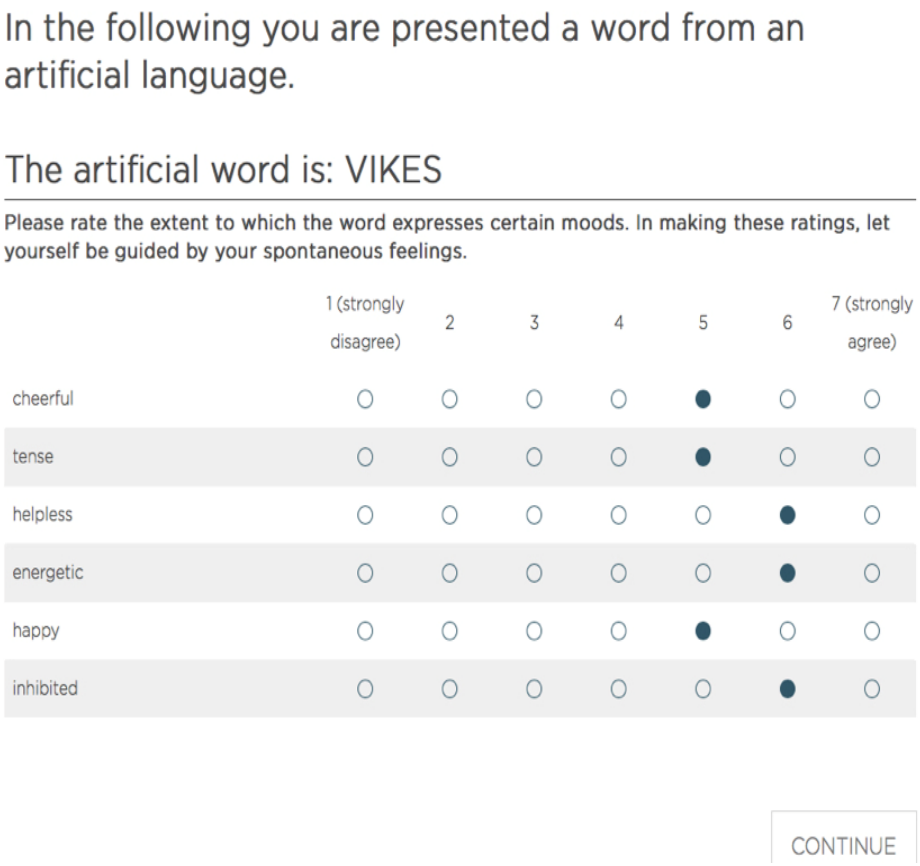
Page 6a: In the control condition, the participant is asked to recall details from the nature video. The content of the answers to the question are not of interest to the research. This is just to make sure the participant has watched the scene. If no answers were provided, the researcher would have excluded the respondent from the study (in the data analysis phase).



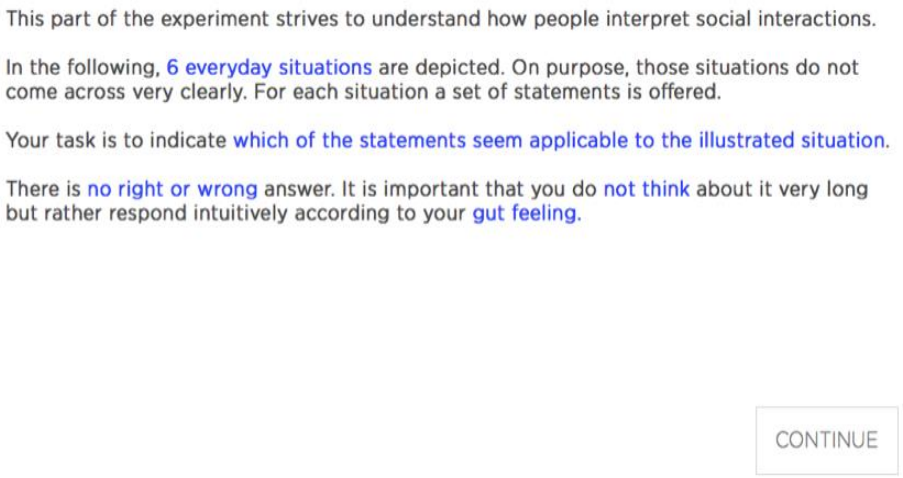
Page 6b: In the experimental condition, the participant is presented three inquiry questions. The first questions aim at putting the respondent in an empathic mode of inquiring the protagonist´s (father) feelings. The second question asks the participant to assume the protagonists` perspective and make up his or her mind about mental states of the father. The third question is directed towards appreciably inquiring positive mental resources of the protagonists. The researcher developed those questions by herself upon the basis of her understanding of empathic, appreciative inquiry of another person`s situation and feelings.



Page 7: After having watched the video scene, the respondent was asked to indicate to what extent specific empathy related emotions were triggered. The applied scale measures empathic concern (Coke, Batson & McDavis, 1978).



Page 8: The IPANAT (Quirin, Kazén & Kuhl, 2009) was administered for a second time. Same as for the first time in this experiment, it measured implicit affect by asking the respondent to rate to what extent an artificial word is associated with spontaneous feelings. From this measurement, the researcher deducted the respondent´s positive and negative affect after the treatment to check whether empathically inquiring another person`s feelings changes a persons´ affective states, as compared to a neutral affect condition. Again, the adjectives happy, energetic and cheerful were indicative of positive affect, whereas inhibited, helpless and tense demonstrated negative affect.
Note: As the selection of words is tested to be emotionally neutral, the respondents´ answers can be considered a projection of their actual emotional state.



Page 9: This page introduces the next part of the experiment which is the measurement of implicit motives with the Multi-Motive-Grid (MMG, Sokolowski, Schmalt, Langens, & Puca, 2000). As this is a semi-projective procedure potentially irritating the participant, a brief description of the objective and procedure within the next chapter of the experiment is given. Here, the participant is informant that 6 every day scenarios will be presented and that those situations may on purpose not come across very clearly. Sokolowski and colleagues (2000) used the same instructions.

Which of the following statements applies to the situation illustrated in the picture?

Please indicate your answer by selecting "yes" or "no".

	yes	no
Feeling good about one's competence.	☐	☐
Feeling good about meeting other people.	☐	☐
Feeling confident to succeed at this task.	☐	☐

Page 10: In random order, the respondent is presented scenarios and corresponding items, both from the Multi-Motive-Grid (MMG, Sokolowski, Schmalt, Langens, & Puca, 2000). The respondent is asked to indicate by selecting “yes” or “no” whether the various statements apply to the ambiguous situation illustrated in the picture. Indicative of hope for success are the items “Feeling good about one´s competence” and “Feeling confident to succeed at this task”. Whereas some items always belong to either one or both subdimensions of need for achievement (which are hope for success and fear of failure), the list of items offered to the respondent additionally includes items from other need dimensions such as need for affiliation which serve as filler items (e.g., feeling good about meeting other people). Including filler items contributes to leaving the participant blind to the variable that is implicitly measured as intended by the MMG researchers (Sokolowski et al., 2000).

Which of the following statements applies to the situation illustrated in the picture?

Please indicate your answer by selecting "yes" or "no".

	yes	no
Hoping to get in touch with other people.	☐	☐
Being afraid of being overpowered by other people.	☐	☐
Thinking about lacking abilities at this task.	☐	☐
Wanting to postpone a difficult task for a while.	☐	☐

Page 11: In random order, the respondent is presented scenarios and corresponding items, both from the Multi-Motive-Grid (MMG, Sokolowski, Schmalt, Langens, & Puca, 2000). The respondent is asked to indicate by selecting "yes" or "no" whether the various statements apply to the ambiguous situation illustrated in the picture. Indicative of fear of failure are the items "Thinking about lacking abilities at this task" and "Wanting to postpone a difficult task for a while". Whereas some items always belong to either one or both subdimensions of need for achievement (which are hope for success and fear of failure), the list of items offered to the respondent additionally includes items from other need dimensions such as need for affiliation and need for power which serve as filler items in this study (e.g., being afraid of being overpowered by other people and hoping to get in touch with others, respectively). Including filler items contributes to leaving the participant blind to the variable that is implicitly measured as intended by the MMG researchers (Sokolowski et al., 2000).

Which of the following statements applies to the situation illustrated in the picture?

Please indicate your answer by selecting "yes" or "no".

	yes	no
Wanting to postpone a difficult task for a while.	☐	☐
Feeling confident to succeed at this task.	☐	☐
Thinking about lacking abilities at this task.	☐	☐
Hoping to acquire a good standing.	☐	☐
Feeling good about one's competence.	☐	☐

Page 12: In random order, the respondent is presented scenarios and corresponding items, both from the Multi-Motive-Grid (MMG, Sokolowski, Schmalt, Langens, & Puca, 2000). The respondent is asked to indicate by selecting "yes" or "no" whether the various statements apply to the ambiguous situation illustrated in the picture. Indicative of the subdimension fear of failure are the items "Thinking about lacking abilities at this task" and "Wanting to postpone a difficult task for a while"; and the subdimension hope for success is measured by the items "Feeling confident to succeed at this task" and "Feeling good about one´s competence". The other item "Hoping to acquire a good standing" serves as filler item. Including filler items contributes to leaving the participant blind to the variable that is implicitly measured as intended by the MMG researchers (Sokolowski et al., 2000).

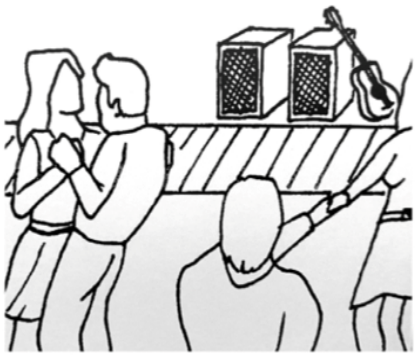
Which of the following statements applies to the situation illustrated in the picture?

Please indicate your answer by selecting "yes" or "no".

	yes	no
Feeling confident to succeed at this task.	☐	☐
Hoping to get in touch with other people.	☐	☐
Wanting to postpone a difficult task for a while.	☐	☐
Feeling good about one's competence.	☐	☐
Thinking about lacking abilities at this task.	☐	☐

Page 13: In random order, the respondent is presented scenarios and corresponding items, both from the Multi-Motive-Grid (MMG, Sokolowski, Schmalt, Langens, & Puca, 2000). The respondent is asked to indicate by selecting "yes" or "no" whether the various statements apply to the ambiguous situation illustrated in the picture. Indicative of the subdimension fear of failure are the items "Thinking about lacking abilities at this task" and "Wanting to postpone a difficult task for a while"; and the subdimension hope for success is measured by the items "Feeling confident to succeed at this task" and "Feeling good about one´s competence". The other item "Hoping to get in touch with other people" serves as filler item. Including filler items contributes to leaving the participant blind to the variable that is implicitly measured as intended by the MMG researchers (Sokolowski et al., 2000).

Which of the following statements applies to the situation illustrated in the picture?



Please indicate your answer by selecting "yes" or "no".

	yes	no
Anticipating to lose standing.	☐	☐
Feeling good about one's competence.	☐	☐
Being afraid of being overpowered by other people.	☐	☐
Feeling confident to succeed at this task.	☐	☐

Page 14: In random order, the respondent is presented scenarios and corresponding items, both from the Multi-Motive-Grid (MMG, Sokolowski, Schmalt, Langens, & Puca, 2000). The respondent is asked to indicate by selecting "yes" or "no" whether the various statements apply to the ambiguous situation illustrated in the picture. Indicative of the subdimension hope for success are the items "Feeling confident to succeed at this task" and "Feeling good about one´s competence". The other two items serve as filler item. Including filler items contributes to leaving the participant blind to the variable that is implicitly measured as intended by the MMG researchers (Sokolowski et al., 2000).

Which of the following statements applies to the situation illustrated in the picture?

Please indicate your answer by selecting "yes" or "no".

	yes	no
Thinking about lacking abilities at this task.	☐	☐
Feeling good about meeting other people.	☐	☐
Wanting to postpone a difficult task for a while.	☐	☐
Being afraid of being rejected by others.	☐	☐

Page 15: In random order, the respondent is presented scenarios and corresponding items, both from the Multi-Motive-Grid (MMG, Sokolowski, Schmalt, Langens, & Puca, 2000). The respondent is asked to indicate by selecting “yes” or “no” whether the various statements apply to the ambiguous situation illustrated in the picture. Indicative of the subdimension fear of failure are the items “Thinking about lacking abilities at this task” and “Wanting to postpone a difficult task for a while“. The other two items serve as filler item. Including filler items contributes to leaving the participant blind to the variable that is implicitly measured as intended by the MMG researchers (Sokolowski et al., 2000).

To what extent do the following statements describe you?

Please indicate your agreement to the statements.

	1 (strongly disagree)	2	3	4	5	6	7 (strongly agree)
I am attracted by tasks, in which I can test my abilities.	○	○	○	○	○	○	○
Even if nobody is watching, I feel quite anxious in new situations.	○	○	○	○	○	○	○
I feel uneasy to do something if I am not sure of succeeding.	○	○	○	○	○	○	○
If I do not understand a problem immediately I start feeling anxious.	○	○	○	○	○	○	○
Even if nobody would notice my failure, I'm afraid of tasks, which I'm not able to solve.	○	○	○	○	○	○	○
I am afraid of failing in somewhat difficult situations, when a lot depends on me.	○	○	○	○	○	○	○
I am appealed by situations allowing me to test my abilities.	○	○	○	○	○	○	○
I enjoy situations, in which I can make use of my abilities.	○	○	○	○	○	○	○
When I am confronted with a problem, which I can possibly solve, I am enticed to start working on it immediately.	○	○	○	○	○	○	○
I like situations, in which I can find out how capable I am.	○	○	○	○	○	○	○

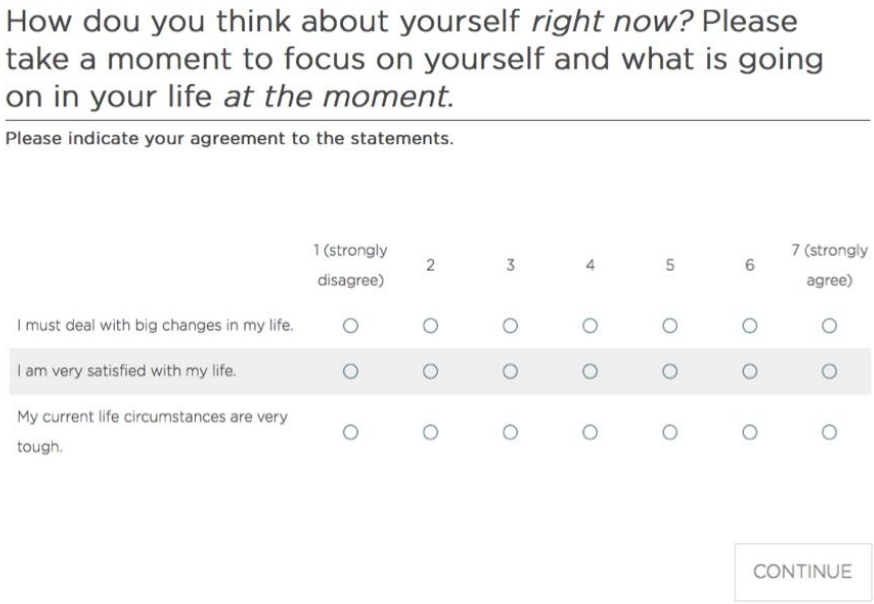
Page 16: Measuring explicit need for achievement, the respondent is asked to indicate the agreement to statements which represent items from the Revised Version of the Achievement Motives Scale (Lang & Fries, 2006).

How dou you think about yourself *right now?* Please take a moment to focus on yourself and what is going on in your life *at the moment.*

Please indicate your agreement to the statements.

	1 (strongly disagree)	2	3	4	5	6	7 (strongly agree)
Right now, I see myself as being pretty successful.	○	○	○	○	○	○	○
At the present time, I am energetically pursuing my goals.	○	○	○	○	○	○	○
There are lots of ways around any problem that I am facing now.	○	○	○	○	○	○	○
If I should find myself in a jam, I could think of many ways to get out of it.	○	○	○	○	○	○	○
I can think of many ways to reach my current goals.	○	○	○	○	○	○	○
At this time, I am meeting the goals that I have set for myself.	○	○	○	○	○	○	○

Page 17: Measuring hope, the respondent is asked to indicate the agreement to statements Adult Hope Scale by Snyder (1996).

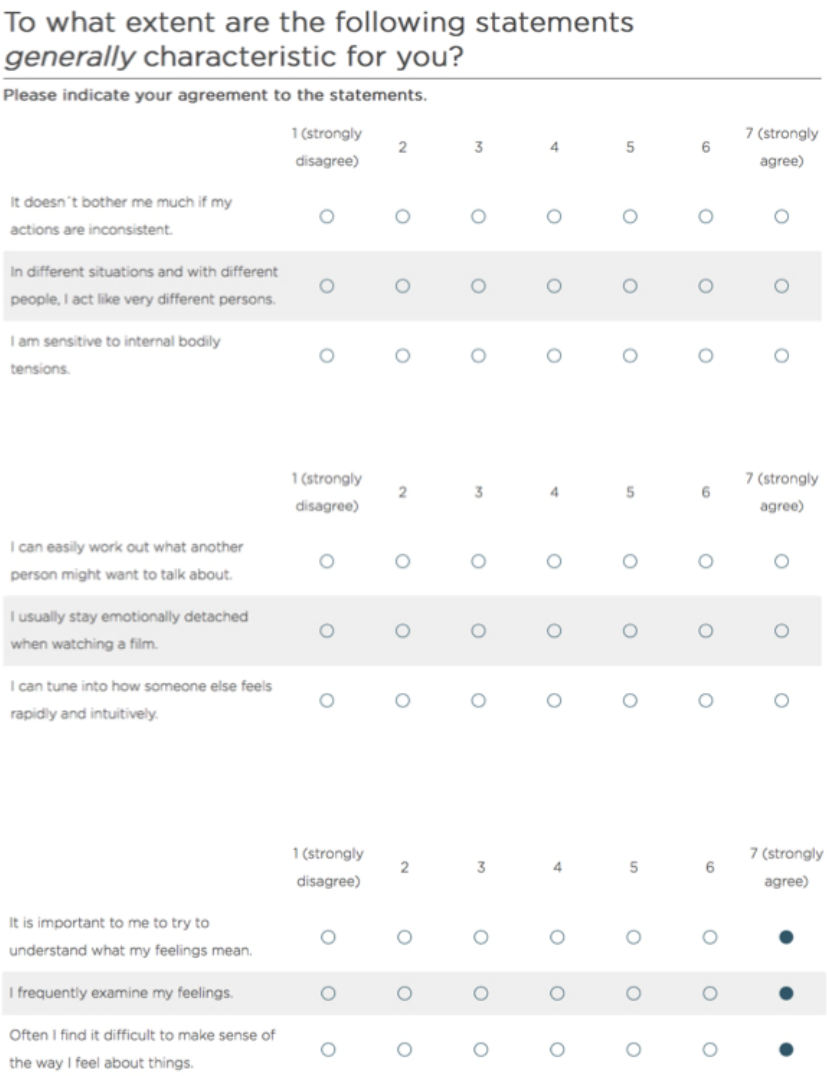

How dou you think about yourself *right now?* Please take a moment to focus on yourself and what is going on in your life *at the moment.*

Please indicate your agreement to the statements.

	1 (strongly disagree)	2	3	4	5	6	7 (strongly agree)
I must deal with big changes in my life.	○	○	○	○	○	○	○
I am very satisfied with my life.	○	○	○	○	○	○	○
My current life circumstances are very tough.	○	○	○	○	○	○	○

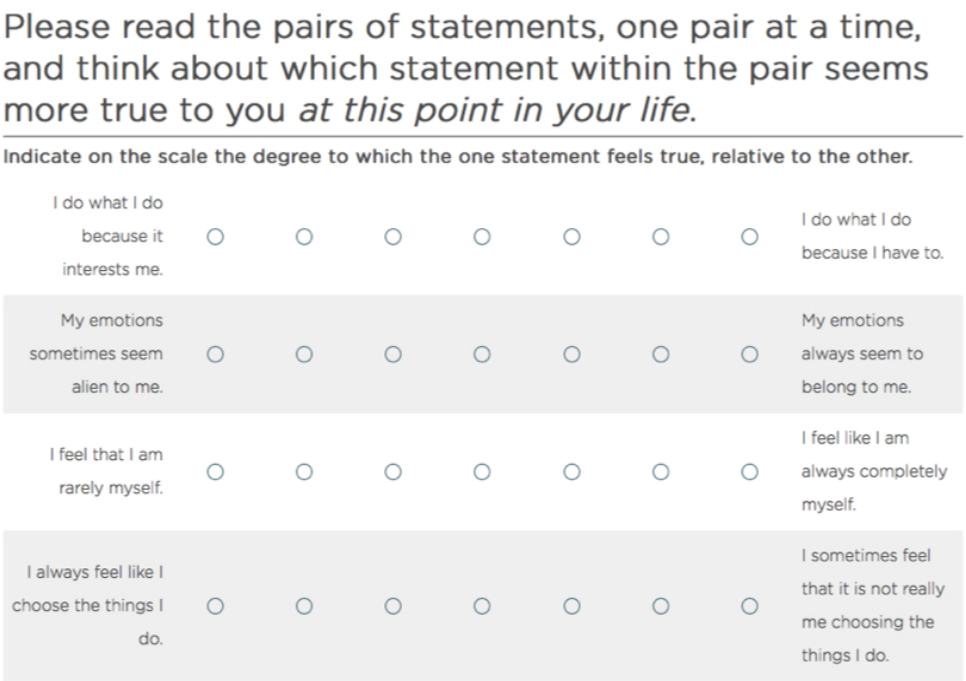
CONTINUE

Page 18: In random order, the respondent is asked to indicate the agreement to statements which measure current life demand and threats (see above item 1 and item 3) both from Life Stress scale as applied by Baumann, Kaschel & Kuhl (2005) and current life satisfaction by the second item (One-item Life Satisfaction by Diener, Emmons, Larsen & Griffin, 1985).

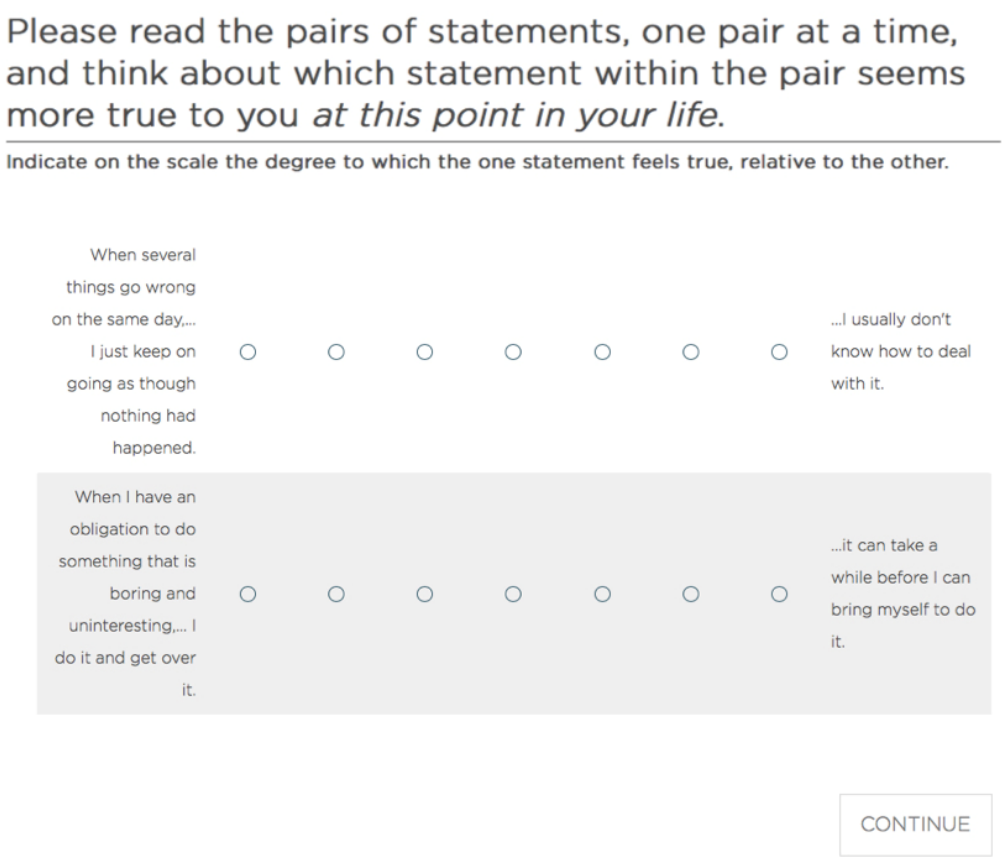


Page 19: In random order, the respondent is asked to indicate the agreement to three bundles of statements as illustrated above. First bundle: The reverse-coded item “It doesn´t bother me much if my actions are inconsistent.” measured the preference for consistency (PFC-B) by Cialdini, Trost and Newsom (1995). We measured Self-Monitoring with the scale developed by Gangestad and Snyder (2000) by the item “In different situations and with different people, I act like very different persons” and private body consciousness by applying Miller, Murphy, & Buss´scale (1981) by the item “I am sensitive to internal bodily tensions.” Second bundle: The items “I can tune into how someone else feels rapidly and intuitively.” and “I can easily work out what another person might want to talk about.” measure affective and cognitive empathy, respectively, as derived from the Empathy Scale by Baron-Cohen and Wheelwright, 2004. As our study entailed watching a video scene, we integrated a third reverse-coded from their scale: “I usually stay emotionally detached when watching a film.”

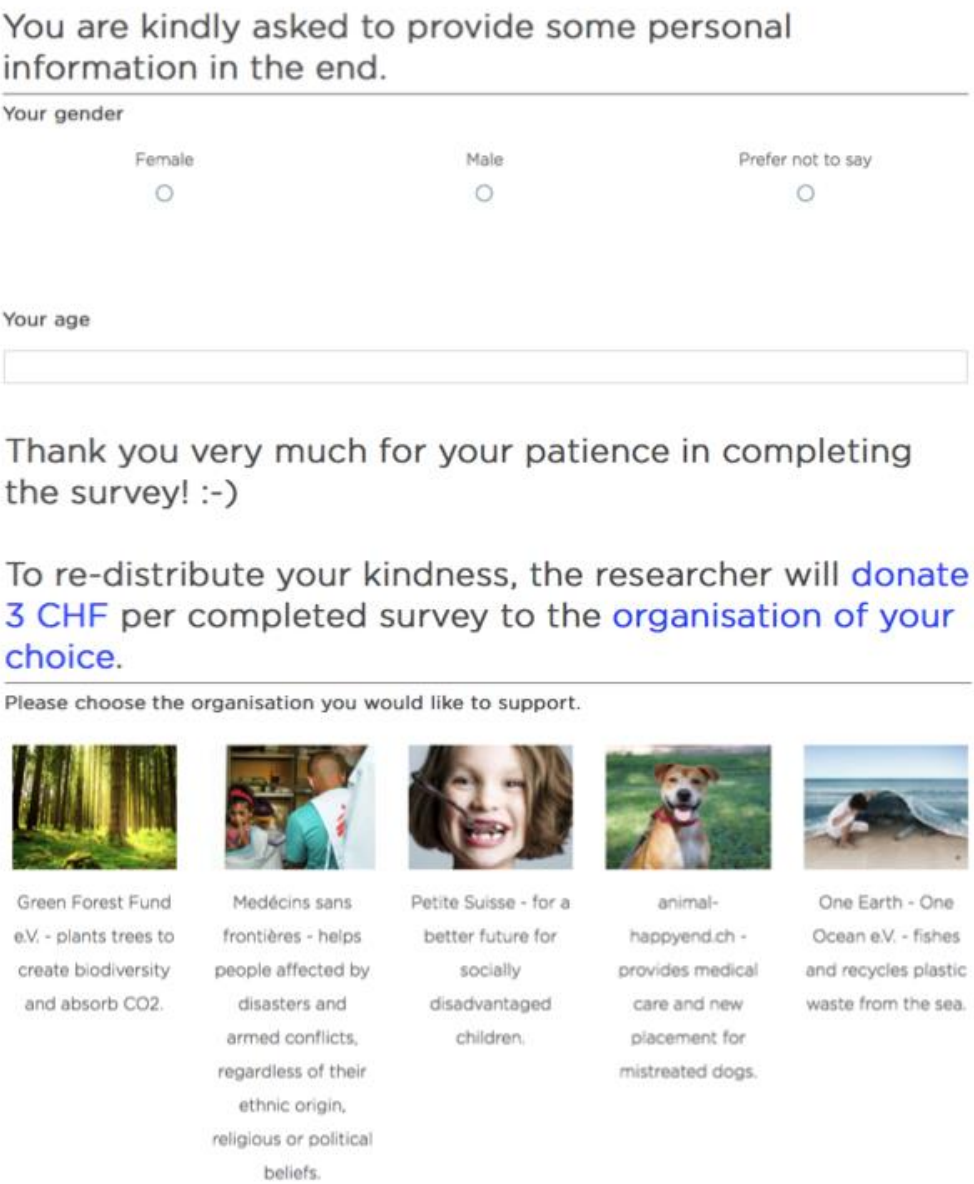
Third bundle: Those items belong to the Self-Reflection and Insight Scale (SRIS) with one item per subscale which are, in that sequence, Need for Self-reflection, Engagement in Self-reflection and Insight Grant, Franklin, Langford, 2002).: “It is important to me to try to understand what my feelings mean.“, “I frequently examine my feelings“, “Often I find it difficult to make sense of the way I feel about things“.



Page 20: The respondents were asked to read the pairs of statements, one pair at a time, and then to indicate to which extent one feels true relative to the other. Through this procedure we measure self-determination applying four items from the Perceived Choice and Awareness of Self Scale (PCASS) (Sheldon et al., 1996).



Page 21: Again, the respondents were asked to read the pairs of statements, one pair at a time, and then to indicate to which extent one feels true relative to the other. With those items, we controlled for Action orientation using two items of the Action Control Scale ACS (Kuhl, 1994). The further left the participant voted, the more action control it demonstrated.



Page 22: On this penultimate page of the online experiment, the respondent is asked to provide information on gender and age. Additionally, as the researcher donates 3 CHF per participant to a non-profit organization, the participant is asked to indicate which organization she or he wants to support. This applies

You are done!

Thank you so much! I really appreciate your participation!

If you have further questions or if you are interested in receiving details about my thesis, please send an email to desiree.rehnert@unisg.ch.

Best regards, and again thank you very much,

Désirée Rehnert

- You can close the page now -

Page 23 Final page expressing gratitude to the (voluntary) participants.

REFERENCES

Adams, G. R., & Marshall, S. K. (1996). A developmental social psychology of identity: Understanding the person-in-context. *Journal of adolescence*, 19(5), 429-442.

Aldao, A. (2013). The Future of Emotion Regulation Research. *Perspectives on Psychological Science*, 8, 155 - 172.

Aldao, A., & Nolen-Hoeksema, S. (2012). The influence of context on the implementation of adaptive emotion regulation strategies. *Behaviour research and therapy*, 50(7-8), 493-501.

Alvesson, M. (2003). Beyond neopositivists, romantics, and localists: A reflexive approach to interviews in organizational research. *Academy of management review*, 28(1), 13-33.

Amabile, T. M., Barsade, S. G., Mueller, J. S., & Staw, B. M. (2005). Affect and creativity at work. *Administrative Science Quarterly*, 50: 367-403

Andrews, P. W., & Thomson Jr, J. A. (2009). The bright side of being blue: Depression as an adaptation for analyzing complex problems. *Psychological review*, 116(3), 620.

Arnsten, A. F. (2009). Stress signalling pathways that impair prefrontal cortex structure and function. *Nature reviews neuroscience,* 10(6), 410-422.

Ashkanasy, N. M., & Humphrey, R. H. (2011). Current emotion research in organizational behavior. *Emotion review*, *3*(2), 214-224.

Bandura, A. (1989). Human agency in social cognitive theory. *American psychologist*, 44(9), 1175.

Barbot, B., Besançon, M., & Lubart, T. (2015). Creative potential in educational settings: Its nature, measure, and nurture. *Education 3-13*, *43*(4), 371-381.

Bargh, J. A., & Williams, L. E. (2007). On the Nonconscious of Emotion Regulation. In J. J. Gross (Ed.), *Handbook of Emotion Regulation* (pp. 429-445). New York: Guilford Press.

Baron-Cohen, S., & Wheelwright, S. (2004). The empathy quotient: an investigation of adults with Asperger syndrome or high functioning autism, and normal sex differences. *Journal of autism and developmental disorders*, 34(2), 163-175.

Barrett, F. J., & Fry, R. E. (2005). *Appreciative inquiry: A positive approach to building cooperative* capacity. Taos Institute Publications.

Barrett, L. F., Gross, J., Christensen, T. C. & Benvenuto, M. (2001). Knowing what you're feeling and knowing what to do about it: Mapping the relation between emotion differentiation and emotion regulation. *Cognition & Emotion*, 15, 713–724.

Batson, C. D., & Shaw, L. L. (1991). Evidence for altruism: Toward a pluralism of prosocial motives. *Psychological inquiry,* 2(2), 107-122.

Baumann, N., Kazén, M., Quirin, M., & Koole, S. L. (2018). How do we know if you know yourself: Measures, causes, and consequences of self-access. Why people do the things they do: Building on Julius Kuhl's contributions to the psychology of motivation and volition, 259-280.

Baumann, N., Kaschel, R., & Kuhl, J. (2005). Striving for unwanted goals: stress-dependent discrepancies between explicit and implicit achievement motives reduce subjective well-being and increase psychosomatic symptoms. Journal of personality and social psychology, 89(5), 781.

Baumann, N., & Kuhl, J. (2002). Intuition, affect, and personality: unconscious coherence judgments and self-regulation of negative affect. *Journal of Personality and Social Psychology*, *83*(5), 1213.

Baumeister, R. F., Schmeichel, B. J., & Vohs, K. D. (2007). Self-regulation and the executive function: The self as controlling agent. In A. W. Kruglanski & E.T. Higgins 2007. *Social psychology: Handbook of basic principles (Second edition).* New York: Guilford.

Baumeister, R. F., Bratslavsky, E., Muraven, M., & Tice, D. M. (1998). Ego depletion: Is the active self a limited resource?. *Journal of personality and social psychology*, *74*(5), 1252.

Berkman, E. T., & Lieberman, M. D. (2009). Using neuroscience to broaden emotion regulation: theoretical and methodological considerations. *Social and personality psychology compass, 3*(4), 475-493.

Bernardi, L., Bollmann, G., Potarca, G., & Rossier, J. (2017). Multidimensionality of well-being and spillover effects across life domains: How do parenthood and personality affect changes in domain-specific satisfaction?. Research in Human Development, 14(1), 26-51.

Beverland, M. B., Wilner, S. J., & Micheli, P. (2015). Reconciling the tension between consistency and relevance: design thinking as a mechanism for brand ambidexterity. *Journal of the Academy of Marketing Science*, 43(5), 589-609.

Blair, C., & Dennis, T. (2010). An optimal balance: The integration of emotion and cognition in context. In S. D. Calkins & M. A. Bell (Eds.), *Child development at the intersection of emotion and cognition* (pp. 17–35). American Psychological Association.

Blustein, D. L. (2011). A relational theory of working. *Journal of Vocational Behavior,* 79(1), 1-17.

Bollen, K., & Lennox, R. (1991). Conventional wisdom on measurement: A structural equation perspective. *Psychological bulletin,* 110(2), 305.

Bonanno, G. A., & Burton, C. L. (2013). Regulatory flexibility: An individual differences perspective on coping and emotion regulation. *Perspectives on Psychological Science*, 8, 591–612.

Bousbaci, R. (2008). “Models of man” in design thinking: the “bounded rationality” episode. *Design Issues*, 24(4), 38-52.

Boyd, R. L. (2017). Psychological text analysis in the digital humanities. In S. Hai-Jew (Ed.), Data Analytics in Digital Humanities. *Multimedia Systems and Applications* (pp. 161–189). Springer.

Brewer, M. B. (1991). The social self: On being the same and different at the same time. *Personality and Social Psychology Bulletin, 17*(5), 475–482.

Brotheridge, C. M., & Grandey, A. A. (2002). Emotional labor and burnout: Comparing two perspectives of "people work". *Journal of vocational behavior*, 60(1), 17-39.

Brown, T. (2008). Design Thinking. *Harvard Business Review* 86(6): 84–92.

Brunstein, J. C. (2010). Implicit motives and explicit goals: The role of motivational congruence in emotional well-being. *Implicit motives*, 347-374.

Brunstein, J. C., & Maier, G. W. (2005). Implicit and self-attributed motives to achieve: Two separate but interacting needs. *Journal of personality and social psychology*, 89(2), 205.

Brunstein, J. C. (2001). Persönliche Ziele und Handlungs-versus Lageorientierung. Wer bindet sich an realistische und bedürfniskongruente Ziele?. *Zeitschrift für differentielle und diagnostische Psychologie*.

Brunstein, J. C., Schultheiss, O. C., & Maier, G. W. (1999). The pursuit of personal goals: A motivational approach to well-being and life adjustment. In J. Brandtstädter & R. M. Lerner, *Action & self-development: Theory and research through the life span* (pp. 169–196). Sage Publications, Inc. https://doi.org/10.4135/9781452204802.n6

Brunstein, J. C., Schultheiss, O. C., & Grässman, R. (1998). Personal goals and emotional well-being: the moderating role of motive dispositions. *Journal of personality and social psychology*, 75(2), 494.

Brunstein, J. C., & Olbrich, E. (1985). Personal helplessness and action control: Analysis of achievement-related cognitions, self-assessments, and performance. *Journal of Personality and Social Psychology*, 48(6), 1540.

Bryman, A. (2006). Integrating quantitative and qualitative research: how is it done?. *Qualitative research,* 6(1), 97-113.

Burnett, B., & Evans, D. (2016). *Designing Your Life: How to Build a Well-Lived, Joyful Life.* New York, NY: Knopf

Buzsaki G, Moser EI. 2013. Memory, navigation and theta rhythm in the hippocampal-entorhinal system. *Nature Neuroscience,* 16(2):130-8.

Cacioppo, J. T., & Gardner, W. L. (1999). Emotion. *Annual review of psychology*, 50(1), 191-214.

Cameron, C. D., Hutcherson, C. A., Ferguson, A. M., Scheffer, J. A., Hadjiandreou, E., & Inzlicht, M. (2019). Empathy is hard work: People choose to avoid empathy because of its cognitive costs. *Journal of Experimental Psychology: General*, 148(6), 962.

Carver, C. S., & Scheier, M. F. (1998). *On the self-regulation of behavior.* Cambridge University Press. https://doi.org/10.1017/CBO9781139174794

Carstensen, L. L., Pasupathi, M., Mayr, U., & Nesselroade, J. R. (2000). Emotional experience in everyday life across the adult life span. *Journal of personality and social psychology*, 79(4), 644.

Castro, F. G., Kellison, J. G., Boyd, S. J., & Kopak, A. (2010). A methodology for conducting integrative mixed methods research and data analyses. *Journal of mixed methods research*, 4(4), 342-360.

Center for Collegiate Mental Health (2017, January*). 2016 Annual Report*. (Publication No. STA 17-74) Retrieved from https://sites.psu.edu/ccmh/files/2017/01/2016-Annual-Report- FINAL_2016_01_09-1gc2hj6.pdf

Center for Collegiate Mental Health. (2020, January). *2019 Annual Report* (Publication No. STA 20-244). Retrieved from https://ccmh.memberclicks.net/assets/docs/2019-CCMH-Annual-Report_3.17.20.pdf

Chamandy, M., & Gaudreau, P. (2019). Career doubt in a dual-domain model of coping and progress for academic and career goals. *Journal of Vocational Behavior, 110*(Part A), 155–167. https://doi.org/10.1016/j.jvb.2018.11.008

Cheung, F., & Lucas, R. E. (2014). Assessing the validity of single-item life satisfaction measures: Results from three large samples. *Quality of Life research*, 23(10), 2809-2818.

Cialdini, R. B., Trost, M. R., & Newsom, J. T. (1995). Preference for consistency: The development of a valid measure and the discovery of surprising behavioral implications. Journal of personality and social psychology, 69(2), 318.

Coke, J. S., Batson, C. D., & McDavis, K. (1978). Empathic mediation of helping: a two-stage model. *Journal of personality and social psychology*, 36(7), 752.

Cole, P. M., Martin, S. E., & Dennis, T. A. (2004). Emotion regulation as a scientific construct: Methodological challenges and directions for child development research. *Child development*, 75(2), 317-333.

Cooperrider, D. L. (2012). Making Change Easy. *The Appreciative Inquiry Summit*, 82

Creswell, J., & Plano Clark, V. (2007). *Designing and Conducting Mixed Methods Research*. Thousand Oaks, CA: Sage.

Creswell, J. W., Plano Clark, V. L., Gutmann, M. L., & Hanson, W. E. (2003). An expanded typology for classifying mixed methods research into designs. A. Tashakkori y C. Teddlie, *Handbook of mixed methods in social and behavioral research*, 209-240.

Damasio, A. R. (1998). Emotion in the perspective of an integrated nervous system. *Brain research reviews*, *26*(2-3), 83-86.

Danermark, B., Ekström, M., & Karlsson, J. C. (2019). *Explaining society: Critical realism in the social sciences.* Routledge.

Da Silva, C. S. C., Teixeira, M. A. P., Cardoso, P., Fernandez-Navarro, P., Gonçalves, M. M., & Duarte, M. E. (2020). *Innovative moments and narrative change in career counselling: a case study*. Int. J. Educ. Vocat. Guid, 10.

Decety, J., & Jackson, P. L. (2004). The functional architecture of human empathy. *Behavioral and cognitive neuroscience reviews,* 3(2), 71-100.

Deci, E. L., & Ryan, R. M. 2008. Self-determination theory: A macrotheory of human motivation, development, and health. *Canadian psychology/Psychologie canadienne*, *49*(3), 182.

Deci, E. L., & Ryan, R. M. (2000). The" what" and" why" of goal pursuits: Human needs and the self-determination of behavior. *Psychological inquiry*, 11(4), 227-268.

Deci, E. L., & Ryan, R. M. (1985). The general causality orientations scale: Self-determination in personality. *Journal of research in personality*, 19(2), 109-134.

Del Corso, J., & Rehfuss, M. C. (2011). The role of narrative in career construction theory. *Journal of vocational behavior,* 79(2), 334-339.

Diamantopoulos, A., Sarstedt, M., Fuchs, C., Wilczynski, P., & Kaiser, S. (2012). Guidelines for choosing between multi-item and single-item scales for construct measurement: a predictive validity perspective. *Journal of the Academy of Marketing Science*, 40(3), 434-449.

Diefendorff, J. M., Richard, E. M., & Yang, J. (2008). Linking emotion regulation strategies to affective events and negative emotions at work. *Journal of Vocational behavior*, 73(3), 498-508.

Diener, E. D., Emmons, R. A., Larsen, R. J., & Griffin, S. (1985). The satisfaction with life scale. *Journal of personality assessment*, 49(1), 71-75.

Dietrich, J., Jokisaari, M., & Nurmi, J. E. (2012). Work-related goal appraisals and stress during the transition from education to work. *Journal of Vocational Behavior*, 80(1), 82-92.

Dijksterhuis, A. (2004). Think different: the merits of unconscious thought in preference development and decision making. *Journal of personality and social psychology*, *87*(5), 586.

Doyle, L., Brady, A. M., & Byrne, G. (2009). An overview of mixed methods research. *Journal of research in nursing*, 14(2), 175-185.

Dudău, D. P., & Sava, F. A. (2020). The development and validation of the Romanian version of Linguistic Inquiry and Word Count 2015 (Ro-LIWC2015). *Current Psychology*, 1-18.

Dunne, D., & Martin, R. (2006). Design thinking and how it will change management education: An interview and discussion. *Academy of Management Learning & Education*, 5(4), 512-523.

Edmondson, A. & McManus, S. (2007). Methodological Fit in Management Field Research. *Academy of Management Review*, 32, 1155-1179.

Edwards, J. R. (1994). The study of congruence in organizational behavior research: Critique and a proposed alternative. *Organizational behavior and human decision processes*, 58(1), 51-100.

Ekman, P. E., & Davidson, R. J. (1994). *The nature of emotion: Fundamental questions*. Oxford University Press.

Erber, R., & Erber, M. W. (2000). The self-regulation of moods: Second thoughts on the importance of happiness in everyday life. *Psychological Inquiry*, 11(3), 142-148.

Erikson, E.H. (1968). *Identity: youth and crisis.* Norton & Company.

Fereday, J., & Muir-Cochrane, E. (2006). Demonstrating rigor using thematic analysis: A hybrid approach of inductive and deductive coding and theme development. *International journal of qualitative methods*, 5(1), 80-92.

Fetters, M.D., Curry, L.A. and Creswell, J.W., (2013). Achieving integration in mixed methods designs—principles and practices. *Health services research,* 48(6pt2), 2134-2156.

Field, A. (2013). *Discovering statistics using IBM SPSS statistics*. sage.

Friedman, H. L., & Brown, N. J. L. (2018). Implications of debunking the "critical positivity ratio" for humanistic psychology: Introduction to special issue. *Journal of Humanistic Psychology, 58*(3), 239–261.

Fredrickson, B. L., & Losada, M. F. (2005). Positive affect and the complex dynamics of human flourishing. *American psychologist*, 60(7), 678.

Fredrickson, B. L., Mancuso, R. A., Branigan, C., & Tugade, M. M. (2000). The undoing effect of positive emotions. *Motivation and emotion*, 24(4), 237-258.

Freud, S. (1915). *The unconscious*. SE, 14: 159-204.

Frijda, N. H. (1986). *The emotions.* Cambridge University Press.

Gangestad, S. W., & Snyder, M. (2000). Self-monitoring: Appraisal and reappraisal. *Psychological bulletin,* 126(4), 530.

Gelman, A., & Hill, J. (2006). *Data analysis using regression and multilevel/hierarchical models*. Cambridge university press.

Gelo, O., Braakman, D., & Benetka, G. (2008). Quantitative and qualitative research: Beyond the debate. *Integrative Psychological & Behavioral Science*, 42, 266-290.

Geraerts, E., Merckelbach, H., Jelicic, M., & Smeets, E. (2006). Long term consequences of suppression of intrusive anxious thoughts and repressive coping. *Behaviour Research and Therapy*, *44*(10), 1451-1460.

Ghasemi, A., & Zahediasl, S. (2012). Normality tests for statistical analysis: a guide for non-statisticians. *International journal of endocrinology and metabolism*, 10(2), 486.

Goldin, P. R., & Gross, J. J. (2010). Effects of mindfulness-based stress reduction (MBSR) on emotion regulation in social anxiety disorder. *Emotion*, 10(1), 83.

Goleman, D. (1995). *Emotional intelligence*. New York: Bantam Books.

Gollwitzer, P. M., & Sheeran, P. (2009). Self-regulation of consumer decision making and behavior: The role of implementation intentions. Journal of Consumer Psychology, 19(4), 593–607

Gollwitzer, P. M., & Sheeran, P. (2006). Implementation intentions and goal achievement: A meta-analysis of effects and processes. *Advances in Experimental Social Psychology,* 38,69–120.

Gottman, J. M. (1994). *What predicts divorce? The relationship between marital processes and marital outcomes*. Lawrence Erlbaum Associates, Inc.

Grandey, A. A., & Melloy, R. C. (2017). The state of the heart: Emotional labor as emotion regulation reviewed and revised. Journal of occupational health psychology, 22(3), 407.

Grant, A. M., Franklin, J., & Langford, P. (2002). The self-reflection and insight scale: A new measure of private self-consciousness. *Social Behavior and Personality: an international journal,* 30(8), 821-835.

Greenwald, A. G., & Banaji, M. R. (1995). Implicit social cognition: attitudes, self-esteem, and stereotypes. *Psychological review*, 102(1), 4.

Gross, J. J. (2015). Emotion regulation: Current status and future prospects. Psychological inquiry, 26(1), 1-26.

Gross J.J. (2013). Emotion regulation: taking stock and moving forward. Emotion, 13, 359

Gross, J. J. (2008). Emotion regulation. *Handbook of emotions*, 3(3), 497-513.

Gross, J. J., & Thompson, R. A. (2007). Emotion Regulation: Conceptual Foundations. In J. J. Gross (Ed.), *Handbook of emotion regulation* (pp. 3–24). The Guilford Press.

Gross, J. J. (2002). Emotion regulation: Affective, cognitive, and social consequences. *Psychophysiology*, 39, 281–291.

Gross, J. J. (1998). The emerging field of emotion regulation: An integrative review. *Review of general psychology*, 2(3), 271-299.

Gross, J. J., & Levenson, R. W. (1995). Emotion elicitation using films. *Cognition & emotion*, 9(1), 87-108.

Gross, J. J., & Muñoz, R. F. (1995). Emotion regulation and mental health. *Clinical psychology: Science and* practice, 2(2), 151-164.

Guendelman, S., Medeiros, S., & Rampes, H. (2017). Mindfulness and emotion regulation: Insights from neurobiological, psychological, and clinical studies. *Frontiers in psychology*, 8, 220.

Gyurak, A., Gross, J. J., & Etkin, A. (2011). Explicit and implicit emotion regulation: a dual-process framework. *Cognition and emotion*, *25*(3), 400-412.

Haase, C. M., Heckhausen, J., & Köller, O. (2008). Goal engagement during the school–work transition: Beneficial for all, particularly for girls. *Journal of Research on Adolescence*, 18(4), 671-698.

Hartung, P. J. (2011). Barrier or Benefit? Emotion in Life-Career Design. *Journal of Career Assessment*, 19(3), 296–305.

Hasso Plattner Institute for Design at Stanford, 2020. Retrieved from https://dschool.stanford.edu/.

Hayes, A. F. (2018). Partial, conditional, and moderated moderated mediation: Quantification, inference, and interpretation. *Communication monographs*, 85(1), 4-40.

Heckhausen, J., Wrosch, C., & Schulz, R. (2010). A motivational theory of life-span development. *Psychological review*, 117(1), 32.

Hiroto, D. S., & Seligman, M. E. (1975). Generality of learned helplessness in man. *Journal of Personality and Social Psychology, 31*(2), 311–327. https://doi.org/10.1037/h0076270

Hofer, J., Busch, H., Bond, M. H., Kärtner, J., Kiessling, F., & Law, R. (2010). Is self-determined functioning a universal prerequisite for motive–goal congruence? Examining the domain of achievement in three cultures. *Journal of Personality*, 78(2), 747-780.

Hofer, J., Busch, H., Chasiotis, A., & Kiessling, F. (2006). Motive congruence and interpersonal identity status. *Journal of Personality*, 74(2), 511-542.

Hofer, J., Chasiotis, A., & Campos, D. (2006). Congruence between social values and implicit motives: Effects on life satisfaction across three cultures. *European Journal of Personality*, *20*(4), 305-324.

Hölzel, B. K., Ott, U., Gard, T., Hempel, H., Weygandt, M., Morgen, K., & Vaitl, D. (2008). Investigation of mindfulness meditation practitioners with voxel-based morphometry. *Social Cognitive and Affective Neuroscience,* 3, 55– 61. doi:10.1093/scan/nsm038

Howard, A. L. (2014). *Elicitation of empathic emotions using film: Development of a stimulus set* (Masters thesis). University of Illinois, Urbana, Illinois. Retrieved from https://www.ideals.illinois.edu/bitstream/handle/2142/50669/Aisha_Howard.pdf?sequence51

Huberty, C. J., & Petoskey, M. D. (2000). Multivariate analysis of variance and covariance. In *Handbook of applied multivariate statistics and mathematical modeling* (pp. 183-208). Academic Press.

Inzlicht, M., Schmeichel, B. J., & Macrae, C. N. (2014). Why self-control seems (but may not be) limited. *Trends in cognitive sciences*, *18*(3), 127-133.

Izard, C. E., Ackerman, B. P., Schoff, K. M., & Fine, S. E. (2000). Self-organization of discrete emotions, emotion patterns, and emotion-cognition relations. *Emotion, development, and self-organization: Dynamic systems approaches to emotional development,* 15-36.

Jarymowicz, M. T., & Imbir, K. K. (2015). Toward a human emotions taxonomy (based on their automatic vs. reflective origin). *Emotion Review*, 7(2), 183-188.

Johnson, R. B., & Onwuegbuzie, A. J. (2004). Mixed methods research: A research paradigm whose time has come. *Educational researcher,* 33(7), 14-26.

Jongman-Sereno, K. P., & Leary, M. R. (2020). Self-judgments of authenticity. *Self and Identity*, 19(1), 32-63.

Jostmann, N. B., & Koole, S. L. (2010). Dealing with high demands: The role of action versus state orientation. In R. H. Hoyle (Ed.), *Handbook of personality and self-regulation* (pp. 332–352). Wiley-Blackwell.

Jostmann, N. B., Koole, S. L., Van Der Wulp, N. Y., & Fockenberg, D. A. (2005). Subliminal affect regulation: The moderating role of action vs. state orientation. *European Psychologist*, 10(3), 209-217.

Kabat-Zinn, J. (2005). *Coming to our senses: Healing ourselves and the world through mindfulness.* Hachette UK.

Kashdan, T. B., Barrett, L. F., & McKnight, P. E. (2015). Unpacking emotion differentiation: Transforming unpleasant experience by perceiving distinctions in negativity. *Current Directions in Psychological Science*, 24(1), 10-16.

Kashdan, T.B., & Rottenberg, J. 2010. Psychological flexibility as a fundamental aspect of health. *Clinical psychology review*, 30 7, 865-78 .

Kazén, M., Baumann, N., & Kuhl, J. (2003). Self-infiltration vs. self-compatibility checking in dealing with unattractive tasks: The moderating influence of state vs. action orientation. Motivation and Emotion, 27(3), 157-197.

Kehr, H. M. (2004). Implicit/explicit motive discrepancies and volitional depletion among managers. *Personality and Social Psychology Bulletin,* 30(3), 315-327.

Kehr, H. M., Bles, P., & von Rosenstiel, L. (1999). Self-regulation, self-control, and management training transfer. *International Journal of Educational Research*, 31(6), 487-498.

Kernbach, S., & Eppler, M. J. (2020). *Life design: mit Design Thinking, Positiver Psychologie und Life Loops mehr von sich in das eigene Leben bringen.* Schäffer-Poeschel.

Kernbach, S., & Nabergoj, A. S. (2018, July). Visual Design Thinking: Understanding the role of knowledge visualization in the design thinking process. In 2*018 22nd International Conference Information Visualisation (IV)* (pp. 362-367). IEEE.

Keenan, J. P., Nelson, A., O'connor, M., & Pascual-Leone, A. (2001). Self-recognition and the right hemisphere. *Nature*, 409(6818), 305-305.

Kidd, J. M. (2004). Emotion in career contexts: Challenges for theory and research. *Journal of Vocational Behavior, 64*(3), 441–454.

Klein, K., & Boals, A. (2001). Expressive writing can increase working memory capacity. *Journal of experimental psychology: General*, 130(3), 520.

Knief, U., & Forstmeier, W. (2021). Violating the normality assumption may be the lesser of two evils. *Behavior Research Methods* 53, 2576–2590.

Kobylińska, D., & Kusev, P. (2019). Flexible Emotion Regulation: How Situational Demands and Individual Differences Influence the Effectiveness of Regulatory Strategies. *Frontiers in Psychology*, 10, [72]. https://doi.org/10.3389/fpsyg.2019.00072

Koestner, R., Lekes, N., Powers, T. A., & Chicoine, E. (2002). Attaining personal goals: Self-concordance plus implementation intentions equals success. *Journal of Personality and Social Psychology*, 83(1), 231–244.

Koole, S. L., Schlinkert, C., Maldei, T., & Baumann, N. (2019). Becoming who you are: An integrative review of self-determination theory and personality systems interactions theory. *Journal of personality,* 87(1), 15-36.

Koole. S. L., Webb, T. L., & Sheeran, P. (2015). Implicit emotion regulation: Feeling better without knowing why. *Current Opinion in Psychology*, 3, 6-10.

Koole, S. L. 2009. The psychology of emotion regulation: An integrative review. *Cognition and emotion*, *23*(1), 4-41.

Koole, S. L., & Coenen, L. H. (2007). Implicit self and affect regulation: Effects of action orientation and subliminal self priming in an affective priming task. *Self and Identity*, 6(2-3), 118-136.

Koole, S. L., & DeHart, T. (2007). Self-affection without self-reflection: Origins, models, and consequences of implicit self-esteem. In C. Sedikides & S. J. Spencer (Eds.), *The self* (pp. 21–49). Psychology Press.

Koole, S. L., Kuhl, J., Jostmann, N. B., & Finkenauer, C. (2006). Self-Regulation in Interpersonal Relationships: The Case of Action versus State Orientation. In K. D. Vohs & E. J. Finkel (Eds.), *Self and relationships: Connecting intrapersonal and interpersonal processes* (pp. 360–383). The Guilford Press.

Koole, S. L., & Jostmann, N. B. (2004). Getting a grip on your feelings: effects of action orientation and external demands on intuitive affect regulation. *Journal of personality and social psychology*, *87*(6), 974.

Koole, S. L., & Kuhl, J. (2003). In search of the real self: A functional perspective on optimal self-esteem and authenticity. *Psychological Inquiry*, *14*(1), 43-48.

Koole, S., & van't Spijker, M. (2000). Overcoming the planning fallacy through willpower: Effects of implementation intentions on actual and predicted task-completion times. *European Journal of Social Psychology,* 30(6), 873-888.

Koole, S. L., Smeets, K., Van Knippenberg, A., & Dijksterhuis, A. (1999). The cessation of rumination through self-affirmation. *Journal of Personality and Social Psychology*, 77(1), 111.

Kopp, C. B. (1989). Regulation of distress and negative emotions: A developmental view. *Developmental Psychology*, 25, 343-354

Körner, A., Lechner, C. M., Pavlova, M. K., & Silbereisen, R. K. (2015). Goal engagement in coping with occupational uncertainty predicts favorable career-related outcomes. *Journal of Vocational Behavior*, 88, 174-184.

Kross, E., Ayduk, O., & Mischel, W. (2005). When asking "why" does not hurt distinguishing rumination from reflective processing of negative emotions. *Psychological science*, *16*(9), 709-715.

Kuhl, J., Quirin, M., & Koole, S. L. (2015). Being someone: The integrated self as a neuropsychological system. *Social and Personality Psychology Compass*, 9(3), 115-132.

Kuhl, J., & Koole, S. L. (2008). The functional architecture of approach and avoidance motivation. *Handbook of approach and avoidance motivation,* 535-553.

Kuhl, J. (2001). *Motivation und Persönlichkeit: Interaktionen psychischer Systeme*. Hogrefe.

Kuhl, J. (2000). A functional-design approach to motivation and self-regulation: The dynamics of personality systems and interactions. In M. Boekaerts & P. R. Pintrich (Eds.), *Handbook of self-regulation* (pp. 111-169). San Diego, CA: Academic Press.

Kuhl, J., & Fuhrmann, A. (2000). *Volitional Components Questionnaire 3 (VCQ-3, SSI): Fragebogen, Auswertungsschlüssel und TWerte.* Osnabrück: Universität Osnabrück.

Kuhl, J., & Kazén, M. (1999). Volitional facilitation of difficult intentions: Joint activation of intention memory and positive affect removes Stroop interference. *Journal of Experimental Psychology: General*, 128, 382-399

Kuhl, J., & Fuhrmann, A. (1998). Decomposing self-regulation and self-control: The Volitional Components Inventory. In J. Heckhausen & C. S. Dweck (Eds.), *Motivation and self-regulation across the life span* (pp. 15-49). Cambridge: Cambridge University Press.

Kuhl, J. & Beckmann, J. (1994), *Volition and personality: Action versus state orientation,* Hogrefe, Göttingen, Germany.

Kuhl, J. (1984). Volitional aspects of achievement motivation and learned helplessness: Toward a comprehensive theory of action control. In B. A. Maher (Ed.), *Progress in experimental personality research* (Vol. 13) (pp. 99-170). New York: Academic Press.

Lande, M., & Leifer, L. (2009). Prototyping to learn: Characterizing engineering students' prototyping activities and prototypes. In DS 58-

1: *Proceedings of ICED 09, the 17th International Conference on Engineering Design, Vol. 1, Design Processes,* Palo Alto, CA, USA, 24.-27.08. 2009.

Lane, R. D., & Garfield, D. A. (2005). Becoming aware of feelings: Integration of cognitive-developmental, neuroscientific, and psychoanalytic perspectives. *Neuropsychoanalysis*, 7(1), 5-30.

Lang, J. W., & Fries, S. (2006). A revised 10-item version of the Achievement Motives Scale. *European Journal of Psychological Assessment*, 22(3), 216-224.

Lang, J. W., Zettler, I., Ewen, C., & Hülsheger, U. R. (2012). Implicit motives, explicit traits, and task and contextual performance at work. *Journal of Applied Psychology*, *97*(6), 1201.

Larsen, R. J. (2000). Toward a science of mood regulation. *Psychological inquiry*, 11(3), 129-141.

Lawrence, S. A., Troth, A. C., Jordan, P. J., & Collins, A. L. (2011). A review of emotion regulation and development of a framework for emotion regulation in the workplace. In *The role of individual differences in occupational stress and well being*. Emerald Group Publishing Limited.

Lazarus, R. S. (1991). Progress on a cognitive-motivational-relational theory of emotion. American psychologist, 46(8), 819.

Lazarus, R. S. (1994). *Emotion and adaptation.* New York: Oxford University Press

Lechner, C. M., Tomasik, M. J., & Silbereisen, R. K. (2016). Preparing for uncertain careers: How youth deal with growing occupational uncertainties before the education-to-work transition. *Journal of Vocational Behavior,* 95-96, 90–101.

Lee, A. C., Yeung, L. K., & Barense, M. D. (2012). The hippocampus and visual perception. *Frontiers in human neuroscience*, 6, 91. https://doi.org/10.3389/fnhum.2012.00091

Lee, A. C., & Rudebeck, S. R. (2010). Investigating the interaction between spatial perception and working memory in the human medial temporal lobe. *Journal of cognitive neuroscience*, 22(12), 2823-2835.

Leech, N. L., & Onwuegbuzie, A. J. (2007). An array of qualitative data analysis tools: A call for data analysis triangulation. *School psychology quarterly*, 22(4), 557.

Leyshon . C (2012, September 16). This Week in Fiction: Mohsin Hamid. *The New Yorker.* https://www.newyorker.com/books/page-turner/this-week-in-fiction-mohsin-hamid

Lindberg, T., Noweski, C., & Meinel, C. (2010). Evolving discourses on design thinking: how design cognition inspires meta-disciplinary creative collaboration. *Technoetic Arts: A Journal of Speculative Research*, 8(1).

Lindquist, K. A., & Barrett, L. F. (2008). Constructing emotion: The experience of fear as a conceptual act. *Psychological science,* 19(9), 898-903.

Linville, P. W. (1987). Self-complexity as a cognitive buffer against stress-related illness and depression. *Journal of Personality and Social Psychology, 52*(4), 663–676.

Losada, M., & Heaphy, E. (2004). The role of positivity and connectivity in the performance of business teams: A nonlinear dynamics model. *American behavioral scientist*, 47(6), 740-765.

Luo, J., & Yu, R. (2015). Follow the heart or the head? The interactive influence model of emotion and cognition. *Frontiers in psychology*, 6, 573.

Mason, J. (2002). *Researching your own practice: The discipline of noticing*. Routledge.

Mauss, I. B., Bunge, S. A., & Gross, J. J. (2007). Automatic emotion regulation. *Social and Personality Psychology Compass*, *1*(1), 146-167.

McClelland, D. C. (1987). *Human motivation*. CUP Archive.

McEwen, B. S., Albeck, D., Cameron, H., Chao, H. M., Gould, E., Hastings, N., ... & Weiland, N. (1995). Stress and the brain: a paradoxical role for adrenal steroids. *Vitamins & hormones*, *51*, 371-402.

McRae, K., & Gross, J. J. (2020). Emotion regulation. *Emotion*, *20*(1), 1.

Meyers, L. S., Gamst, G., & Guarino, A. J. (2006). *Applied Multivariate Research: Design and Interpretation.* London: Sage.

Miller, L. C., Murphy, R., & Buss, A. H. (1981). Consciousness of body: Private and public. *Journal of personality and social psychology*, 41(2), 397.

Moghaddam, F. M., Walker, B. R., & Harré, R. (2003). Cultural Distance Levels. *Handbook of Mixed Methods in Social & Behavioral Research*, 111.

Muraven, M., & Baumeister, R. F. (2000). Self-regulation and depletion of limited resources: Does self-control resemble a muscle?. *Psychological bulletin*, 126(2), 247.

Myers, L.B., Burns, J.W., Derakshan, N., Elfant, E., Eysenck, M.W., & Phipps, S. (2007). Current issues in repressive coping and health. In J. Denollet, I. Nyklicek, & A. Vingerhoets (Eds.), *Emotion regulation: Conceptual and clinical issues* (pp. 6986). New York: Springer

Nash, J. B. (2019). Design Thinking in Schools: A Leader's Guide to Collaborating for Improvement. *Harvard Education Press.* 8 Story Street First Floor, Cambridge, MA 02138.

Nau, M., Julian, J. B., & Doeller, C. F. (2018). How the brain's navigation system shapes our visual experience. *Trends in cognitive sciences,* 22(9), 810-825.

Niemiec, C. P., & Ryan, R. M. (2009). Autonomy, competence, and relatedness in the classroom: Applying self-determination theory to

educational practice. *Theory and research in Education*, *7*(2), 133-144.

Nook, E. C., Schleider, J. L., & Somerville, L. H. (2017). A linguistic signature of psychological distancing in emotion regulation. *Journal of Experimental Psychology: General*, 146(3), 337.

Nota, L., & Rossier, J. (Eds.). (2015). *Handbook of life design: From practice to theory and from theory to practice.* Hogrefe Publishing.

Nurmi, J. E., Salmela-Aro, K., & Koivisto, P. (2002). Goal importance and related achievement beliefs and emotions during the transition from vocational school to work: Antecedents and consequences. *Journal of Vocational Behavior,* 60(2), 241-261.

Ochsner, K. N., & Gross, J. J. (2008). Cognitive emotion regulation: Insights from social cognitive and affective neuroscience. *Current directions in psychological science*, 17(2), 153-158.

Osborne, J. W., & Overbay, A. (2004). The power of outliers (and why researchers should always check for them). *Practical Assessment, Research, and Evaluation*, 9(1), 6.

Parkhurst, D., Law, K., & Niebur, E. (2002). Modeling the role of salience in the allocation of overt visual attention. *Vision research*, 42(1), 107–123. https://doi.org/10.1016/s0042-6989(01)00250-4

Pennebaker J. W., Boyd, R.L., Jordan, K., Blackburn, K. (2015) *The development and psychometric properties of LIWC2015* (University of Texas, Austin), http://hdl.handle.net/2152/31333

Pennebaker, J. W., & Chung, C. K. (2007). Expressive writing, emotional upheavals, and health. *Foundations of health psychology*, 263-284.

Perner, J., & Wimmer, H. 1985. “John thinks that Mary thinks that…” attribution of second-order beliefs by 5-to 10-year-old children. *Journal of experimental child psychology*, *39*(3), 437-471.

Philippot, P. (1993). Inducing and assessing differentiated emotion-feeling states in the laboratory. *Cognition and emotion,* 7(2), 171-193.

Plattner, H., Meinel, C., & Weinberg, U. (2009). *Design-thinking.* Landsberg am Lech: Mi-Fachverlag.

Powley, E. H., Fry, R. E., Barrett, F. J., & Bright, D. S. (2004). Dialogic democracy meets command and control: Transformation through the appreciative inquiry summit. *Academy of Management Perspectives,* 18(3), 67-80.

Puth, M. T., Neuhäuser, M., & Ruxton, G. D. (2014). Effective use of Pearson's product–moment correlation coefficient. *Animal behaviour*, 93, 183-189.

Quinn, G. P. & Keough. M. J. (2002). *Experimental design and data analysis for biologists.* Cambridge University Press, New York, New York.

Quirin, M., & Kuhl, J. (2018). The self-access form. *Journal of Individual Differences.*

Quirin, M., Kent, M., Boksem, M. A. S., & Tops, M. (2015). Integration of negative experiences: A neuropsychological framework for resilience. *Behavioral and Brain Sciences*, 38, 116–118. doi: http://dx..org/10.1017/S0140525X14001666

Quirin, M., & Kuhl, J. (2008). Positive affect, self-access, and health: Research based on PSI theory. *Zeitschrift für Gesundheitspsychologie*, *16*(3), 139-142.

Quirin, M., Kazén, M., & Kuhl, J. (2009). When nonsense sounds happy or helpless: the implicit positive and negative affect test (IPANAT). *Journal of personality and social psychology*, *97*(3), 500.

Raio, C. M., Orederu, T. A., Palazzolo, L., Shurick, A. A., & Phelps, E. A. (2013). Cognitive emotion regulation fails the stress test. *Proceedings of the National Academy of Sciences of the United States of America,* 110, 15139-15144.

Rheinberg, F. (2008). Intrinsic motivation and flow-experience. In H. Heckhausen & J. Heckhausen (Eds.), *Motivation and action* (pp. 323–348). Cambridge, UK: Cambridge University Press.

Rholes, W. S., Michas, L., & Shroff, J. (1989). Action control as a vulnerability factor in dysphoria. *Cognitive Therapy and Research*, 13(3), 263-274.

Rimé, B. (2009). Emotion elicits the social sharing of emotion: Theory and empirical review. *Emotion review*, 1(1), 60-85.

Rittel, H. W., & Webber, M. M. (1973). Dilemmas in a general theory of planning. *Policy sciences,* 4(2), 155-169.

Róbert, P. & Bukodi, E.(2005). The effect of the globalization process on the transition to adulthood in Hungary. In: Hans-Peter Blossfeld, Erik Klijzing, Melinda Mills and Karin Kurz (ed.): Globalization, Uncertainty and Youth in Society. London, New York: Routledge

Roch, R., Rösch, A., & Schultheiss, O. (2017). Enhancing Congruence between Implicit Motives and Explicit Goal Commitments: Results of a Randomized Controlled Trial. *Frontiers in Psychology*, 8(1540).

Rossier, J., Ginevra, M. C., Bollmann, G., & Nota, L. (2017). The importance of career adaptability, career resilience, and employability in designing a successful life. In *Psychology of career adaptability, employability and resilience* (pp. 65-82). Springer, Cham

Rossiter, J. R. (2002). The C-OAR-SE procedure for scale development in marketing. *International journal of research in marketing,* 19(4), 305-335.

Rothermund, K., & Meiniger, C. (2004). Stress-buffering effects of self-complexity: Reduced affective spillover or self-regulatory processes?. *Self and Identity*, 3(3), 263-281.

Rottenberg, J., Ray, R. D., Gross, J. J., Coan, J. A., & Allen, J. J. B. (2007). *The handbook of emotion elicitation* and assessment. JJB Allen & JA Coan (Eds.), 9-28.

Ryan, R. M., & Deci, E. L. (2000). Intrinsic and extrinsic motivations: Classic definitions and new directions. *Contemporary educational psychology*, 25(1), 54-67.

Sale, J. E., Lohfeld, L. H., & Brazil, K. (2002). Revisiting the Quantitative-Qualitative Debate: Implications for Mixed-Methods Research. *Quality & quantity*, 36(1), 43–53. https://doi.org/10.1023/A:1014301607592

Santangelo, V., Cavallina, C., Colucci, P., Santori, A., Macrì, S., McGaugh, J. L., & Campolongo, P. (2018). Enhanced brain activity associated with memory access in highly superior autobiographical memory. *Proceedings of the National Academy of Sciences,* 115(30), 7795-7800

Savickas, M. L. (2012). Life design: A paradigm for career intervention in the 21st century. *Journal of Counseling & Development*, 90(1), 13-19.

Savickas, M.L. and Porfeli, E.J. (2012) Career Adapt-Abilities Scale: Construction, Reliability and Measurement Equivalence across 13 Countries. *Journal of Vocational Behaviour*, 80, 661-673. http://dx.doi.org/10.1016/j.jvb.2012.01.012

Savickas, M. L., Nota, L., Rossier, J., Dauwalder, J. P., Duarte, M. E., Guichard, J., ... & Van Vianen, A. E. (2009). Life designing: A paradigm for career construction in the 21st century. *Journal of vocational behavior*, *75*(3), 239-250.

Schaefer, A., Nils, F., Sanchez, X., & Philippot, P. (2010). Assessing the effectiveness of a large database of emotion-eliciting films: A new tool for emotion researchers. *Cognition and emotion*, 24(7), 1153-1172.

Schoch, S., & Schüler, J. (2012). The effect of implicit and explicit achievement motive incongruence on flow experience in sports. In A. M. Columbus (Ed.), *Advances in psychology research* (pp. 261–272). Nova Science Publishers.

Schoon, I., Martin, P., & Ross, A. (2007). Career transitions in times of social change. His and her story. *Journal of Vocational Behavior, 70*(1), 78–96. https://doi.org/10.1016/j.jvb.2006.04.009

Schultheiss, O. C., & Köllner, M. G. (2014). Implicit motives, affect, and the development of competencies. *International handbook of emotions in education*, 73-95.

Schultheiss, O. C., & Brunstein, J. C. (Eds.), (2010). *Implicit Motives.* New York: Oxford University Press.

Sheeran, P.& Webb, T. L. (2016). The Intention–Behavior Gap. *Social and Personality Psychology Compass*, 10: 503– 518..

Sheldon, K. M. (2014). Becoming oneself: The central role of self-concordant goal selection. *Personality and Social Psychology Review*, 18(4), 349-365.

Sheldon, K. M., & Elliot, A. J. (1999). Goal striving, need satisfaction, and longitudinal well-being: the self-concordance model. *Journal of Personality and Social psychology*, 76(3), 482-497.

Sheldon, K. M., Ryan, R., & Reis, H. T. (1996). What makes for a good day? Competence and autonomy in the day and in the person. *Personality and social psychology bulletin*, 22(12), 1270-1279.

Sheldon, K. M., & Kasser, T. (1995). Coherence and congruence: Two aspects of personality integration. *Journal of personality and social psychology*, 68(3), 531.

Sheppes, G., Scheibe, S., Suri, G., Radu, P., Blechert, J., & Gross, J. J. (2014). Emotion regulation choice: a conceptual framework and supporting evidence. *Journal of Experimental Psychology: General*, 143(1), 163.

Sheppes, G., & Gross, J. J. (2012). Emotion regulation effectiveness: What works when. *Handbook of Psychology*, Second Edition, 5.

Sheppes, G., Scheibe, S., Suri, G., & Gross, J. J. (2011). Emotion-regulation choice. *Psychological science,* 22(11), 1391-1396.

Showers, C. J., & Kling, K. C. (1996). Organization of self-knowledge: Implications for recovery from sad mood. Journal of Personality and Social Psychology, 70(3), 578.

Singer, T., & Lamm, C. (2009). The social neuroscience of empathy. *Annals of the New York Academy of Sciences*, *1156*(1), 81-96.

Snyder, C. R., Irving, L. M., & Anderson, J. R. (1991). *Hope and health. Handbook of social and clinical psychology: The health perspective*, 162, 285-305.

Snyder, C. R., Sympson, S. C., Ybasco, F. C., Borders, T. F., Babyak, M. A., & Higgins, R. L. (1996). Development and validation of the State Hope Scale. *Journal of Personality and Social Psychology, 70*(2), 321–335.

Sokolowski, K., Schmalt, H. D., Langens, T. A., & Puca, R. M. (2000). Assessing achievement, affiliation, and power motives all at once: The Multi-Motive Grid (MMG). *Journal of personality assessment*, 74(1), 126-145.

Srivastava, S., Tamir, M., McGonigal, K. M., John, O. P., & Gross, J. J. (2009). The social costs of emotional suppression: a prospective study of the transition to college. *Journal of personality and social psychology,* 96(4), 883.

Srnka, K. J. 2007. Integration qualitativer und quantitativer Forschungsmethoden. *Marketing ZFP*, *29*(4), 247-260.

Stanford Life Design Lab, 2019. Retrieved on August 22, 2019 from http://lifedesignlab.stanford.edu

Swann Jr, W. B., Chang-Schneider, C., & Larsen McClarty, K. (2007). Do people's self-views matter? Self-concept and self-esteem in everyday life. *American psychologist*, 62(2), 84.

Swiss Job Stress Index. October 2018. *Job-Stress-Index 2018: Jede vierte erwerbstätige Person hat Stress*. Gesundheitsförderung Schweiz. Retrieved from: https://gesundheitsfoerderung.ch/betriebliches-gesundheitsmanagement/studien-wirkung-bgm/job-stress.html

Tabachnick, B.G. and Fidell, L.S. (2012) *Using Multivariate Statistics*. 6h Edition, Person Education, Boston.

Tamir, M. (2009). What do people want to feel and why? Pleasure and utility in emotion regulation. *Current Directions in Psychological Science*, 18(2), 101-105.

Tashakkori, A., & Creswell, J. W. (2007). The new era of mixed methods. *Journal of mixed methods research*, 1(1), 3-7.

Tice, D. M., & Bratslavsky, E. (2000). Giving in to feel good: The place of emotion regulation in the context of general self-control. *Psychological inquiry*, 11(3), 149-159.

Tiedens, L. Z. (2004). *The social life of emotions* (Vol. 2). L. Z. Tiedens, & C. W. Leach (Eds.). New York: Cambridge University Press.

Teddlie, C., Tashakkori, A., & Johnson, B. (2008). Emergent techniques in the gathering and analysis of mixed methods data. *Handbook of emergent methods*, 389-413.

Thrash, T. M., Maruskin, L. A., & Martin, C. C. (2012). Implicit-explicit motive congruence. *The Oxford handbook of human motivation*, 141-156.

Thrash, T. M., & Elliot, A. J. (2002). Implicit and self-attributed achievement motives: Concordance and predictive validity. Journal of Personality, 70, 729–755. https://doi.org/10.1111/1467-6494.05022

Thrash, T. M., Elliot, A. J., & Schultheiss, O. C. (2007). Methodological and dispositional predictors of congruence between implicit and explicit need for achievement. Personality and Social Psychology Bulletin, 33(7), 961-974.

Tomasik, M. J., Silbereisen, R. K., & Pinquart, M. (2010). Individuals negotiating demands of social and economic change. *European Psychologist.15*(4), 246–259.

Torre, J. B., & Lieberman, M. D. (2018). Putting Feelings Into Words: Affect Labeling as Implicit Emotion Regulation. *Emotion Review*, 10(2), 116–124.

Tubridy, S., & Davachi, L. (2011). Medial temporal lobe contributions to episodic sequence encoding. *Cerebral cortex,* 21(2), 272-280.

Tulving, E., & Markowitsch, H. J. (1998). Episodic and declarative memory: Role of the hippocampus. *Hippocampus,* 8(3), 198-204

Tulving, E., Kapur, S., Craik, F. I., Moscovitch, M., & Houle, S. (1994). Hemispheric encoding/retrieval asymmetry in episodic memory: positron emission tomography findings. *Proceedings of the National Academy of Sciences*, 91(6), 2016-2020.

Uhlmann, E. L., Leavitt, K., Menges, J. I., Koopman, J., Howe, M., & Johnson, R. E. (2012). Getting explicit about the implicit: A taxonomy of implicit measures and guide for their use in organizational research. *Organizational Research Methods, 15*(4), 553-601.

Unsworth, K. L., & Mason, C. M. (2016). Self-concordance strategies as a necessary condition for self-management. *Journal of Occupational and Organizational Psychology*, *89*(4), 711-733

Uusberg, A., Taxer, J. L., Yih, J., Uusberg, H., & Gross, J. J. (2019). Reappraising reappraisal. *Emotion Review*, 11(4), 267-282.

Valente, M. J., Pelham III, W. E., Smyth, H., & MacKinnon, D. P. (2017). Confounding in statistical mediation analysis: What it is and how to address it. *Journal of counseling psychology*, 64(6), 659.

van Ast, V. A., Cornelisse, S., Meeter, M., & Kindt, M. (2014). Cortisol mediates the effects of stress on the contextual dependency of memories. *Psychoneuroendocrinology,* 41, 97-110.

van Dillen, L. F., & Koole, S. L. (2007). Clearing the mind: a working memory model of distraction from negative mood. *Emotion*, *7*(4), 715.

Wadlinger, H. A., & Isaacowitz, D. M. (2011). Fixing our focus: Training attention to regulate emotion. *Personality and social psychology review,* 15(1), 75-102.

Wagner, D. D., Haxby, J. V., & Heatherton, T. F. (2012). The representation of self and person knowledge in the medial prefrontal cortex. *Wiley Interdisciplinary Reviews: Cognitive Science*, 3(4), 451-470.

Watson, D., Clark, L. A., & Tellegen, A. (1988). Development and validation of brief measures of positive and negative affect: the PANAS scales. *Journal of personality and social psychology*, 54(6), 1063.

Weick, K. E. (1988). Enacted sensemaking in crisis situations [1]. *Journal of management studies*, 25(4), 305-317.

Wenzlaff, R. M., & Wegner, D. M. (2000). Thought suppression. *Annual review of psychology*, 51(1), 59-91.

Westermann, R., Spies, K., Stahl, G., & Hesse, F. W. (1996). Relative effectiveness and validity of mood induction procedures: A meta-analysis. *European Journal of social psychology*, 26(4), 557-580.

Wheeler, M. A., Stuss, D. T., & Tulving, E. (1997). Toward a theory of episodic memory: the frontal lobes and autonoetic consciousness. *Psychological bulletin*, 121(3), 331.

Wiens, K. & Rowell, D. (2018). How to Embrace Change Using Emotional Intelligence. *Harvard Business Review*. December 31, 2018.

Williams, M. N., Grajales, C. A. G., & Kurkiewicz, D. (2013). Assumptions of multiple regression: Correcting two misconceptions. *Practical Assessment, Research, and Evaluation*, 18(1), 11.

Wilms, R., Lanwehr, R., & Kastenmüller, A. (2020). Emotion regulation in everyday life: The role of goals and situational factors. *Frontiers in psychology*, 11, 877.

Wood, A., Lupyan, G., & Niedenthal, P. (2016). Why do we need emotion words in the first place? Commentary on Lakoff (2015). *Emotion Review*, 8(3), 274-275.

Zhou, J., & Shalley, C. E. (2003). Research on employee creativity: A critical review and directions for future research. In J. J. Martocchio & G. R. Ferris (Eds.), *Research in personnel and human resources management,* Vol. 22, pp. 165–217). Elsevier Science Ltd.

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